



AGENDA

August 16, 2023

CITY COUNCIL
6:00 p.m.
Council Chambers
311 Vernon Street
Roseville, CA
www.roseville.ca.us

THE CITY OF ROSEVILLE WELCOMES YOUR PARTICIPATION

If an agenda item is open to public comment, such public comment shall be addressed to the chair of the meeting.

Public Comment - Speakers have three minutes under Public Comment to speak on issues that are not listed on the agenda and are within the City's jurisdiction. The Brown Act does not permit any action or discussion on items not listed on the agenda.

Consent Calendar - If applicable, the Consent Calendar consists of routine items that may be approved by one motion. Any person can remove an item from the Consent Calendar to be discussed separately.

Agenda Items - Speakers have five minutes to address items that are listed on the agenda.

Americans with Disabilities Act - Notify the City Clerk or Secretary at least 72 hours in advance if special assistance is required to participate in a meeting including the need of auxiliary aids or services.

Audio/Visual Presentations - If making a presentation regarding an agenda item, audio/visual materials must be submitted to the City Clerk or Secretary at least 72 hours in advance.

Security procedures are in place to attend Roseville City Council meetings. All attendees must successfully pass through a security metal detector. Any person with a prohibited item will not be allowed entry. Prohibited items include, but are not limited to: firearms (even with valid CCW), knives, pepper spray/mace, explosives of any kind/ any weapons and/or dangerous devices of any kind, illegal drugs and alcohol.

Roseville City Clerk 311 Vernon Street, Roseville, CA 916-774-5200 TDD 916-774-5220

- 1. CALL TO ORDER**
- 2. ROLL CALL**

3. PLEDGE OF ALLEGIANCE
4. MEETING PROCEDURES
5. PUBLIC COMMENTS
6. CONSENT CALENDAR

BEGINNING OF CONSENT CALENDAR

Minutes

6.1. Minutes of Prior Meetings

Memo from City Clerk Technician Melissa Lipp and City Clerk Carmen Avalos recommending the City Council approve the minutes of the July 19, 2023 City Council meeting, August 2, 2023 City Council Closed Session and August 2, 2023 City Council meeting.

CC #: 2883

File #: 0102-03

CONTACT: Melissa Lipp 916-774-5286 mllipp@roseville.ca.us

Bids / Purchases / Services

6.2. Traffic Signal and Roadway Improvements for Roseville Soccer Complex Project - Approve Plans and Specifications and Authorize Staff to Call for Bids

Memo from Assistant Engineer Brian Gulewich and Public Works Director Jason Shykowski recommending the City Council approve the plans and specifications for the Traffic Signal and Roadway Improvements for Roseville Soccer Complex Project and authorize staff to call for bids. The scope of this project consists of clearing and grubbing, excavation, concrete and asphalt paving, traffic signal, sidewalk, lighting, storm drain, and waterline improvements. Construction of the project is estimated to cost \$8.3 million and will be funded primarily with Traffic Mitigation Fee funds, along with General Fund resources, and Blue Oaks Blvd Fee Funds. Staff will return to Council with a recommended budget adjustment outlining the specific funding amounts with the recommendation to award project construction.

CC #: 2864

File #: 0900-04-02 & 0900-04-03

CONTACT: Brian Gulewich 916-746-1300 bcgulewich@roseville.ca.us

6.3. Lighting Repair and Replacement Project - Contract Purchase Agreement

Memo from Preventative Maintenance Coordinator Blaine Wiegel and Environmental Utilities Director Richard Plecker recommending the City Council adopt RESOLUTION NO. 23-332 APPROVING A CONTRACT PURCHASE AGREEMENT, BY AND BETWEEN THE CITY OF ROSEVILLE AND WESCO SERVICES LLC DBA WESCO ENERGY SOLUTIONS, AND AUTHORIZING THE CITY MANAGER TO EXECUTE IT ON BEHALF OF THE CITY OF ROSEVILLE (3002760). Staff requests Council approve a resolution authorizing the City Manager to sign a Contract Purchase Agreement with WESCO Services LLC dba WESCO Energy

Solutions, to provide lighting repair services and light emitting diode fixture replacements in the amount of \$481,248 with a 10% contingency (\$48,124.80) for increasing costs of lighting material, for a total not to exceed \$529,372.80. This contract will utilize an Omnia National Intergovernmental Purchasing Alliance cooperative purchasing contract #R192008 for lighting products, services, and job-order-contracting services. Funding will be provided by the Environmental Utilities Department's Dry Creek and Pleasant Wastewater Treatment Plants Lighting Rehabilitation Project budget in the Wastewater Regional Rehabilitation Fund.

CC #: 2861

File #: 0203-09

CONTACT: Blaine Wiegel 916-746-1833 bwiegel@roseville.ca.us

6.4. Pleasant Grove Wastewater Treatment Plant Influent Pump Station Rehabilitation Project – Design-Build Construction Agreement and Budget Adjustment

Memo from Environmental Utilities Preventative Maintenance Supervisor Jeremy Snyder and Environmental Utilities Director Richard Plecker recommending the City Council adopt RESOLUTION NO. 23-336 APPROVING A DESIGN-BUILD CONSTRUCTION AGREEMENT, BY AND BETWEEN SYBLON REID AND THE CITY OF ROSEVILLE, AND AUTHORIZING THE CITY MANAGER TO EXECUTE IT ON BEHALF OF THE CITY OF ROSEVILLE, and adopt ORDINANCE NO. 6699 ORDINANCE OF THE COUNCIL OF THE CITY OF ROSEVILLE AUTHORIZING CERTAIN AMENDMENTS TO THE FISCAL YEAR 2023-24 BUDGET AND DECLARING THIS ORDINANCE TO BE IMMEDIATELY EFFECTIVE AS AN APPROPRIATION MEASURE. Staff requests that the Council adopt a resolution authorizing the City Manager to execute a design-build construction agreement with Syblon Reid to provide installation, testing, communications/networking, programming and Supervisory Control and Data Acquisition integration, and engineering of multiple variable frequency drives and submersible influent pump replacements for the Pleasant Grove Wastewater Treatment Plant Influent Pump Station Pumps and Variable Frequency Drive Replacement Project. The cost of this contract is \$3,812,200, with an additional budget of \$200,000 for staff secondary labor and technology equipment purchases, for a total of \$4,012,200. In addition, staff recommends City Council approve a budget adjustment to fully fund the remaining work on this project using \$2,478,200 of available resources in the Wastewater Regional Rehabilitation Fund.

CC #: 2869

File #: 0900-02-02-2 & 0201-01

CONTACT: Jeremy Snyder 916-413-9236 jsnyder@roseville.ca.us

6.5. Barton Road Water Treatment Plant East Applied Pipeline Project - Approval of Plans and Specifications and Authorization to Call for Bids

Memo from Environmental Utilities Assistant Engineer Jonathan Cummings and Environmental Utilities Director Richard Plecker recommending the City Council approve the construction plans and specifications for the Barton Road Water

Treatment Plant East Applied Pipeline Project, and authorize staff to advertise the project and accept bids from prospective bidders. The estimated construction cost of the Project is \$350,000. Project expenses will be paid from the Water Rehabilitation Fund, which is funded by revenue from water utility sales.

CC #: 2855

File #: 0900-02

CONTACT: Jonathan Cummings 916-774-5566 [jcummings@roseville.ca.us](mailto:jcumings@roseville.ca.us)

6.6. Regional Pump Station 26 and Force Main Capacity Improvements Project - Award of Contract

Memo from Environmental Utilities Associate Engineer Rana Moore and Environmental Utilities Director Richard Plecker recommending the City Council adopt RESOLUTION NO. 23-333 APPROVING AN AGREEMENT, BY AND BETWEEN THE CITY OF ROSEVILLE AND SYBLON REID, AND AUTHORIZING THE CITY MANAGER TO EXECUTE IT ON BEHALF OF THE CITY OF ROSEVILLE. Staff requests Council approval and award of a Construction Agreement to Syblon Reid for the Regional Pump Station 26 and Force Main Capacity Improvement Project in the amount of \$926,000, and authorization for the City Manager or his designee to approve and pay for contract change orders that could increase the contract amount by no more than 10 percent (\$92,600) for a not-to-exceed total contract amount of \$1,018,600. Funding is provided by the South Placer Wastewater Authority and can be accommodated within the existing project budget.

CC #: 2862

File #: 0900-02

CONTACT: Rana Moore 916-774-5581 rcmoore@roseville.ca.us

6.7. Uniform Rental and Cleaning Services - Contract Purchase Agreement Amendment

Memo from Senior Buyer Joanna Oukrop and Assistant City Manager/Chief Financial Officer Dennis Kauffman recommending the City Council adopt RESOLUTION NO. 23-342 APPROVING A CONTRACT PURCHASE AGREEMENT AMENDMENT, BY AND BETWEEN THE CITY OF ROSEVILLE PRUDENTIAL OVERALL SUPPLY, AND AUTHORIZING THE CITY MANAGER TO EXECUTE IT ON BEHALF OF THE CITY OF ROSEVILLE (3002553). Staff requests Council approve an amendment to a contract purchase agreement with Prudential Overall Supply to extend the end date to December 31, 2023, increase the contract total from \$152,000 to \$177,000, and authorize the City Manager to execute the amendment on behalf of the City. Funding is included in the respective departments' budgets for FY2023-24.

CC #: 2877

File #: 0203-15

CONTACT: Joanna Oukrop 916-746-1102 joukrop@roseville.ca.us

6.8. Enterprise Asset Management System - Sole Source Purchase Order

Memo from Information Technology Program Manager Alex Vergara and Chief Information Officer Hong Sae recommending the City Council approve a purchase order between the City of Roseville and Allied Network Solutions, Inc. Staff recommends approval of a sole source purchase order with Allied Network Solutions, Inc. for additional International Business Machines, Inc. licenses, software subscription, and support of the City's Enterprise Asset Management system. The FY2023-24 cost of \$350,000 shall be funded by Environmental Utilities and Electric Departments.

CC #: 2872

File #: 0203-06

CONTACT: Alex Vergara 916-746-1168 ajvergara@roseville.ca.us

Resolutions

6.9. Body-Worn and In-Car Camera Program - Master Agreement Addendum

Memo from Management Analyst Mark Peinado and Police Chief Troy Bergstrom recommending the City Council adopt RESOLUTION NO. 23-338 APPROVING AN ADDENDUM TO THE MASTER AGREEMENT, BY AND BETWEEN THE CITY OF ROSEVILLE AND LENSLOCK, INC., AND AUTHORIZING THE CITY MANAGER TO EXECUTE IT ON BEHALF OF THE CITY OF ROSEVILLE. Staff requests approval of the addendum to the Master Equipment Agreement with LensLock, Inc. to support the Body Worn and In-Car Camera program for use by the Roseville Police Department. The total for Year 1 is \$199,967.08, Years 2-5 are \$158,317.08 for each year. The total amount of the 5-year agreement is \$833,235.40. Funds for the first year are included in the Police Department's FY2023-24 budget in the General Fund and the Supplemental Law Enforcement Services Fund.

CC #: 2871

File #: 0323

CONTACT: Mark Peinado 916-774-5021 mcpeinado@roseville.ca.us
Christopher Ciampa 916-774-5088 cciampa@roseville.ca.us

6.10. Greater Sacramento Economic Council - Economic Development Agreement and Expenditure of Membership Funds for FY2023-24

Memo from Economic Development Director Melissa Anguiano recommending the City Council adopt RESOLUTION NO. 23-330 APPROVING AN AGREEMENT, BY AND BETWEEN THE CITY OF ROSEVILLE AND THE GREATER SACRAMENTO ECONOMIC COUNCIL, AND AUTHORIZING THE CITY MANAGER TO EXECUTE IT ON BEHALF OF THE CITY OF ROSEVILLE. Staff also requests Council approve the expenditure of membership funds for the Greater Sacramento Economic Council in the amount of \$60,414 and for the Roseville Area Chamber of Commerce in the amount of \$40,000. The total expenditure amount is \$100,414. The purpose of the membership with each organization is to attract, grow, support, and expand industry, businesses, and jobs, assist small businesses and entrepreneurs and promote the City as a place to do business. Funding for these memberships was included in the Economic Development Department's FY2023-24 membership budget in the General Fund.

CC #: 2858

File #: 0110 & 0106-01 & 0106-03

CONTACT: Melissa Anguiano 916-774-5284 mvanguiano@roseville.ca.us

6.11. Last Mile Federal Funding Account - Grant Application

Memo from Assistant IT Director Art Vogtlin and Chief Information Officer Hong Sae recommending the City Council adopt RESOLUTION NO. 23-343 APPROVING GRANT APPLICATIONS TO THE CALIFORNIA PUBLIC UTILITIES COMMISSION, AND AUTHORIZING THE CITY MANAGER OR HIS DESIGNEE TO EXECUTE ALL RELATED FORMS AND AGREEMENTS ON BEHALF OF THE CITY OF ROSEVILLE. Staff requests that City Council adopt a resolution authorizing the City Manager or his designee to submit one or more Last Mile Federal Funding Account grant applications to the California Public Utilities Commission (CPUC), and to execute all related forms and documents necessary to secure grant funds. The grant solicitation offers up to \$1.86 billion in statewide grant funding, and CPUC will rank applications within each county of origin to fund the highest ranking broadband projects within a county region. Authorizing staff to submit grant applications is not expected to result in a fiscal impact to the City's General Fund.

CC #: 2879

File #: 0214 & 0800-05

CONTACT: Art Vogtlin 916-774-5111 avogtlin@roseville.ca.us

6.12. Roseville City School District Emergency Reunification Center - Memorandum of Understanding

Memo from Parks, Recreation and Libraries Manager Jeff Nereson and Parks, Recreation and Libraries Director Jill Geller recommending the City Council adopt RESOLUTION NO. 23-337 APPROVING A MEMORANDUM OF UNDERSTANDING, BY AND BETWEEN THE CITY OF ROSEVILLE AND THE ROSEVILLE CITY SCHOOL DISTRICT, AND AUTHORIZING THE CITY MANAGER TO EXECUTE IT ON BEHALF OF THE CITY OF ROSEVILLE. Staff requests Council approval of the Memorandum of Understanding (MOU) with the Roseville City School District (RCSD) for use of the Mahany Fitness Center (MFC) for an emergency reunification location. The RCSD reimburses the City for costs associated with any additional utilities, custodial services, supplies and staff that would not have been incurred but for the RCSD's use of the MFC. There is no impact to the General Fund as a result of this MOU.

CC #: 2870

File #: 0705

CONTACT: Jeff Nereson 916-774-5974 jnereson@roseville.ca.us

6.13. After School Education and Safety Program - Memorandum of Understanding

Memo from Parks, Recreation and Libraries Manager Jeff Nereson and Parks, Recreation and Libraries Director Jill Geller recommending the City Council adopt RESOLUTION NO. 23-329 APPROVING A MEMORANDUM OF

UNDERSTANDING BETWEEN THE CITY OF ROSEVILLE AND ROSEVILLE CITY SCHOOL DISTRICT, AND AUTHORIZING THE CITY MANAGER TO EXECUTE IT ON BEHALF OF THE CITY OF ROSEVILLE. Staff requests Council approval of the Memorandum of Understanding with the Roseville City School District (RCSD) for the After School Education and Safety Program (ASES). ASES is an after-school tutoring and enrichment program that provides opportunity for up to 120 students at Cirby Elementary School and 100 students at Woodbridge Elementary School at no cost to participating families. The Parks, Recreation & Libraries Department has collaborated with RCSD to implement this after-school program. The RCSD reimburses the City up to \$305,000 of the grant funds they receive for this program to offset the City's expense to operate the program. There is no General Fund impact as the balance is funded within the Youth Development Fund.

CC #: 2854

File #: 0704

CONTACT: Jeff Nereson 916-774-5974 jnereson@roseville.ca.us

6.14. Pleasant Grove and Curry Creek Watershed Drainage Mitigation Fee Study – Professional Services Agreement

Memo from Senior Engineer Brian Walker and Public Works Director Jason Shykowski recommending the City Council adopt RESOLUTION NO. 23-331 APPROVING A PROFESSIONAL SERVICES AGREEMENT, BY AND BETWEEN THE CITY OF ROSEVILLE AND CIVIL ENGINEERING SOLUTIONS, INC., AND AUTHORIZING THE CITY MANAGER TO EXECUTE IT ON BEHALF OF THE CITY OF ROSEVILLE. Staff requests Council approve a professional services agreement with Civil Engineering Solutions, Inc. for \$133,320 to complete the 2023 Pleasant Grove and Curry Creek Watershed Mitigation Fee Update, and authorize the City Manager to execute the agreement. This study will make a recommendation to update the drainage fees collected to mitigate the downstream storm water volume impacts resulting from development in Roseville and update hydrologic methodologies that have changed since the City's last update in 2018. Funding for the fee update is provided by the Pleasant Grove Drainage Fee Fund, and no General Fund resources will be used.

CC #: 2860

File #: 0800-04

CONTACT: Brian Walker 916-746-1349 walkerbrian@roseville.ca.us

6.15. Opposition to the Release of a Sexually Violent Predator

Memo from Deputy City Attorney Travis Cochran and Roseville Police Chief Troy Bergstrom recommending the City Council adopt RESOLUTION NO. 23-346 OF THE CITY COUNCIL OF THE CITY OF ROSEVILLE OPPOSING THE RELEASE OF A SEXUALLY VIOLENT PREDATOR INTO THE INCORPORATED AREAS OF SOUTH PLACER COUNTY. Staff recommends that the City Council adopt a resolution opposing the release of William Stephenson, a Sexually Violent Predator, into the incorporated areas of South Placer County, and approving a letter to be sent to Liberty Healthcare for

submission to the Department of State Hospitals and the Placer County Superior Court. There is no fiscal impact associated with this action.

CC #: 2884

File #: 0323

CONTACT: Troy Bergstrom 916-774-5058 tberstrom@roseville.ca.us

Travis Cochran 916-774-5325 tecochran@roseville.ca.us

6.16.2021 General Fund Arterial Resurfacing Project - Notice of Completion

Memo from Assistant Engineer Joe Arino and Public Works Director Jason Shykowski recommending the City Council adopt RESOLUTION NO. 23-328 ACCEPTING THE PUBLIC WORK KNOWN AS THE 2021 GENERAL FUND ARTERIAL RESURFACING PROJECT, APPROVING THE "NOTICE OF COMPLETION", AND AUTHORIZING THE PUBLIC WORKS DIRECTOR TO EXECUTE SAID NOTICE ON BEHALF OF THE CITY OF ROSEVILLE. Staff requests Council approve the 2021 General Fund Arterial Resurfacing Project as complete and adopt a resolution authorizing the Public Works Director to execute the Notice of Completion. The project resurfaced various City arterial streets including Douglas, South Cirby, Cirby, Rocky Ridge, Old Auburn, and Pleasant Grove. The project was funded with General Fund and Highway Users Tax Fund resources.

CC #: 2853

File #: 0900-04-01

CONTACT: Joe Arino 916-774-5464 jarino@roseville.ca.us

6.17. Community Facilities District No. 4 (Public Services), Annexation No. 9 (1028 Main Street Subdivision) - Intention to Annex Territory

Memo from Management Analyst Jeannine Thrash and Assistant City Manager/Chief Financial Officer Dennis Kauffman recommending the City Council adopt RESOLUTION NO. 23-344 OF INTENTION TO ANNEX TERRITORY TO COMMUNITY FACILITIES DISTRICT AND TO AUTHORIZE THE LEVY OF SPECIAL TAXES THEREIN CITY OF ROSEVILLE Community Facilities District No. 4 (Public Services) Annexation No. 9 (1028 Main Street Subdivision). Staff requests Council adopt a Resolution of Intention to Annex Territory to Community Facilities District No. 4 (Public Services) and to Authorize the Levy of Special Taxes Therein, and set Wednesday, September 20, 2023 at 6:00 p.m., in the Roseville Civic Center, Council Chambers at 311 Vernon Street, Roseville, California, as the time and place to conduct a public hearing. On March 23, 2023, the Planning Commission approved the developer's request for a Tentative Subdivision Map to subdivide a 2.5-acre parcel into ten (10) single family residential lots. Per the conditions of approval, the subject property shall be annexed into the existing infill Community Facilities District No. 4 (Public Services) prior to approval of the Final Parcel Map, for the purpose of covering the costs of the ongoing maintenance obligations. The annexation of property into Community Facilities District No. 4 (Public Services) will not impact the City's General Fund.

CC #: 2880

File #: 0400-09-01

CONTACT: Jeannine Thrash 916-774-5473 jthrash@roseville.ca.us

6.18. Utility Self Service Web Portal and Mobile App - Professional Services Agreement

Memo from Electric Utility Billing Operations Manager Andrea Blomquist and Electric Utility Director Daniel Beans recommending the City Council adopt RESOLUTION NO. 23-335 APPROVING A PROFESSIONAL SERVICES AGREEMENT, BY AND BETWEEN THE CITY OF ROSEVILLE AND E SOURCE COMPANIES, LLC, AND AUTHORIZING THE CITY MANAGER TO EXECUTE IT ON BEHALF OF THE CITY OF ROSEVILLE. Staff requests Council approval of a professional services agreement with E Source Companies, LLC for consulting services. The total cost of the agreement is \$225,050. Funding is included in the Utility Billing - Customer Self-Service Web Portal and Mobile App Project budget in the Electric, Water Rehabilitation, Waste Services Rehabilitation and Wastewater Rehabilitation funds. The recommendation has no impact to the General Fund.

CC #: 2865

File #: 0800-03

CONTACT: Andrea Blomquist 916-774-5317 ablomquist@roseville.ca.us

6.19. Sierra Vista Specific Plan Parcel WB-52 Park Abandonment

Memo from Planning Manager Greg Bitter and Development Services Director Mike Isom recommending the City Council adopt RESOLUTION NO. 23-334 OF THE CITY COUNCIL OF THE CITY OF ROSEVILLE DECLARING ITS INTENTION TO ABANDON SIERRA VISTA SPECIFIC PLAN PARCEL WB-52 AS A CITY PARK AND SETTING A PUBLIC HEARING FOR SEPTEMBER 20, 2023. Staff requests Council declare its intention to abandon Sierra Vista Specific Plan (in the Westbrook area) Parcel WB-52 as a City Park and setting a public hearing for September 20, 2023. This begins the process of abandoning Sierra Vista Specific Plan Parcel WB-52 as a City park. There are no direct impacts to the General Fund as a result of this item.

CC #: 2863

File #: 0704 & 1001

CONTACT: Greg Bitter 916-774-5294 gbitter@roseville.ca.us

Ordinances (for introduction and adoption - appropriation/urgency measures)

6.20. Council Discretionary Funds - Budget Adjustment

Memo from City Clerk Technician Melissa Lipp and City Clerk Carmen Avalos recommending that the City Council adopt ORDINANCE NO. 6700 OF THE COUNCIL OF THE CITY OF ROSEVILLE AUTHORIZING CERTAIN AMENDMENTS TO THE FISCAL YEAR 2023-24 BUDGET AND DECLARING THIS ORDINANCE TO BE IMMEDIATELY EFFECTIVE AS AN APPROPRIATION MEASURE. Staff requests Council adopt an ordinance approving a budget adjustment in the amount of \$19,322 to carry forward \$4,322 of unspent FY2022-23 Discretionary Funds for use in FY2023-24 and to appropriate \$15,000 of the annual earnings from the Citizen's Benefit Fund for the FY2023-24 allocation to the City Council Discretionary Funds. There is no fiscal impact to the

City's General Fund.

CC #: 2856

File #: 0102-04 & 0201-01

CONTACT: Melissa Lipp 916-774-5268 mllipp@roseville.ca.us

6.21. Traffic Signal Maintenance Shop Tenant Improvement - Design-Assist Construction Agreement and Budget Adjustment

Memo from Project Coordinator Rebecca McCoy and Public Works Director Jason Shykowski recommending the City Council adopt RESOLUTION NO. 23-341 APPROVING A DESIGN-ASSIST CONSTRUCTION AGREEMENT, BY AND BETWEEN CARTER/KELLY, INC., AND THE CITY OF ROSEVILLE, AND AUTHORIZING THE CITY MANAGER TO EXECUTE IT ON BEHALF OF THE CITY OF ROSEVILLE; and adopt ORDINANCE NO. 6703 AUTHORIZING CERTAIN AMENDMENTS TO THE FISCAL YEAR 2023-24 BUDGET AND DECLARING THIS ORDINANCE TO BE IMMEDIATELY EFFECTIVE AS AN APPROPRIATION MEASURE. Staff requests Council approve a design-assist construction agreement with Carter/Kelly, Inc. for the Traffic Signal Maintenance Shop Tenant Improvement Project. The total project cost is approximately \$1.7 million with a change order authority as needed up to 10% of the project. An additional \$513,000 is needed to fully fund project construction. The recommended budget adjustment is for \$235,000 from the Traffic Mitigation Fee Fund, \$20,000 from the Transit Fund, and \$258,000 from the Electric Fund for all demolition, construction, inspection and staff time. No General Fund resources will be used.

CC #: 2876

File #: 0900-04-03 & 0201-01

CONTACT: Rebecca McCoy 916-774-5706 ramccoy@roseville.ca.us

6.22. Staffing and Salary Updates

Memo from Human Resources Manager Linda Hampton and Human Resources Director Stacey Peterson recommending the City Council adopt ORDINANCE NO. 6701 THE COUNCIL OF THE CITY OF ROSEVILLE AMENDING ORDINANCE NO. 6694, THE SALARY ORDINANCE FOR MANAGEMENT EMPLOYEES, AS AMENDED BY APPENDIX "I" TO BE EFFECTIVE AUGUST 26, 2023, AS AN URGENCY MEASURE; and adopt ORDINANCE NO. 6702 OF THE COUNCIL OF THE CITY OF ROSEVILLE AMENDING ORDINANCE NO. 6696, THE SALARY ORDINANCE FOR SEASONAL/TEMPORARY EMPLOYEES, AS AMENDED BY APPENDIX "R" TO BE EFFECTIVE AUGUST 26, 2023, AS AN URGENCY MEASURE. Staff requests that Council approve the A & B Management salary schedules to reflect the addition of Police Social Services Supervisor. Approval is also requested for the Temporary salary schedule reflecting the addition of Community Outreach Specialist; a wage adjustment and title change for Reserve Police Officer I; and the deletion of Police Reserve Officer I. Staff also requests Council approve the reclassification of one vacant Youth Development Program Coordinator and one vacant Parks, Recreation and Libraries Coordinator position to two Child Care Site Coordinator positions; the reclassification of a Development Technician to an Administrative Technician; and the addition of a

Police Social Services Supervisor position. For the remainder of FY2023-24, the impact is as follows: (1) Environmental Utilities operating funds - \$2,693, (2) Youth Development Fund – savings of \$21,075, and (3) General Fund - \$155,474, which was included in the FY2023-24 budget. All other changes will be absorbed, so no budget adjustments are requested.

CC #: 2875

File #: 0600-01

CONTACT: Linda Hampton 916-774-5215 lhampton@roseville.ca.us

Ordinances (for second reading and adoption)

6.23. Second Reading- Roseville Municipal Code Amendment to Employees Annual Charitable Hearts Fund

ORDINANCE NO. 6704 AMENDING SECTION 4.07.030 OF CHAPTER 4.07 OF TITLE 4 OF THE ROSEVILLE MUNICIPAL CODE REGARDING EMPLOYEES ANNUAL CHARITABLE HEARTS FUND, for second reading and adoption.

CC #: 2882

File #: 0216-02

CONTACT: Tobi Thomas 916-746-1368 tthomas@roseville.ca.us

Reports / Requests

6.24. Out-of-Country Travel - Factory Automation Testing of Ultraviolet Disinfection System

Memo from Environmental Utility Preventative Maintenance Supervisor Jeremy Snyder and Environmental Utilities Director Richard Plecker recommending the City Council approve an out-of-country travel request for three Environmental Utilities Department maintenance personnel to attend factory automation testing at the ultraviolet disinfection equipment manufacturer, Trojan Technologies, in London, Ontario, Canada. This travel is in preparation for the construction of the City's Ultraviolet Disinfection System Addition Project at the Pleasant Grove Wastewater Treatment Plant. The cost for travel and lodging for staff to witness this testing is estimated to be \$8,250. This cost will be funded by the Pleasant Grove Wastewater Treatment Plant Ultraviolet Disinfection System Addition Project, which is funded by the South Placer Wastewater Authority.

CC #: 2867

File #: 0600-02

CONTACT: Jeremy Snyder 916-413-9236 jsnyder@roseville.ca.us

6.25. Out-of-Country Travel - Sacramento Metropolitan Chamber of Commerce Annual Study Mission Delegation

Memo from Economic Development Manager Wayne Wiley and Economic Development Director Melissa Anguiano recommending the City Council approve one Economic Development Department staff member to attend out-of-country travel for the Sacramento Metropolitan Chamber of Commerce Study Mission in Toronto, Canada in September 2023. This year's delegation of civic,

business and elected leaders will learn from Toronto's unique approach to revitalizing and strengthening community through the integration of economic growth, community development, health and culture. The cost of event registration, airfare, lodging, and per diem will total approximately \$4,400. Funds are available within the Economic Development Department FY2023-24 budget in the General Fund.

CC #: 2868

File #: 0600-02

CONTACT: Wayne Wiley 916-774-5286 wwiley@roseville.ca.us

6.26. Response to 2022-2023 Grand Jury Final Report: Spending on Homelessness Within Placer County

Memo from Assistant City Manager Dion Louthan and City Manager Dominick Casey recommending the City Council adopt RESOLUTION NO. 23-340 AUTHORIZING THE MAYOR TO EXECUTE THE RESPONSE TO THE 2022-23 GRAND JURY FINAL REPORT ON BEHALF OF THE CITY OF ROSEVILLE. Staff requests Council approve a response to the Placer County Grand Jury's 2022-23 Final Report: Spending on Homelessness Within Placer County, which was issued on June 27, 2023. The report included five (5) findings and two (2) recommendations, based on the Grand Jury's investigations, as required by law. Of the two (2) recommendations, the Roseville City Council was directed to provide a response to recommendation #2 only. Upon approval by the City Council, the response will be provided to the Presiding Judge of the Placer County Superior Court and to the Placer County Grand Jury. There is no fiscal impact associated with this particular request.

CC #: 2874

File #: 0106-02

CONTACT: Dion Louthan 916-774-5362 dlouthan@roseville.ca.us

6.27. League of California Cities Annual Conference 2023 – Designation of Voting Delegate

Memo from Government Relations Administrator Mark Wolinski and Deputy City Manager Megan Scheid recommending the City Council appoint Councilmember Scott Alvord as the voting delegate and Scott Pettingell, Assistant Finance Director, as the alternate voting delegate to the League of California Cities business meeting of the General Assembly. The League of California Cities Annual Conference is being held September 20-22, 2023 in Sacramento. The annual business meeting will be held on Friday, September 22, 2023, when the membership takes action on resolutions that establish League policy.

CC #: 2866

File #: 0106-04

CONTACT: Mark Wolinski 916-774-5179 mwolinski@roseville.ca.us

END OF CONSENT CALENDAR

7. SPECIAL REQUESTS/REPORTS/PRESENTATION

7.1. Pleasant Grove Boulevard Widening Project - Adoption of Subsequent Initial Study/Mitigated Negative Declaration, Adoption of the Mitigation Monitoring and Reporting Program, Project Approval, Approval of Plans and Specifications, and Authorization to Call for Bids

Memo from Associate Engineer Jesse Khatkar and Public Works Director Jason Shykowski recommending the City Council adopt RESOLUTION NO. 23-345 ADOPTING THE INITIAL STUDY/MITIGATED NEGATIVE DECLARATION AND THE MITIGATION MONITORING AND REPORTING PROGRAM FOR THE PLEASANT GROVE BOULEVARD WIDENING PROJECT. Staff requests Council adopt a resolution adopting the Subsequent Initial Study/Mitigated Negative Declaration and the Mitigation Monitoring and Reporting Program for the Pleasant Grove Boulevard Widening Project; and approve the project as described therein; and approve the plans and specifications; and authorize staff to call for bids. The project scope includes widening Pleasant Grove Boulevard from four to six travel lanes from Woodcreek Oaks Boulevard to Foothills Boulevard and modification to various underground and traffic signal infrastructure to support the widening, all of which will be funded with developer-paid traffic mitigation fee funds. The project also includes the installation of various underground infrastructure to support the planned Misty Wood Aquifer Storage and Recovery Well Site (future Environmental Utilities Department project) and pavement rehabilitation of the roadway segment, all of which will be funded with Water Construction Funds and State Gas Tax funds. No General Fund resources will be used for the project.

CC #: 2881

File #: 0900-04-02 & 0400-06-02

CONTACT: Jesse Khatkar 916-774-5434 jskhatkar@roseville.ca.us

7.2. Council Discretionary Funds - The Gathering Inn

Memo from City Clerk Technician Melissa Lipp and City Clerk Carmen Avalos recommending the City Council consider a request for sponsorship from Council Discretionary Funds for The Gathering Inn for their fourth annual "Gathering for Hope" event on November 17, 2023 in the amount of \$3,000. The Gathering Inn is a multi-faceted, multi-location agency serving over 200 homeless men, women, and children every day in Placer County. There is no fiscal impact to the City's General Fund.

CC #: 2857

File #: 0102-04

CONTACT: Melissa Lipp 916-774-5268 mllipp@roseville.ca.us

7.3. Exploratory Work Experience Education Program - Cooperative Vocational Education Agreement

Memo from Human Resources Intern Iulia Tarasova and Human Resources Director Stacey Peterson recommending the City Council adopt RESOLUTION NO. 23-339 APPROVING A COOPERATIVE VOCATIONAL EDUCATION AGREEMENT, BY AND BETWEEN THE CITY OF ROSEVILLE AND ROSEVILLE JOINT UNION HIGH SCHOOL

DISTRICT, AND AUTHORIZING THE CITY MANAGER TO EXECUTE IT ON BEHALF OF THE CITY OF ROSEVILLE. Staff requests Council adopt a resolution authorizing the City Manager to execute a Cooperative Vocational Education Agreement with Roseville Joint Union High School District (RJUHSD). RJUHSD coordinates Exploratory Work Experience Education (EWEE) programs for students to sample a variety of job opportunities to determine their interest and suitability for the occupation they are exploring. Unpaid internship opportunities provide students valuable, hands-on work experience and creates interest in future public sector employment to make an impact in their own community. By execution of this agreement, the City of Roseville would provide the EWEE students internship learning opportunities and oversight. There is no fiscal impact to the City.

CC #: 2873

File #: 0600

CONTACT: Iulia Tarasova 916-774-5292 itarasova@roseville.ca.us

8. APPOINTMENTS

8.1. Board of Appeals and Local Sales Tax Citizens' Oversight Committee - Unscheduled Vacancy Appointments

Memo from City Clerk Technician Katrina Six and City Clerk Carmen Avalos recommending the City Council appoint one (1) individual to the Board of Appeals to a term expiring December 31, 2026 from the applications received from: Bob Bettencourt, Eric Rude, Sherry Rutledge, Louise Santiago, Robert Schmitt, and Patrick Vitalone; and appoint three (3) individuals to the Local Sales Tax Citizens' Oversight Committee to terms expiring June 30, 2027 from the applications received from Bob Bettencourt, Brian Boyd, Jordan Bunnell, Kathryn Kitchell, and Robert Schmitt.

CC #: 2878

File #: 0103 & 0103-41-03 & 0103-22

CONTACT: Katrina Six 916-774-5267 kmsix@roseville.ca.us

9. PUBLIC HEARING

NOTICE TO THE PUBLIC

City Council, when considering the matter scheduled for hearing, will take the following actions:

1. Open the Public Hearing
2. Presentation by Staff
3. Presentation by applicant or Appellant
4. Accept Public Testimony
5. Appellant or Applicant Rebuttal Period
6. Close the Public Hearing
7. City Council Comments and Questions
8. City Council Action

In the future, if you wish to challenge in court any of the matters on this agenda for which a public hearing is to be conducted, you may be limited to raising only those

issues, which you, or someone else raised orally at the Public Hearing or in written correspondence received by the City on or before the hearing.

Public Hearings listed for continuance will be continued as noted and posting of this agenda serves as notice of continuation.

9.1. Sierra Vista Specific Plan Parcel KT-41A & KT-41B (6000 Baseline Road) Erickson Senior Living – Development Agreement Amendment, Major Project Permit Stage 1, Major Project Permit Stage 2, and Lot Line Adjustment

Memo from Associate Planner Sean Morales and Development Services Director Mike Isom recommending the City Council adopt the five (5) findings of fact and introduce for first reading an ORDINANCE OF THE COUNCIL OF THE CITY OF ROSEVILLE ADOPTING A THIRD AMENDMENT OF THE DEVELOPMENT AGREEMENT BY AND BETWEEN THE CITY OF ROSEVILLE AND KV SIERRA VISTA, LLC RELATIVE TO THE SIERRA VISTA SPECIFIC PLAN AND AUTHORIZING THE CITY MANAGER TO EXECUTE IT ON BEHALF OF THE CITY OF ROSEVILLE. The proposed project will facilitate the development of a 2.1 million square-foot continuing care retirement community, consisting of approximately 1,200 independent living units, 40 skilled nursing beds, and 200 assisted living/memory care beds. The project entitlements include a Major Project Permit Stage 1 to review the site plan, a Major Project Permit Stage 2 to review the building elevations for Phase 1 of the project, a Development Agreement Amendment and a Lot Line Adjustment. The project is not anticipated to result in any negative impacts to the City's General Fund. The project will generate construction jobs.

CC #: 2881

File #: 0400-04-12-1 & 0400-07-01

CONTACT: Sean Morales 916-774-5282 smorales@roseville.ca.us

9.2. Infill Parcel 175 Rezone

Memo from Associate Planner Shelby Maples and Development Services Director Mike Isom recommending the City Council consider the Infill Parcel 175 – Bee Shine Carwash Mitigated Negative Declaration and Mitigation Monitoring and Reporting Program and introduce for first reading an ORDINANCE OF THE CITY COUNCIL OF ROSEVILLE AMENDING ZONING ORDINANCE NO. 5428 OF THE CITY OF ROSEVILLE CHANGING THE ZONING OF CERTAIN REAL PROPERTY LOCATED WITHIN THE CITY OF ROSEVILLE. The proposed project includes a rezone to modify the zoning of 1.23 acres on Infill Parcel 175 from Neighborhood Commercial to Community Commercial. The rezone will allow for the development of an approximately 4,542 square foot carwash facility with vacuum stalls, parking, and other site improvements. Application costs were borne by the applicant, and the project is required to pay all applicable impact fees. The project is not anticipated to result in negative impacts to the City's General Fund.

CC #: 2859

File #: 0400-02 & 0400-06-02

CONTACT: Shelby Maples 916-746-1347 smaples@roseville.ca.us

10. COUNCIL REPORTS / PUBLIC COMMENTS

11. ADJOURNMENT



COUNCIL COMMUNICATION

CC #: 2883
File #: 0102-03

Title: Minutes of Prior Meetings
Contact: Melissa Lipp 916-774-5286 mlipp@roseville.ca.us

Meeting Date: 8/16/2023
Item #: 6.1.

RECOMMENDATION TO COUNCIL

Approve the minutes of the July 19, 2023 City Council meeting, August 2, 2023 City Council Closed Session and August 2, 2023 City Council meeting.

BACKGROUND

Not applicable.

FISCAL IMPACT

There is no fiscal impact associated with this request.

ENVIRONMENTAL REVIEW

The California Environmental Quality Act (CEQA) does not apply to activities that will not result in a direct or reasonably foreseeable indirect physical change in the environment, or is otherwise not considered a project as defined by CEQA Statute §21065 and CEQA State Guidelines §15060(c)(3) and §15378. The City Council minutes are not subject to CEQA. No additional environmental review is required.

CITY COUNCIL STRATEGIC PLAN/OVERARCHING GOALS

Goal B - Support community engagement and advocacy

Respectfully Submitted,

Melissa Lipp, City Clerk Technician

Carmen Avalos, City Clerk

A handwritten signature in blue ink, consisting of several overlapping loops and a final horizontal stroke.

Dominick Casey, City Manager

ATTACHMENTS:

Description

July 19, 2023



MINUTES

July 19, 2023

CITY COUNCIL
6:00 p.m.
Council Chambers
311 Vernon Street
Roseville, CA
www.roseville.ca.us

1. CALL TO ORDER

Mayor Bruce Houdesheldt called the meeting to order at 6:02 p.m.

2. ROLL CALL

Present: Councilmember Scott Alvord, Councilmember Pauline Roccucci, Councilmember Tracy Mendonsa, and Mayor Bruce Houdesheldt

Absent: Vice Mayor Krista Bernasconi

3. PLEDGE OF ALLEGIANCE

Hearts4HeroesUSA Team led the Pledge of Allegiance.

4. MEETING PROCEDURES

City Clerk Carmen Avalos announced the procedures for addressing the City Council.

5. PUBLIC COMMENTS

John Freitas spoke on concern regarding aerial spraying of mosquitos.

Robert (last name inaudible), on behalf of Placer Veterans Stand Down Board of Directors, thanked the City for supporting their event.

Vishal (last name inaudible), from the Campus Oaks Community, spoke on the lack of a completed park in their community.

Dr. Shawn Bedall, from the Campus Oaks Community, spoke on the lack of a completed park in their community.

Roman Golas, from the Campus Oaks Community, spoke on the lack of a completed park in their community.

6. CONSENT CALENDAR

BEGINNING OF CONSENT CALENDAR

Motion by Tracy Mendonsa, seconded by Pauline Roccucci, to approve the Consent Calendar as recommended. The Motion Passed.

Roll call vote: Ayes: Alvord, Houdesheldt, Mendonsa, Roccucci

Absent: Bernasconi

Minutes

6.1. Minutes of Prior Meeting

Memo from City Clerk Technician Melissa Lipp and City Clerk Carmen Avalos recommending the City Council approve the minutes of the June 7, 2023 City Council meeting, June 21, 2023 City Council Closed Session, and June 21, 2023 City Council/Finance Authority/Housing Authority/Natural Gas Financing Authority meeting.

CC #: 2840

File #: 0102-03

CONTACT: Melissa Lipp 916-774-5268 mllipp@roseville.ca.us

Bids / Purchases / Services

6.2. Water Treatment Chemicals – Contract Purchase Agreement

Memo from Power Generation Superintendent Matt Garner and Electric Utility Director Dan Beans recommending the City Council adopt RESOLUTION NO. 23-318 APPROVING A CONTRACT PURCHASE AGREEMENT, BY AND BETWEEN THE CITY OF ROSEVILLE AND CHEMTREAT, INC., AND AUTHORIZING THE CITY MANAGER TO EXECUTE IT ON BEHALF OF THE CITY OF ROSEVILLE (3002984). Staff requests Council approve a contract purchase agreement with ChemTreat, Inc. for specialty water treatment chemicals and services. The total cost of the service will not exceed \$250,000. Funding is included in the Electric Fund budget for FY2023-24 and funding for future years is subject to City Council approval.

CC #: 2837

File #: 0203-07

CONTACT: Matt Garner 916-746-1691 mgarner@roseville.ca.us

6.3. Fire Station Alerting System Replacement Project - Contract Purchase Agreements and Budget Adjustment

Memo from Information Technology Program Manager Robin Bernhard and Chief Information Officer Hong Sae recommending the City Council adopt RESOLUTION NO. 23-307 APPROVING A CONTRACT PURCHASE AGREEMENT, BY AND BETWEEN THE CITY OF ROSEVILLE AND HONEYWELL INTERNATIONAL INC., AND AUTHORIZING THE CITY MANAGER TO EXECUTE IT ON BEHALF OF THE CITY OF ROSEVILLE (3002829); and adopt RESOLUTION NO. 23-308 APPROVING A CONTRACT PURCHASE AGREEMENT, BY AND BETWEEN THE CITY OF ROSEVILLE AND ELECTRIC CONSTRUCTION SERVICES INC. DBA TECH ELECTRIC, AND AUTHORIZING THE CITY MANAGER TO EXECUTE IT ON BEHALF OF THE CITY OF ROSEVILLE (3002830); and adopt ORDINANCE NO. 6691 AUTHORIZING CERTAIN AMENDMENTS TO THE FISCAL YEAR 2023-24 BUDGET AND DECLARING THIS ORDINANCE TO BE IMMEDIATELY EFFECTIVE AS AN APPROPRIATION MEASURE. Staff requests Council approve contract purchase agreements with Honeywell International, Inc. and Electrical Construction Services, Inc. dba Tech Electric to implement the replacement of the Fire Station Alerting System (FSAS) for the eight existing Roseville fire stations and the new fire station in West Roseville. Staff also requests Council delegate authority for a 10% contingency during implementation to cover any unanticipated changes. The total project cost of \$1,286,631 will be funded through the Information Technology (IT) Replacement Fund and Fire Facilities Fund, including technology, installation, and a 10% contingency. The current FSAS project budget is \$790,000. A budget adjustment of \$369,793 is recommended from the IT Replacement Fund to fully fund the project. Staff also requests authorization to execute four (4) optional one (1) year renewals without further Council approval for the annual maintenance with Honeywell International inc., contingent on Council approval of the annual budget. Annual software maintenance fees for years 2 through 5, averaging approximately \$48,670 per year. The total cost for the five-year contract for all fire stations is \$1,456,978. The agreements will be budgeted in the IT Operations Fund and allocated to City departments in the General Fund by internal service fund charges.

CC #: 2829

File #: 0203-12 & 0201-01

CONTACT: Robin Bernhard 916-774-5127 rbernhard@roseville.ca.us

6.4. Vehicle Parts and Services – Contract Purchase Agreement Amendment

Memo from Management Analyst Lea Schroeder and Public Works Director Jason Shykowski recommending the City Council adopt RESOLUTION NO. 23-319 APPROVING A CONTRACT PURCHASE AGREEMENT, BY AND BETWEEN THE CITY OF ROSEVILLE AND STOMMEL, INC. DBA LEHR, AND AUTHORIZING THE CITY MANAGER TO EXECUTE IT ON BEHALF OF THE CITY OF ROSEVILLE (3002556). Staff requests Council approve an amendment to the contract purchase agreement with Stommel, Inc. dba LEHR to provide public safety vehicle parts and services to up-fit vehicles utilizing Placer County's contract# SCN105300 for another year, and authorize the City Manager to execute the agreement. The amended total cost of parts and services for this next year renewal will not exceed \$300,000. Funding is included in the FY2023-24 Fleet

Replacement Fund budget.

CC #: 2838

File #: 0203-02

CONTACT: Lea Schroeder 916-774-5503 lschroeder@roseville.ca.us

6.5. Electric Generation Maintenance, Repair and Testing – Contract Purchase Agreement

Memo from Power Generation Superintendent Matt Garner and Electric Utility Director Dan Beans recommending the City Council adopt RESOLUTION NO. 23-320 APPROVING A CONTRACT PURCHASE AGREEMENT, BY AND BETWEEN THE CITY OF ROSEVILLE AND PERFORMANCE MECHANICAL, INC., AND AUTHORIZING THE CITY MANAGER TO EXECUTE IT ON BEHALF OF THE CITY OF ROSEVILLE (3000336). Staff requests Council approve a contract purchase agreement with Performance Mechanical, Inc. to increase the not-to-exceed spending total from \$2,750,000 to \$4,750,000. Due to increases in the cost of goods and services, coupled with unanticipated repairs to the generating facilities, the original \$2,750,000 spending limit has been reached. Funding is available in the Electric Department's FY2023-24 budget in the Electric Fund.

CC #: 2827

File #: 0800-03

CONTACT: Matt Garner 916-746-1691 mgarner@roseville.ca.us

6.6. On-Call Landscape Construction Services - Contract Purchase Agreements

Memo from Park Planning and Development Manager Tara Gee and Parks, Recreation & Libraries Director Jill Geller recommending the City Council adopt RESOLUTION NO. 23-310 APPROVING A CONTRACT PURCHASE AGREEMENT, BY AND BETWEEN THE CITY OF ROSEVILLE AND CAGWIN & DORWARD, LLC, AND AUTHORIZING THE CITY MANAGER TO EXECUTE IT ON BEHALF OF THE CITY OF ROSEVILLE (3002871); and adopt RESOLUTION NO. 23-311 APPROVING A CONTRACT PURCHASE AGREEMENT, BY AND BETWEEN THE CITY OF ROSEVILLE AND CLEARWATER CONSTRUCTION SERVICES, INC. DBA CLEARWATER LANDSCAPE SERVICES, INC., AND AUTHORIZING THE CITY MANAGER TO EXECUTE IT ON BEHALF OF THE CITY OF ROSEVILLE (3002870). Staff requests Council approval of contract purchase agreements for on-call general landscape construction services with Cagwin & Dorward, LLC and Clearwater Landscape Services, Inc., with two (2) one-year renewals based on approved budgets for the following fiscal year. The cost is estimated at a not-to-exceed amount of \$500,000 per year. The intent of these agreements is to utilize this service to meet project demands. This will allow for more responsiveness to resident, contractor and developer needs along with greater quality control during this time. On-call services does not guarantee an annual amount of work and is in place on an "as needed" basis. Work performed under this agreement will utilize developer fees, capital rehabilitation funds and/or capital improvement project accounts.

CC #: 2832

File #: 0203-10

CONTACT: Tara Gee 916-774-5253 tgee@roseville.ca.us

6.7. Roseville Soccer Complex Artificial Turf – Contract Purchase Agreement

Memo from Park Planning & Development Manager Tara Gee and Parks, Recreation & Libraries Director Jill Geller recommending the City Council adopt RESOLUTION NO. 23-315 APPROVING A CONTRACT PURCHASE AGREEMENT, BY AND BETWEEN THE CITY OF ROSEVILLE AND FIELDTURF USA, INC., AND AUTHORIZING THE CITY MANAGER TO EXECUTE IT ON BEHALF OF THE CITY OF ROSEVILLE (3003099). Staff requests Council approve a contract purchase agreement with FieldTurf USA, Inc. in the amount of \$7,099,812.31 for the artificial turf system at the Roseville Soccer Complex. In March 2023, the Council approved a design-assist contract to Bothman Construction, Inc, to build the Roseville Soccer Complex. To ensure that the costs associated with the construction of the Complex aligned with budget projections, several key elements were identified to be purchased by the City. The City would be able to purchase these items using “piggyback” contracts to ensure the lowest and best prices. “Piggyback” contracts have already been competitively bid by public agencies thus allowing other public agencies to purchase the same items at the accepted lowest and best rates. Other advantages in using the “piggyback” procurement approach is best value through competition, fair and equitable contracting opportunities for vendors, public confidence in the use of public funds, improved ethical conduct in procurement and increased efficiencies in the purchasing process. Elements for the Roseville Soccer Complex to be purchased by the City using this “piggyback” process include the artificial turf, the shade structures, the play structure and maintenance equipment. All of these items, except for the maintenance equipment, will be furnished to the contractor and installed by the contractor. Funding for the identified “piggyback” elements was approved in the FY2023-24 Capital Improvement Program budget utilizing a combination of resources from the General Fund, Strategic Improvement Fund, and Federal Stimulus Reserve – ARPA Fund.

CC #: 2834

File #: 0704-01

CONTACT: Tara Gee 916-774-5253 tgee@roseville.ca.us

6.8. Technology-Based Hardware and Software Related to Environmental Utilities Automated System -Sole Source Contract Purchase Agreement

Memo from Preventative Maintenance Coordinator Blaine Wiegel and Environmental Utilities Director Richard Plecker recommending the City Council adopt RESOLUTION NO. 23-317 APPROVING A CONTRACT PURCHASE AGREEMENT, BY AND BETWEEN THE CITY OF ROSEVILLE AND EPLUS TECHNOLOGY, INC., AND AUTHORIZING THE CITY MANAGER TO EXECUTE IT ON BEHALF OF THE CITY OF ROSEVILLE (3002892). Staff requests Council approve a sole source contract purchase agreement with ePlus Technology, Inc. in the estimated amount of \$500,000 annually, and not to exceed \$2,500,000 over five years, to provide off-site support programming, consulting,

license renewals, and procurement of technology-based hardware and software related to the Environmental Utilities supervisory control and data acquisition network and automated systems. Funding will be provided from the Environmental Utilities Department's annual operations budgets. This agreement would allow four optional renewal years at one-year intervals. Staff also requests authorization to utilize the optional renewal years of the contract without further Council approvals until the contract expires or until City staff determines that continuing with the same vendor is not in the City's best interest.

CC #: 2836

File #: 0203-06

CONTACT: Blaine Wiegel 916-746-1833 bwiegel@roseville.ca.us

6.9. Pleasant Grove Wastewater Treatment Plant Renewable Identification Number Verification - Sole Source Contract Purchase Agreement

Memo from Acting Principal Engineer Tracie Mueller and Environmental Utilities Director Richard Plecker recommending the City Council adopt RESOLUTION NO. 23-302 APPROVING A SOLE SOURCE CONTRACT PURCHASE AGREEMENT, BY AND BETWEEN THE CITY OF ROSEVILLE TPR ENTERPRISES, LLC DBA ECOENGINEERS, AND AUTHORIZING THE CITY MANAGER TO EXECUTE IT ON BEHALF OF THE CITY OF ROSEVILLE (3003041). Staff requests Council approve a sole source contract purchase agreement with TPR Enterprises, LLC dba EcoEngineers to assist the City in complying with the Environmental Protection Agency's Renewable Fuel Standard Program for the renewable compressed natural gas vehicle fuel produced at the Pleasant Grove Wastewater Treatment Plant. The cost of services is \$209,000 over a three (3) year period. Funding for this agreement is provided by the South Placer Wastewater Authority's Capital Improvement Project budget, and the City's Wastewater Operations Fund.

CC #: 2823

File #: 0203-09

CONTACT: Tracie Mueller 916-774-5688 trmueller@roseville.ca.us

Resolutions

6.10. Roseville Advantage Financing Program - Banking Services Agreement Amendments

Memo from Economic Development Director Melissa Anguiano and Assistant City Manager/Chief Financial Officer Dennis Kauffman recommending the City Council adopt RESOLUTION NO. 23-312 APPROVING A SECOND AMENDMENT TO BANKING SERVICES AGREEMENT, BY AND BETWEEN THE CITY OF ROSEVILLE AND FIRST NORTHERN BANK, AND AUTHORIZING THE CITY MANAGER TO EXECUTE IT ON BEHALF OF THE CITY OF ROSEVILLE; and adopt RESOLUTION NO. 23-313 APPROVING A SECOND AMENDMENT TO BANKING SERVICES AGREEMENT, BY AND BETWEEN THE CITY OF ROSEVILLE AND FIVE STAR BANK, AND AUTHORIZING THE CITY MANAGER TO EXECUTE IT ON BEHALF OF THE CITY OF ROSEVILLE; and adopt RESOLUTION NO. 23-314 APPROVING A SECOND

AMENDMENT TO BANKING SERVICES AGREEMENT, BY AND BETWEEN THE CITY OF ROSEVILLE AND RIVER CITY BANK, AND AUTHORIZING THE CITY MANAGER TO EXECUTE IT ON BEHALF OF THE CITY OF ROSEVILLE. Staff requests Council approve the second amendments to Banking Services Agreements with Five Star Bank, River City Bank, and First Northern Bank to extend participation in the Roseville Advantage Financing Program for one year and amend interest requirements. The Program banks have agreed to increase the interest paid due to the current interest rate environment, from the current LAIF rate plus 1 basis point to new higher rates depending on the bank between the LAIF rate plus 10-50 basis points. The bank deposits will also be insured or collateralized pursuant to state law. The goal of the Program is to provide an opportunity for locally headquartered banks to work collaboratively with the City in helping the City's existing businesses grow and prosper, pursuing new business development, and diversifying our business community. Extending participation in the Program has no impact on the General Fund.

CC #: 2833

File #: 0110

CONTACT: Melissa Anguiano 916-774-5284 mvanguiano@roseville.ca.us
Dennis Kauffman 916-774-5313 dkauffman@roseville.ca.us

6.11. Joint Use of School/Park Sites - Master Agreement

Memo from the Park Planning & Development Manager Tara Gee and Parks, Recreation & Libraries Director Jill Geller recommending the City Council adopt RESOLUTION NO. 23-303 APPROVING A MASTER AGREEMENT FOR JOINT USE OF SCHOOL/PARK SITES, BY AND BETWEEN THE CITY OF ROSEVILLE AND THE CENTER JOINT UNIFIED SCHOOL DISTRICT, AND AUTHORIZING THE CITY MANAGER TO EXECUTE IT ON BEHALF OF THE CITY OF ROSEVILLE. The Center Joint Unified School District is constructing their first elementary School (Rex Fortune Elementary) within the City. The location of the school is on Upland Drive within Roseville's Sierra Vista Specific Plan area. Consistent with agreements related to School/Park sites adjacent to one another, a Joint-Use Agreement between the City and school district to share use of facilities for community recreation has been developed. It is the intent that this agreement become a master agreement as additional schools are built in the district over the term of the agreement. This agreement is consistent with the most recent Joint-Use Agreement approved by Council in July 2022 with the Roseville City School District. Fair share costs for custodial, heat, air, etc. will be based on use. The City's fair share costs for indoor programs will be absorbed in the operating budget and future costs for repairs and rehabilitation will be through the Council approved capital improvement program budget at the time they are needed.

CC #: 2824

File #: 0704

CONTACT: Tara Gee 916-774-5253 tgee@roseville.ca.us

6.12. Power Line and Cellular Towers - Easement Modification Agreement Amendment

Memo from IT Business Systems Analyst Christian Barajas and Chief Information

Officer Hong Sae recommending the City Council adopt RESOLUTION NO. 23-301 APPROVING A SECOND AMENDMENT TO EASEMENT MODIFICATION AGREEMENT, BETWEEN THE CITY OF ROSEVILLE AND PACIFIC GAS AND ELECTRIC COMPANY, AND AUTHORIZING THE CITY MANAGER TO EXECUTE IT ON BEHALF OF THE CITY OF ROSEVILLE. Staff requests Council approval of a second amendment to an existing easement between Pacific Gas and Electric (PG&E) and the City. PG&E leases space on their power line towers to telecommunications companies, who then attach cellular equipment to the towers. The existing easement only allows for certain frequencies to be transmitted. PG&E is requesting that we add certain frequencies to the easement by way of this amendment. The City will not be involved in any project, other than just amending the easement to allow the additional frequencies to be installed. There is no fiscal impact.

CC #: 2820

File #: 0800-05

CONTACT: Christian Barajas 916-774-5431 cjbarajas@roseville.ca.us

6.13. Street Name Change - Northern Portion of Brookstone Drive to North Brookstone Drive

Memo from GIS Analyst Scott Miller and Development Services Director Mike Isom recommending the City Council adopt RESOLUTION NO. 23-304 APPROVING THE RENAMING OF A PORTION OF BROOKSTONE DRIVE TO NORTH BROOKSTONE DRIVE. Staff requests Council approve renaming the northernmost portion of Brookstone Drive in the West Roseville Specific Plan, between Pikes Peak Way and Westbrook Boulevard, to North Brookstone Drive. This change will effectively resolve potential complications arising from having two intersections with the same name on Westbrook Boulevard. The anticipated costs to the General Fund will primarily involve staff time required to update the street name and address data in the City's database systems. Additionally, there will be nominal expenses associated with replacing the existing street signage.

CC #: 2825

File #: 0800-06

CONTACT: Scott Miller 916-774-5491 smiller@roseville.ca.us

Ordinances (for introduction and adoption - appropriation/urgency measures)

6.14. Staffing Changes

Memo from Human Resource Manager Linda Hampton and Human Resources Director Stacey Peterson recommending the City Council adopt ORDINANCE NO. 6694 AMENDING ORDINANCE NO. 6638, THE SALARY ORDINANCE FOR MANAGEMENT EMPLOYEES, AS AMENDED BY APPENDIX "H" TO BE EFFECTIVE JULY 29, 2023, AS AN URGENCY MEASURE; and adopt ORDINANCE NO. 6695 AMENDING ORDINANCE 6668, THE SALARY ORDINANCE FOR PERSONNEL REPRESENTED BY THE INTERNATIONAL BROTHERHOOD OF ELECTRICAL WORKERS, LOCAL 1245, AS AMENDED BY APPENDIX "F" TO BE EFFECTIVE JULY 29, 2023, AS AN URGENCY MEASURE; and adopt ORDINANCE NO. 6696 AMENDING

ORDINANCE NO. 6590, THE SALARY ORDINANCE FOR SEASONAL/TEMPORARY EMPLOYEES, AS AMENDED BY APPENDIX "Q" TO BE EFFECTIVE JULY 29, 2023, AS AN URGENCY MEASURE. As part of an ongoing assessment of the appropriate staffing levels to provide a high level of service to the community, staff requests that Council approve the A & B Management salary schedules to reflect the class retitle of Interpretive Services Supervisor to Cultural Arts Supervisor, the deletion of Environmental Utilities Business Administrator, and the addition of Environmental Utilities Business Services Manager, Payroll Analyst I/II and a salary adjustment for Payroll Supervisor. Approval is also requested for the A & B IBEW salary schedule reflecting the addition of Senior Environmental Utilities Instrument & Control Technician and the Temporary salary schedule reflecting a salary adjustment for Soccer Official. Staff also requests Council approve the Citywide position allocation schedule reflecting the addition of one Preventative Maintenance Supervisor position, one Senior Environmental Utilities Instrument & Control Technician position, one Senior Wastewater Utility Maintenance Worker position, one Cultural Arts Supervisor, one Environmental Utilities Business Services Manager, one Security Architect position, and two Payroll Analysts, and the deletion of one Management Analyst and one Environmental Utilities Business Services Administrator. The total impact to the Environmental Utilities Enterprise funds for the remainder of fiscal year 2023-24 (FY2023-24) is \$397,119, of which \$383,138 is included in the budget. The Information Technology Operations Fund impact is \$8,495, which was also included in the FY2023-24 budget. The General Fund impact is \$300,169, of which \$296,811 was included in the FY2023-24 budget. The amounts not included in the adopted budget will be absorbed by savings from position vacancies and other cost savings.

CC #: 2839

File #: 0600-01

CONTACT: Linda Hampton 916-774-5215 lhampton@roseville.ca.us

6.15.FY2022-23 Low Carbon Transportation Operations Program Projects - Budget Adjustment

Memo from Transportation Grants Analyst Cameron Schreiter and Public Works Director Jason Shykowski recommending the City Council adopt ORDINANCE NO. 6692 AUTHORIZING CERTAIN AMENDMENTS TO THE FISCAL YEAR 2023-24 BUDGET AND DECLARING THIS ORDINANCE TO BE IMMEDIATELY EFFECTIVE AS AN APPROPRIATION MEASURE. Staff requests Council approve a budget adjustment in the amount of \$891,481 allocating a portion of the City's FY2022-23 Low Carbon Transportation Operations Program funds to the Purchase of Seven New Zero Emission Commuter Buses project, the Zero Emission Bus Depot project, and the South Placer County Express Bus Service – Operating project. The grant and subsequent budget adjustments have no fiscal impact on the General Fund.

CC #: 2830

File #: 0721 & 0201-01

CONTACT: Cameron Schreiter 916-746-1302 ctschreiter@roseville.ca.us

6.16.Sierra View Westpark - Tree Mitigation Agreement and Budget Adjustment

Memo from Park Planning and Development Manager Tara Gee and Parks, Recreation & Libraries Director Jill Geller recommending the City Council adopt

RESOLUTION NO. 23-316 APPROVING A SIERRA VIEW WESTPARK TREE MITIGATION AGREEMENT, BY AND BETWEEN THE CITY OF ROSEVILLE AND SVCC 75, LLC, AND AUTHORIZING THE CITY MANAGER TO EXECUTE IT ON BEHALF OF THE CITY OF ROSEVILLE; and adopt ORDINANCE NO. 6693 AUTHORIZING CERTAIN AMENDMENTS TO THE FISCAL YEAR 2023-24 BUDGET AND DECLARING THIS ORDINANCE TO BE IMMEDIATELY EFFECTIVE AS AN APPROPRIATION MEASURE. Staff requests Council approve the Sierra View Westpark Tree Mitigation Agreement with SVCC 75, LLC (controlled by JMC Homes, Inc.). One of the Conditions of Approval includes a Tree Permit that would be issued for the Sierra View Westpark project requiring \$285,914 in tree mitigation fees for the removal of two thousand four hundred twenty three (2,423) inches of native oak trees. The agreement also outlines the developer's obligation to pay for certain costs associated with tree replacement and removal of the temporary irrigation system. The planting of the mitigation trees and installation of the temporary irrigation system will be funded through a portion of the \$285,914 of the tree mitigation fees, which will be deposited into the Native Oak Tree Propagation Fund. The balance of the tree funds, plus annexation of the project into the Infill Community Facilities District No. 4 (Public Services) at Zone 5, will offset costs for the required five (5) year maintenance and monitoring period. West Park Communities is in escrow with JMC Homes, who will purchase the entitlement to build the seventy-five (75) residential units. JMC Homes will then be obligated to implement the Conditions of Approval, including the tree mitigation requirements associated with the project. Since implementation of the tree mitigation plan will occur after the close of escrow, this Tree Mitigation Agreement is by and between the City and JMC Homes, Inc. A budget adjustment is requested to allow for reimbursement to the developer for the costs of tree planting and irrigation installation. Costs for tree replacements and the removal of the temporary irrigation system will be borne by the contractor. There will be no General Fund fiscal impact.

CC #: 2835

File #: 0322 & 0201-01

CONTACT: Tara Gee 916-774-5253 tgee@roseville.ca.us

Reports / Requests

6.17. Fiscal Year 2021-22 Audit Reports

Memo from Accounting Supervisor Kyle Horton and Assistant City Manager/Chief Financial Officer Dennis Kauffman recommending the City Council receive audit reports for the fiscal year ended June 30, 2022. Separately issued financial statements are required to be completed for the Roseville Electric Fund, Environmental Utilities Funds, the Other Post-employment Benefit Trust, and the Roseville Natural Gas Financing Authority, that detail activity in the current fiscal year and year-end balances. There is no impact to the City's General Fund.

CC #: 2826

File #: 0200 & 0103-17

CONTACT: Dennis Kauffman 916-774-5313 dkauffman@roseville.ca.us

Ceremonial Documents

6.18. Proclamation - Parks and Recreation Month

Proclaim July 2023 as Parks and Recreation Month and urge all residents to use and enjoy the City's parks, trails, open spaces and facilities.

CC #: 2821

File #: 0102-06

CONTACT: Blair Hutchison 916-774-5266 bmhutchison@roseville.ca.us

END OF CONSENT CALENDAR

7. RESOLUTIONS

7.1. Fire Department Comfort Canine, Paw Platoon Placement Program - Memorandum of Understanding and Side Letter Agreement

Memo from Fire Division Chief Matthew Lauchner and Fire Chief Rick Bartee recommending the City Council adopt RESOLUTION NO. 23-305 APPROVING A MEMORANDUM OF UNDERSTANDING, BY AND BETWEEN THE CITY OF ROSEVILLE AND HEARTS4HEROESUSA, AND AUTHORIZING THE CITY MANAGER TO EXECUTE IT ON BEHALF OF THE CITY OF ROSEVILLE; and adopt RESOLUTION NO. 23-306 APPROVING A SIDE LETTER AGREEMENT TO THE MASTER MEMORANDUM OF UNDERSTANDING FOR EMPLOYEES REPRESENTED BY ROSEVILLE FIREFIGHTERS, LOCAL 1592, AND AUTHORIZING THE CITY MANAGER TO EXECUTE IT ON BEHALF OF THE CITY OF ROSEVILLE. Staff requests Council approve a Memorandum of Understanding with Hearts4HeroesUSA to acquire a comfort support canine to enhance the peer support program and authorize the City Manager to execute a Side Letter Agreement concerning compensation and canine assignment. The lead comfort canine handler will receive seven (7) hours of overtime pay, based on the employee's normal hourly rate, per pay period, for care and training of the dog. The fiscal impact will be absorbed by the Fire Department's operating budget in the General Fund.

CC #: 2828

File #: 0324

CONTACT: Matthew Lauchner 916-774-5807 mlauchner@roseville.ca.us

Fire Chief Rick Bartee introduced Fire Division Chief Matthew Lauchner who made the presentation to the City Council.

Shelly from Hearts4Heroes spoke in support of the item.

Motion by Scott Alvord, seconded by Pauline Roccucci, to adopt RESOLUTION NO. 223-305 APPROVING A MEMORANDUM OF UNDERSTANDING, BY AND BETWEEN THE CITY OF ROSEVILLE AND HEARTS4HEROESUSA, AND AUTHORIZING THE CITY MANAGER TO EXECUTE IT ON BEHALF OF THE CITY OF ROSEVILLE; and adopt RESOLUTION NO. 23-306

APPROVING A SIDE LETTER AGREEMENT TO THE MASTER MEMORANDUM OF UNDERSTANDING FOR EMPLOYEES REPRESENTED BY ROSEVILLE FIREFIGHTERS, LOCAL 1592, AND AUTHORIZING THE CITY MANAGER TO EXECUTE IT ON BEHALF OF THE CITY OF ROSEVILLE. The Motion Passed.

Roll call vote: Ayes: Alvord, Houdesheldt, Mendonsa, Roccucci

Absent: Bernasconi

8. PUBLIC HEARING

8.1. North Roseville Specific Plan Parcel WW-40 (1751 Pleasant Grove Boulevard) Grocery Outlet – Design Review Permit and Tentative Parcel Map Appeal

Memo from Associate Planner Sean Morales and Development Services Director Mike Isom recommending the City Council adopt RESOLUTION NO. 23-309 DENYING THE APPEAL FROM THE MAY 11, 2023 APPROVAL BY THE PLANNING COMMISSION; ADOPTING THE FOUR (4) FINDINGS OF FACT AND APPROVING THE DESIGN REVIEW PERMIT SUBJECT TO EIGHTY-TWO (82) CONDITIONS OF APPROVAL AND ADOPTING THE THREE (3) FINDINGS OF FACT AND APPROVING THE TENTATIVE PARCEL MAP SUBJECT TO FORTY-EIGHT (48) CONDITIONS OF APPROVAL. Staff requests Council deny the appeal of the Planning Commission's approval of a Design Review Permit and Tentative Parcel Map for the Grocery Outlet project. These actions will uphold the Planning Commission's May 11, 2023 approval of the Grocery Outlet project (File # PL22-0205). The applicant requests a Design Review Permit to construct a 16,000 square-foot grocery building and a 4,600 square-foot freestanding pad building. The request also includes a Tentative Parcel Map to subdivide the existing parcel into three (3) lots. The development of the site with a grocery store and other commercial uses within the freestanding pad building will generate sales tax revenue for the City's General Fund.

CC #: 2831

File #: 0400-04-07 & 0400-08

CONTACT: Sean Morales 916-774-5282 smorales@roseville.ca.us

Mayor Bruce Houdesheldt opened the public hearing at 6:34 p.m.

Additional documents, and emailed comments to Item 8.1 were received after the posting of the agenda and prior to the meeting. A video was also submitted but was not uploaded due to software incompatibility.

Planning Manager Greg Bitter introduced Associate Planner Sean Morales, who made the presentation to the City Council.

Charles Trainor, representing Inter Cal Real Estate, spoke on concerns raised by the appeal.

Donald Mooney, spoke on behalf of the appellant.

Steve Plasquet, Paseo Del Norte resident, spoke on traffic and sound concerns.

Chris Campbell, HOA board member, spoke on concern with the traffic study that was done.

Nari Igawa, resident of the neighborhood, spoke on concerns of extra traffic and maintenance of the private road.

Eric Kurth, resident of Paseo Del Norte, spoke on traffic concerns.

Diana Stump spoke on traffic concerns.

Greg Robinson spoke in support of modifying the sound wall.

Veronica Vargas, representative of Grocery Outlet, spoke in support of the project.

Patty Brown inquired about the notification process.

James (last name inaudible) spoke on concerns of parcel 3 development and lack of available parking.

First name inaudible Plasquet, resident of Paseo Del Norte, spoke on noise and traffic concerns.

Donald Mooney, representing the appellant, responded to items brought up by Grocery Outlet representative.

Charles Trainor, representing the applicant, spoke on development of parcel 3 and traffic circulation.

Mayor Bruce Houdesheldt closed the public hearing at 7:40 p.m.

Motion by Scott Alvord, seconded by Tracy Mendonsa, to adopt RESOLUTION NO. 23-309 DENYING THE APPEAL FROM THE MAY 11, 2023 APPROVAL BY THE PLANNING COMMISSION; ADOPTING THE FOUR (4) FINDINGS OF FACT AND APPROVING THE DESIGN REVIEW PERMIT SUBJECT TO EIGHTY-TWO (82) CONDITIONS OF APPROVAL AND ADOPTING THE THREE (3) FINDINGS OF FACT AND APPROVING THE TENTATIVE PARCEL MAP SUBJECT TO FORTY-EIGHT (48) CONDITIONS OF APPROVAL including three (3) additional amendments: 1. Increase the height of the sound wall from 6 feet to 7.5 foot on parcel two (2), 2. Clarification that future development on parcel 3 will require a design review permit, and 3. Modify Condition of Approval #4 striking out reference to a Quik Service Restaurant (QSR). The Motion Passed.

Roll call vote: Ayes: Alvord, Houdesheldt, Mendonsa, Roccucci

Absent: Bernasconi

9. COUNCIL REPORTS / PUBLIC COMMENTS

Alisha Watkins spoke on the Mayor's attendance at Placer Pride Event.

Northern California Water Association - Councilmember Pauline Roccucci reported on attendance.

Associated Builders and Contractors of Northern California Training for Skilled Workers Open House - Councilmember Pauline Roccucci reported.

USA Girls Softball Tournament - Councilmember Pauline Roccucci announced the event to be held at Woodcreek High School on August 1, 2023.

Placer County Local Agency Formation Commission - Councilmember Tracy Mendonsa reported on attendance.

40th National Night Out - Councilmember Tracy Mendonsa announced the citywide event will be held on August 1, 2023.

JUNIOR Restaurant & Lounge - Councilmember Tracy Mendonsa announced the opening of the new restaurant located at 390 Sunrise Blvd.

Western Placer Waste Management Authority - Councilmember Scott Alvord spoke on construction of the new materials recovery facility.

Sustainable Agricultural Lands Conservation Grant Meeting - Councilmember Scott Alvord reported on attendance.

Creekview and Solaire Neighborhood Association Meetings - Councilmember Scott Alvord reported on attendance.

Downtown Tuesday Night Events - Councilmember Scott Alvord announced July 25 is the last event for the year.

Sacramento to Roseville Third Track Project - Mayor Bruce Houdesheldt announced the project received \$25M in funding from the California Transportation Commission.

10. ADJOURNMENT

Mayor Bruce Houdesheldt adjourned the meeting at 8:36 p.m.



COUNCIL COMMUNICATION

CC #: 2864

File #: 0900-04-02 & 0900-04-03

Title: Traffic Signal and Roadway Improvements for Roseville Soccer Complex Project - Approve Plans and Specifications and Authorize Staff to Call for Bids
Contact: Brian Gulewich 916-746-1300 bcgulewich@roseville.ca.us

Meeting Date: 8/16/2023

Item #: 6.2.

RECOMMENDATION TO COUNCIL

Staff recommends that the City Council approve the plans and specifications for the Traffic Signal and Roadway Improvements for Roseville Soccer Complex Project and authorize staff to call for bids.

BACKGROUND

The City's Parks, Recreations, and Libraries Department (PRL) solicited a traffic study for the development of the Roseville Soccer Complex Project. The study identified the need to construct four new traffic signals that are a part of the City's Capital Improvement Program (CIP) prior to the park opening.

The traffic signals are located at Blue Oaks Blvd and Hayden Parkway; Blue Oaks Blvd and Westbrook Blvd; Westbrook Blvd and Brookstone Drive (N); and Westbrook Blvd and Brookstone Drive (S). The traffic study also identified the need to add left turn pockets into the Soccer Complex (within the existing medians on Westbrook Blvd) and the western leg of each of the signals on Brookstone (N) and Brookstone (S) to serve the Soccer Complex directly.

Staff has completed the design of the project, which includes the improvements noted above, as well as the widening of Blue Oaks Blvd to the ultimate roadway width at the new traffic signal locations (to prevent any throwaway traffic signal improvements). Plans and Specifications for the project are attached.

The goal of this project is to have all CIP and Soccer Complex development required improvements completed prior to the opening of the Roseville Soccer Complex (estimated late 2025).

The project is expected to begin in the fall of 2023 and be completed by the fall of 2024.

PUBLIC OUTREACH

Public Works staff will be working closely with the City's Public Affairs and Communications team to keep the community informed of any traffic impacts during the construction phase of the project.

FISCAL IMPACT

The total construction cost is estimated to be \$8.3 million. All eligible signal and roadway improvements will be funded with Traffic Mitigation Fee funds (TMF). The Roseville Soccer Complex obligations are not a part of the City's CIP and will be covered using General Fund resources. In addition, some utility work included in the project will be funded with Blue Oaks Blvd. Fee funds. Staff will return to Council with a recommended budget adjustment outlining the specific funding amounts with the recommendation to award project construction. In an attempt to preserve TMF for other ongoing priority projects, \$3,217,833 of the TMF obligation for this project was provided by an interfund loan from the General Fund Capital Reserve Fund (approved by Council on June 21, 2023). The 1.5% interest loan will be paid back over 20 years, beginning on June 30, 2024.

ENVIRONMENTAL REVIEW

Development of the Traffic Signal and Roadway Improvements for Citywide Soccer Complex Project was previously evaluated in the West Roseville Specific Plan and Sphere of Influence Amendment EIR (February 14, 2004) (SCH: 2002082057), and identified in the associated the City of Roseville Regional Sports Complex: Subsequent Initial Study/Mitigated Negative Declaration (Adopted August 17, 2022). Based on the results of the subsequent initial study, construction of the Traffic Signal and Roadway Improvements for the Citywide Soccer Complex Project is found to be within the scope of the project covered by the West Roseville Specific Plan and Sphere of Influence Amendment EIR. As discussed in the West Roseville Specific Plan and Sphere of Influence Amendment EIR, the EIR provides environmental analyses of community infrastructure and facilities, including parks, pedestrian bridges, and bike trails, to the extent applicable. Because the project is consistent with the West Roseville Specific Plan and Sphere of Influence Amendment Final EIR and City of Roseville Regional Sports Complex: Subsequent Initial Study/Mitigated Negative Declaration, no new effects would be expected to occur and all applicable mitigation measures from the West Roseville Specific Plan and Sphere of Influence Amendment EIR and City of Roseville Regional Sports Complex: Subsequent Initial Study/Mitigated Negative Declaration will be implemented during the design and construction of the Traffic Signal and Roadway Improvements for Citywide Soccer Complex Project. Because the proposed project meets the requirements identified in Section 15183 of the State CEQA Guidelines, no additional CEQA review is required.

CITY COUNCIL STRATEGIC PLAN/OVERARCHING GOALS

Goal F – Invest in Well-Planned Infrastructure and Growth

Respectfully Submitted,

Brian Gulewich, Assistant Engineer

Jason Shykowski, Public Works Director



Dominick Casey, City Manager

ATTACHMENTS:

Description

Project Manual - Roseville Soccer Complex Intersection Improvements

Plans - Pages 1-20 - Roseville Soccer Complex Intersection Improvements

Plans - Pages 21-39 - Roseville Soccer Complex Intersection Improvements



Streets & Bridges Project Manual

Name of project:

Traffic Signal and Roadway Improvements for Citywide Soccer Complex Project

Department:

Public Works—Engineering

TABLE OF CONTENTS

	<u>Pagination Notation</u>
Notice to Contractors	NTC
Instructions to Bidders	INT
Proposal	PROP
Insurance Broker Information Packet	INS
Standard Construction Specifications	SCS
Assembly Bill No. 626	AB 626
Special Provisions (if applicable)	SP
Construction Details	CD

CITY OF ROSEVILLE
DEPARTMENT OF PUBLIC WORKS

Name of Project: TRAFFIC SINGAL AND ROADWAY IMPROVEMENTS FOR CITYWIDE
SOCCER COMPLEX PROJECT
City of Roseville Contract: 500317

NOTICE TO CONTRACTORS

NOTICE IS HEREBY GIVEN THAT sealed Proposal will be received at the Office of the City Clerk, 311 Vernon Street, Roseville, California, until **Tuesday, September 12th, 2023** at 3:00 p.m. Late proposals will be rejected. No exceptions.

The Proposals will be publicly opened and read by the City Clerk or designee of the City of Roseville at 3:05 p.m. on **Tuesday, September 12th, 2023** at the Office of the City Clerk located at 311 Vernon Street, Roseville California for the following project: **TRAFFIC SINGAL AND ROADWAY IMPROVEMENTS FOR CITYWIDE SOCCER COMPLEX PROJECT.**

A pre-bid meeting will be held at **NOT APPLICABLE**.

A Project Manual, including all Contract Documents and the Proposal forms for bidding this project, may be obtained on-line from the City of Roseville's website at https://www.roseville.ca.us/business/procurement_services/bids_rfps. All communications relative to this project shall be conducted through Public Purchase.

Bids shall be submitted on the City's Proposal Forms included in the Project Manual, plainly endorsed with the Bidder's name together with signed acknowledgement of any and all

addenda. Proposal Forms shall be securely sealed in a suitable envelope marked with the name and address of the Bidder, and marked in capital letters on the front and back of the envelope as follows:

**TRAFFIC SIGNAL AND ROADWAY IMPROVEMENTS FOR CITYWIDE SOCCER
COMPLEX PROJECT**

(Name of Bidder)

(Address of Bidder)

Whether mailed or personally delivered, all bids shall be addressed to the City of Roseville, Office of the City Clerk, 311 Vernon Street, Roseville, California, 95678.

Each bid must be accompanied by a Bid Guaranty in the form of a Certificate of Deposit, Certified or Cashier's Check, Bidder's Bond or Irrevocable Standby Letter of Credit in an amount equal to at least ten percent (10%) of the Bidder's Grand Total Price. The Bid Guaranty will be retained by the City and applied to any and all damages sustained by the City in the event that the successful Bidder fails or refuses to enter into the Contract awarded to it and to furnish all required bonds and Certificates of Insurance. The City intends to award the Contract to the lowest responsible Bidder based on the Grand Total Bid Price for all components of the Project. To the extent allowed by law, the City reserves the right to reject any and all bids and/or to waive any irregularities or informalities in any bid or in the bidding procedure. The City specifically reserves the right to not award the Contract after the opening of bids.

Any bid may be withdrawn at any time prior to the time fixed in the public notice for the deadline submission of bids only by written request for the withdrawal of the bid filed with the City Clerk. The request shall be executed by the Bidder or his or her duly authorized

representative. The withdrawal of a bid does not prejudice the right of the Bidder to file a new bid by the submission deadline. Whether or not bids are opened exactly at the time fixed in the public notice for opening bids, a bid will not be received after the deadline submission of bids nor may any bid be withdrawn after the time fixed in the public notice for deadline for submission of bids. Immediately following the deadline for submission of bids all bids shall become the property of the City of Roseville and the City is under no obligation to return bids.

Bids will be examined and reported to the City Council within sixty (60) business days after the bid opening. Except as permitted by applicable law, no Bidder may withdraw its bid for a period of sixty (60) business days after the date of bid opening. Each Bidder will be notified of any award of the Contract by the City.

The City will affirmatively ensure non-discrimination on the basis of one or more of the following: race, religious creed, color, national origin, ancestry, physical disability, mental disability, medical condition, genetic information, marital status, sex, age, sexual orientation, or military and veteran status in the award and administration of contracts that it awards.

Pursuant to Public Contract Code Section 22300, the successful Bidder may submit certain securities in lieu of the City withholding retention of payments during the Project.

The City has determined that the Contractor shall possess a valid **CLASS A, GENERAL ENGINEERING CONTRACTOR'S LICENSE** at the time that the bid is submitted, as well as any other license classification as may be required by the laws of the California for the performance of the work specified in the Contract Documents. Said license shall be maintained during the Contract period. Failure to possess the specified license shall render the bid nonresponsive and will act as a bar to the award of the Contract to any Bidder not possessing

such a license at the time of bid submittal. The Contractor shall provide certification of the license, its number and the expiration date on the proposal form.

The work is to be done in Placer County. Pursuant to California Labor Code Section 1773, the City has ascertained the General Prevailing Rate of Wages in the County in which the work is to be done to be as determined by the Director of Industrial Relations of the State of California. The Contractor is hereby made aware that information regarding prevailing wage rates may be obtained from the State Department of Industrial Relations and/or the following website address: <http://www.dir.ca.gov/dlsr/DPreWageDetermination.htm>. The Contractor is required to post a copy of the applicable wage rates at the job site. Attention is directed to Section 7 “Legal Relations and Responsibility” of the Standard Construction Specifications.

Pursuant to Labor Code Section 1771.1(b), notice is hereby given that a contractor or subcontractor shall not be qualified to bid on, be listed in a bid proposal, subject to the requirements of Section 4104 of the Public Contract Code, or engage in the performance of any contract for public work, as defined in Labor Code Sections 1720, et seq., unless currently registered and qualified to perform public work pursuant to Labor Code Section 1725.5 or exempt from registration requirements pursuant to Labor Code Section 1725.5(f). It is not a violation of Labor Code Section 1771.1 for an unregistered contractor to submit a bid that is authorized by Section 7029.1 of the Business and Professions Code or by Section 10164 or 20103.5 of the Public Contract Code, provided the contractor is registered to perform work pursuant to Labor Code Section 1725.5 at the time the contract is awarded or is exempt from registration requirements pursuant to Labor Code Section 1725.5(f). The Contractor is hereby notified that this project is subject to compliance monitoring and enforcement by the Department of Industrial Relations.

All questions prior to the deadline for bid submissions shall be directed to the attention of **BRIAN GULEWICH, ASSISTANT ENGINEER** via **PUBLIC PURCHASE**. The deadline for submissions of questions and clarifications regarding the Contract Documents is **FIVE (5)** calendar days before the deadline for bid submissions. Only Addenda issued by the City are binding.

City Clerk, City of Roseville

Dated: _____

Published: _____

INSTRUCTIONS TO BIDDERS

SECTION 1. GENERAL

1-1.01 **GENERAL.** These Instructions to Bidders form a part of the Contract Documents. Capitalized terms are defined in Standard Construction Specifications Section 1.

1-1.02 **EXAMINATION OF PLANS, CONTRACT DOCUMENTS AND SITE OF THE WORK.** The Bidder shall examine carefully the site of the Work and all the Contract Documents, including these Instructions to Bidders, and shall inform itself of the conditions relating to the execution of the Work. Failure to do so will not relieve the successful Bidder of its obligation to enter into an Agreement and complete the Work in strict accordance with the Contract Documents. Conditions relating to the execution of the Work include the requirements of federal, state, and local laws, statutes and ordinances relative to the execution of Work, including, but not limited to, applicable regulations concerning prevailing wage rates, non-discrimination in the employment of labor, protection of the public, employee health and safety, and environmental protection.

The submission of a bid shall be conclusive evidence that the Bidder has investigated and is satisfied as to the conditions to be encountered, as to the character, quality, and scope of Work to be performed, the quantities of materials to be furnished, and as to the requirements of all the Contract Documents.

1-1.03 **EXISTING INFORMATION.** Where the Department has made investigations of site conditions, including subsurface conditions in areas where Work is to be performed under the Contract, such investigations are made only for the purpose of study and design. City does not represent that such conditions as found in these investigations or inferences or conclusions drawn as a result of these investigations will represent actual site

conditions and hereby disclaims any liability as a result of Contractor's or Bidder's reliance on such investigations. City will presume that all Bidders have conducted their own site investigations, including investigations of subsurface conditions. Where such investigations have been made, Bidders or Contractors may, upon written request, inspect the records of the Department as to such investigations subject to the conditions set forth in these Instructions to Bidders. Such inspection of records may be made only at the location noted above. The records of such investigations are not a part of the Contract Documents and are shown solely for the convenience of the Bidder or Contractor. The City assumes no responsibility whatsoever with respect to the sufficiency or accuracy of the investigations made, the records thereof, or of the interpretations set forth therein or made by the City in its use thereof. The City makes no warranty or guarantee, either express or implied, that the conditions indicated by such investigations or records are representative of those existing throughout such areas, or any part thereof, or that unforeseen developments may not occur, or that materials other than, or in proportions different from those indicated, may not be encountered.

No information derived from such inspection of records of investigations or compilation thereof made by the City, the Department or from the Engineer, or his or her assistants, will in any way relieve the Bidder or Contractor from properly examining the site and making such additional investigations as it may elect, or from properly fulfilling the terms of the Contract.

SECTION 2: BID REQUIREMENTS

2-1.01 **PROPOSAL FORMS.** The Department will furnish to each Bidder standard Proposal Forms, which, when filled out and executed may be submitted as the bid. Proposals shall include all pages in the Project Manual with page numbers marked “PROP” plus the Addendum acknowledgment form (front sheet) from all Addenda received by the Bidder. Proposals shall be removed from the Project Manual. The full Project Manual shall not be submitted with the proposal. Bids not presented on forms so furnished will be disregarded.

The Proposal and one (1) copy thereof shall be submitted as directed in the “Notice to Contractors” under sealed cover plainly marked as a Proposal, and identifying the project to which the Proposal relates and the date of the bid opening therefor. Proposals which are not properly marked may be disregarded.

All blank spaces in the Proposal must be completed, as required, in ink. All price information shall be shown, clearly legible, in figures where required.

The Bidder shall sign the Proposal in the blank space provided therefor. If the Bidder is the sole owner, the Proposal shall be signed by the owner. If the Bidder is a corporation, the legal name of the corporation and its State of incorporation shall be set forth and the Proposal shall be signed by at least two officers authorized to sign contracts on behalf of the corporation. If the Bidder is a partnership, the true name of the firm shall be set forth, the names and addresses of all partners shall be given and the Proposal shall be signed by a partner in the firm authorized to sign contracts on behalf of the partnership. If the Bidder is a joint venture, the Proposal shall be signed on behalf of each participating company by officers or other individuals who have the full and proper authorization to do so. If the Proposal is signed by an agent of the Bidder other than an officer of a corporation or a member of a partnership, a notarized Power of

Attorney must be on file with the City prior to opening of bids or must be submitted with the Proposal. If requested by the City, the Bidder shall promptly submit evidence satisfactory to the City of the authority of the person signing the Proposal.

2-1.02 **SUBMISSION OF BIDS.** Bids must be submitted at the prescribed time and location specified in the Notice to Contractors. Any submission received after the prescribed time shall be rejected, regardless of whether or not bids are opened exactly at the prescribed time.

Any unauthorized conditions or qualifications entered on, or changes made to, the Proposal may render it invalid and may cause its rejection.

No telegraphic, telephonic, or facsimile or other electronically transmitted bids will be considered.

2-1.03 **REQUIRED LISTING OF PROPOSED SUBCONTRACTORS.** Each Proposal shall list the name, address and Contractor license number of each Subcontractor to whom the Bidder proposes to subcontract portions of the Work in an amount in excess of one-half of one percent (0.5%) of its total bid, in accordance with Section 4100 to 4114, inclusive, of the Public Contract Code for the State of California. The Bidder shall list the Subcontractor's license number and the portion of the Work that will be done by each Subcontractor. If the Bidder fails to specify a Subcontractor for any portion of the Work, the Bidder agrees to perform that portion of the Work itself, and represents that it is qualified to perform that portion of the Work itself. The Bidder's attention is invited to other provisions of the Public Contract Code related to the imposition of penalties for a failure to observe its provisions by using unauthorized Subcontractors or by making unauthorized substitutions.

2-1.04 **CONTRACTOR'S LICENSING LAWS.** Attention is directed to the provisions of Business and Professions Code Chapter 9 of Division 3 concerning the licensing of Contractors.

All Bidders at the time of bid submittal shall be licensed as Contractors in accordance with the laws of this State. Any Bidder or Contractor not so licensed is subject to the penalties imposed by such laws. The form of Contractor's license required is stated in the Notice to Contractors, provided that the City makes no representation as to whether the State may require other or additional licenses. It is the Bidder's and Contractor's responsibility to obtain the correct Contractor's licenses. Bidders shall be skilled and regularly engaged in the general class or type of Work called for under this Contract.

All Bidders and Contractors, including Subcontractors, shall have a current City business license before undertaking any Work.

2-1.05 **NONCOLLUSION DECLARATION.** By submitting a bid, the Bidder represents and warrants that such bid is genuine and not a sham or collusive or made in the interest or on the behalf of any person therein named, and that the Bidder has not, directly or indirectly, included or solicited any other Bidder to put in a sham bid, or any other person, firm, or corporation to refrain from bidding, and that the Bidder has not in any manner sought collusion to secure the Bidder an advantage over any other Bidder.

Bidders shall submit a properly completed and executed "Noncollusion Declaration" in the form required by Public Contract Code Section 7106 and provided with the Proposal (PROP-11).

2-1.06 **DISQUALIFICATION, REMOVAL OR OTHER PREVENTION OF BIDDING.** A bid may be rejected on the basis of a Bidder, any officer of such Bidder, or any

employee of such Bidder who has a proprietary interest in such Bidder, having been disqualified, removed, or otherwise prevented from bidding on, or completing a federal, state, or local project because of a violation of law or a safety regulation.

2-1.07 **PROPOSAL GUARANTY.** All bids shall be accompanied by one of the following forms of Bidder's security: Cash, a cashier's check, a certified check, or a Bidder's bond executed by an admitted California surety insurer, made payable to the City of Roseville, or any other form of security deemed acceptable by the City Attorney. The security shall be in an amount equal to at least ten percent (10%) of the amount bid. A bid will not be considered unless one of the form of Bidder's security is enclosed with it.

A Bidder's bond shall conform to the City's bond form in the Proposal and shall be properly filled out and executed.

2-1.08 **SCHEDULE OF BID PRICES.** Bidders are directed to submit firm unit and lump sum prices for all Work set forth in the Contract Documents on the Proposal Form entitled "Schedule of Bid Prices."

Unit prices and lump sum prices, as indicated, must be entered in the appropriate spaces provided in the Schedule of Bid Prices. If applicable, unit prices shall be multiplied by the quantities shown, and the total shall be inserted in the Amount column. In the event of any error or discrepancy between the unit price and the calculated amount, the unit prices shall govern. The City may correct any mathematical errors apparent on the face of the bid.

The amounts shown in the Amount column must be added together in arriving at the Grand Total Bid Price.

Amounts for Allowance bid items must be entered in the exact amount in the Amount column.

The prices included within the Schedule of Bid Prices shall include all costs for labor, materials, tools, equipment, services, Subcontractors, suppliers, taxes, insurance, shipment, delivery, overhead, profit, and all other costs necessary to perform the Work in accordance with the Contract Documents.

The Grand Total Bid Price shall be indicated in the Summary table form included with the Schedule of Bid Prices. The Grand Total Bid Price shall be the sum of the amounts bid for each of the designated portions of the Work, as more specifically described on the Schedule of Bid Prices form itself.

Full compensation for complying with the Contract Documents, including requirements of the Standard Specifications, the Standard Construction Specifications, Supplemental Conditions, and all warranties, shall be considered included in the bid items and no additional compensation shall be allowed therefor.

Full compensation for completion of all work as shown on the plans, as specified in the Specifications, and as directed by the City, shall be considered included in the bid items and no additional compensation shall be allowed.

Bidders are strongly discouraged from submitting unbalanced bids. As used herein, the term “unbalanced bid” is defined as any bid that does not include a reasonable proportionate allocation of indirect costs and profit of each bid item indicated in the Schedule of Bid Prices. The City reserves the right to reject any unbalanced bid if the City determines that there is a reasonable doubt that an acceptance of the bid will not result in the lowest ultimate cost to the City with regard to the work or a disproportionate distribution of contract funds.

The City reserves the right to delete any bid item in its entirety and/or significantly reduce the quantity of Work under a bid item. The City makes no representation that any Work

under a bid item will be performed during the course of the Project or that the Work will be performed at the quantities included in the Schedule of Bid Prices. As provided in the Standard Construction Specifications, for any deleted Work, Contractor shall not be entitled to payment of the indirect costs and profit included for said bid item. All bid items shall be considered distinct and severable from the remaining bid items, and each Bidder acts at its peril if its bid is unbalanced.

The City shall compare bids on the basis of the Grand Total Bid Price, which includes the base bid and any alternates designated on the Schedule of Bid Prices. Alternates may or may not be awarded, or may be awarded in any combination, at the City's discretion.

2-1.09 **WITHDRAWAL OF PROPOSALS.** Any bid may be withdrawn at any time prior to the time fixed in the Notice to Contractors for the opening of bids, provided that a request in writing, executed by the Bidder or its duly authorized representative, for the withdrawal of such bid is filed with the City Clerk. Facsimile and electronic mail requests are not acceptable. The withdrawal of a bid shall not prejudice the right of a Bidder to file a new bid. The withdrawal of any bid after the time fixed in the Notice to Contractors for the opening of bids will not be permitted.

2-1.10 **ADDENDUM.** Proposals shall include all costs and account for all Addenda issued prior to opening of bids. The Bidder is responsible for verifying that all issued Addenda have been received. An Addendum acknowledgment form for each Addendum shall be included as part of the Proposal submittal.

2-1.11 **PUBLIC OPENING OF PROPOSALS.** Proposals will be publicly opened and read at the time and place indicated in the Notice to Contractors. Bidders or their authorized agents are invited to be present.

2-1.12 **TRENCHING AND EXCAVATION WORK.** In accordance with the provisions of California Labor Code Section 6707, if the Work involves construction of a pipeline, sewer, sewage disposal system, boring or jacking pits, or similar trenches or open excavations, which are five feet (5') or deeper, each bid submitted shall contain, as a bid item, adequate sheeting, shoring, and bracing, or equivalent method, for the protection of life or limb, which shall conform to all applicable safety orders.

SECTION 3: EVALUATION OF BIDS

3-1.01 **BID EVALUATION PROCESS.** Bids will be evaluated to determine the apparent low Bidder. The apparent low Bidder will be determined on the basis of the Grand Total Bid Price, as shown in the Schedule of Bid Prices. If additive or deductive alternates are used in the Schedule of Bid Prices, the apparent low Bidder will be the Bidder with the lowest total of the bid prices for base contract items plus the alternates designated by the City as those that will be used for determining the lowest bid price. However, the City reserves the right to (1) not award any alternates or (2) award any combination of alternates.

In case of discrepancy between the total of the base contract items and any specified alternates and the stated Grand Total Bid Price, the total of the base contract items plus specified alternates shall prevail. Any mathematical errors that appear on the face of the bid will be corrected by the City and the City will use the mathematically corrected addition. For example, if the mathematical total of Bidder's base contract items plus specified alternates equals \$1,000,000, but the Bidder has written \$1,250,000 as the Grand Total Bid Price, the City will consider \$1,000,000 to be the Bidder's Grand Total Bid Price for purposes of comparison to other Bidders and actual bid award. The City reserves its rights to reject or accept bids based on discrepancies between the stated Grand Total Bid Price and the actual mathematical total of the base contract bid items, plus specified alternates.

3-1.02 **REJECTION OF IRREGULAR PROPOSALS.** Proposals may be rejected in the City's sole discretion if they show any alterations of form, additions not called for, conditional bids, incomplete bids, erasures, or irregularities of any kind. However, the City reserves the right to waive any minor irregularities and informalities in any bid or in the bid procedure for any reason.

3-1.03 **COMPETITIVE BIDDING.** If more than one proposal is offered by any individual, firm, partnership, corporation, association, or any combination thereof, under the same or different names, all such proposals may be rejected. A party who has quoted prices on materials or Work to a Bidder is not thereby disqualified from quoting prices to other Bidders, or from submitting a bid directly for the materials or Work.

All Bidders are put on notice that any collusive agreement to control or affect the awarding of this Contract is in violation of the competitive bidding requirements of the City Charter, State Contract Act and the Business and Professions Code and may render void any Contract let under such circumstances.

3-1.04 **RELIEF OF BIDDERS.** If the Bidder claims a mistake was made in its bid, the Bidder shall give the Department written notice within five (5) Days after the opening of the bids of the alleged mistake, specifying in the notice in detail how the mistake occurred. No relief from a claimed mistaken bid shall be granted unless such mistake clearly appears on the face of the bid submitted to the City. Claimed mistakes on backup worksheets, spreadsheets, computerized bidding programs, or any other similar calculative bidding mistake which is not apparent on the face of the bid shall not under any circumstance be considered as a basis for relief. The burden of proving the occurrence of a mistake entitling a Bidder to relief from its bid rests entirely on the Bidder. Relief from bids shall be in the City's sole discretion.

SECTION 4: AWARD AND EXECUTION OF CONTRACT

4-1.01 **AWARD OF CONTRACT.** The City reserves the right to reject any and all proposals and to award (or not award) any combination of bid items at its option. Any such award will be to the lowest responsible Bidder whose proposal complies with the requirements prescribed for the bid items awarded. Such award, if made, will be made within sixty (60) business days after the opening of the proposals. If the lowest responsible Bidder refuses or fails to execute the Contract, or provide an acceptable Performance Bond, Payment Bond, and insurance certificate(s), the City may award the Contract to the second lowest responsible Bidder. Such award, if made, will be made within eighty-two (82) business days after the opening of proposals. If the second lowest responsible Bidder refuses or fails to execute the Contract, or provide an acceptable Performance Bond, Payment Bond, and insurance certificate(s), the City may award the Contract to the third lowest responsible Bidder. Such award, if made, will be made within one hundred four (104) business days after the opening of the proposals. The above time periods within which the award of Contract may be made are subject to extension for such further period as may be agreed upon in writing between the City and the Bidder concerned.

4-1.02 **RETURN OF BIDDER'S SECURITIES.** Within ten (10) Days after the award of the Contract, the City Clerk will return all Bidders' securities, other than Bidders' bonds, accompanying the proposals that are not to be further considered in making the award. Retained Bidders' securities will be held until the Contract has been fully executed, after which all Bidders' securities, except Bidders' bonds and any Bidders' securities that have been forfeited, will be returned.

4-1.03 **CONTRACT BONDS.** The successful Bidder shall furnish two (2) bonds in the form contained in the section entitled Insurance Broker Information Packet and Bonds. One (1) bond shall secure the payment of the claims of laborers, mechanics or materialmen employed on the Work under the Contract, and the other bond shall guarantee the faithful performance of the Contract.

Each of the two (2) bonds shall be in a sum equal to one hundred percent (100%) of the Contract Price. If the Contract Price increases by the issuance of Change Orders, the penal amounts of the bonds required shall increase accordingly. Sureties on each of said bonds shall be satisfactory to the City.

All alterations, extensions of time, extra and additional Work, and other changes authorized by the Standard Specifications, the Standard Construction Specifications, the Supplemental Conditions or any part of the Contract may be made without securing the consent of the surety or sureties on the Contract bonds.

Furthermore, the successful Bidder shall furnish a certificate from the County Clerk as required by California Civil Code of Procedure Section 995.660(a)(3).

4-1.04 **INSURANCE.** At the time of the execution of the Contract, the Contractor shall, at its own expense, procure, and at all times during the prosecution of the Work maintain in full force and effect Worker's Compensation Insurance, and Liability Insurance as specified in the Standard Construction Specifications. The Contractor shall provide a Certificate of Insurance in the form contained in the section entitled Insurance Broker Information Packet.

4-1.05 **EXECUTION OF CONTRACT.** The Contract shall be signed by the successful Bidder and returned, together with all the required Contract bonds and insurance

certificates, within fifteen (15) Days after the Contract has been awarded, or as otherwise directed, in writing, by the City.

If the Bidder is an individual, the Contract shall be executed personally by the Bidder. If the Bidder is a partnership, it is desirable that the Contract be executed by all of the partners, but it may be executed by one of them. If the Bidder is a corporation, it must be executed by two officers of the corporation consisting of (1) the chairman of the board, president or vice president; and (2) the secretary, assistant secretary, chief financial officer, treasurer or assistant treasurer, or by a person authorized by the corporation to execute written contracts on its behalf, and the corporate seal affixed thereto. In the alternative, a person other than an officer may sign the Contract, provided evidence satisfactory to the City is provided indicating the individual's authority to bind the corporation. If the corporate seal is not affixed to the Contract, or if it is executed by a person other than officers, or only by one officer, there must be attached to the Contract a certified copy of a resolution of the corporation authorizing such officer or person to execute written contracts for and on behalf of the corporation. If the Bidder is a joint venture, the Contract must be executed on behalf of each participating firm by officers or other individuals who have the full and proper authorization to do so.

4-1.06 **FAILURE TO EXECUTE CONTRACT.** Failure of the lowest responsible Bidder, the second lowest responsible Bidder, or the third lowest responsible Bidder to execute the Contract and file acceptable bonds and insurance as provided within fifteen (15) Days after the Contract has been awarded, or as otherwise directed, in writing, by the City, shall be just cause for annulment of the award and forfeiture of the Bidder's security. The successful Bidder may file with the City Clerk a written notice, signed by the Bidder or Bidder's authorized representative, specifying that the Bidder will refuse to execute the Contract if presented to

Bidder. The filing of such notice shall have the same force and effect as the failure of the Bidder to execute the Contract and furnish acceptable bonds within the time prescribed.

SECTION 5: BID PROTEST PROCEDURES

5-1.01 **POLICY/PROCEDURES.** It is the policy of the City to consider fully and adjudicate promptly protests filed by prospective Bidders relating to the City's bidding procedure or award of the Contract. Protests shall be filed and processed in accordance with Section 4.12.150 of the Roseville Municipal Code. A Bidder's failure to follow the bid protest procedures may result in rejection of the protest by the City.

PROPOSAL TO THE DEPARTMENT OF _____

Project: _____

Name of Bidder _____ Business Phone _____

Business Address _____

Place of Business _____

Contractor's License No. _____

License Expiration Date _____

License Classification Type _____

DIR Registration No. _____

Type of business organization: _____

*If a Corporation, incorporated under the laws of the State of: _____

The undersigned Bidder herewith submits this Proposal and binds itself on award by the City of Roseville under this bid to execute a Contract in accordance with its bid and the Contract Documents.

The Notice to Contractors, Instructions to Bidders, Form of Agreement, Standard Specifications, Standard Construction Specifications, Supplemental Conditions, Contract Drawings, and Addenda, if any, are made part of this bid and all provisions thereof are hereby accepted, and all representations and warranties are required thereby are hereby affirmed.

The work to be done is described in the Bidding Documents entitled _____, City of Roseville, California.

This offer shall be irrevocable for a period of sixty (60) Days after the date on which bids are opened.

The undersigned Bidder understands that any clarification made to the above or any new and different conditions or information submitted on or with its Proposal, other than that requested, may render the bid non-responsive.

The undersigned, as Bidder, declares that the only persons or parties interested in this Proposal as principals are those named herein; that this Proposal is made without collusion with any other person, firm, or corporation; that the Bidder has carefully examined the location of the proposed Work, the attached Form of Agreement, and the plans, Specifications, and other Contract Documents; and agrees if this Proposal is accepted, that it will contract with the City of Roseville, in the form of a copy of the Agreement contained in the Project Manual, to provide all necessary machinery, tools, apparatus and other means of construction, and to do all the work and furnish all the materials specified in the Contract Documents, in the manner and time therein prescribed, and according to the requirements of the Director, as therein set forth, and that the Bidder will take in full payment therefore prices indicated in the Schedule of Bid Items, including all work modified by addendum numbers _____. (IF NONE, STATE NONE).

Bids are required for all Bid Items. The amount of the Bid for comparison purposes will be the total of all items awarded.

The Bidder shall set forth for each item of work, in clearly legible figures, an item (“unit”) price and a total for the item in the respective spaces provided for this purpose in the Schedule of Bid Items.

The prices included within the Schedule of Bid Items include all costs for labor, materials, tools, equipment, services, Subcontractors, suppliers, taxes, insurance, shipment,

delivery, overhead, profit, and for all other costs necessary to perform the Work in accordance with the Contract Documents.

Accompanying this Proposal is _____.

(Notice: Insert the words "Cash \$_____", "Cashier's Check," "Certified Check," or "Bidder's Bond," as the case may be, in an amount equal to at least ten percent (10%) of the total of the Bid.)

The names of all persons interested in the foregoing Proposal as Principals, are as follows: _____

If SOLE OWNER, execute here:

I sign as sole owner of the business named above:

If PARTNERSHIP, one or more partners sign here:

The undersigned certify that we are partners in the business named above and that we sign this bid with the full authority to do so:

If CORPORATION, execute here:

Corporate Name: _____

Incorporated under the laws of the State of _____

The undersigned certify that they sign this bid with the full and proper authorization so to do:

By _____
*Signature of Authorized Official**

By _____
*Signature of Authorized Official**

Title

Title

Typewritten or Printed Name

Typewritten or Printed Name

If JOINT VENTURE, execute here:

Joint Venture name composed of: _____

The undersigned certify that they sign this bid with the full and proper authorization so to do:

*Signature of Authorized Official**

*Signature of Authorized Official**

Title

Title

Typewritten or Printed Name

Typewritten or Printed Name

*If Bidder is a partnership or Joint Venture, give the full names of all partners and/or Joint Ventures in the space provided (use additional sheet if required). If Bidder is a corporation, two signatures are required as follows: (1) the Chairman, President, or Vice-President and (2) the Secretary, Assistant Secretary, Chief Financial Officer, Treasurer, or Assistant Treasurer. In the alternative, this Agreement may be executed by a single officer or a person other than an officer provided that evidence satisfactory to City is provided demonstrating that such individual is

authorized to bind the corporation (example, a copy of a certified resolution from the corporation's board or a copy of the corporation's bylaws).

[LIST OF SUBCONTRACTORS FOLLOWS ON NEXT PAGE.]

LIST OF SUBCONTRACTORS

Contractor's Name: _____

The Bidder is required to furnish the following information in accordance with the provisions of Section 4100 and 4114, inclusive, of the Public Contract Code of the State of California. This list and information shall include all Subcontractors that perform work, provide labor or render services to the Bidder in connection with the Project in an amount in excess of one-half of one percent (0.5%) of the total amount of the Bidder Grand Total Price.

PORTION/ TYPE OF WORK	% OF CONTRACT	SUB- CONTRACTOR'S NAME	CONTRACTOR LICENSE NO.	DIR REG NO.	BUSINESS ADDRESS (CITY, STATE)

SECURITY FOR COMPENSATION CERTIFICATE

(Required by California Labor Code Section 1861)

TO: City Council
City of Roseville

I am aware of the provisions of Section 3700 of the Labor Code which require every employer to be insured against liability for workers' compensation or to undertake self-insurance in accordance with the provisions of that code, and I will comply with such provisions before commencing the performance of the work of this Contract.

(Signature of Bidder)

Business Address

Telephone

BIDDER'S BOND

City Council of the City of Roseville

KNOW ALL MEN BY THESE PRESENTS:

That we _____
_____, as PRINCIPAL, and

a, _____ and duly authorized to transact business
under the laws of the State of California, as SURETY, are held and firmly bound unto the City of
Roseville in the penal sum of _____ dollars
(\$_____), being at least TEN PERCENT (10%) OF THE TOTAL AMOUNT OF
THE BID of the Principal above named, submitted by said Principal to the City of Roseville,
acting by and through the Public Works Director, for the work described below, for the payment
of which sum in lawful money of the United States, well and truly to be made, to the Director of
the Department to which said Bid was submitted, we bind ourselves, our heirs, executors,
administrators and successors, jointly and severally, firmly by these presents.

THE CONDITION OF THIS OBLIGATION IS SUCH,

That whereas the Principal has submitted the above-mentioned Bid to the City Council of
the City of Roseville, as aforesaid, for certain construction specifically described as follows, for
which Bids are to be opened at the Office of the City Clerk located at 311 Vernon Street,
Roseville, California, on _____, 20__ FOR

(Copy here the exact title of work as it appears on the Proposal.)

NOW, THEREFORE, IF THE AFORESAID PRINCIPAL is awarded the Contract and, within the time and manner required under the Contract Documents, after the prescribed forms are presented for signature, enters into a written Contract, in the prescribed form, in accordance with the Bid, and files all insurance and two (2) Bonds with the Department, one (1) to guarantee Faithful Performance and the other to guarantee Payment for Labor and Materials, as required by law, then this obligation shall be null and void; otherwise, it shall be and remain in full force and effect.

IN WITNESS WHEREOF, we have hereunto set our hands and seals on this ____ day of _____, 20__.

_____(Seal)

_____(Seal)

_____(Seal)

Principal

_____(Seal)

_____(Seal)

_____(Seal)

Surety

Business Address

NOTE: To be considered complete, both the Principal and the Surety must sign this Bidder's Bond. In addition, signatures of those executing for the Surety must be properly acknowledged.

PROJECT: _____

CONTRACTOR: _____

SCHEDULE OF BID ITEMS

ITEM NO.	ITEM	UNIT	ESTIMATED QUANTITY	ITEM PRICE	SUBTOTAL
ROADWAY					
1	MOBILIZATION (5%)	1	LS	\$	\$
2	CONSTRUCTION STAKING	1	LS	\$	\$
3	TRAFFIC CONTROL SYSTEM	1	LS	\$	\$
4	CLEARING AND GRUBBING	1	LS	\$	\$
5	CONSTRUCTION AREA SIGNS	1	LS	\$	\$
6	PREPARE AND IMPLEMENT SWPPP	1	LS	\$	\$
7	JOB SITE MANAGEMENT	1	LS	\$	\$
8	MONUMENT PRESERVATION	1	LS	\$	\$
9	REMOVE EXISTING STRIPING	1	LS	\$	\$
10	REMOVE EXISTING PAVEMENT MARKING	2,866	SF	\$	\$
11	REMOVE EXISTING MEDIAN CURB	827	LF	\$	\$
12	REMOVE FLEXIBLE BOLLARD	33	EA	\$	\$
13	ROADWAY EXCAVATION (F)	6,317	CY	\$	\$
14	HOT MIX ASPHALT (TYPE A)	9,080	TON	\$	\$
15	AGGREGATE BASE (CLASS II)	8,024	CY	\$	\$
16	LIME TREATED SUBBASE	23,349	SY	\$	\$
17	PLACE MICROSURFACING (TYPE II)	26,927	SY	\$	\$
18	AGGREGATE (TYPE II, MICROSURFACE)	229	TON	\$	\$
19	MICROSURFACING EMULSION	9,155	GAL	\$	\$
20	MINOR CONCRETE (TYPE 1 BARRIER CURB)	3,264	LF	\$	\$

21	MINOR CONCRETE (TYPE 2 BARRIER CURB)	2,303	LF	\$	\$
22	MINOR CONCRETE (CURB & GUTTER (TYPE 2))	228	LF	\$	\$
23	MINOR CONCRETE (BUS PAD)	4,922	SF	\$	\$
24	MINOR CONCRETE (BUS TURN OUT CURB)	483	LF	\$	\$
25	MINOR CONCRETE (SIDEWALK)	6,338	SF	\$	\$
26	MINOR CONCRETE (HARDSCAPE)	1,320	SF	\$	\$
SIGNING AND STRIPING					
27	LANE LINE - DETAIL 13	10,499	LF	\$	\$
28	LEFT EDGE LINE - DETAIL 26	5,567	LF	\$	\$
29	MEDIAN ISLAND - DETAIL 30	10,861	LF	\$	\$
30	THERMOPLASTIC TRAFFIC STRIPE - DETAIL 38	6,447	LF	\$	\$
31	THERMOPLASTIC TRAFFIC STRIPE - DETAIL 39	6,753	LF	\$	\$
32	THERMOPLASTIC TRAFFIC STRIPE - DETAIL 40	146	LF	\$	\$
33	WHITE THERMOPLASTIC PAVEMENT MARKING	3,210	SF	\$	\$
34	PEDESTRIAN BARRICADE	2	EA	\$	\$
35	OBJECT MARKER (TYPE K-4)	6	EA	\$	\$
36	RELOCATE ROADSIDE SIGN	2	EA	\$	\$
37	INSTALL ROADSIDE SIGN	21	EA	\$	\$
DRAINAGE					
38	DRAINAGE INLET (TYPE C)	3	EA	\$	\$
39	DRAINAGE INLET (TYPE F)	2	EA	\$	\$
40	12" HDPE PIPE	150	LF	\$	\$
41	ADJUST SDMH TO GRADE	5	EA	\$	\$
42	REMOVE INLET	4	EA	\$	\$
UTILITIES					
43	RELOCATE IRRIGATION VALVES	3	EA	\$	\$

44	ADJUST WATER VALVE TO GRADE	8	EA	\$	\$
45	EXTEND WATER SERVICE LATERAL	49	LF	\$	\$
46	INSTALL 24" HDPE (RECYCLED WATER MAIN)	823	LF	\$	\$
47	INSTALL 24" X 24" X 8" TEE (RECYCLED WATER)	1	EA	\$	\$
48	INSTALL 24" HDPE (POTABLE WATER MAIN)	558	LF	\$	\$
49	RELOCATE BLOW OFF VALVE (RECYCLED WATER)	1	EA	\$	\$
50	RELOCATE BLOW OFF VALVE (POTABLE WATER MAIN)	2	EA	\$	\$
51	INSTALL CP TEST STATION	1	EA	\$	\$
52	INSTALL BLOW OFF	1	EA	\$	\$
SIGNALS AND ELECTRICAL					
53	MODIFY STREET LIGHTING SYSTEM	1	LS	\$	\$
54	FIBER OPTIC INTERCONNECT	1	LS	\$	\$
55	INSTALL TRAFFIC SIGNAL (WESTBROOK AND BROOKSTONE - SOUTH)	1	LS	\$	\$
56	INSTALL TRAFFIC SIGNAL (WESTBROOK AND BROOKSTONE - NORTH)	1	LS	\$	\$
57	MODIFY TRAFFIC SIGNAL (BLUE OAKS AND WESTBROOK)	1	LS	\$	\$
58	MODIFY TRAFFIC SIGNAL (BLUE OAKS AND HAYDEN)	1	LS	\$	\$
TOTAL (BID ITEMS #1 TO #58)					\$

NONCOLLUSION DECLARATION TO BE EXECUTED BY
BIDDER AND SUBMITTED WITH BID

The undersigned declares:

I am the _____ of _____, the party making the foregoing bid.

The bid is not made in the interest of, or on behalf of, any undisclosed person, partnership, company, association, organization, or corporation. The bid is genuine and not collusive or sham. The Bidder has not directly or indirectly induced or solicited any other Bidder to put in a false or sham bid. The Bidder has not directly or indirectly colluded, conspired, connived, or agreed with any Bidder or anyone else to put in a sham bid, or to refrain from bidding. The Bidder has not in any manner, directly or indirectly, sought by agreement, communication, or conference with anyone to fix the bid price of the Bidder or any other Bidder, or to fix any overhead, profit, or cost element of the bid price, or of that of any other Bidder. All statements contained in the bid are true. The Bidder has not, directly or indirectly, submitted his or her bid price or any breakdown thereof, or the contents thereof, or divulged information or data relative thereto, to any corporation, partnership, company, association, organization, bid depository, or to any member or agent thereof, to effectuate a collusive or sham bid, and has not paid, and will not pay, any person or entity for such purpose.

Any person executing this declaration on behalf of a Bidder that is a corporation, partnership, joint venture, limited liability company, limited liability partnership, or any other entity, hereby represents that he or she has full power to execute, and does execute, this declaration on behalf of the Bidder.

I declare under penalty of perjury under the laws of the State of California that the foregoing is true and correct and that this declaration is executed on _____ [date], at _____ [city], _____ [state].

(Signature of Declarant)

DISQUALIFICATION QUESTIONNAIRE

The Bidder shall complete, under the penalty of perjury, the following questionnaire:

Has the Bidder, any officer of the Bidder, or any employee of the Bidder who has proprietary interest in the Bidder, ever been disqualified, removed, or otherwise prevented from bidding on, or completing a federal, state, or local government project because of a violation of law or a safety regulation?

Yes_____

No_____

If the answer is yes, explain the circumstances in the following space.

NAME OF BIDDER: _____

SIGNATURE OF BIDDER: _____

TITLE OF BIDDER: _____

DATE: _____

ACKNOWLEDGEMENT OF INSURANCE AND BOND REQUIREMENTS

Included in the Bid Price is full compensation for the requirements set forth in the
INSURANCE BROKER INFORMATION PACKET of the Project Manual.

NAME OF BIDDER: _____

SIGNATURE OF BIDDER: _____

TITLE OF BIDDER: _____

DATE: _____

DISCLAIMER OF WARRANTIES AND ACCURACY OF DATA

Although soil and site investigation reports have been obtained from sources believed to be reliable, no warranty expressed or implied is made regarding accuracy, adequacy, completeness, legality, reliability or usefulness of any information contained therein. These reports are subject to change at any time, may be incomplete, and/or may contain errors. This information is provided for informational purposes only. The City of Roseville provides this information on an "as is" basis. Warranties of any kind, express or implied, or statutory, including but not limited to the implied warranties of merchantability, and fitness for a particular purpose ARE DISCLAIMED to any party viewing these documents or to any third party.

The City of Roseville does not accept and expressly disclaims liability to any party viewing such information, or to any third party whatsoever, for any loss, damage, or injury (including incidental or consequential damages) whether such loss, damage, or injury is the result of negligence, willful or intentional misconduct, or any other cause.

I have read and acknowledged the above disclaimer and agree to hold harmless the City of Roseville on any theory of liability for any loss, damage or injury whether in contract, strict liability or tort arising in any way out of the use or contents of the released information or documents described above or the performance of the work called for herein.

Print Name

Signature

Name of Business/Company/Corporation

Date

Address

Phone

END OF PROPOSAL

A G R E E M E N T

THIS AGREEMENT, is made and entered into this ____ day of _____,
20____, by and between the City of Roseville, a municipal corporation, (“CITY”), and
_____, a _____,
 (“CONTRACTOR”); and

W I T N E S S E T H:

WHEREAS, the City Council of the CITY, at a meeting held on the ____ day of
_____, 20____, approved plans and specifications for the _____
_____ and directed the City Clerk to advertise for sealed proposals for doing said work and providing
that bids be submitted on the ____ day of _____, 20____; and

WHEREAS, the City Clerk, thereafter duly and regularly caused a notice to be published
in the manner and for the time prescribed by law; and

WHEREAS, CONTRACTOR, pursuant to the provisions of said notice duly filed a bid
with the City Clerk, a true copy of which bid is now on file in the office of the City Clerk, and is
hereby referred to and by this reference made a part hereof as fully as if set forth at length herein;
and

WHEREAS, all bids received pursuant to said notice were opened and examined and
publicly declared at the time specified in said advertisement for bids and at a meeting of the City
Council held on the ____ day of _____, 20____, the Council found and

declared the bid of CONTRACTOR to be the lowest responsible bid and thereupon awarded a contract to CONTRACTOR to do the work referred to in the aforementioned specifications.

NOW, THEREFORE, the parties agree as follows:

1. THE WORK. CONTRACTOR agrees:

a. To do the work and furnish all the labor, materials, tools, supplies, equipment, superintendence, insurance, and bonds required for the _____

in accordance with the Contract Documents (the Work).

b. To do and perform the Work contemplated hereby in a good and workmanlike manner under the direction of and to the satisfaction of the Director of Public Works of the City of Roseville.

2. PAYMENT. CITY shall pay CONTRACTOR _____
_____ dollars (\$_____) for the Work to be done under this Agreement in accordance with the Contract Documents.

3. CONTRACT DOCUMENTS. The complete Agreement between the parties hereto consists of the following documents:

- a. The advertisement for bids (including the notice to bidders, instructions to bidders and proposals);
- b. The accepted bid;
- c. Plans and specifications (including standard construction specifications, special provisions and construction details);
- d. Bonds and insurance required by the specifications; and

e. This contract.

All documents specified above are intended to operate so that any work called for in any one and not mentioned in the other, or vice versa, is to be executed the same as if mentioned in all said documents.

4. LIQUIDATED DAMAGES. In the event CONTRACTOR does not complete the Work within the time specified, CONTRACTOR agrees that CITY will suffer damages. Inasmuch as the actual damages which would result from such breach by CONTRACTOR under this Agreement are uncertain, and would be impractical or extremely difficult to fix, CONTRACTOR agrees that it shall pay, or CITY shall deduct from CONTRACTOR's fee, the amount of \$_____ per day as liquidated damages, in the event of such delay.

5. TIME OF COMPLETION. Time is of the essence of this Agreement. CONTRACTOR shall complete all Work under the Contract Documents within _____ Days of the date of this Contract. CONTRACTOR shall begin work by the date specified in the "Notice to Proceed" letter and shall diligently prosecute all of the Work under this Contract in all parts and requirements as defined in the Contract Documents.

6. SERVICE OF NOTICE. Any notice required or permitted to be given under this Agreement shall be deemed given when (a) personally delivered to the recipient identified below; (b) mailed by registered or certified mail, return receipt requested, postage pre-paid, to the address specified below; or (c) sent by facsimile, with confirmation of receipt, to the facsimile number identified below.

CITY OF ROSEVILLE

CONTRACTOR

CITY may also act through either its architect or construction manager if CITY expressly gives notice to CONTRACTOR, in writing, that CITY's designee has authority to act for CITY in a specific capacity.

7. DISPUTES. Disputes arising from this Agreement will be determined in accordance with the Contract Documents and Public Contract Code Sections 10240-10240.13.

8. GOVERNING LAW. This Agreement shall be governed by and construed in accordance with the laws of the State of California.

9. INDEPENDENT CONTRACTOR. CONTRACTOR shall act as an independent contractor, and covenants and agrees that it will conduct itself consistent with such status, that it will neither hold itself out as, nor claim to be, an officer or employee of CITY by reason of this Agreement.

10. SUCCESSORS IN INTEREST. This Agreement shall be binding upon the heirs, successors, executors, administrators and assigns of the respective parties hereto.

11. MODIFICATION. This Agreement and each provision contained herein may be waived, amended, supplemented or eliminated only by mutual written agreement of the parties.

12. SEVERABILITY. If any of the provisions contained in this Agreement are for any reason held invalid or unenforceable, such holding shall not affect the remaining provisions or the validity and enforceability of the Agreement as a whole.

13. INTEGRATED AGREEMENT. This is an integrated agreement and contains all of the terms, considerations, understanding and promises of the parties. It shall be read as a whole.

14. CONTRACTORS LICENSE LAW. CONTRACTORS ARE REQUIRED BY LAW TO BE LICENSED AND REGULATED BY THE CONTRACTORS' STATE LICENSE

BOARD WHICH HAS JURISDICTION TO INVESTIGATE COMPLAINTS AGAINST CONTRACTORS IF A COMPLAINT REGARDING A PATENT ACT OR OMISSION IS FILED WITHIN FOUR (4) YEARS OF THE DATE OF THE ALLEGED VIOLATION. A COMPLAINT REGARDING A LATENT ACT OR OMISISON PERTAINING TO STRUCUTRAL DEFECTS MUST BE FILED WITHIN TEN (10) YEARS OF THE DATE OF THE ALLEGED VIOLATION. ANY QUESTIONS CONCERNING A CONTRACTOR MAY BE REFERRED TO THE REGISTRAR, CONTRACTORS' STATE LICENSE BOARD, P.O. BOX 26000, SACRAMENTO, CALIFORNIA 95826.

IN WITNESS WHEREOF, the City of Roseville, a municipal corporation, has authorized the execution of this Agreement in duplicate by its City Manager and attestation by its City Clerk under authority of Resolution No. _____, adopted by the Council of the City of Roseville on the _____ day of _____, 20_____, and CONTRACTOR has caused this Agreement to be duly executed.

CITY OF ROSEVILLE, a
municipal corporation

BY: _____
DOMINICK CASEY
City Manager

BY: _____
its: _____

and

ATTEST:

BY: _____
its: _____

BY: _____
CARMEN AVALOS
City Clerk

APPROVED AS TO FORM:

BY: _____
MICHELLE SHEIDENBERGER
City Attorney

APPROVED AS TO SUBSTANCE:

BY: _____
JASON SHYKOWSKI
Public Works Director

INSURANCE BROKER INFORMATION PACKET

Project:_____

NOTICE TO CONTRACTOR:

For your convenience, this package contains the Requirements for Insurance and Bonds for this project, including the necessary City forms. You are required to return these forms in addition to the executed Contract within fifteen (15) calendar days after the award of the Bid, unless otherwise directed by City in writing. (See the Instructions to Bidders.)

Please insert the dollar amount of your accepted Bid into the blank on page INS-1 and present this entire package to your insurance broker if you are awarded the Bid.

TABLE OF CONTENTS

	<u>Page</u>
Notice to Insurance Broker	INS 1
Insurance Requirements	INS 2
Public Works Faithful Performance Bond	INS 7
Public Works Payment Bond	INS 9

NOTICE TO INSURANCE BROKER

Your client has been awarded a bid by the City Council of the City of Roseville to perform a public works project known as _____. The Contract Conditions for that project require your client (“the Contractor”) to return certain evidence of insurance and bonds to the City Attorney of the City within fifteen (15) days after the Bid award, unless otherwise directed by the City in writing, or else the Bid award may be terminated and awarded to another company.

This package contains the information you will need as an insurance broker to provide the appropriate insurance and bonds to the City. The insurance coverages the Contractor needs are specified in the section entitled “Insurance Requirements.” Please note that, in addition to the insurance certificate itself, copies of several endorsements must be actually furnished.

Please refer to Special Provisions for modifications of the Standard Construction Specifications, if any, and the requirements of this insurance packet.

Please use the standard City of Roseville Bond Forms provided in this package.

The Bonds required must each be in the penal amount of: \$_____.

Bonds must be sent to the following staff person:

Insurance documents must be provided using one of the following methods:

- a. By email to roseville@ebix.com and riskmanagement@roseville.ca.us
- b. By fax to (770) 335-5727 and (916) 774-5461

After using one of these methods, please **DO NOT** send the insurance certificate(s) by mail.

When forwarding the documents, please refer to the project name so that the documents can be matched with the Contract for which they are submitted.

Thank you.

INSURANCE REQUIREMENTS

The following sections are quoted from the Standard Construction Specifications:

7-1.06 **INSURANCE COVERAGE.**

A. Evidence of Maintenance Required. The Contractor shall, at its expense, procure and at all times maintain in full force and effect at a minimum the insurance required by this section on all of its operations; and the Contractor shall not allow any Subcontractor to commence work until similar insurance required of the Subcontractor has been obtained and filed. An original Certificate of Insurance, and copies of all required endorsements, all in a form approved by the Risk Manager, evidencing all required coverage or policies shall be filed after the award of the bid and prior to approval of the Contract by the City Council. Contractor shall provide ten (10) days prior written notice to the City of any reduction of coverage limits or cancellation of the coverage or policies shall be given to the City of Roseville as Certificate holder.

B. Qualifying Insurers. With the exception of the State Compensation Insurance Fund, all required insurance policies shall be issued by companies acceptable to the City and licensed to do business in the State of California and who hold a current policy holders alphabetic and financial size category rating of not less than AVII according to the most recent issue of Best's Insurance Reports.

C. Insurance Required.

1. **Commercial General Liability (CGL):** Insurance Services Office Form CG 00 01 covering CGL on an “occurrence” basis, including products and completed operations with limits of no less than Two Million Dollars (\$2,000,000) per occurrence for bodily injury, personal injury and property damage for projects under One Million Dollars (\$1,000,000) and

limits of no less than Five Million Dollars (\$5,000,000) per occurrence for bodily injury, personal injury and property damage for projects over One Million Dollars (\$1,000,000). If a general aggregate limit applies, either the aggregate limit shall apply separately to this project or the general aggregate limit shall be twice the required occurrence limit.

The Commercial General Liability insurance shall include the following, copies of which shall be provided:

a. Inclusion of the City of Roseville, and its officers, agents, employees, and volunteers, as additional insureds (except for workers' compensation) as respects services or operations under the Contract. The additional insured endorsement for the general liability policy shall be at least as broad as the ISO CG 2010 10 01 combined with ISO CGL Endorsement CG 2037 10 01. Any other endorsement must be approved in writing by the City. Endorsements must include coverage for on-going and completed operations, which coverage shall be maintained for four (4) years following completion of the Project. Endorsements shall cover the City of Roseville, its officers, agents, employees, and volunteers.

b. The insurance shall provide coverage for claims by one insured against another insured and the policies shall not contain any cross-suits exclusions, cross-liability exclusions, or insured versus insured exclusions. The policies shall not contain any classification exclusions purporting to deny coverage for any work to be performed by Contractor or any of its Subcontractors.

c. Stipulation that the insurance is primary and noncontributory, as evidenced by a separate endorsement (CG 20 01 04 13 or an equivalent) or section of the policy, and that neither the City nor its insurers will be called upon to contribute to a loss.

d. Such insurance shall specifically cover the contractual liability of the Contractor.

e. Any available insurance proceeds in excess of the specified minimum insurance coverage requirements and limits shall be available to the additional insureds. Furthermore, the requirements for coverage and limits shall be: (1) the minimum coverage and limits specified in this Agreement; or (2) the full coverage and maximum limits of any insurance proceeds available to the named insureds, whichever is greater.

f. Waiver of subrogation endorsement.

g. The Contractor shall furnish a certificate for the period covered.

2. **Automobile Liability:** Insurance Services Office Form Number CA 0001 covering Code 1 (any auto), or if Contractor has no owned autos, Code 8 (hired) and Code 9 (non-owned), with limits of no less than One Million Dollars (\$1,000,000) per accident for bodily injury and property damage.

3. **Workers' Compensation:** In accordance with the provisions of the California Labor Code, Contractor is required to be insured against liability for Workers' Compensation or to undertake self-insurance. Statutory Workers' Compensation and Employers' Liability of at least One Million Dollars (\$1,000,000) shall cover all Contractors staff while performing any work incidental to the performance of this Agreement.

4. **Professional Liability:** Professional Liability (Errors and Omission) Insurance appropriate to Contractor's profession, with a limit of liability not less than One Million Dollars (\$1,000,000) per occurrence or claim and Two Million Dollars (\$2,000,000) aggregate to cover all design and engineering services rendered by Contractor pursuant to the

Agreement. Coverage must commence from the first day that Contractor or any of its Subcontractors provided any design or engineering services in connection with the Project.

5. **Builder's Risk/Course of Construction Insurance Is ____ OR Is Not ____ Required by Risk Management:** The Contractor shall be responsible for all loss, damage or destruction whatsoever to the work called for by this Contract until the approval of a Notice of Completion or acceptance of the Work if no Notice of Completion is to be recorded.

The Contractor shall secure "All Risk" type of builder's Risk Insurance of the type covering one hundred percent (100%) of the value of the work performed under this Contract (the value is presumed to be the Contract amount unless otherwise stated in Supplemental Conditions) and all materials, equipment, or other items to be incorporated therein while the same are located at the construction site, a bonded warehouse, or its place of manufacture. At any time, the policy shall cover the value of the work completed. The policy shall cover hazards including the losses due to fire, explosion, hail, rain, lightning, flood (separate insurance as needed), vandalism, malicious mischief, wind, collapse, aircraft, and smoke.

The policies providing such insurance shall name the City as a loss payee as its respective interests may appear, and certified copies of such policies shall be filed with the City. The maximum deductible allowable under the Builder's All Risk policy shall be five percent (5%) of the Contract amount.

Builder's Risk Insurance is not required for coverage of losses in excess of five percent (5%) of the Contract amount for damages resulting from earthquake in excess of a magnitude of 3.5 on the Richter scale, or tidal waves. Coverage in the amount of five percent (5%) of the Contract amount for such losses is required.

6. **Pollution Coverage:** Contractor shall procure pollution liability coverage or other insurance covering claims for bodily injury or property damage arising out of the abatement, removal, storage, transportation, or other exposure to hazardous materials or pollutants, in limits not less than Two Million Dollars (\$2,000,000). Contractor shall add the City and all parties required to be indemnified by Contractor as additional insured on all pollution liability policies.

7. **Higher Coverage Limits:** If Contractor maintains higher coverage limits than the amounts shown above, then the City requires and shall be entitled to coverage for the higher coverage limits maintained by Contractor. Any available insurance proceeds in excess of the specified minimum limits of insurance and coverage shall be available to the City.

8. **Claims Made Coverage:** Liability insurance coverage may not be written on a “claims made” or modified occurrence basis. The Certificate of Insurance must clearly provide that the coverage is on an “occurrence” basis.

7-1.06A **OTHER INSURANCE PROVISIONS.**

A. The requirements of the Standard Specifications as to types and limits of insurance coverage to be maintained by the Contractor, and any approval of insurance by the City, are not intended to, and shall not in any manner limit or qualify the liabilities and obligations otherwise assumed by the Contractor pursuant to the Contract, including, but not limited to, the provisions concerning indemnification, nor preclude the City from taking any other action available to it under any other provision of the Contract or law.

B. The City acknowledges that some insurance requirements contained in these Standard Specifications may be fulfilled by self-insurance on the part of the Contractor. However, this shall not in any way limit liabilities assumed by Contractor under the Contract.

Any self-insurance must be approved in writing by the City, in its sole discretion and shall not reduce the limits of liability. Any deductibles or self-insured retentions (“SIR”) must be declared on the certificate of insurance and approved by City in writing. Policies containing any SIR provision shall provide or be endorsed to provide that the SIR may be satisfied by either the named insured or City. City reserves the right to obtain a full certified copy of any insurance policy and endorsements. The failure to exercise this right shall not constitute a waiver of such right.

C. The Contractor agrees to include in its contracts with all subcontractors the same requirements and provisions of this Contract, including the indemnity and insurance requirements, to the extent they apply to the scope of the subcontractor’s work. Furthermore, the Contractor shall require its subcontractors to agree to be bound to the Contractor and the City in the same manner and to the same extent as the Contractor is bound to the City under this Contract. Additionally, the Contractor shall obligate its subcontractors to comply with these same provisions with respect to any tertiary subcontractor, regardless of tier. A copy of the City’s indemnity and insurance provisions will be furnished to the subcontractor or tertiary subcontractor upon request. Alternatively, the Contractor may insure subcontractor(s) under its own policy.

D. The City, its officers, agents, employees, and volunteers are to be covered as insureds with respect to liability arising out of automobiles owned, leased, hired or borrowed by or on behalf of the Contractor; and with respect to liability arising out of work or operations performed by or on behalf of the Contractor including materials, parts or equipment furnished in connection with such work or operations. Coverage shall not extend to any indemnity coverage

for the active negligence of the additional insured in any case where an agreement to indemnify the additional insured would be invalid under California Insurance Code Section 11580.04.

E. The limits of insurance required in this Contract may be satisfied by a combination of primary and excess insurance. Any excess insurance shall contain or be endorsed to contain a provision that such coverage shall also apply on a primary and noncontributory basis for the benefit of the City (if agreed to in a written contract) before the City's own insurance shall be called upon to protect it as a named insured.

F. The insurance procured by Contractor shall be subject to the approval of the City, but any acceptance of insurance certificates by the City shall in no way limit or relieve Contractor of its duties and responsibilities under the Agreement.

G. Contractor shall be responsible for all premiums, deductibles, and self-insured retention applicable to the insurance it is required to procure under the Contract. All deductibles or self-insured retentions over five hundred thousand dollars (\$500,000) must be approved by the City, in writing. Contractor shall be responsible for all deductibles, self-insured retention payments, and/or increased premiums incurred if the City's policies of insurance are forced to cover damages or respond to claims for which Contractor or its Subcontractors were obligated to provide insurance under the Contract.

H. Failure of the City to enforce in a timely manner any of the requirements of these insurance provisions shall not act as a waiver to enforcement of any of these provisions at a later date.

I. Contractor's indemnity obligations shall not be limited by these insurance provisions and shall survive the expiration of the Contract and the insurance provisions of the Contract shall likewise not be limited by the indemnity provisions of the Contract.

**J. THE CITY RESERVES THE RIGHT TO WITHHOLD ANY
PROGRESS PAYMENTS TO THE CONTRACTOR IN THE EVENT OF
NONCOMPLIANCE WITH ANY INSURANCE REQUIREMENTS.**

Bond No. _____
Premium \$ _____

**PUBLIC WORKS
FAITHFUL PERFORMANCE BOND**

(Project: _____)

WHEREAS, the City of Roseville ("CITY") has awarded a bid and contract to _____ as contractor ("PRINCIPAL") for the public work described as _____ (the "WORK"). The contract ("AGREEMENT"), for the public work described above, and all of its terms and conditions are incorporated by reference and made a part hereof; and

WHEREAS, the PRINCIPAL is required to furnish a bond in connection with the AGREEMENT guaranteeing its faithful performance; and

NOW, THEREFORE, we the undersigned PRINCIPAL and _____, a _____, admitted and duly authorized to transact business under the laws of the State of California, as SURETY ("SURETY"), are held and firmly bound unto the CITY or its successors and assigns in the sum of _____ dollars (\$ _____) (which amount is not less than 100% of the AGREEMENT price) to be paid to the CITY or its successors and assigns; and for which payment, well and truly to be made, we bind ourselves, our heirs, executors and administrators, successors or assigns jointly and severally, firmly by these presents.

The condition of this obligation is such that if the PRINCIPAL, or its heirs, executors, administrators, successors or assigns, shall abide by, and in all respects promptly and faithfully perform the covenants, conditions and provisions in said AGREEMENT and any alteration thereof made as therein provided, notice of which alterations to Surety being hereby waived, on its part to be kept and performed at the time and in the manner therein specified, and in all respects according to their true intent and meaning, and shall indemnify and save harmless CITY, its officers, agents, employees, volunteers as therein stipulated, then this obligation shall be null and void; otherwise, this obligation shall be and remain in full force and effect.

As condition precedent to the satisfactory completion of the contract, the obligation of the PRINCIPAL and SURETY under this Bond shall remain in effect for a period of one (1) year after the completion and acceptance of the WORK. During that time, if the PRINCIPAL, its heirs, executors, administrators, successors or assigns fails to make full, complete and satisfactory repair and replacement or totally protect the CITY from any loss or damage made evident during that year which results from or is caused by either defective materials or faulty workmanship in the prosecution of the WORK, then the obligation shall remain in full force and effect. However, anything in

this paragraph to the contrary notwithstanding, the obligation of the SURETY shall continue so long as any obligation of the PRINCIPAL remains.

No prepayment or delay in payments, and no change, extension, addition or alteration of any provision of the AGREEMENT or in the specifications agreed to between the PRINCIPAL and the CITY, or any forbearance on the part of the CITY shall operate to relieve the SURETY. The SURETY hereby waives the provisions of Section 2819 of the California Civil Code. The SURETY waives all rights of subrogation against the CITY or any person employed by the CITY. If the contract price increases by the issuance of change orders, the amount specified in this bond shall increase by the same amount.

Whenever PRINCIPAL shall be and declared by CITY to be in default under the AGREEMENT, SURETY shall promptly remedy the default, or shall promptly do one of the follow at CITY's election:

1. Undertake through its agents or independent contractors, reasonably acceptable to CITY, to complete the AGREEMENT in accordance with its terms and conditions and to pay and perform all obligations of PRINCIPAL under the AGREEMENT, including without limitation, all obligations with respect to warranties, guarantees, and the payment of liquidated damages.
2. Reimburse CITY for all costs CITY incurs in completing the AGREEMENT, and in correcting, repairing or replacing defects in materials or workmanship and/or materials and workmanship which do not conform to the specifications in the AGREEMENT.

SURETY's obligations hereunder are independent of the obligations of any other surety for the performance of the AGREEMENT, and suit may be brought against SURETY and such other sureties, jointly and severally, or against any one or more of them, or against less than all of them without impairing CITY's rights against the others.

No right of action shall accrue on this bond to or for the use of any person or corporation other than CITY or its successors or assigns.

As part of the obligation secured hereby and in addition to the face amount specified therefore, there shall be included costs and reasonable expenses and fees, including reasonable attorneys' fees, incurred by CITY in successfully enforcing such obligation, all to be taxed as costs and included in any judgment rendered.

[SIGNATURES NEXT PAGE]

IN WITNESS WHEREOF, this instrument has been duly executed by the
PRINCIPAL and SURETY above-named, on the ____ day of _____,
20____.

PRINCIPAL:

SURETY:

BY: _____

BY: _____

PRINT NAME: _____

PRINT NAME: _____

PRINT TITLE: _____

PRINT TITLE: _____

AND

MAILING ADDRESS:

BY: _____

PRINT NAME: _____

PRINT TITLE: _____

*(Notarization by Surety and copy of
Power of Attorney required.)*

APPROVED AS TO FORM:

BY: _____
City Attorney

Bond No. _____
Premium \$ _____

**PUBLIC WORKS
LABOR AND MATERIALS PAYMENT BOND**
(Project: _____)

WHEREAS, the City of Roseville ("CITY"), has awarded a bid and contract to _____ as contractor ("PRINCIPAL"), for the public work described as _____ (the "WORK"). The contract ("AGREEMENT"), for the public work described above, and all of its terms and conditions are incorporated by reference and made a part hereof; and

WHEREAS, the PRINCIPAL is required to furnish a bond in connection with the AGREEMENT guaranteeing payment of persons who provide labor and material; and

NOW, THEREFORE, we the undersigned PRINCIPAL and _____, a _____, admitted and duly authorized to transact business under the laws of the State of California, as SURETY ("SURETY"), are held and firmly bound unto the CITY or its successors and assigns in the sum of _____ dollars (\$ _____) (which amount is not less than 100% of the AGREEMENT price) to be paid to the CITY or its successors and assigns; and for which payment, well and truly to be made, we bind ourselves, our heirs, executors and administrators, successors or assigns jointly and severally, firmly by these presents.

The condition of the obligation is such that if the PRINCIPAL, its subcontractors, heirs, executors, administrators, successors or assigns fails to pay any of the persons named in Section 8004 or 9100 of the Civil Code of the State of California, or the amounts due under the Unemployment Insurance Code of the State of California, or any amounts required to be deducted, withheld and paid over to the Employment Development Department from the wages of employees of the PRINCIPAL and its subcontractors pursuant to Section 13020 of the Unemployment Insurance Code, with respect to work or labor performed by any such claimant, that the SURETY will pay for the same, in an amount not exceeding the sum specified in this bond, and also, in case suit is brought upon the bond, shall pay reasonable attorneys' fees, to be fixed by the Court.

This bond shall inure to the benefit of any and all persons, companies, and corporations entitled to file a Stop Payment Notice pursuant to the provisions of Section 9350 et seq. of the Civil Code of the State of California, so as to give a right of action to them or their assigns in any suit brought upon this bond.

No prepayment or delay in payments, and no change, extension, addition or alteration of any provision of the AGREEMENT or in the specifications agreed to between the PRINCIPAL and the CITY, or any forbearance on the part of the CITY shall operate to relieve the SURETY. The SURETY hereby waives the provisions of Section 2819 of the California Civil Code. The SURETY waives all rights of subrogation against the CITY or any person employed by the CITY. If the contract price increases by the issuance of change orders, the amount specified in this bond shall increase by the same amount.

As part of the obligation secured hereby and in addition to the face amount specified therefore, there shall be included costs and reasonable expenses and fees, including reasonable attorneys' fees, incurred by CITY in successfully enforcing such obligation, all to be taxed as costs and included in any judgment rendered.

IN WITNESS WHEREOF, this instrument has been duly executed by the PRINCIPAL and SURETY above-named, on the _____ day of _____, 20__.

PRINCIPAL:

SURETY:

BY: _____

BY: _____

PRINT NAME: _____

PRINT NAME: _____

PRINT TITLE: _____

PRINT TITLE: _____

AND

MAILING ADDRESS:

BY: _____

PRINT NAME: _____

PRINT TITLE: _____

*(Notarization by Surety and copy of
Power of Attorney required.)*

APPROVED AS TO FORM:

BY: _____
City Attorney

CITY OF ROSEVILLE

STANDARD CONSTRUCTION SPECIFICATIONS

TABLE OF CONTENTS

	<u>Page</u>
Adoption of State Specifications	SCS 3
Section 1. General	SCS 3
Section 2. Bidding	SCS 5
Section 3. Contract Award and Execution	SCS 9
Section 4. Scope of Work	SCS 11
Section 5. Control of Work	SCS 11
Section 6. Control of Materials	SCS 18
Section 7. Legal Relations and Responsibility	SCS 18
Section 8. Prosecution and Progress	SCS 32
Section 9. Payment	SCS 33
Section 14. Environmental Stewardship	SCS 35

ADOPTION OF STATE SPECIFICATIONS

1. The State of California Department of Transportation (“Caltrans”) Standard Specifications dated 2015, are hereby adopted as the Standard Specifications of the City of Roseville except insofar as they may be modified by these Standard Construction Specifications.

2. Except for Division 1, Section 2, numbering in these Standard Construction Specifications conforms to that in the Caltrans Standard Specifications. The existence of a section in these Standard Construction Specifications means that the corresponding section of the Standard Specifications is modified in some respect. Unless otherwise specified, the modified Standard Specification provisions are deleted entirely, and the provisions of these Standard Construction Specifications are substituted.

DIVISION 1. GENERAL PROVISIONS

SECTION 1. GENERAL

ACCEPTANCE. Shall mean the formal Acceptance by resolution of the Roseville City Council of an entire Contract which has been completed in all respects in accordance with the Plans and specifications and any modifications thereof previously approved, causing a notice of completion to be filed with the County Recorder.

ATTORNEY GENERAL. The City Attorney of the City of Roseville.

CITY ATTORNEY. The City Attorney of the City of Roseville.

CITY CLERK. Shall mean the City Clerk of the City of Roseville.

DEPARTMENT. Shall mean the Department of Public Works of the City of Roseville, also referred to as the Department of Contract Administration. References made to the Department of Transportation otherwise shall mean the State of California Department of Transportation.

DIRECTOR. Shall mean the Public Works Director of the City of Roseville or his or her duly authorized representative.

ENGINEER. Shall mean the Public Works Director of the City of Roseville or his or her duly authorized representative.

ESTIMATED COST. The estimate prepared by the Public Works Director of quantities of work to be performed.

LIQUIDATED DAMAGE. The amount to be deducted from payments due or to become due to the Contractor for delay, as set forth in the Special Provisions.

PLANS. The official Project Plans, Standard Plans, Improvement Plans, Construction Standards, profiles, typical cross sections, general cross sections, working drawings, and supplemental drawings, or reproductions thereof, approved by the Director which show the location, character, dimensions and details of the work to be performed. All such documents are to be considered as a part of the Plans whether or not reproduced in the Special Provisions.

In the above definition, the following terms are defined as follows:

a. Standard Plans - The Standard Plans of the Department of Transportation of the State of California.

b. Project Plans - The Project Plans are specific details and dimension peculiar to the Work and supplemented by the Standard Plans, insofar as the same may apply.

c. Construction Standards - The City of Roseville Design and Construction Standards.

STATE. Reference to the State or State of California shall mean City or City of Roseville unless the reference is to a law or regulation of the State, and reference to Sacramento shall mean Roseville unless otherwise noted.

SECTION 2. BIDDING

SECTION 2 SHALL BE DELETED IN ITS ENTIRETY AND REPLACED WITH THE FOLLOWING:

2-1.01 **PROPOSAL FORMS.** The Department will furnish to each Bidder a standard proposal form, which, when filled out and executed shall be submitted as its bid. Bids not presented on forms so furnished will be disregarded.

The proposal form is bound in a book together with the Notice to Contractors, special provisions, and Contract. The proposal shall set forth for each item of work, in clearly legible figures and words, an item price and a total for the item in the respective spaces provided, and shall be signed by the Bidder, who shall fill out all blanks in the proposal form as required therein.

All items shown on the schedule of bid items shall be properly filled in and shall include all costs of labor, materials, equipment, and State, Federal, or other taxes applicable to the transaction. The completed forms shall be without inter-lineations, erasures or alterations of any nature. If the proposal is made by an individual, his or her name and post office address must be shown; if made by a firm or partnership, the name and post office address of each member of the

firm or partnership must be shown; or if made by a corporation, the proposal shall show the name of the State under the laws of which the corporation was chartered and the names, titles, and business addresses of the president, secretary, and treasurer of said corporation. If the proposal is signed by an agent, a “Power of Attorney” must be filed with the proposal.

The proposal shall be submitted as directed in the “Notice to Contractors” under sealed cover plainly marked as a proposal, and identifying the project to which the proposal relates and the time and date of the bid opening therefor. Proposals which are not properly marked may be disregarded. Proposal forms shall be obtained from the Director of Public Works, City of Roseville, California. Proposal forms are not transferable.

2-1.02 **REJECTION OF PROPOSALS AND DISQUALIFICATION OF BIDDERS.** Proposals may be rejected if they show any alterations of the forms, additions not called for, conditional bids, incomplete bids, erasures or irregularities of any kind. More than one proposal from an individual, firm, partnership, corporation or association under the same or different names, will not be considered. Reasonable grounds for believing that any Bidder is interested in more than one (1) proposal for the work contemplated, will cause the rejection of all proposals in which the Bidder is interested. The City reserves the right to reject any and all proposals.

2-1.03 **PROPOSAL GUARANTY.** All bids shall be presented under sealed cover and accompanied by one (1) of the following forms of Bidder's security.

a. Cash, a cashier's check, a certified check, or a Bidder's bond executed by an admitted California surety insurer, made payable to the City.

b. The security shall be in an amount equal to at least ten percent (10%) of the bid amount. A bid will not be considered unless one (1) of the forms of Bidder's security is enclosed with it.

c. A Bidder's bond will not be accepted unless it conforms to a bond form approved by the City Attorney. Upon request "Bidder's Bond" forms may be obtained from the Department.

2-1.04 **WITHDRAWAL OF PROPOSALS.** Any bid may be withdrawn at any time prior to the time fixed in the public notice for the deadline submission of bids only by written request for the withdrawal of the bid filed with the Director. The request shall be executed by the Bidder or his or her duly authorized representative. The withdrawal of a bid does not prejudice the right of the Bidder to file a new bid. Whether or not bids are opened exactly at the time fixed in the public notice for opening bids, a bid will not be received after the deadline for submission of bids nor may any bid be withdrawn after the time fixed in the public notice for deadline for submission of bids. Immediately following the deadline for submission of bids all bids shall become the property of the City of Roseville and City is under no obligation to return the bids.

2-1.05 **RELIEF OF BIDDERS.** If the Bidder claims a mistake was made in his or her bid, the Bidder shall give the Department written notice within five (5) calendar days after the opening of the bids of the alleged mistake, specifying in the notice in detail how the mistake occurred. No relief from a claimed mistaken bid shall be granted unless such mistake clearly appears on the face of the bid submitted to the City. Claimed mistakes on backup worksheets, spreadsheets, computerized bidding programs, or any other similar calculative bidding mistake which is not apparent on the face of the bid shall not under any circumstance be considered as a

basis for relief. The burden of proving the occurrence of a mistake entitling a Bidder to relief from its bid rests entirely on the Bidder. Relief from bids shall be in the City's sole discretion.

2-1.06 **PREVIOUS DISQUALIFICATION, REMOVAL OR OTHER**

PREVENTION OF BIDDING. A bid may be rejected on the basis of a Bidder, any officer of such Bidder, or any employee of such Bidder who has a proprietary interest in such Bidder, having been disqualified, removed, or otherwise prevented from bidding on, or completing a Federal, State, or local project because of a violation of law or a safety regulation.

2-1.07 **COMPETENCY OF BIDDERS.** If two (2) or more prospective Bidders desire to bid jointly as a joint venture on a single project, they must file an affidavit of joint venture with the Bid on a form approved by the City Attorney, and such affidavit of joint venture will be valid only for the specific project for which it is filed. If such affidavit of joint venture is not filed as aforesaid and approved by the City Attorney prior to the time for awarding bids on the specific project for which it is submitted, a joint bid submitted by said Bidders will be disregarded. No bid will be accepted from or a Contract awarded to any Bidder to whom a proposal form has not been issued pursuant to Section 2-1.06.

2-1.08 **GUARANTY AND WARRANTY.** The Contractor shall guarantee and warrant all materials supplied as being fit for the purpose intended. The Contractor shall guarantee and warrant all work performed as having been accomplished in a proper and workman-like manner. The guarantee and warranty required by this section shall continue for a period of one (1) year after Acceptance of the Work.

Should any failure of the work occur within a period of one (1) year, after Acceptance of the project by the City Council due to faulty materials, poor workmanship, or defective equipment, the Contractor shall promptly make the needed repairs at his or her expense.

The City is hereby authorized to make such repairs if the Contractor fails to make or undertake with due diligence the aforesaid repairs within ten (10) calendar days after being given written notice of such failure; provided, however, that in case of emergency where in the opinion of the Engineer, providing a reasonable attempt has been made to notify the Contractor, delay would cause serious loss or damages, or a serious hazard to the public, the repairs may be made or lights, signs, and barricades erected without prior notice to the Contractor, and the Contractor shall pay the entire cost thereof. At the completion of the work the faithful performance bond may be reduced at the discretion of the City Council to not less than ten percent (10%) of the Contract price to cover said guarantee.

Additional guarantees or warranties may be required by the Special Provisions.

SECTION 3. CONTRACT AWARD AND EXECUTION

3-1.04 **CONTRACT AWARD.** The right is reserved to reject any and all proposals. The award of the Contract, if it be awarded, will be to the lowest responsible Bidder whose proposal complies with all the requirements prescribed. Such award, if made, will be made within sixty (60) calendar days after the public opening of the proposals. If the lowest responsible Bidder refuses or fails to execute the Contract, the Roseville City Council may award the Contract to the second lowest responsible Bidder. Such award, if made, will be made within eighty-two (82) calendar days after the public opening of proposals. If the second lowest responsible Bidder refuses or fails to execute the Contract, the City may award the Contract to the third lowest responsible Bidder. Such award, if made, will be made within one hundred and four (104) calendar days after public opening of the proposals. The above time periods within

which the award of Contract may be made are subject to extension for such further period as may be agreed upon in writing between the City and the Bidder concerned.

All bids will be compared on the basis of the Director's estimate of the quantities of work to be done.

3-1.05 **CONTRACT BONDS.** The successful Bidder, simultaneously with the execution of the Contract, will be required to furnish a payment bond in an amount equal to one hundred percent (100%) of the Contract price, and a faithful performance bond in an amount equal to one hundred percent (100%) of the Contract price; said bonds shall be in a form approved by the City Attorney and shall be secured by a surety company satisfactory to the City Attorney. If the Contract price increases by the issuance of Change Orders, the penal amounts of the bonds required shall increase accordingly.

Furthermore, the successful Bidder shall furnish a certificate from the County Clerk as required by California Civil Code of Procedure Section 995.660(a)(3).

3-1.18 **CONTRACT EXECUTION.** The Contract, in form and contents satisfactory to the City, shall be executed by the successful Bidder and returned, together with the Contract bonds and certificates of insurance within fifteen (15) calendar days after written notice that the Contract has been awarded, or as otherwise directed, in writing, by the City. No proposal shall be considered binding upon the City until the execution of the Contract by the City.

3-1.20 **FAILURE TO EXECUTE CONTRACT.** Section 3-1.20, "Failure to Execute Contract" is added as follows:

“Failure of the lowest responsible Bidder, the second lowest responsible Bidder, or the third lowest responsible Bidder to execute the Contract and file acceptable bonds

and insurance as provided herein within fifteen (15) calendar days, or within a different timeframe specified by City in writing, after such Bidder has received notice that the Contract has been awarded to him or her, shall be just cause for the annulment of the award and the forfeiture of the Bidder's security to the City as Liquidated Damages. The successful Bidder may file with the Roseville City Council a written notice, signed by the Bidder or his or her authorized representative, specifying that the Bidder will refuse to execute the Contract if presented to him or her. The filing of such notice shall have the same force and effect as the failure of the Bidder to execute the Contract and furnish acceptable bonds and insurance within the time prescribed by Section 3-1.18."

SECTION 4. SCOPE OF WORK

There are no amendments to the Standard Specifications.

SECTION 5. CONTROL OF WORK

5-1.02 **CONTRACT COMPONENTS.** These Standard Construction Specifications, the Standard Specifications, the Standard Plans, the Improvement Plans, Construction Standards, Project Plans, project Special Provisions (and any addenda), the Agreement, Contract Change Orders, and all supplementary documents are all essential parts of the Contract between Contractor and the City. A requirement occurring in one (1) is as binding

as though occurring in all. They are intended to be complementary, and to describe and provide for a complete work.

In resolving inconsistencies among two (2) or more sections of the Contract Documents, precedence shall be given in the following order:

- A. Special Provisions
- B. City of Roseville Standard Construction Specifications
- C. City of Roseville Design and Construction Standards
- D. State Standard Specifications and Amendments to the State Standard Specifications, Standard Special Provisions, and Plans
- E. Drawings

Should it appear that the work to be done or any of the matters relative thereto are not sufficiently detailed or explained in these specifications, the special provisions, or the Plans, the Contractor shall apply in writing to the Director for such further explanations as may be necessary and shall conform to them as part of the Contract. In the event of any doubt or question arising respecting the true meaning of these specifications, the special provisions or the Plans, reference shall be made to the Director, whose decision thereon shall be final.

In the event of any discrepancy, between any drawing and the figures written thereon, the figures shall be taken as correct. Detail drawings shall prevail over general drawings.

5-1.20B(5) **CITY OF ROSEVILLE ENCROACHMENT PERMITS.** Section 5-1.20B(5), “City of Roseville Encroachment Permits” is added as follows:

“The Contractor need not obtain a separate encroachment permit from the City prior to construction within street rights-of-way or other City rights-of-way. Execution of the Contract by the City shall be deemed an encroachment permit for work required by

the Contract within rights-of-way. All work shall conform to the rules and regulations of encroachment permits and shall be subject to the inspection and approval of the Director.”

5-1.20B(6) **CITY OF ROSEVILLE BUSINESS LICENSE.** Section 5-1.20B(6), “City of Roseville Business License” is added as follows:

“The Contractor shall obtain a business license from the City prior to commencing work.”

5-1.20B(7) **OTHER PERMITS.** Section 5-1.20B(7), “Other Permits” is added as follows:

“The Contractor in coordination with the Director shall procure any necessary permits which the City has not specifically mentioned as obtaining.”

5-1.31 **JOB SITE APPEARANCE.** The Contractor shall maintain a neat appearance to the work. In any area visible to the public, the following shall apply:

When practicable, broken concrete and debris developed during clearing and grubbing shall be disposed of concurrently with its removal. If stockpiling is necessary, the material shall be removed or disposed of weekly.

The Contractor shall furnish trash bins for all debris from structure construction. All debris shall be placed in trash bins daily. Forms or falsework that are to be reused shall be stacked neatly concurrently with their removal. Forms and falsework that are not to be reused shall be disposed of concurrently with their removal.

Full compensation for conforming to the provisions in this section, not otherwise provided for, shall be considered as included in price paid for the various Contract items of work involved, and no additional compensation will be allowed therefore.

5-1.38 **MAINTENANCE AND PROTECTION RELIEF.** Section 5-1.38 is deleted.

5-1.43 **POTENTIAL CLAIMS AND DISPUTE RESOLUTION.** Section 5-1.43 is deleted in its entirety and replaced with the following:

5-1.43A **NOTICE OF POTENTIAL CLAIM.** The Contractor shall not be entitled to payment for any additional compensation for any act or failure to act by the City, including failure or refusal to issue a Change Order, or for the happening of any event, thing, occurrence or other cause unless he or she shall have given the City due written Notice of Potential Claim as hereinafter specified.

The written Notice of Potential Claim shall set forth the reasons for which the Contractor believes additional compensation will or may be due, the nature of the costs involved, and, insofar as possible, the amount of the potential claim. The said Notice as above required must have been given to the Director prior to the time that the Contractor shall have performed the Work giving rise to the potential claim for additional compensation, if based on an act or failure to act by the Director, or in all other cases within three (3) Days after the happening of the event, thing, occurrence or other cause giving rise to the potential claim.

If the Notice of Potential Claim does not include complete information about the claim or the parties do not execute a Contract Change Order in connection with the Notice of Potential Claim, Contractor shall submit a complete information about its claim for additional compensation and/or extension of time for performance within fifteen (15) calendar days after such work is performed. Failure to provide written notice of claim prior to undertaking such work or failure to timely submit a complete and specific information about the claim for

additional compensation and/or extension of the time for performance shall be deemed a waiver and abandonment of such claim.

If there is a dispute over any claim, the Contractor shall continue to work during the dispute resolution process in a diligent and timely manner as directed by the City, and shall be governed by all applicable provision of the Agreement.

The Contractor shall maintain cost records of all work that is the basis of any dispute. On a daily basis, Contractor shall submit to City completed daily forms, the format of which will be acceptable to the City, with respect to the Contractor's costs of performing the disputed work. These daily forms shall itemize all of Contractor's costs in performing the disputed work, including, but not limited to, all costs relating to materials, labor and equipment with respect to the disputed work. These daily forms shall provide names or identification and classification of affected workers, the hourly rate of pay and hours worked, and also the size, type, and identification number of equipment and hours operated. Said daily work forms shall be duly signed and verified by the Contractor or its authorized representative. The City's receipt of the Contractors' daily forms shall not constitute an approval of the Contractor's claim. Contractor's failure to submit the daily forms on a daily basis shall constitute a waiver of the Contractor's right to claim any additional compensation for the disputed work.

Each Contractor claim shall include full and complete information concerning the Claim. Contractor shall provide a clear, concise recital of the basis, upon which the claim is asserted, including a designation of the provisions of the Contract Documents upon which the claim is based. Contractor shall also include a statement as to the amount of time and/or compensation sought pursuant to the claim; if Contractor's claim arises from an ongoing occurrence, Contractor shall so state in its claim, including a description of the specific Work activities

affected by the claim. All costs, expenses or damages and extensions of time claimed shall be described in reasonable detail under the circumstances together with complete supporting documentation.

The City will review any timely Notice of Potential Claim and supporting information submitted by Contractor. In conducting this review, the City shall have the right to require the Contractor to submit such additional or supporting documents, data and other information as the City may require.

If an agreement can be reached which resolves the Contractor's claim, the parties will execute a Contract Change Order to document the resolution of the claim. If the parties cannot reach agreement with respect to the Contractor's claim, the Contractor shall still be obligated to comply with the claim identification provisions identified in these Standard Construction Specifications, including but not limited to Section 5-1.43B.

It is the intention of this Section 5-1.43A that differences between the parties arising under and by virtue of the Contract be brought to the attention of the Director at the earliest possible time in order that such matters may be settled, if possible, or other appropriate action promptly taken. The Contractor hereby agrees that he or she shall have no right to additional compensation for any Claim that may be based on any such act, failure to act, event, thing or occurrence for which no timely written Notice of Potential Claim as herein required was filed.

5-1.43B **CLAIMS.** Contractor must submit all Claims, for which it has previously submitted a Notice of Potential Claim, prior to Acceptance of the Work. Each such Claim must be sent to the City by registered mail or certified mail with return receipt requested and must contain reasonable documentation to support the Claim.

Upon receipt of a Claim, the City shall conduct a reasonable review of the Claim and, within a period not to exceed forty-five (45) calendar days, or such further time as mutually agreed upon or necessary pursuant to Public Contract Code Section 9204, the City shall provide the Contractor a written statement identifying what portion of the Claim is disputed and what portion is undisputed. If the City does not respond to a Claim from the Contractor within the time specified herein, such Claim shall be deemed rejected in its entirety.

Any payment due on an undisputed portion of the Claim shall be processed and made within sixty (60) calendar days after the City issues its written statement.

If the Contractor disputes the City's written response, or if the City does not respond within the time specified herein, the Contractor may demand in writing an informal conference to meet and confer for settlement of the issues in dispute. Upon receipt of a demand in writing sent by registered mail or certified mail, return receipt requested, the City shall schedule a meet and confer conference within thirty (30) calendar days for settlement of the dispute.

Within ten (10) business days following the conclusion of the meet and confer conference, if the claim or any portion of the claim remains in dispute, the City shall provide the Contractor a written statement identifying the portion of the Claims that remains in dispute and the portion that is undisputed. Any payment due on an undisputed portion of the Claims shall be processed and made within sixty (60) calendar days after the public entity issues its written statement. Any disputed portion of the Claim, as identified by the Contractor in writing, shall be submitted to nonbinding mediation, with the City and the Contractor sharing the associated costs equally. The City and the Contractor shall mutually agree to a mediator within ten (10) business days after the disputed portion of the Claim has been identified in writing. If the parties cannot agree upon a mediator, each party shall select a mediator and those mediators shall select a

qualified neutral third party to mediate with regard to the disputed portion of the Claim. Each party shall be responsible for the fees and costs charged by its respective mediator in connection with the selection of the neutral mediator. If mediation is unsuccessful, the parts of the Claim remaining in dispute shall be resolved in accordance with Section 9-1.22.

5-1.46 **FINAL INSPECTION AND CONTRACT ACCEPTANCE.** When the Director has made the final inspection and determines that the Contract work has been completed in all respects in accordance with the Plans and specifications, the Director will recommend that the Roseville City Council formally accept the work, and immediately upon and after such Acceptance by the City, the Contractor will be responsible for the work done for a period of one (1) year.

SECTION 6. CONTROL OF MATERIALS

6-1.03 **LOCAL MATERIALS.** Local material sites used by the Contractor shall be graded so that, at the time of final inspection of the Contract, they will drain and will blend in with the surrounding terrain.

SECTION 7. LEGAL RELATIONS AND RESPONSIBILITY TO THE PUBLIC

7-1.02K(2) **WAGES.** The provisions of paragraphs 1 and 2 of Section 7-1.02K(2) of the Standard Specifications are amended to read as follows:

“Pursuant to the provisions of California Labor Code Section 1773, the City has identified the source, stated below, of the general prevailing rate of wages applicable to the

work to be done, for straight time, overtime, Saturday, Sunday and holiday work. The holiday wage rate listed shall be applicable to all holidays recognized in the collective bargaining agreement of the particular craft, classification or type of workmen concerned. The wage rates may be obtained from the State Department of Industrial Relations and/or the following website address: <http://www.dir.ca.gov/dlsr/DPreWageDetermination.htm>, and are incorporated herein as part of the Contract.

Pursuant to California Labor Code Section 1773.2, general prevailing wage rates shall be posted by the Contractor at a prominent place at the site of the work.”

7-1.02K(6)(b) **EXCAVATION SAFETY.** For trenches or excavation five feet (5') or deeper, the Contractor shall obtain from the Division of Industrial Safety, a permit authorizing such construction.

7-1.02O **VEHICLE CODE.** Pursuant to the authority contained in Vehicle Code Section 591, the Department has determined that, within such areas as are within the limits of the project and are open to public traffic, the Contractor shall comply with all the requirements set forth in Vehicle Code Divisions 11, 12, 13, 14, and 15. Attention is directed to the statement in Section 591 that this section shall not relieve the Contractor nor any person from the duty of exercising due care. The Contractor shall take all necessary precautions for safe operation of equipment and the protection of the public from injury and damage from such equipment.

7-1.03 **PUBLIC CONVENIENCE.** Section 7-1.03 of the Standard Specifications is amended in part as follows:

1. Delete paragraph 10 (“Install signs, lights, flares . . .”) and substitute the following:

“In order to expedite the passage of public traffic through or around the work, the Contractor shall install signs, lights, flares, temporary railing (type K), barricades, and other facilities for the sole convenience and direction of public traffic as may be required. Also, as may be required, the Contractor shall furnish competent flaggers whose sole duties shall consist of directing the movement of public traffic through or around the work. The cost of furnishing and installing such signs, lights, flares, temporary railing (type K), barricades, flaggers, and other facilities shall be included in the lump sum paid for traffic control and no additional compensation will be allowed therefor.

In addition to the requirements previously specified for furnishing facilities and flaggers to expedite the safe passage of the public through or around the work, the Contractor shall at his or her expense furnish and erect within or adjacent to the work such warning, regulatory, or guide signs, markers, or devices as are necessary.”

2. Add a paragraph at the end of the section to read as follows:

“In addition to the requirements hereinbefore specified for furnishing facilities and flaggers for expediting the passage of public traffic through or around the work, the Contractor shall furnish and erect, within or adjacent to the limits of the Contract, such warning, regulatory, and guide signs as may be required. The Contractor shall furnish, install and remove all such signs. Payment for furnishing, installing and removing all such signs shall be included in the lump sum price paid for traffic control and no additional compensation will be allowed therefor.”

7-1.04 **PUBLIC SAFETY.** It is the intent of the parties that the City is not an exposing, creating, controlling, or correcting employer under California Labor Code Section 6400. In accordance with generally accepted construction practices and State law, the Contractor

shall have the authority and be solely and completely responsible for conditions on the job site, including safety of all persons and property during performance of the Work. Moreover, the Contractor shall be the controlling employer and has the authority and responsibility to enforce worksite safety. The Contractor shall be responsible for conducting daily safety inspections and assuring all hazards and violations are abated. The Contractor is responsible for assuring that all subcontractors adhere to the minimum CAL/OSHA safety requirements and that each subcontractor has an effective CAL/OSHA IIP (Illness and Injury Protection Program) in place that specifically addresses all potential exposures, such as, but not limited to, fall protection, confined space, and trenching/shoring. These requirements shall apply continuously and not be limited to normal working hours. The Contractor shall be responsible for any delay costs or damages in the event the progress of Work is slowed or stopped due to a safety violation.

The services of the Director in conducting construction review of the Contractor's performance is not intended to include review of the adequacy of the Contractor's Work methods, equipment, bracing or scaffolding, or safety measures, in, on, or near the construction site. If a City employee observes a safety violation, the City employee will report the violation to the Contractor who is then responsible for assuring the violation is abated.

The Contractor is hereby informed that Work on this project could be hazardous. The Contractor shall carefully instruct all personnel working in potentially hazardous Work areas as to potential dangers and shall provide such necessary safety equipment and instructions as are necessary to prevent injury to personnel and damage to property. Special care shall be exercised relative to Work underground.

All Work and materials shall be in strict accordance with all applicable State, City, County, and Federal Rules, Regulations, and Codes, and attention is drawn to the requirements

of CAL/OSHA. The Contractor shall be solely responsible for compliance with all City, County and State blasting requirements and for any damages caused by his or her operations.

In accordance with California Labor Code Section 6705, the Contractor shall submit to the City specific plans to show details of provisions for worker protection from caving ground. This in no way relieves the Contractor from the requirement of maintaining safety in all operations performed by the Contractor or the Contractor's subcontractors. The detailed plan showing design of shoring, bracing, sloping or other provisions shall be prepared by a registered civil or structural engineer in the State of California as required. Acceptance by the City or its designated agent only constitutes acknowledgment of the submission and does not constitute review or approval of the designs, design assumptions or criteria, completeness of submissions, applicability to areas of intended use, nor implementation of the plans, which are solely the responsibility of the Contractor and his or her registered engineer.

Notwithstanding any classifications relative to the Tunnel Safety Orders, Work within confined spaces on this project is subject to the definitions and applicable provisions of California Code of Regulations Section 8400 et seq., Title 8.

The Contractor shall so perform its Work as not to expose personnel to, or to discharge into the atmosphere from any source whatever, smoke, dust, asbestos, toxic chemicals or other air contaminants in violation of the laws, rules, and regulations of the governmental entities having jurisdiction. Contractors or subcontractors removing one hundred or more square feet (100') of asbestos must be "Certified" in accordance with State law. All Work involving exposure to asbestos and all other hazardous materials shall be performed with protection of personnel in compliance with all applicable regulations and safety requirements.

Nothing in these Standard Construction Specifications is to be construed to permit Work not conforming to governing codes. When Contract Documents differ from governing codes, the Contractor shall furnish and install the higher standards called for without extra charge. All equipment furnished shall be grounded and provided with guards and protection as required by safety codes. Where vapor tight or explosion proof electrical installation is required by code, this shall be provided. In accordance with the provisions of Labor Code Section 6707, the Contractor shall provide adequate sheeting, shoring and bracing for employee protection, as provided in the proposal as separate Bid Items.

7-1.05 **INDEMNIFICATION.** The City of Roseville and its officers, agents, employees, and volunteers, including but not limited to the Director, shall not be answerable or accountable in any manner: for any loss or damage that may happen to the work or any part thereof; for any loss or damage to any of the materials or any things used or employed in performing the work; for injury to or death of any person, either workers or the public; or for damage to property from any cause which might have been prevented by the Contractor, his or her workers, or anyone employed by the Contractor or his or her subcontractors.

The Contractor shall be responsible for any liability imposed by law and for injuries to, or death of, any person including, but not limited to, workers and the public, or damage to property resulting from defects or obstructions, or from any cause whatsoever during the progress of the work or at any time before its completion and final Acceptance.

To the fullest extent allowed by law, the Contractor shall defend (through counsel acceptable to the City), indemnify, and save harmless the City of Roseville and its officers, agents, employees, and volunteers from all claims, suits, or actions of every name, kind, and description, brought forth, or on account of, injuries to or death of any person including, but not

limited to, workers and the public, or damage to property resulting from the performance of the Contract, except as otherwise provided by statute.

The duty of the Contractor to defend, indemnify, and save harmless includes, but is not limited to, the duties to defend as set forth in Civil Code Section 2778. The Contractor waives any and all rights to any type of express or implied indemnity against the City, its officers, agents, employees, or volunteers.

It is the intent of the parties that the Contractor will defend, indemnify, and hold harmless the City of Roseville, its officers, agents, employees, and volunteers from any and all claims, suits, or actions as set forth above regardless of existence or degree of fault or negligence, on the part of the City, the Contractor, the subcontractor or employee of any of these; except the duty does not apply where the injury or damage is due to the sole or active negligence or willful misconduct of the City.

The Contractor's responsibility for such defense and indemnity obligations shall survive the termination or completion of this Contract for the full period of time allowed by law. The defense and indemnity obligations of this Contract are undertaken in addition to, and shall not in any way be limited by, the insurance obligations contained in this Contract. The parties intend that the defense and indemnity obligations in this Contract shall be broadly construed.

In addition to any remedy authorized by law, so much of the money due the Contractor under and by virtue of the Contract as shall be considered necessary by the City may be retained by the City until disposition has been made of such suits or claims for damages.

The retention of money due the Contractor shall be subject to the following:

A. The City will give the Contractor thirty (30) calendar days' notice of its intention to retain funds from any partial payment which may become due to the Contractor prior

to Acceptance of the Contract. Retention of funds from any payment made after Acceptance of the Contract may be made without such prior notice to the Contractor.

B. No retention of additional amounts out of partial payments will be made if the amount to be retained does not exceed the amount being withheld from partial payments pursuant to Section 9-1.16F, “Retentions,” of the Standard Construction Specifications.

C. If the City had retained funds and it is subsequently determined that the City is not entitled to be indemnified and saved harmless by the Contractor in connection with the matter for which such retention was made, the City shall be liable for interest on the amount retained at the legal rate of interest for the period of such retention.

7-1.06 **INSURANCE COVERAGE.** Section 7-1.06 Insurance in the Standard Specifications shall be deleted in its entirety and replaced with the following:

A. **Evidence of Maintenance Required.** The Contractor shall, at its expense, procure and at all times maintain in full force and effect at a minimum the insurance required by this section on all of its operations; and the Contractor shall not allow any Subcontractor to commence work until similar insurance required of the Subcontractor has been obtained and filed. An original Certificate of Insurance, and copies of all required endorsements, all in a form approved by the Risk Manager, evidencing all required coverage or policies shall be filed after the award of the bid and prior to approval of the Contract by the City Council. Contractor shall provide ten (10) days prior written notice to the City of any reduction of coverage limits or cancellation of the coverage or policies shall be given to the City of Roseville as Certificate holder.

B. **Qualifying Insurers.** With the exception of the State Compensation Insurance Fund, all required insurance policies shall be issued by companies acceptable to the

City and licensed to do business in the State of California and who hold a current policy holders alphabetic and financial size category rating of not less than AVII according to the most recent issue of Best's Insurance Reports.

C. Insurance Required.

1. **Commercial General Liability (CGL):** Insurance Services Office Form CG 00 01 covering CGL on an “occurrence” basis, including products and completed operations with limits of no less than Two Million Dollars (\$2,000,000) per occurrence for bodily injury, personal injury and property damage for projects under One Million Dollars (\$1,000,000) and limits of no less than Five Million Dollars (\$5,000,000) per occurrence for bodily injury, personal injury and property damage for projects over One Million Dollars (\$1,000,000). If a general aggregate limit applies, either the aggregate limit shall apply separately to this project or the general aggregate limit shall be twice the required occurrence limit.

The Commercial General Liability insurance shall include the following, copies of which shall be provided:

a. Inclusion of the City of Roseville, and its officers, agents, employees, and volunteers, as additional insureds (except for workers’ compensation) as respects services or operations under the Contract. The additional insured endorsement for the general liability policy shall be at least as broad as the ISO CG 2010 10 01 combined with ISO CGL Endorsement CG 2037 10 01. Any other endorsement must be approved in writing by the City. Endorsements must include coverage for on-going and completed operations, which coverage shall be maintained for four (4) years following completion of the Project. Endorsements shall cover the City of Roseville, its officers, agents, employees, and volunteers.

b. The insurance shall provide coverage for claims by one insured against another insured and the policies shall not contain any cross-suits exclusions, cross-liability exclusions, or insured versus insured exclusions. The policies shall not contain any classification exclusions purporting to deny coverage for any work to be performed by Contractor or any of its Subcontractors.

c. Stipulation that the insurance is primary and noncontributory, as evidenced by a separate endorsement (CG 20 01 04 13 or an equivalent) or section of the policy, and that neither the City nor its insurers will be called upon to contribute to a loss.

d. Such insurance shall specifically cover the contractual liability of the Contractor.

e. Any available insurance proceeds in excess of the specified minimum insurance coverage requirements and limits shall be available to the additional insureds. Furthermore, the requirements for coverage and limits shall be: (1) the minimum coverage and limits specified in this Agreement; or (2) the full coverage and maximum limits of any insurance proceeds available to the named insureds, whichever is greater.

f. Waiver of subrogation endorsement.

g. The Contractor shall furnish a certificate for the period covered.

2. **Automobile Liability:** Insurance Services Office Form Number CA 0001 covering Code 1 (any auto), or if contractor has no owned autos, Code 8 (hired) and Code 9 (non-owned), with limits of no less than One Million Dollars (\$1,000,000) per accident for bodily injury and property damage.

3. **Workers' Compensation:** In accordance with the provisions of the California Labor Code, Contractor is required to be insured against liability for Workers'

Compensation or to undertake self-insurance. Statutory Workers' Compensation and Employers' Liability of at least One Million Dollars (\$1,000,000) shall cover all Contractors staff while performing any work incidental to the performance of this Agreement.

4. **Professional Liability:** Professional Liability (Errors and Omission) Insurance appropriate to Contractor's profession, with a limit of liability not less than One Million Dollars (\$1,000,000) per occurrence or claim and Two Million Dollars (\$2,000,000) aggregate to cover all design and engineering services rendered by Contractor pursuant to the Agreement. Coverage must commence from the first day that Contractor or any of its Subcontractors provided any design or engineering services in connection with the Project.

5. **Builder's Risk/Course of Construction Insurance (If Required by Risk Management):** The Contractor shall be responsible for all loss, damage or destruction whatsoever to the work called for by this Contract until the approval of a Notice of Completion or acceptance of the Work if no Notice of Completion is to be recorded.

The Contractor shall secure "All Risk" type of builder's Risk Insurance of the type covering one hundred percent (100%) of the value of the work performed under this Contract (the value is presumed to be the Contract amount unless otherwise stated in Supplemental Conditions) and all materials, equipment, or other items to be incorporated therein while the same are located at the construction site, a bonded warehouse, or its place of manufacture. At any time, the policy shall cover the value of the work completed. The policy shall cover hazards including the losses due to fire, explosion, hail, rain, lightning, flood (separate insurance as needed), vandalism, malicious mischief, wind, collapse, aircraft, and smoke.

The policies providing such insurance shall name the City as a loss payee as its respective interests may appear, and certified copies of such policies shall be filed with the City. The

maximum deductible allowable under the Builder's All Risk policy shall be five percent (5%) of the Contract amount.

Builder's Risk Insurance is not required for coverage of losses in excess of five percent (5%) of the Contract amount for damages resulting from earthquake in excess of a magnitude of 3.5 on the Richter scale, or tidal waves. Coverage in the amount of five percent (5%) of the Contract amount for such losses is required.

6. **Pollution Coverage:** Contractor shall procure pollution liability coverage or other insurance covering claims for bodily injury or property damage arising out of the abatement, removal, storage, transportation, or other exposure to hazardous materials or pollutants, in limits not less than Two Million Dollars (\$2,000,000). Contractor shall add the City and all parties required to be indemnified by Contractor as additional insured on all pollution liability policies.

7. **Higher Coverage Limits:** If Contractor maintains higher coverage limits than the amounts shown above, then the City requires and shall be entitled to coverage for the higher coverage limits maintained by Contractor. Any available insurance proceeds in excess of the specified minimum limits of insurance and coverage shall be available to the City.

8. **Claims Made Coverage:** Liability insurance coverage may not be written on a "claims made" or modified occurrence basis. The Certificate of Insurance must clearly provide that the coverage is on an "occurrence" basis.

7-1.06A **OTHER INSURANCE PROVISIONS.**

A. The requirements of the Standard Specifications as to types and limits of insurance coverage to be maintained by the Contractor, and any approval of insurance by the City, are not intended to, and shall not in any manner limit or qualify the liabilities and

obligations otherwise assumed by the Contractor pursuant to the Contract, including, but not limited to, the provisions concerning indemnification, nor preclude the City from taking any other action available to it under any other provision of the Contract or law.

B. The City acknowledges that some insurance requirements contained in these Standard Specifications may be fulfilled by self-insurance on the part of the Contractor. However, this shall not in any way limit liabilities assumed by Contractor under the Contract. Any self-insurance must be approved in writing by the City, in its sole discretion and shall not reduce the limits of liability. Any deductibles or self-insured retentions (“SIR”) must be declared on the certificate of insurance and approved by City in writing. Policies containing any SIR provision shall provide or be endorsed to provide that the SIR may be satisfied by either the named insured or City. City reserves the right to obtain a full certified copy of any insurance policy and endorsements. The failure to exercise this right shall not constitute a waiver of such right.

C. The Contractor agrees to include in its contracts with all subcontractors the same requirements and provisions of this Contract, including the indemnity and insurance requirements, to the extent they apply to the scope of the subcontractor’s work. Furthermore, the Contractor shall require its subcontractors to agree to be bound to the Contractor and the City in the same manner and to the same extent as the Contractor is bound to the City under this Contract. Additionally, the Contractor shall obligate its subcontractors to comply with these same provisions with respect to any tertiary subcontractor, regardless of tier. A copy of the City’s indemnity and insurance provisions will be furnished to the subcontractor or tertiary subcontractor upon request. Alternatively, the Contractor may insure subcontractor(s) under its own policy.

D. The City, its officers, agents, employees, and volunteers are to be covered as insureds with respect to liability arising out of automobiles owned, leased, hired or borrowed by or on behalf of the Contractor; and with respect to liability arising out of work or operations performed by or on behalf of the Contractor including materials, parts or equipment furnished in connection with such work or operations. Coverage shall not extend to any indemnity coverage for the active negligence of the additional insured in any case where an agreement to indemnify the additional insured would be invalid under California Insurance Code Section 11580.04.

E. The limits of insurance required in this Contract may be satisfied by a combination of primary and excess insurance. Any excess insurance shall contain or be endorsed to contain a provision that such coverage shall also apply on a primary and noncontributory basis for the benefit of the City (if agreed to in a written contract) before the City's own insurance shall be called upon to protect it as a named insured.

F. The insurance procured by Contractor shall be subject to the approval of the City, but any acceptance of insurance certificates by the City shall in no way limit or relieve Contractor of its duties and responsibilities under the Agreement.

G. Contractor shall be responsible for all premiums, deductibles, and self-insured retention applicable to the insurance it is required to procure under the Contract. All deductibles or self-insured retentions over five hundred thousand dollars (\$500,000) must be approved by the City, in writing. Contractor shall be responsible for all deductibles, self-insured retention payments, and/or increased premiums incurred if the City's policies of insurance are forced to cover damages or respond to claims for which Contractor or its Subcontractors were obligated to provide insurance under the Contract.

H. Failure of the City to enforce in a timely manner any of the requirements of these insurance provisions shall not act as a waiver to enforcement of any of these provisions at a later date.

I. Contractor's indemnity obligations shall not be limited by these insurance provisions and shall survive the expiration of the Contract and the insurance provisions of the Contract shall likewise not be limited by the indemnity provisions of the Contract.

J. THE CITY RESERVES THE RIGHT TO WITHHOLD ANY PROGRESS PAYMENTS TO THE CONTRACTOR IN THE EVENT OF NONCOMPLIANCE WITH ANY INSURANCE REQUIREMENTS.

SECTION 8. PROSECUTION AND PROGRESS

8-1.04 **START OF JOB SITE ACTIVITIES.** The Contractor shall begin work by the date specified in the "Notice to Proceed" letter, and the Contractor shall thereafter diligently prosecute the work to completion.

The Contractor shall notify the Director, in writing, of his or her intent to commence work at least seventy-two (72) hours before work is begun. The notice shall specify the date on which the Contractor intends to begin work. If a project has more than one (1) location of work, a separate notice shall be given for each location.

Should the Contractor begin work in advance of issuance of a "Notice to Proceed," any work performed in advance of such issuance shall be considered to have been done at Contractor's own risk and as a volunteer.

SECTION 9. PAYMENT

9-1.11C **PAYMENT INCLUSIONS.** The following is added to Section 9-1.11C

Payment Inclusions:

“No additional compensation will be made to the Contractor for claims of increased overhead costs occurring within the originally specified construction Contract period plus any time extensions granted by Change Order. No compensation for extended performance will be granted unless the delay exceeds more than half of the float time available at the time of the delay.”

9-1.16E(4) **STOP NOTICE WITHHOLDS.** The City may, at its option and at any time, retain out of amounts due the Contractor, sums sufficient to cover claims (including costs and attorneys’ fees), filed pursuant to California Civil Code Section 9350 et seq.

9-1.16F **RETENTIONS.** The Department shall retain five percent (5%) of the Contract price as part security for the fulfillment of the Contract by the Contractor.

9-1.16G **PAYMENT OF WITHHELD FUNDS.** Section 9-1.16G, “Payment of Withheld Funds” is added as follows:

“Except as otherwise prohibited by law, the Contractor may elect to receive all payments due under the Contract pursuant to without any retention. If the Contractor so elects, a deposit with the City of securities with a value equivalent to the retention that would otherwise be withheld by the City shall be made. Said security shall be as provided in California Public Contract Code Section 22300, and shall be approved by the City both as to sufficiency and form. In the alternative, the Contractor may elect to deposit such securities in an escrow account and enter into a standard form Escrow

Agreement for Security Deposits in Lieu of Retention. Blank Agreements are available from the Public Works Director and the City Attorney's Office.”

9-1.17 **PAYMENT AFTER CONTRACT ACCEPTANCE.** “Final Payment” shall be made in accordance with this section. The Contractor shall, after the completion of the Contract, submit a final estimate of the amount of work done thereunder and the value of such work. Upon approval of the estimate by the Director, the City of Roseville shall pay the entire sum so found to be due after deducting therefrom all previous payments and all amounts to be kept and all amounts to be retained under the provisions of the Contract. All prior partial estimates and payments shall be subject to correction in the final estimate and payment. The final payment shall not be due and payable until the expiration of thirty five (35) calendar days from the date of Acceptance of the work by the City Council, and thirty-five (35) calendar days after filing of the Notice of Completion with the County of Placer.

No certificate given or payments made under the Contract, except the final certificate or final payment, shall be conclusive evidence of the performance of the Contract, either wholly or in part, and no payment (including the final payment) or certificate shall be construed to be an Acceptance of any defective work or improper materials. Final payment shall not release the Contractor from one (1) year guarantee of the work as provided in Section 7-1.17, “Acceptance of Contract” and Section 2-1.12 “Guarantee and Warranty” of these Specifications.

SECTION 14. ENVIRONMENTAL STEWARDSHIP

14-8.02 **NOISE CONTROL.** The provisions of Section 14-8.02 of the Standard Specifications are amended by adding the following:

“The Contractor shall additionally conform to the provisions of Roseville Municipal Code Chapter 9.24 where such provisions are more restrictive than these specifications.”

14-9.01 **AIR QUALITY GENERAL.** The provisions of Section 14-9.01, “Air Quality General” of the Standard Specifications are amended by adding the following:

“Material to be disposed of shall not be burned unless the Contractor has obtained a permit to burn combustible material resulting from clearing and grubbing operations from the Placer County Air Pollution Control District and City of Roseville Fire Marshall. A copy of the permits shall be filed with the Director

before beginning any burning. All such burning shall be conducted in strict conformance with the provision stipulated in said permits and at such times and in such manner as to prevent fire from spreading to areas adjoining the right-of-way.”

14-11.02A **ASBESTOS REMOVAL AND DISPOSAL.** Section 14-11.02A, “Asbestos Removal and Disposal” is added as follows:

“The Contractor shall comply with all rules, regulations, statutes and ordinances regarding asbestos removal and disposal, including but not limited to, 42 U.S.C. Sections 7401, 7412 and 7601 and 40 C.F.R. Part 61, Subpart M.

If the Contractor discovers that a building to be demolished or renovated contains asbestos containing material, the Contractor shall immediately cease work and notify the City.”

END OF STANDARD SPECIFICATIONS

TEXT OF AB 626

Assembly Bill No. 626

CHAPTER 810

An act to add and repeal Section 9204 of the Public Contract Code, relating to public contracts.

[Approved by Governor September 29, 2016. Filed with Secretary of State September 29, 2016.]

LEGISLATIVE COUNSEL'S DIGEST

AB 626, Chiu. Public contracts: claim resolution.

Existing law prescribes various requirements regarding the formation, content, and enforcement of state and local public contracts. Existing law applicable to state public contracts generally requires that the resolution of claims related to those contracts be subject to arbitration. Existing law applicable to local agency contracts prescribes a process for the resolution of claims related to those contracts of \$375,000 or less.

This bill would establish, for contracts entered into on or after January 1, 2017, a claim resolution process applicable to any claim by a contractor in connection with a public works project. The bill would define a claim as a separate demand by the contractor for one or more of the following: a time extension for relief from damages or penalties for delay, payment of money or damages arising from work done pursuant to the contract for a public work, or payment of an amount disputed by the public entity, as specified.

This bill would require a public entity, defined to exclude certain state entities, upon receipt of a claim sent by registered or certified mail, to review it and, within 45 days, provide a written statement identifying the disputed and undisputed portions of the claim. The bill would authorize the 45-day period to be extended by mutual agreement. The bill would require any payment due on an undisputed portion of the claim to be processed within 60 days, as specified. The bill would require that the claim be deemed rejected in its entirety if the public entity fails to issue the written statement.

This bill would authorize, if the claimant disputes the public entity's written response or if the public entity fails to respond to a claim within the time prescribed, the claimant to demand to meet and confer for settlement of the issues in dispute. The bill would require any disputed portion of the claim that remains in dispute after the meet and confer conference to be subject to nonbinding mediation, as specified. The bill would provide that unpaid claim amounts accrue interest at 7% per annum. The bill would prescribe a procedure by which a subcontractor or lower tier contractor may make a claim through the contractor.

This bill would require the text of these provisions, or a summary, to be set forth in the plans or specifications for any public work which may give rise to a claim. The bill would specify that a waiver of these rights is void and contrary to public policy, except as specified. The bill would also specify that it does not impose liability on a public entity that makes loans or grants available through a competitive application process, for the failure of an awardee to meet its contractual obligations.

By increasing the duties of local agencies and officials, this bill would impose a state-mandated local program.

This bill would, on January 1, 2020, repeal the provision establishing the claim resolution process.

This bill would specify that these provisions constitute a matter of statewide concern.

The California Constitution requires the state to reimburse local agencies and school districts for certain costs mandated by the state. Statutory provisions establish procedures for making that reimbursement.

This bill would provide that, if the Commission on State Mandates determines that the bill contains costs mandated by the state, reimbursement for those costs shall be made pursuant to these statutory provisions.

The people of the State of California do enact as follows:

SECTION 1. Section 9204 is added to the Public Contract Code, to read:

9204. (a) The Legislature finds and declares that it is in the best interests of the state and its citizens to ensure that all construction business performed on a public works project in the state that is complete and not in dispute is paid in full and in a timely manner.

(b) Notwithstanding any other law, including, but not limited to, Article 7.1 (commencing with Section 10240) of Chapter 1 of Part 2, Chapter 10 (commencing with Section 19100) of Part 2, and Article 1.5 (commencing with Section 20104) of Chapter 1 of Part 3, this section shall apply to any claim by a contractor in connection with a public works project.

(c) For purposes of this section:

(1) "Claim" means a separate demand by a contractor sent by registered mail or certified mail with return receipt requested, for one or more of the following:

(A) A time extension, including, without limitation, for relief from damages or penalties for delay assessed by a public entity under a contract for a public works project.

(B) Payment by the public entity of money or damages arising from work done by, or on behalf of, the contractor pursuant to the contract for a public works project and payment for which is not otherwise expressly provided or to which the claimant is not otherwise entitled.

(C) Payment of an amount that is disputed by the public entity.

(2) "Contractor" means any type of contractor within the meaning of Chapter 9 (commencing with Section 7000) of Division 3 of the Business and Professions Code who has entered into a direct contract with a public entity for a public works project.

(3) (A) "Public entity" means, without limitation, except as provided in subparagraph (B), a state agency, department, office, division, bureau, board, or commission, the California State University, the University of California, a city, including a charter city, county, including a charter county, city and county, including a charter city and county, district, special district, public authority, political subdivision, public corporation, or nonprofit transit corporation wholly owned by a public agency and formed to carry out the purposes of the public agency.

(B) "Public entity" shall not include the following:

(i) The Department of Water Resources as to any project under the jurisdiction of that department.

(ii) The Department of Transportation as to any project under the jurisdiction of that department.

(iii) The Department of Parks and Recreation as to any project under the jurisdiction of that department.

(iv) The Department of Corrections and Rehabilitation with respect to any project under its jurisdiction pursuant to Chapter 11 (commencing with Section 7000) of Title 7 of Part 3 of the Penal Code.

(v) The Military Department as to any project under the jurisdiction of that department.

(vi) The Department of General Services as to all other projects.

(vii) The High-Speed Rail Authority.

(4) "Public works project" means the erection, construction, alteration, repair, or improvement of any public structure, building, road, or other public improvement of any kind.

(5) "Subcontractor" means any type of contractor within the meaning of Chapter 9 (commencing with Section 7000) of Division 3 of the Business and Professions Code who either is in direct contract with a contractor or is a lower tier subcontractor.

(d) (1) (A) Upon receipt of a claim pursuant to this section, the public entity to which the claim applies shall conduct a reasonable review of the claim and, within a period not to exceed 45 days, shall provide the claimant a written statement identifying what portion of the claim is disputed and what portion is undisputed. Upon receipt of a claim, a public entity and a contractor may, by mutual agreement, extend the time period provided in this subdivision.

(B) The claimant shall furnish reasonable documentation to support the claim.

(C) If the public entity needs approval from its governing body to provide the claimant a written statement identifying the disputed portion and the undisputed portion of the claim, and the governing body does not meet within the 45 days or within the mutually agreed to extension of time following receipt of a claim sent by registered mail or certified mail, return receipt requested, the public entity shall have up to three days following the next duly publicly noticed meeting of the governing body after the 45-day period, or extension, expires to provide the claimant a written statement identifying the disputed portion and the undisputed portion.

(D) Any payment due on an undisputed portion of the claim shall be processed and made within 60 days after the public entity issues its written statement. If the public entity fails to issue a written statement, paragraph (3) shall apply.

(2) (A) If the claimant disputes the public entity's written response, or if the public entity fails to respond to a claim issued pursuant to this section within the time prescribed, the claimant may demand in writing an informal conference to meet and confer for settlement of the issues in dispute. Upon receipt of a demand in writing sent by registered mail or certified mail, return receipt requested, the public entity shall schedule a meet and confer conference within 30 days for settlement of the dispute.

(B) Within 10 business days following the conclusion of the meet and confer conference, if the claim or any portion of the claim remains in dispute, the public entity shall provide the claimant a written statement identifying the portion of the claim that remains in dispute and the portion that is undisputed. Any payment due on an undisputed portion of the claim shall be processed and made within 60 days after the public entity issues its written statement. Any disputed portion of the claim, as identified by the contractor in writing, shall be submitted to nonbinding mediation, with the public entity and the claimant sharing the associated costs equally. The public entity and claimant shall mutually agree to a mediator within 10 business days after the disputed portion of the claim has been identified in writing. If the parties cannot agree upon a mediator, each party shall select a mediator and those mediators shall select a qualified neutral third party to mediate with regard to the disputed portion of the claim. Each

party shall bear the fees and costs charged by its respective mediator in connection with the selection of the neutral mediator. If mediation is unsuccessful, the parts of the claim remaining in dispute shall be subject to applicable procedures outside this section.

(C) For purposes of this section, mediation includes any nonbinding process, including, but not limited to, neutral evaluation or a dispute review board, in which an independent third party or board assists the parties in dispute resolution through negotiation or by issuance of an evaluation. Any mediation utilized shall conform to the timeframes in this section.

(D) Unless otherwise agreed to by the public entity and the contractor in writing, the mediation conducted pursuant to this section shall excuse any further obligation under Section 20104.4 to mediate after litigation has been commenced.

(E) This section does not preclude a public entity from requiring arbitration of disputes under private arbitration or the Public Works Contract Arbitration Program, if mediation under this section does not resolve the parties' dispute.

(3) Failure by the public entity to respond to a claim from a contractor within the time periods described in this subdivision or to otherwise meet the time requirements of this section shall result in the claim being deemed rejected in its entirety. A claim that is denied by reason of the public entity's failure to have responded to a claim, or its failure to otherwise meet the time requirements of this section, shall not constitute an adverse finding with regard to the merits of the claim or the responsibility or qualifications of the claimant.

(4) Amounts not paid in a timely manner as required by this section shall bear interest at 7 percent per annum.

(5) If a subcontractor or a lower tier subcontractor lacks legal standing to assert a claim against a public entity because privity of contract does not exist, the contractor may present to the public entity a claim on behalf of a subcontractor or lower tier subcontractor. A subcontractor may request in writing, either on his or her own behalf or on behalf of a lower tier subcontractor, that the contractor present a claim for work which was performed by the subcontractor or by a lower tier subcontractor on behalf of the subcontractor. The subcontractor requesting that the claim be presented to the public entity shall furnish reasonable documentation to support the claim. Within 45 days of receipt of this written request, the contractor shall notify the subcontractor in writing as to whether the contractor presented the claim to the public entity and, if the original contractor did not present the claim, provide the subcontractor with a statement of the reasons for not having done so.

(e) The text of this section or a summary of it shall be set forth in the plans or specifications for any public works project that may give rise to a claim under this section.

(f) A waiver of the rights granted by this section is void and contrary to public policy, provided, however, that (1) upon receipt of a claim, the parties may mutually agree to waive, in writing, mediation and proceed directly to the commencement of a civil action or binding arbitration, as applicable; and (2) a public entity may prescribe reasonable change order, claim, and dispute resolution procedures and requirements in addition to the provisions of this section, so long as the contractual provisions do not conflict with or otherwise impair the timeframes and procedures set forth in this section.

(g) This section applies to contracts entered into on or after January 1, 2017.

(h) Nothing in this section shall impose liability upon a public entity that makes loans or grants available through a competitive application process, for the failure of an awardee to meet its contractual obligations.

(i) This section shall remain in effect only until January 1, 2020, and as of that date is repealed, unless a later enacted statute, that is enacted before January 1, 2020, deletes or extends that date.

SECTION 2.

The Legislature finds and declares that it is of statewide concern to require a charter city, charter county, or charter city and county to follow a prescribed claims resolution process to ensure there are uniform and equitable procurement practices.

SECTION 3.

If the Commission on State Mandates determines that this act contains costs mandated by the state, reimbursement to local agencies and school districts for those costs shall be made pursuant to Part 7 (commencing with Section 17500) of Division 4 of Title 2 of the Government Code.

**WESTBROOK SPORTS COMPLEX INTERSECTION
IMPROVEMENT PROJECT
PROJECT NO. 500317**

The special provisions contained herein have been prepared by or under
the direction of the following Registered Persons:

CIVIL



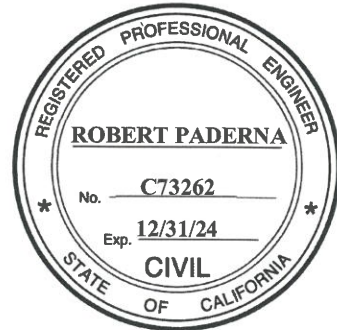
Daniel Carley, Registered Civil Engineer



ELECTRICAL



Robert Paderna, Registered Civil Engineer



APPROVAL RECOMMENDED BY:



STEFANIE KEMEN, P.E., DIVISION MANAGER
PUBLIC WORKS – ENGINEERING
CITY OF ROSEVILLE
RCE 72653

APPROVED BY:



JASON SHYKOWSKI, P.E.
PUBLIC WORKS DIRECTOR
CITY OF ROSEVILLE
RCE 58234

Table of Contents

SECTION 1: SCOPE OF SPECIAL PROVISIONS.....	2
SECTION 4. SCOPE OF WORK.....	3
SECTION 5. CONTROL OF WORK.....	3
SECTION 6. CONTROL OF MATERIALS.....	6
SECTION 7. LEGAL RELATIONS AND RESPONSIBILITY TO THE PUBLIC.....	6
SECTION 8. PROSECUTION AND PROGRESS.....	7
SECTION 9. PAYMENT.....	9
SECTION 12. TEMPORARY TRAFFIC CONTROL.....	15
SECTION 13: WATER POLLUTION CONTROL.....	18
SECTION 14: ENVIRONMENTAL STEWARDSHIP.....	20
SECTION 15. EXISTING FACILITIES.....	21
SECTION 17. CLEARING AND GRUBBING.....	21
SECTION 19: EARTHWORK.....	21
SECTION 37. SEAL COATS.....	23
SECTION 39. ASPHALT CONCRETE.....	33
SECTION 51: CONCRETE STRUCTURES.....	33
SECTION 52: REINFORCEMENT.....	33
SECTION 64: PLASTIC PIPE.....	34
SECTION 70: MISCELLANEOUS DRAINAGE FACILITIES.....	34
SECTION 73: CONCRETE CURBS AND SIDEWALKS.....	34
SECTION 77. LOCAL INFRASTRUCTURE.....	35
SECTION 86. SIGNALS, LIGHTING, AND ELECTRICAL SYSTEMS.....	36
SECTION 87. ELECTRICAL SYSTEMS.....	37
SECTION 90. CONCRETE.....	37

**SPECIAL PROVISIONS
FOR THE CITY OF ROSEVILLE**

ROSEVILLE WESTBROOK SPORTS COMPLEX INTERSECTION IMPROVEMENTS

SECTION 1: SCOPE OF SPECIAL PROVISIONS

The work described in these Special Provisions shall be done in conformance with the City of Roseville Standard Construction Specifications, City of Roseville (City) Design and Construction Standards and Details, and the 2022 State of California (Caltrans) Standard Specifications, except insofar as they may be modified by these Special Provisions.

Numbering in these Special Provisions conforms to that in the Caltrans Standard Specifications. The existence of a section in these Special Provisions means that the corresponding section in the Caltrans Standard Specifications is modified in some respect. Unless otherwise specified, when these Special Provisions reference a section number of the Caltrans Standard Specifications, that implies that the referenced Caltrans Standard Specification section is deleted in its entirety, and the provisions of these Special Provisions are substituted.

The construction materials, payment, etc., for items of work shown in the proposal and on the Project Plans, but not specifically mentioned in these Special Provisions are referred to the City Standard Construction Specifications and Caltrans Standard Specifications for conformance.

Project must comply with the latest edition of the CA MUTCD except as modified by the Project Plans and these Special Provisions.

Project must comply with the Americans with Disabilities Act (ADA) Standards adopted by the City of Roseville and as directed by the Engineer.

Abbreviation or Term- Intent and Meaning

AGENCY- The Department of Public Works, City of Roseville

CITY-The City of Roseville and its applicable Departments

DEPARTMENT -The Department of Public Works, City of Roseville

ADMINISTRATOR -The Director of Public Works

ENGINEER- The Director of Public Works, and agents or assistants duly authorized by the Director of the Public Works to act on his behalf

Replace the following definitions in section 1-1.07B:

Director: Director of Public Works, City of Roseville

Engineer: City Engineer, and agents or assistants duly authorized by the Director of the Public Works to act on his behalf

DISCREPANCIES AND OMISSIONS

Any discrepancies or omissions found in the Contract Documents must be reported to the Engineer immediately. The Engineer will clarify discrepancies or omissions, in writing, within a reasonable time.

In resolving inconsistencies among two or more sections of the Contract Documents, precedence is given in the following order:

1. Special Provisions
2. City of Roseville Standard Construction Specifications
3. City of Roseville Design and Construction Standards
4. Caltrans Standard Specifications and Plans (2022 editions, unless otherwise noted on the Project Plans)
5. CA MUTCD (latest edition)
6. Drawings

Addenda takes precedence over all sections referenced therein. Figure dimensions on Drawings take precedence over scale dimensions. Detailed Drawings take precedence over general Drawings.

SECTION 4. SCOPE OF WORK

4-1.13 CLEANUP. In addition to the Caltrans Standard Specifications:

Remove all temporary pavement delineation.

Prior to submitting the final payment request, remove all reference markings (i.e., U.S.A. markings, striping reference points, utility reference points) placed during the course of work by pressure washing. On micro-surfaced roadways segments, remove markings by hand painting all reference markings with black paint. Paint must be in rectangular blocks.

SECTION 5. CONTROL OF WORK

5-1.05 ORDER OF WORK. Prepare a traffic control plan that complies with section 12.

Comply with the phases of construction shown on the Contractor's Traffic Control Plan for the performance of work. Non-conflicting work in subsequent phases may proceed concurrently with work in preceding phases.

Contact Underground Service Alert (U.S.A.) as your first order of work. (See section 5-1.36C).

The second order of work shall be to order the traffic signal poles.

Install Best Management Practices (BMP) as the third order of work. You must maintain BMPs in place until the project is complete, or as directed by the Engineer.

Install new replacement fiber optic conduit, pull boxes, and cable as shown as your fourth order of work. Submit a work plan and schedule for this work for City review and approval. The submittal must include a standalone kick-off meeting for fiber optic work, installation in new replacement fiber conduit and pull boxes, testing of fiber-optic cable (pre-installation, post-installation, post-splicing), installation of new replacement fiber optic cable, cutting existing fiber optic cable, splicing of new fiber optic cable to existing fiber-optic cable, and removal of existing fiber-optic cable.

Complete the new fiber optic cable splicing over one weekend. Communications must be online at all times.

Coordinate with City and City IT contractor for temporary redundant communication link before cutting existing fiber-optic cable.

Contact Underground Service Alert to mark out and locate existing utility facilities. You are responsible for repairing and restoring damaged utility facilities to a condition satisfactory to the utility owner at your expense.

You are responsible for all material and/or equipment to complete the project.

Existing right-of-way control cannot be removed until day of turn-on. SIGNAL AHEAD signs may be placed prior to the day of turn-on, but must be bagged until the signal turn-on. SIGNAL AHEAD pavement legends cannot be installed until just before the signal turn-on, as directed by the Engineer.

Prior to commencing the work on the project intersections, the Contractor shall notify and coordinate with the City and Pacific Gas & Electric (PG&E) all of the scheduled work two (2) weeks in advance of the planned work. A representative of the utility company and City of Roseville Traffic Engineering Department shall be present during the installation of traffic signal foundation operations and mast arm layout. The inspector shall be present during traffic signal foundation installation. The use of powered equipment (including vacuum excavation) will not be allowed within two (2) feet radially of PG&E gas lines with the exception of powered equipment used to remove pavement or concrete as required. The Contractor shall locate and mark the gas lines within the limits of construction.

In addition to the gas line, the Contractor shall contact Underground Service Alert to mark out and locate all existing utility facilities within the project area. The Contractor is responsible for repairing and restoring any damaged utility facilities to a condition satisfactory to the utility owner at no cost to the City of Roseville.

The Contractor is responsible for all material and/or equipment needed to perform the project. Should the City have to supply the Contractor with material and/or equipment to do the work, the Contractor will be charged accordingly.

Payment for work specified in this section is included in the payment for the bid items involved.

5-1.07 LINES AND GRADES. The Contractor is responsible for all layout and staking. The City shall not provide these services. The Contractor shall be responsible for the accuracy of his/her own layout and staking work. The Contractor shall be responsible for the preservation of all established signal lines, grades, and layout points. Stakes damaged or destroyed by the Contractor, his/her employees, subcontractors, utility company employees, or the public shall be replaced by the Contractor at the Contractor's expense. Signal pole, cabinet, signs, and striping locations shall be verified by the City prior to installation.

5-1.20B Permits, Licenses, Agreements, and Certifications. In addition to the Caltrans Standard Specifications:

Obtain a business license from the City of Roseville before starting work. The Contractor shall include in his bid the cost of obtaining said license, and no additional compensation shall be allowed therefor. Contractor shall obtain an encroachment permit from the City of Roseville. Encroachment permit fees will be waived, and no additional compensation shall be allowed.

You may use water from City of Roseville fire hydrants with a permit from the City's Environmental Utilities Department.

5.1-36 PROPERTY AND FACILITY PRESERVATION. In addition to the Caltrans Standard Specifications:

Identify impacts to existing City-maintained landscape and irrigation and privately maintained landscape and irrigation before starting work. Irrigation systems that supply water to undisturbed existing landscape must remain functional during construction. City of Roseville Parks Inspector may require Contractor to hand water landscaping in the event irrigation is impacted. Do not cut and cap irrigation. Coordinate with the City of Roseville Parks inspector and private property owner prior to construction.

Contractor shall maintain, modify, and promptly replace or repair all landscaping and irrigation systems damaged during construction, either purposely or accidentally, to their original condition at the Contractor's sole expense to the satisfaction of the City. This includes impacts beyond the project boundaries if irrigation becomes non-functional due to work within the project area. All repairs shall be consistent with, and made in compliance with, the latest edition of the Parks Construction Standards. Perform all repairs at your expense. No additional compensation shall be allowed.

5-1.36C Nonhighway Facilities. The City of Roseville is a member of Underground Service Alert (U.S.A.). Notify U.S.A. (1-800-642-2444 or 8-1-1) at least 72 hours before starting work.

There are underground and overhead utility facilities within the work area including, but not limited to, telephone, electrical, gas, water, and sanitary sewer transmission facilities.

The locations of existing utilities as shown are approximate. There is no guarantee as to the accuracy or extent of the utilities shown.

Locate existing underground utilities and substructures by potholing prior to installing foundations. All existing utilities are to remain in service during construction.

It is understood and agreed that the Contractor has considered in his/her bid all of the permanent and temporary utility appurtenances in their present and/or relocated positions as shown or as described in these Special Provisions.

5-1.46 FINAL INSPECTION AND CONTRACT ACCEPTANCE. Work is subject to inspection and approval by the City of Roseville Engineer or their representative. Notify the Engineer, along with all affected utility companies, at least 2 business days before the start of work to coordinate and schedule inspection.

Inspection is available on an 8-hour day and a 40-hour business week basis. For this project, business hours are between 7:00 a.m. and 4:00 p.m. and business days are Mondays through Fridays. Requests for authorization to perform work outside the business hours and days must be submitted to the Engineer in writing and at least 48 hours in advance. You must reimburse the City at a rate of \$175 per hour and the Engineer at \$225 per hour for all inspection outside of the business hours and business days, and on designated holidays and weekends.

Provide a competent person during business hours to assist the Engineer, when required, for measuring quantities for payment purposes. You must cooperate with the Engineer for checking and measuring.

When a designated holiday falls on a Saturday or Sunday, the preceding Friday or following Monday, respectively, shall be a designated holiday.

SECTION 6. CONTROL OF MATERIALS

6-1.02 CITY-FURNISHED MATERIALS. In addition to the Caltrans Standard Specifications:

City-furnished material may be picked up by at the City's Corporation Yard located at 2005 Hilltop Circle, Roseville, CA 95678 (916-774-5787, Senior Electronic Technician).

Payment for transporting and handling of material provided in this section is included in the payment for the bid items involved.

SECTION 7. LEGAL RELATIONS AND RESPONSIBILITY TO THE PUBLIC

7-1.03 PUBLIC CONVENIENCE. In addition to the Caltrans Standard Specifications, you must:

1. Submit a traffic control plan at or before the pre-construction meeting to the City. Construction will not begin until the City accepts the traffic control plan.

2. Include, but not limited to, in the traffic control plan:
 - 2.1. Street closures and detours
 - 2.2. Construction, warning
 - 2.3. Detour and restriction signs, including "No Parking" signs
 - 2.4. Temporary striping and pavement markers
 - 2.5. Barricades
 - 2.6. Flashing arrow signs
 - 2.7. Lighted message boards
 - 2.8. Portable delineators
 - 2.9. Traffic cones
 - 2.10. Covers
 - 2.11. Lights
 - 2.12. Flares
 - 2.13. Flaggers.
3. Submit a revised traffic control plan to the Engineer if you want to revise the approved traffic control plan during construction.
4. Cooperate, keep current, and notify the local police, City public information, Public Works and fire departments, ambulance services, post office, and trash collectors of his/her construction operation and traffic control changes 3 days before work begins or traffic changes are made. Cooperate with local authorities for handling traffic in the work area and make his own arrangements for keeping the working area clear of parked vehicles.
5. Cover vehicle signal faces while the traffic signal system is turned off. Covers must be City-approved durable canvas signal head covers or other approved equal.

7-1.04 PUBLIC SAFETY. In addition to the Caltrans Standard Specifications, you must:

1. Cooperate with and notify the local police and fire departments, refuse, ambulance services, transit, and Public Works Street Division of proposed construction operations 2 days before work begins.
2. Notify and coordinate their schedule with schools that may be in or adjacent to the project area.

SECTION 8. PROSECUTION AND PROGRESS

8-1.04 START OF JOB SITE ACTIVITIES. Revise the first paragraph of section 8-1.04B of the Caltrans Standard Specifications to:

Begin work within 15 days after receiving the "Notice to Proceed" letter executed by the Director of Public Works or authorized staff.

8-1.05 TIME. In addition to the Caltrans Standard Specifications:

Complete work, including all punch list items, within 90 working days of the first working day.

8-1.10 LIQUIDATED DAMAGES. In addition to the Caltrans Standard Specifications:

The Contractor must pay liquidated damages of \$1,500.00 per hour, each and every hour's delay past 12:01 a.m. on the Monday of the scheduled weekend work for fiber optic cable splicing and network transition.

The Contractor must pay liquidated damages of \$6,700.00 per day, each and every calendar day's delay in finishing the work (regardless of weather conditions) in excess of the number of working days to complete the entire project.

Any payment made after the completion date is not construed as a waiver of liquidated damages.

8-1.10B Failure to Complete Work Parts within Specified Times. In addition to the Caltrans Standard Specifications:

Stop placement of micro-surfacing 2 hours prior to the last scheduled working hour for the road work. The Contractor must pay liquidated damages of \$1,000 per hour for each hour, or portion of an hour, that micro-surfacing is placed beyond 2 hours prior to the last scheduled working hours.

Stop work with sufficient time needed to reestablish approved traffic control and required number and direction of open lanes. The Contractor must pay liquidated damages of \$1,000 per hour for each hour, or portion of an hour, that traffic control and required open lanes are not provided.

The roadway must be fully opened to traffic by the end of the road work's last working hour. The Contractor must pay liquidated damages of \$1,000 per hour for each hour, or portion of an hour, after the last working hour is exceeded and that a travel lane remains closed due to the Contractor's operations.

After the working hours of the road work are exceeded by 1 hour of the last working hour, the Contractor must pay liquidated damages of \$2,000 per hour for each hour, or, portion of an hour, that a travel lane remains closed due to the Contractor's operations.

The Engineer will provide written notice of non-conformance to the Contractor within 24 hours of the violation. All Contractor's equipment, machinery, traffic control, and personnel must be off the pavement and all lanes open to traffic to be considered as meeting full compliance.

SECTION 9. PAYMENT

9-1.00 COST BREAK-DOWN. Submit a cost break-down and schedule of values in compliance with section 9-1.16B for each lump sum bid item to the Engineer.

Payments for the lump sum bid item is be determined based on the percentage of work complete at the time the progress payment is prepared as determined by the Engineer.

Bid Item No. 1: Mobilization

Mobilization consists of preparatory work and operations, including, but not limited to, those necessary: for the movement of personnel, equipment, supplies, and incidentals to the project site; for the establishment of all offices, buildings and other facilities necessary for the work; and, for all other work and operations which must be performed or costs incurred prior to beginning work on the various contract items on the project site and as referenced in the General Provisions.

Bid Item No. 2: Construction Staking

The lump sum bid item for construction staking includes work described in section 5-1.26.

Bid Item No. 3: Traffic Control System

The lump sum bid item for traffic control system includes work described in section 7-1.03, section 12-4.02 and the City's acceptance of the Contractor-prepared project specific traffic control plan, including designation of an individual dedicated traffic control coordinator, traffic control plan submittals, project signs, construction signs, implementation, and maintenance of the approved traffic control plans and devices for all work in construction zones throughout the duration of the project. This includes any flagging costs and arrow boards used in the traffic control plan. This includes performing pedestrian safety plan submittals and implementing and maintaining the approved pedestrian safety plans for work in construction zones throughout the duration of the project. This includes any signage, barricades, cones, temporary barriers, k-rail, surface-mounted channelizers, temporary ramps, and all devices and appurtenances required to implement pedestrian safety.

Two (2) project signs shall be provided.

Bid Item No. 4: Clearing and Grubbing

The lump sum bid item for clearing and grubbing includes work described in section 17-2, consulting with Arborist, pruning prior to construction, and complying with City and County requirements relating to construction activities near oak trees.

Bid Item No. 5: Construction Area Signs

The lump sum bid item for construction area signs includes work described section 12-3.11.

Bid Item No. 6: Prepare and Implement Storm Water Pollution Prevention Plan

The lump sum bid item for Prepare and Implement Storm Water Pollution Prevention Plan includes work described in section 13, including developing and implementing the water pollution prevention plan, obtaining permit coverage, payment of permit fees, installing and maintaining BMPs, rain event action plans, sampling and testing, stormwater annual reports, providing a water pollution control manager, conducting water pollution control training, and monitoring, inspecting, and correcting water pollution control practices, and complying with the approved project storm water pollution prevention plan.

Bid Item No. 7: Job Site Management

The lump sum bid item for job site management includes work described in section 13-4, including, but not limited to, spill prevention and control, material management, waste management, non-stormwater management, and dewatering activities, including identifying, sampling, testing, handling, and disposing of hazardous waste resulting from your activities.

Bid Item No. 8: Monument Preservation

The lump sum bid item for monument preservation includes work described in section 5-1.36 for survey monuments.

Bid Item No. 9: Remove Existing Striping

The lump sum bid item for remove existing striping and markers includes work described in sections 81-8 and 84-9.

Bid Item No. 53: Modify Street Lighting System

The contract lump sum price paid for Modify Street Lighting System shall include full compensation for providing all labor, materials, tools, equipment, and incidentals, and for doing all the work involved in constructing street lighting system modifications, complete in place, as shown on the Project Plans, as specified in Section 86, "General" and Section 87, "Electrical Systems" of the Technical Specifications, and as directed by the Engineer.

All work shown in the Project Plans for street lighting system work shall be included in Bid Item No. 54. This work includes the furnishing, removal, and/or installation of:

- Foundation
- Standards and Poles
- Conduit
- Conductors and Cables
- Pull Wire/Tracer Wire
- Pull Boxes
- Luminaires and Hardware
- Photoelectric Units

Bid Item No. 54: Fiber Optic Interconnect

The contract lump sum price paid for Fiber Optic Interconnect shall include full compensation for providing all labor, materials, tools, equipment, and incidentals, and for doing all the work involved in constructing signal modification, complete in place, as shown on the Project Plans, as specified in Section 86, "General" and Section 87, "Electrical Systems" of the Technical Specifications, and as directed by the Engineer.

All work shown in the Project Plans for fiber optic traffic signal interconnect work shall be included in Bid Item No. 54. This work includes the furnishing, removal, and/or installation of:

- 3" Conduit for Fiber Optic Cables
- 12-Strand Fiber Optic Tactical Cables
- 72-Strand Fiber Optic Cables
- FL36 With Extension (FL36E) pull boxes for Fiber Optic Cables
- FL36 pull boxes for Fiber Optic Cables
- Conduit Sweeps
- Coyote In-Line Runt Fiber Optic Splice Closures
- Fiber Optic Splicing
- 12-Port High Density Fiber Optic Termination Panels
- AFL Fuseconnect LC9SMU-6 Fiber Optic Connector
- Fiber Optic Patch Cables
- Fiber Optic Testing

Bid Item No. 55: Install Traffic Signal (Westbrook Boulevard and Brookstone – South)

The contract lump sum price paid for Install Traffic Signal (Westbrook Boulevard and Brookstone – South) shall include full compensation for providing all labor, materials, tools, equipment, and incidentals, and for doing all the work involved in constructing signal modification, complete in place, including traffic control, as shown on the Project Plans, as specified in Section 86, "General" and Section 87, "Electrical Systems" of the Technical Specifications, and as directed by the Engineer.

The cost break-down and schedule of values for Bid Item No. 55, as a minimum, shall include the following items when applicable:

ITEM	UNIT	MEASURE
Foundation	Type	Each
Standards and Poles	Type	Each
Conduit	Size/Installation Method	Linear Foot
Conductors and Cables	Size/Type	Linear Foot
Pull Wire/Tracer Tape	Type	Linear Foot
Innerduct	Type	Linear Foot
Pull Boxes	Type	Each
Detector Loops	Type	Each

Detector Handholes	Type	Each
Luminaires & Hardware	Type	Each
Photoelectric Units	Type	Each
Signal Heads & Hardware	Type	Each
Pedestrian Signal Heads & Hardware	Type	Each
Pedestrian Push Buttons	Type	Each
Controller Pad	Type	Each
IISNS & Hardware	Type	Each
PTZ CCTV Camera	Type	Each
Ethernet Switch	Type	Each
Signal Cabinet	Type	Each
Signal Controller	Type	Each
Battery Backup System	Type	Each
EVP Detector	Type	Each
EVP Phase Selector	Type	Each
Electrical Service Cabinet	Type	Each

Bid Item No. 56: Install Traffic Signal (Westbrook Boulevard and Brookstone – North)

The contract lump sum price paid for Install Traffic Signal (Westbrook Boulevard and Brookstone – North) shall include full compensation for providing all labor, materials, tools, equipment, and incidentals, and for doing all the work involved in constructing signal modification, complete in place, including traffic control, as shown on the Project Plans, as specified in Section 86, "General" and Section 87, "Electrical Systems" of the Technical Specifications, and as directed by the Engineer.

The cost break-down and schedule of values for Bid Item No. 56, as a minimum, shall include the following items when applicable:

ITEM	UNIT	MEASURE
Foundation	Type	Each
Standards and Poles	Type	Each
Conduit	Size/Installation Method	Linear Foot
Conductors and Cables	Size/Type	Linear Foot
Pull Wire/Tracer Tape	Type	Linear Foot
Innerduct	Type	Linear Foot
Pull Boxes	Type	Each
Detector Loops	Type	Each
Detector Handholes	Type	Each
Luminaires & Hardware	Type	Each
Photoelectric Units	Type	Each
Signal Heads & Hardware	Type	Each
Pedestrian Signal Heads & Hardware	Type	Each
Pedestrian Push Buttons	Type	Each
Controller Pad	Type	Each

IISNS & Hardware	Type	Each
PTZ CCTV Camera	Type	Each
Ethernet Switch	Type	Each
Signal Cabinet	Type	Each
Signal Controller	Type	Each
Battery Backup System	Type	Each
EVP Detector	Type	Each
EVP Phase Selector	Type	Each
Electrical Service Cabinet	Type	Each

Bid Item No. 57: Modify Traffic Signal (Blue Oaks Boulevard and Westbrook Boulevard)

The contract lump sum price paid for Modify Traffic Signal (Blue Oaks Boulevard and Westbrook Boulevard) shall include full compensation for providing all labor, materials, tools, equipment, and incidentals, and for doing all the work involved in constructing signal modification, complete in place, including traffic control, as shown on the Project Plans, as specified in Section 86, "General" and Section 87, "Electrical Systems" of the Technical Specifications, and as directed by the Engineer.

The cost break-down and schedule of values for Bid Item No. 57, as a minimum, shall include the following items when applicable:

ITEM	UNIT	MEASURE
Foundation	Type	Each
Standards and Poles	Type	Each
Conduit	Size/Installation Method	Linear Foot
Conductors and Cables	Size/Type	Linear Foot
Pull Wire/Tracer Tape	Type	Linear Foot
Innerduct	Type	Linear Foot
Pull Boxes	Type	Each
Detector Loops	Type	Each
Detector Handholes	Type	Each
Luminaires & Hardware	Type	Each
Photoelectric Units	Type	Each
Signal Heads & Hardware	Type	Each
Pedestrian Signal Heads & Hardware	Type	Each
Pedestrian Push Buttons	Type	Each
IISNS & Hardware	Type	Each
PTZ CCTV Camera	Type	Each
Ethernet Switch	Type	Each
Signal Cabinet	Type	Each
Signal Controller	Type	Each
Battery Backup System	Type	Each
EVP Detector	Type	Each
EVP Phase Selector	Type	Each

Bid Item No. 58: Modify Traffic Signal (Blue Oaks Boulevard and Hayden Boulevard)

The contract lump sum price paid for Modify Traffic Signal (Blue Oaks Boulevard and Hayden Boulevard) shall include full compensation for providing all labor, materials, tools, equipment, and incidentals, and for doing all the work involved in constructing signal modification, complete in place, including traffic control, as shown on the Project Plans, as specified in Section 86, "General" and Section 87, "Electrical Systems" of the Technical Specifications, and as directed by the Engineer.

The cost break-down and schedule of values for Bid Item No. 58, as a minimum, shall include the following items when applicable:

ITEM	UNIT	MEASURE
Foundation	Type	Each
Standards and Poles	Type	Each
Conduit	Size/Installation Method	Linear Foot
Conductors and Cables	Size/Type	Linear Foot
Pull Wire/Tracer Tape	Type	Linear Foot
Innerduct	Type	Linear Foot
Pull Boxes	Type	Each
Detector Loops	Type	Each
Detector Handholes	Type	Each
Luminaires & Hardware	Type	Each
Photoelectric Units	Type	Each
Signal Heads & Hardware	Type	Each
Pedestrian Signal Heads & Hardware	Type	Each
Pedestrian Push Buttons	Type	Each
IISNS & Hardware	Type	Each
PTZ CCTV Camera	Type	Each
Ethernet Switch	Type	Each
Signal Cabinet	Type	Each
Signal Controller	Type	Each
Battery Backup System	Type	Each
EVP Detector	Type	Each
EVP Phase Selector	Type	Each

9-1.02 MEASUREMENT. In addition to the Caltrans Standard Specifications:

Payment for all bid items at a price per unit of measurement will be based upon actual quantities of work as measured upon completion unless otherwise noted. The City does not expressly or by implication agree that the actual amount of work or materials of any class will correspond to the estimated quantities given in the proposal.

The Contractor must make no claim for anticipated profits, or loss of profit, for damages, or for any extra payment whatever because of any difference between the amount of work actually done or materials furnished and the estimated amount.

9-1.16 PROGRESS PAYMENTS. In addition to section 9-1.16 of the Caltrans Standard Specifications, submit all request for progress payments using the forms included in Appendix B:

Form CC1: Progress Payment Request. Completed and signed by the contractor and attached as a cover sheet to his/her request for payment. This form will be mandatory on all contract payment request.

Form CC2: Progress Payment Request - Detail. This form may be used by the contractor to provide the detail required to verify the payment quantities.

Form CC3: Quantity Change Verification Form. This form is required before any payment can be made based on actual quantities exceeding estimated quantities.

9-1.17D FINAL PAYMENTS AND CLAIMS. In addition to the Caltrans Standard Specifications:

The Contractor must submit Form CC4: Final Release Form. This form must accompany all request for final payment (See Appendix B).

SECTION 12. TEMPORARY TRAFFIC CONTROL

12-2 TRAFFIC CONTROL PLAN. At the pre-construction meeting, submit a traffic control plan showing traffic control measures and/or, if approved, detours for vehicles and pedestrians affected by the construction work. A minimum of 5 working days will be required to review and provide you with comments on the plan. Revise the plan per the City's comments until the plan is accepted by the Engineer. You will not be allowed to begin work until the Engineer has accepted the Traffic Control Plan.

The Traffic Control Plan must cover all stages of work, per site, and include (but not limited to) the following information and detail: (1) Street closures and detours, including pedestrian access and detours; (2) construction, warning, detour and restriction signs, including "No Parking", "Loose Gravel", "Construction Area Speed Limit Signs," and "Bump Ahead" signs; (3) temporary striping and pavement markers; (4) barricades; (5) flashing arrow signs; (6) lighted message boards; (7) portable delineators; (8) traffic barrels/channelizers; (9) lights, flares, flaggers, spacings, and taper lengths; (10) temporary railing (Type K) and crash cushions; and, (11) temporary pavement.

A copy of the accepted Traffic Control Plan must be kept at the job site at all times, including the names of Sub-Contractors required to implement the Traffic Control Plan.

Cooperate with and notify the local police and fire department, ambulance services, post office, refuse collectors, Roseville Transit, Dry Creek School District, Roseville City School District, Eureka School District, Roseville Joint Union High School District, Roseville Transit, and residents of proposed construction operations and traffic control operations a minimum of 5 business days before

work begins in each work area. If changes are made to the Traffic Control Plan, the Contractor must re-notify at least 3 business days before work begins. Provide a 24-hour telephone number for emergencies and/or problems.

The Contractor is responsible for notifying residents and businesses of the proposed construction. Distribute notifications to residents and businesses within a 100 foot radius of the job limits, including residents and businesses located on streets adjacent to the construction.

Notifications to affected residents and businesses within the project area must consist of two (2) phases.

The first phase notifies the affected residents and businesses of the upcoming construction through the use of “door hanger” type formatted notifications. The notification must state the street name, the working hours, and the anticipated begin and completion dates for each street. Distribute the door hanger notifications a minimum of 5 business days before work begins.

At the pre-construction meeting, provide a copy of the proposed notification to the Engineer for acceptance. City contact information must be included on the door hanger notification.

Tuck notifications neatly in doorjambs, handles, or partially under mats. Notifications must not be glued, stapled, tacked, or otherwise attached to property. Stay on designated walkways during delivery of notifications and be polite to citizens encountered.

The second phase consists of posting “No Parking” signs on barricades 72 hours before work begins. The “No Parking” signs must include the exact day that the resurfacing and/or other work requiring when “No Parking” signs will take place. A warning indicating that vehicles will be towed away at the owners’ expense must be included on the “No Parking” signs. In addition, post the 24-hour telephone number on the “No Parking” signs. At the pre-construction meeting, submit a sample “No Parking” sign to the Engineer for acceptance. Place temporary “No Parking” signs before construction begins. Place barricades a maximum of 100 feet apart, on both sides of the affected street. (Not required for streets already marked “No Parking”).

Place “Construction Speed Limit” signs on both sides of the affected street one (1) hour before opening the street to traffic. Do not reduce the speed limit for the “Construction Speed Limit” signs more than 10 mph below the posted speed. At the pre-construction meeting, submit a sample “Construction Speed Limit” sign to the Engineer for acceptance. Place signs a maximum of 500 feet apart on both sides of the affected street.

Tape temporary traffic stripe on concrete surface must comply with section 12-6 of the State Standard Specifications. The Contractor is responsible for replacing or reapplying tape as directed by the Engineer. Removal of temporary traffic stripe (tape) must provide a clean uniformed surface.

Emergency access to driveways, intersections, and residential streets must be maintained at all times. If vehicles are parked in the working area, do not attempt to move the vehicle. Notify the Engineer immediately, and the Engineer will make proper arrangements to remove the vehicle.

Lane and street closure are not permitted without advance warning devices and signs as approved in the traffic control plan.

Full compensation for work specified in section 12-2 is included in the payment for the bid item traffic control system.

12-3.02 TRAFFIC CONES. During the hours of darkness, traffic cones must be affixed with reflective cone sleeves.

Reflective cone sleeves must comply with the following:

1. Removable flexible reflective cone sleeves must be fabricated from the reflective sheeting specified, have a minimum height of 13 inches and be placed a maximum of 3 inches from the top of the cone. The sleeves must not be in place during daylight hours.
2. Permanently affixed semi-transparent reflective cone sleeves must be fabricated from the semi-transparent reflective sheeting specified, have a minimum height of 13 inches, and be placed a maximum of 3 inches from the top of the cone. Traffic cones with semitransparent reflective cone sleeves may be used during daylight hours.
3. Permanently affixed double band reflective cone sleeves must have 2 white reflective bands. The top band must be 6 inches in height, placed a maximum of 4 inches from the top of the cone. The lower band must be 4 inches in height, placed 2 inches below the bottom of the top band. Traffic cones with double band reflective cone sleeves may be used during daylight hours.

The type of reflective cone sleeve used is at the option of the Contractor. Use only one type of reflective cone sleeve for all traffic cones.

The Contractor is responsible for informing the public of the traffic conditions existing within the construction area at all times by placement of appropriate warning and advisory signs. The Contractor must provide and maintain all traffic control and safety items. The Contractor assumes sole and complete responsibility for job and site conditions during the course of construction, including safety of all persons and property. Apply requirement continuously 24 hours/day and not be limited to normal working hours.

Full compensation for work specified in section 12-3 is included in the payment for the bid item Traffic Control System.

12-3.11 CONSTRUCTION AREA SIGNS. In addition to the Caltrans Standard Specifications:

The base material of construction area signs must not be plywood.

Full compensation for work specified in section 12-3.11 is included in the payment for the bid item Construction Area Signs.

12-4.02A(2) Definitions. In addition to the Caltrans Standard Specifications:

Designated holidays recognized by the City include:

1. Third Monday in January (Martin Luther King's Birthday)
2. Day after Thanksgiving Day

12-4.02C(3)(m) City Street Closure Hour Charts and City Street Lane Requirement Charts.

Lane closures on Blue Oaks Boulevard and Westbrook Boulevard are permitted as long as there is one lane in each direction open during the hours of 4:30 p.m. to 12:00 a.m. and 12:00 a.m. to 8:00 a.m., or as approved by Engineer.

Install 2 portable changeable message signs to be placed on Blue Oaks Boulevard prior to construction area signage. Submit message to be displayed in portable changeable message sign 2 weeks before work for City approval. Place portable changeable message sign as directed by the Engineer 14 calendar days prior to start of work. Change the message as directed by the Engineer.

All channelizers or traffic barrels used for night work or remaining in the roadway overnight must have reflective sleeves.

SECTION 13: WATER POLLUTION CONTROL

13-01.01 GENERAL. *In addition to the Caltrans Standard Specifications:*

Contractor shall place and maintain BMPs in compliance with all applicable State and City of Roseville requirements. Provide a schedule of values as directed in section 9-1.16B for BMP items identified in the SWPPP.

All work to place and maintain BMP's shall be included in **Bid Item No. 6.**

Add to section 13-1.04:

Submit a storm water pollution prevention plan cost break-down which itemizes the lump sum bid item for water pollution control work. You are responsible for the accuracy of the quantities and values used in the cost break-down submitted. Partial payment for the bid item storm water pollution prevention plan will not be made until the storm water pollution prevention plan cost break-down is approved by the Engineer.

Items in this section must be considered by the Contractor for selection to meet the applicable "Minimum Requirements" as defined required by the State.

The sum of the amounts for the items of work listed in the storm water pollution prevention plan cost break-down must be equal to the lump sum bid item price for storm water pollution prevention plan. Overhead and profit must be included in the individual items listed in the cost break-down.

Adjustments in the items of work and quantities listed in the approved cost break-down must be made when required to address amendments to the SWPPP, except when the adjusted items are paid for as extra work.

No adjustment in compensation will be made to the lump sum bid item price paid for storm water pollution prevention plan control due to differences between the quantities shown in the approved cost break-down and the quantities required to complete the work as shown on the approved SWPPP. No adjustment in compensation will be made for ordered changes to correct SWPPP work resulting from your own operations or from your negligence.

At the Engineer's discretion, the approved cost break-down may be used to determine partial payments during the progress of the work and as the basis of calculating the adjustment in compensation for the item or items of work due to changes ordered by the Engineer. When an ordered change increases or decreases the quantities of an approved cost break-down, the adjustment in compensation may be determined, at the Engineer's discretion, in the same manner specified for increases and decreases in the quantity of a contract item of work in section 9-1.06.

At your request and approved by the Engineer, changes to the water pollution control practices listed in the approved cost break-down, including addition of new water pollution control practices, will be allowed. Changes must be included in the approved amendment of the SWPPP. If the requested changes result in a net cost increase to the lump sum bid item price for storm water pollution prevention plan, an adjustment in compensation will be made without change to the water pollution control item. The net cost increase to the water pollution control item will be paid for as extra work as provided in section 4-1.05.

Payment for placing, maintaining, removing, and disposing of construction site best management practices is included in the payment for **Bid Item No. 6** Prepare and Implement Storm Water Pollution Prevention Plan.

Add to section 13-3.01A:

This project's risk level is 2.

Replace the 1st paragraph of section 13-3.01C(2)(a) with:

Within 15 days of contract approval, submit 3 copies of your SWPPP.

Replace the 4th paragraph of section 13-3.01C(2)(a) with:

Allow 15 days for the Department to review. The Engineer will provide comments and notify you of the date when the review stopped if revisions are required. Resubmit a revised SWPPP within 15 days of receiving the Engineer's comments. The Department's review resumes when a complete SWPPP has been resubmitted. After the plan has been approved by the Engineer, the QSP shall submit the SWPPP, Permit Registration Documents and required information to the RWQCB's SMARTS website as part of the Notice of Intent (NOI). The SMARTS website can be found at

<https://smarts.waterboards.ca.gov/smarts/faces/SwSmartsLogin.xhtml>

Add between the 5th and 6th paragraphs of section 13-3.01C(2)(a):

The following RWQCBs will review the authorized SWPPP:

1. Central Valley RWQCB Region 5

Replace the 6th paragraph of section 13-3.01C(2)(a) with:

If the Regional Water Quality Control Board requires time for review, allow 30 days for review.

Do not start job site activities until:

1. SWPPP is approved by the Engineer
2. A waste discharge ID number is issued
3. SWPPP review requirements have been fulfilled

13-4 JOB SITE MANAGEMENT. In addition to Caltrans Standard Specifications:

Replace the paragraphs of section 13-5.04 with:

Not Used

Replace the paragraphs of section 13-6.04 with:

Not Used

Replace the paragraphs of section 13-7.03D with:

Not Used

SECTION 14: ENVIRONMENTAL STEWARDSHIP

14-8 NOISE AND VIBRATION. In addition to the Caltrans Standard Specifications:

Apply noise level requirements to all equipment used, including, but not limited to, trucks, transit mixers or transient equipment that may not be owned by the Contractor. Do not use loud signals shall in favor of light warnings, except as required by safety laws for the personnel protection.

The noise level from your operations, between the hours of 7:00 a.m. and 7:00 p.m. Monday through Friday, and between the hours of 8:00 a.m. and 8:00 p.m. Saturday and Sunday, must not exceed 86 dBA at a distance of 50 feet. This requirement does not relieve the Contractor from responsibility for complying with local ordinances regulating noise level.

Comply with the Roseville Municipal Code, Chapter 9.24 "Noise Regulations". It can be viewed at the City of Roseville City Clerk's Office or City of Roseville's website at www.roseville.ca.us.

Payment for noise and vibration is included in the payments for the various items of work.

SECTION 15. EXISTING FACILITIES

15-1.03 CONSTRUCTION. In addition to the Caltrans Standard Specifications, repair or replace existing striping damaged at your expense. This includes striping or pavement markings damaged by trenching or detector loop installation.

SECTION 17. CLEARING AND GRUBBING

17-2.03D. DISPOSAL OF MATERIALS. In addition to the Standard Specifications:

Do not reuse surplus materials from your operations. Dispose of surplus materials outside the City rights-of-way and easements. Surplus materials include 8" signal heads, plastic heads, and abandoned conductors. The disposal of such materials must comply with local ordinances and regulations of the City of Roseville. All costs, charges and fees associated with such disposal shall be borne by the Contractor. Surplus materials are not to be confused with salvaged materials, which shall remain the property of the City and shall be delivered to the City at no extra charge.

17-2.03D. DISPOSAL OF MATERIALS. Payment for disposing surplus materials is included in the payment for the various items of work.

SECTION 19: EARTHWORK

19-1.01 GENERAL In addition to the requirements of Section 19-1.01 of the State Standard Specifications, the following shall apply:

The Contractor shall perform all excavation required for the complete Project, to the lines and grades as shown on the Project Plans, as described in these Special Provisions, and as directed by the Engineer.

19-1.03B Unsuitable Material. In addition to the Caltrans Standard Specifications:

Should unsuitable material be encountered which, in the opinion of the Engineer, cannot be stabilized, remove the unsuitable material to the dimensions and limits as directed. Use extra care in excavating unsuitable materials so as not to aggravate the conditions. If, in the opinion of the Engineer, your methods and equipment are increasing the amount of unsuitable materials to be excavated, you will be required to take necessary steps to correct the situation. Should the problem continue, you will pay all costs beginning from the time correction steps were last implemented.

When unsuitable material is removed and disposed of, the resulting space must be filled with material suitable for the planned use. Remove unsuitable materials from the job site.

19-2 ROADWAY EXCAVATION. In addition to Caltrans Standard Specifications:

Dispose of excavated material not reused. Make arrangements for disposing of the materials outside the public right-of-way. Arrangements include, but not be limited to, entering into agreements with property owners and obtaining necessary permits, licenses, and environmental clearances. Before disposing of any material, submit evidence that the Contractor has entered into agreements with the property owners of the site involved and has obtained the permits, licenses, and clearances to the Engineer.

Stockpile material suitable for use as backfill a sufficient distance from the side of the excavation and not overload to prevent material from sliding into the excavation. Prevent surface water from entering the excavation.

Cover excavations adjacent to the roadway at the end of each day. You may use steel plates to cover excavations not backfilled adjacent to the roadway.

You may use excess excavated material suitable for use elsewhere. Dispose of surplus or unsuitable material at a predetermined site at your expense.

Remove and dispose of water that enter excavations. Dispose of water in a manner to prevent damage or nuisance to adjacent properties.

Existing pavement to remain must be saw cut in a neat, straight, parallel line. All pavement damaged during the work must be cut out in a rectangular pattern, removed, and paved at your expense.

The maximum lift of backfill material depends upon the type of backfill material, relative compaction required, and proposed compaction method to be used, but the loose lift thickness of any material must not exceed 8 inches.

If potential hazardous or other questionable material is encountered, contact the City's Resident Engineer immediately. Mark the site. Allow the City 24 hours to investigate and render an opinion and actions. Comply with section 14 when handling potential hazardous or other questionable materials. Depending on the volume, contain removed material in drums, or drop boxes, and temporarily stored within the fenced area. The storage duration will only be long enough to obtain analytical laboratory results and confirm disposition instructions on the material. For each discovery, it is anticipated the material will be stored for less than 30 days.

19-2.04 PAYMENT. Removing concrete curb, gutter, sidewalk, driveway, and curb ramp is included in the payment for Roadway Excavation. Roadway Excavation is a final pay item.

SECTION 37. SEAL COATS

37-3 SLURRY SEALS AND MICRO-SURFACINGS

Replace section 37-3.03 with:

37-3.03 MICRO-SURFACINGS

37-3.03A General

37-3.03A(1) Summary

Section 37-3.03 includes specifications for applying micro-surfacing.

Applying a micro-surfacing shall consist of mixing a polymer modified, cationic micro-surfacing emulsion (MSE), aggregate, mineral filler, set-control additives, and water and spreading the mixture on a pavement surface where shown on the plans, in conformance with the provisions in these Special Provisions and State Revised Standard Specifications, and as directed by the Engineer.

37-3.03B Material

37-3.03B(1) Micro-surfacing Emulsion (MSE)

Micro-surfacing emulsion (MSE) shall be homogenous and shall conform to the provisions of these Special Provisions. The polymer shall be milled or blended into the asphalt or blended into the emulsifier solution prior to the emulsification process.

The MSE shall conform to the following requirements when tested in conformance with the following test methods:

Polymer Modified, Cationic Micro-Surfacing Emulsion (MSE)

Specific Designation	Test Method	Requirement
Viscosity SSF @ 25°C	AASHTO T59	15 – 90 seconds
Sieve, max	AASHTO T59	0.30 percent
Settlement, 5 days, max	ASTM D6930 or AASHTO T59	5 percent
Storage Stability, 1 day, max	AASHTO T59	1 percent
Residue by Evaporation, min	California Test 331	64 percent
Specification Designation for Residue		
Specific Designation	Test Method	Requirement
Penetration @ 25°C, 100g, 5s, 0.1 mm	AASHTO T49	40 – 90
Softening Point, min	AASHTO T53	61°C
G*, @ 20°C, 10 rad/sec ^a	AASHTO T315	Report Only
Phase angle @ 50°C, 10 rad/sec, PA (max) – PA base ^b	AASHTO T315	Report Only
Stiffness, @ -12°C, MPa and M-value	AASHTO T315	Report Only
Torsional Recovery, %	California Test 332	>21%
Polymer Content, % (by weight)	California Test 402	>3.5%
25mm plates for the 50°C test. 8mm plates for the 20°C test.		

37-3.03B(2) Water and Additives

Water shall be of such quality that the asphalt will not separate from the MSE before the micro-surfacing is placed on the pavement. If necessary for workability, a set-control agent that will not adversely affect the micro-surfacing product may be used.

37-3.03B(3) Mineral Filler

Mineral filler shall be Portland cement or hydrated lime that is free of lumps. Portland cement shall be either Type I, Type II, or combination thereof. The type of mineral filler shall be determined by the Contractor based on laboratory mix designs. The mineral filler will be considered part of the aggregate gradation requirement.

37-3.03B(4) Aggregate

The aggregate used for micro-surfacing shall be Type II. The material shall be free from vegetation matter and other deleterious substances. Aggregate shall be free of lumps and oversize particles. The aggregate shall be 100% crushed with no rounded particles, volcanic in origin and black in color. The use of gray or light-colored aggregate shall not be allowed. The Contractor shall specify in the bid proposal the name and location of the black rock aggregate quarry and shall provide certification at the preconstruction conference that the rock was crushed a minimum of 90 days prior. The Contractor shall submit samples of the black rock aggregate to the Engineer for review and acceptance.

Aggregate, prior to the addition of the MSE, shall conform to the provisions of these Special Provisions. If aggregates are blended, each component aggregate shall conform to the Sand Equivalent and Durability Index requirements of these Special Provisions when tested in conformance with the respective California Tests.

The percentage composition by mass of the aggregate (including mineral filler) shall conform to the following grading requirements when tested in conformance with California Test 202:

Type II	
Sieve Size	Percent Passing
3/8 inch (9.5 mm)	100
#4 (4.75 mm)	94 – 100
#8 (2.36 mm)	65 – 90
#16 (1.18 mm)	40 – 70
#30 (600 µm)	25 – 50
#200 (75 µm)	5 – 15

The aggregate (excluding mineral filler) shall conform to the following quality requirements:

Type II		
Test	California Test	Requirement
Sand Equivalent (min)	217	70
Durability Index (min)	229	75
Percentage of Crushed Particles (min) ¹	205	100%
Los Angeles Rattler Loss at 500 Rev. (max) ²	211	35%
¹ CT205, Section D, is amended to read: “Any particle having 2 or more freshly, mechanically fractured faces shall be considered a crushed particle.”		
² Los Angeles Rattler shall be performed on the parent aggregate before crushing.		

If the results of the aggregate grading do not meet the specified gradation, the micro-surfacing represented by the test shall be removed within 5 working days of the Engineer’s written notice. However, if requested in writing by the Contractor and approved by the Engineer, the micro-surfacing represented by the tests containing a percentage passing (PP) range value +/- 1 in any of the Sieve sizes, but not greater

than +/-4, may remain in place. The Contractor shall pay to the City the following amount for the screenings represented by the test and left in place:

Sieve Sizes	Percentage Passing	Allowable Tolerances	Allowable Tolerances	Allowable Tolerances	Allowable Tolerances
3/8 inch (9.5 mm)	100	PP +/- 1	PP +/- 2	PP +/- 3	PP +/- 4
#4 (4.75 mm)	94 – 100	PP +/- 1	PP +/- 2	PP +/- 3	PP +/- 4
#8 (2.36 mm)	65 – 90	PP +/- 1	PP +/- 2	PP +/- 3	PP +/- 4
#16 (1.18 mm)	40 – 70	PP +/- 1	PP +/- 2	PP +/- 3	PP +/- 4
#30 (600 µm)	25 – 50	PP +/- 1	PP +/- 1	PP +/- 1	PP +/- 1
#200 (75 µm)	5 – 15	PP +/- 1	PP +/- 1	PP +/- 1	PP +/- 1
PAYMENT TO CITY		\$5.00 per ton	\$7.50 per ton	\$10.00 per ton	\$15.00 per ton

If the results of the Sand Equivalent test for aggregate do not meet the specified requirement, the micro-surfacing represented by the test shall be removed within 5 working days of the Engineer's written notice. However, if requested in writing by the Contractor and approved by the Engineer, the Micro-surfacing represented by the tests containing a sand equivalent Value below 70, but not less than 65, may remain in place. The Contractor shall pay to the City the following amount for the screenings represented by the test and left in place:

Sand Equivalent	Payment to City
70 or over	NONE
68 – 69	\$5.00 per ton
66 – 67	\$7.50 per ton
65	\$10.00 per ton

If the results of the Durability Index test for aggregate do not meet the specified requirement, the micro-surfacing represented by the test shall be removed within 5 working days of the Engineer's written notice. However, if requested in writing by the Contractor and approved by the Engineer, the micro-surfacing represented by the tests containing a durability index value below 75, but not less than 70, may remain in place. The Contractor shall pay to the City the following amount for the screenings represented by the test and left in place:

Durability Index	Payment to City
75 or over	NONE
73 – 74	\$5.00 per ton
71 – 72	\$7.50 per ton
70	\$10.00 per ton

When the results of 2 or all 3 of the aggregate grading, the Sand Equivalent, and Durability Index tests do not conform to the specified requirements, both or all three payments to the City shall apply. The City shall deduct these amounts from any moneys due or to become due to the Contractor.

Any progress payment made after the completion date shall not be construed as a waiver of material deductions.

No single aggregate grading, durability index or Sand Equivalent test shall represent more than 300 tons or one day's production, whichever is smaller.

37-3.03B(5) Mix Design

At least 7 working days before the micro-surfacing placement commences, the Contractor shall submit for approval of the Engineer a laboratory report of tests and a proposed mix design covering the specific materials proposed for use on the project.

The percentages of each individual material proposed in the mix design shall be shown in the laboratory report. Individual materials shall be within the following limits:

Micro-surfacing Mix Design	
Material	Proportion Limits
Residual Asphalt	7.5% to 10.5% by dry mass of aggregate
Mineral Filler	0% to 3% by dry mass of aggregate
Additive	As needed
Water	As needed

Adjustments may be required during construction based on field conditions.

The mix design and aggregate tests shall be performed by a laboratory capable of performing the applicable International Slurry Surfacing Association (ISSA) tests. The proposed micro-surfacing mixture shall conform to the specified requirements when tested in conformance with the following tests:

Test	ISSA Test Method	Requirements
Wet Cohesion @ 30 minute (Set) (min) @ 60 minute (Traffic) (min)	TB* 139	12 kg-cm 20 kg-cm
Excess Asphalt	TB* 109	540 g/m ²
Wet Stripping (min)	TB* 114	90%

TB* = Technical Bulletin

Test	ISSA Test Method	Requirements
Wet Track Abrasion 6-day soak loss (max) 1-hour soak	TB* 100	810 g/m ² 538 g/m ²
Displacement Lateral (max) Specific Gravity after 1000 cycles of 56.8 kg (max)	TB* 147A	5% 2.10
Classification Compatibility	TB* 144	(AAA, BAA) 11 Grade Points
Mix Time @ 25°C	TB* 113	Controllable to 120 seconds

TB* = Technical Bulletin

The laboratory that performed the tests and designed the mixture shall sign the laboratory report. The report shall show the results of the tests on individual materials and shall compare their values to those required by these Special Provisions. The report shall clearly show the proportions of aggregate, filler (minimum and maximum), water (minimum and maximum), set control additive, and MSE solids content (minimum and maximum) based on the dry mass of aggregate. The laboratory shall report the quantitative effects of moisture content on the unit mass of the aggregate (bulking effect) in conformance with the requirements of ASTM Designation C 29M. Previous laboratory reports covering the same

materials may be accepted provided the material test reports were completed within the previous 12 months. The mix design shall further show the recommended changes in mineral filler, water, and additive proportions for high temperature weather conditions by reporting proportions of materials required for 60 seconds of mix time with materials heated to 100°F. This 100°F mixing report will not be required for projects requiring nighttime application.

The component materials used in the mix design shall be representative of the micro-surfacing materials proposed by the Contractor for use on the project.

Once the mix design is approved by the Engineer, no substitution of other material will be permitted unless the materials proposed for substitution are first tested and a laboratory report is submitted for the substituted design in conformance with the provisions of these Special Provisions. Substituted materials shall not be used until the mix design for those materials has been approved by the Engineer.

The completed mixture, after addition of water and set control agent, if used, shall be such that the micro-surfacing mixture has proper workability. At the expiration of the road closure hours, in conformance with the provisions in these Special Provisions, the micro-surfacing mixture shall be sufficiently cured to support unrestricted traffic.

37-3.03C Construction

37-3.03C(1) Surface Preparation

Before placing the micro-surfacing, the pavement surface shall be cleaned by sweeping, flushing or by other means necessary to remove loose particles of paving, dirt, vegetation, and other extraneous material. When required, the roadway surface may be fogged with water ahead of the spreader box. The application of the fog spray may be adjusted to suit temperatures, surface texture, humidity and dryness of pavement.

37-3.03C(2) Weather Conditions

The micro-surfacing mixture shall not be placed when the ambient temperature is below 50°F or during unsuitable weather. Micro-surfacing shall not be placed if rain is imminent or if there is the possibility that there will be freezing temperatures within 24 hours.

37-3.03C(3) Equipment

37-3.03C(3)(a) General

The equipment used by the Contractor for pavement cleaning and excess aggregate removal shall include a self-propelled rotary power broom, mobile pick-up broom or top dumping mobile pick-up broom.

37-3.03C(3)(b) Mixing and Spreading Equipment

The micro-surfacing shall be mixed in continuous pugmill mixers of adequate size and power for the type of micro-surfacing to be placed. All indicators shall be in conformance with the provisions of these Special Provisions and shall be in working order prior to commencing mixing and spreading operations. Mixer-spreader trucks shall be equipped to proportion the MSE, water, aggregate, mineral filler, and set-control additives by volume. Rotating and reciprocating equipment on mixer-spreader trucks shall be covered with metal guards.

The mixer-spreader truck shall not be operated unless low-flow and no-flow devices and revolution counters are in good working condition and functioning and metal guards are in place. Indicators required by these Special Provisions shall be visible while walking alongside the mixer-spreader truck.

Aggregate feeders shall be connected directly to the drive on the emulsion pump. The drive shaft of the aggregate feeder shall be equipped with a revolution counter reading to the nearest one-tenth of a revolution.

In addition to the requirements of the fourth paragraph of section 5-1.33, "Equipment," of the State Standard Specifications, the identifying number of mixer-spreader trucks shall be at least 3 inches in height, located on the front and rear of the vehicle.

The micro-surfacing mixture shall be spread by means of a spreader box conforming to sections 37-3.03C(3)(b)(i) and 37-3.03C(3)(b)(ii).

37-3.03C(3)(b)(i) Spreader Box

The mixture shall be agitated and spread uniformly in the surfacing box by means of motor driven twin-shafted paddles or spiral augers fixed in the spreader box. A front seal shall be provided to insure no loss of the mixture at the road contact point. The rear seal shall act as a final strike-off and shall be adjustable. The spreader box and rear strike-off shall be so designed and operated that a uniform consistency is achieved to produce a free flow of material to the rear strike-off. The spreader box shall have suitable means provided to side shift the box to compensate for variations in the pavement geometry, the box shall be adjustable. Spreader box skids shall be maintained in such manner as to prevent chatter (wash boarding) in the finished mat. The spreader box in use shall be clean and free of micro-surfacing and MSE at the start of each work shift.

The spreader box shall have a series of strike-off devices at the rear of the box. The leading strike-off device shall be fabricated of steel, stiff rubber or other suitable material. The number of strike-off devices shall be determined by the Contractor. The first strike-off device shall be designed to maintain close contact with the pavement during the spreading operations, shall obtain the thickness required, and shall be capable of being adjusted to the various pavement cross sections for application of a uniform micro-surfacing finished surface. The final strike-off device shall be fabricated of flexible material suitable for the intended use and shall be designed and operated to ensure a uniform texture is achieved in the finished surface of the micro-surfacing. The final strike-off device shall be cleaned or changed daily if problems with longitudinal scouring occur.

Flexible fabric drags attached to the rear of the spreader box shall not be used.

37-3.03C(3)(b)(ii) Wheel Path Depression (Rut) Box

The wheel path depression (rut) box shall be designed to have adjustable strike-off devices to regulate the depth and shall have a width of between 5 feet and 6 feet. Hydraulic augers, or similar devices, shall be installed and shall be capable of moving the mixed material from the rear to the front of the filling chamber. These devices shall also be capable of guiding the larger aggregate into the center, deeper section of the wheel path depression, and forcing the finer material toward the outer edges of the spreader box.

The micro-surfacing mixture, to be spread in areas inaccessible to the controlled spreader box, may be spread by other methods upon approval of the Engineer.

Flexible fabric drags attached to the rear of the wheel path depression (rut) box shall not be used.

37-3.03C(3)(c) Mixer and Spreader Truck Calibration

Each mixer/spreader truck used on the project shall be calibrated in accordance with California Test 109. The trucks shall be calibrated for rock, emulsion, cement, additives, and any mineral filler used. Calibrations shall take place a maximum of 10 days prior to application of micro-surfacing. The Contractor shall notify the Engineer a minimum of 3 working days prior to calibration so that City representatives may make arrangements to observe.

For all material calibrated, 3 consecutive runs per gate setting shall be completed and these 3 test runs must not deviate from their combined mathematical average by more than 2.0%.

Calibrations will take place at most once a week or as required by the Engineer and no machine will be allowed to work on the project until the calibration has been completed and/or accepted 3 working days before the start of work. Weigh back tickets shall be submitted at the end of each work day that micro-surfacing is placed.

37-3.03C(4) Proportioning

Aggregate, mineral filler, MSE, water, and additives, including the set-control agent, if used, shall be proportioned by volume utilizing the mix design approved by the Engineer. If more than 1 kind of aggregate is used, the correct amount of each kind of aggregate to produce the required grading shall be proportioned separately, prior to adding the other materials of the mixture, in a manner that will result in a uniform and homogeneous blend.

The aggregate shall be proportioned using a belt feeder operated with an adjustable cutoff gate. The height of the gate opening shall be determinable. The MSE shall be proportioned by a positive displacement pump. Variable rate emulsion pumps, if used, shall be calibrated and sealed in the pump's calibrated condition in conformance with California Test 109 prior to usage.

The delivery rate of aggregate and MSE per revolution of the aggregate feeder shall be calibrated at the appropriate gate settings for each mixer-spreader truck used on the project in conformance with California Test 109 and in conformance with the provisions of these Special Provisions.

The aggregate belt feeder shall deliver aggregate to the pugmill with such volumetric consistency that the deviation for any individual aggregate delivery rate check-run shall not exceed 2.0 percent of the mathematical average of 3 runs of at least 3 tons each. The emulsion pump shall deliver MSE to the pugmill with such volumetric consistency that the deviation for any individual delivery rate check-run shall be within 2.0 percent of the mathematical average of 3 runs of at least 300 gallons each. The water pump shall deliver water to the pugmill with such volumetric consistency that the deviation for any individual delivery rate check-run shall be within 2.0 percent of the mathematical average of 3 runs of at least 300 gallons each.

The MSE storage tank shall be located immediately before the emulsion pump and shall be equipped with a device which will automatically shut down the power to the emulsion pump and aggregate belt feeder when the MSE level is lowered to a point where the pump suction line is exposed.

A temperature-indicating device shall be installed in the emulsion storage tank at the pump suction level. The device shall indicate the temperature of the MSE and shall be accurate to within 10°F.

The belt delivering the aggregate to the pugmill shall be equipped with a device to monitor the depth of aggregate being delivered to the pugmill. The device for monitoring the depth of aggregate shall

automatically shut down the power to the aggregate belt feeder whenever the depth of aggregate is less than the target depth of flow. A second device shall be located where the device will monitor the movement of the aggregate belt by detecting revolutions of the belt feeder. The devices for monitoring no flow or belt movement shall automatically shut down the power to the aggregate belt when the aggregate belt movement is interrupted. The device to detect revolutions of the belt feeder will not be required where the aggregate delivery belt is an integral part of the drive chain. To avoid erroneous shutdown by normal fluctuation, a delay of 3 seconds will be permitted between sensing and shutdown of the operation.

37-3.03C(5) Application Rate of Aggregate

Micro-surfacing spread rates must be within the ranges shown on the following table:

Micro-surfacing Type	Application Range (lb of dry aggregate/sqyd)
Type II	15 – 18
Type III	20 – 30

The micro-surfacing mixture shall be uniformly spread on the existing surfacing within the rate specified without spotting, re-handling, or otherwise shifting of the mixture.

37-3.03C(6) Repair Wheel Path Depressions

When wheel path depressions have a cross section that is deformed 1/2 inch or more, the individual wheel paths shall first be filled utilizing a wheel path depression (rut) box. The depth of the wheel path depression shall be determined after the adjacent ridges have been removed, when applicable. The maximum single application for wheel path depressions shall be 1 inch. Wheel path depressions of depths greater than 1 inch shall require multiple applications in each depression. A pneumatic tired roller shall be used after all rut filling operations. The roller shall make 2 passes at slow speed no more than 7 mph. Wheel path depressions having a cross section greater than 1/2 inch and less than 1 inch shall be paid for under the contract bid item “Micro-surfacing (Type III)”.

Wheel path depression repair shall be constructed with a slight crown to allow for initial compaction by traffic on the micro-surfacing.

Freshly filled wheel path depressions shall be compacted by traffic for a minimum of 12 hours before additional lifts of micro-surfacing material are placed for rut filling purposes or as surface courses.

37-3.03C(7) Placement

Longitudinal joints shall correspond with the edges of the traffic lanes. The Engineer may permit other patterns of longitudinal joints if the patterns will not adversely affect the quality of the finished product, this shall be required for approval in writing 5 working days prior to the start of work.

Through traffic lanes shall be spread in full lane widths only. Longitudinal joints common to 2 traffic lanes shall be butt joints with overlaps not to exceed 3 inches. Building paper shall be placed at the transverse joints to avoid double placement of the micro-surfacing. Other suitable methods to avoid double placement of the micro-surfacing will be allowed. Hand tools shall be available to remove spillage.

The mixture shall be uniform and homogeneous after placing on the surfacing and shall not show separation of the MSE and aggregate after setting. The completed surface shall be of uniform texture and free from ruts, humps, depressions, or irregularities.

Adequate means shall be provided to protect the micro-surfacing from damage by traffic until such time that the mixture has cured sufficiently so that the micro-surfacing will not adhere to or be picked up by the tires of vehicles.

If the micro-surfacing is not capable of supporting unrestricted traffic at the expiration of the road closure hours, the Contractor shall pay the liquidated damaged per the provisions of these Special Provisions. Placement of the micro-surfacing shall cease before the expiration of road closure hours as specified in these Special Provisions.

37-3.03C(8) Sweeping

Initial sweeping shall begin 1 day after the micro-surfacing placement. Care shall be taken to avoid unraveling the micro-surfacing. Excessive sweeping will not be allowed.

Seven sweepings shall be considered as included in the contract price paid for micro-surfacing. The first sweeping shall be performed the day after the application is applied. The second sweeping shall be performed 3 days after the micro-surfacing application is applied. The third sweeping shall be performed 5 days after the micro-surfacing application is applied. The forth sweeping shall be performed 7 days after the micro-surfacing is applied. The fifth sweeping shall be performed 10 days after the micro-surfacing is applied. The sixth sweeping shall be performed 15 days after the micro-surfacing is applied. The seventh sweeping shall be performed during the punch list process.

Prior to each sweeping, the Contractor shall contact the Engineer with the street's sweeping schedule. After sweeping takes place, the Contractor shall contact the Engineer for acceptance of the street sweeping.

If the sweeping is not done to the schedule listed above, the Contractor shall pay the liquidated damaged per the provisions of these Special Provisions.

The Contractor shall remove all loose aggregate from the curbs, gutters, driveways, and sidewalks prior to sweeping the roadway surface. The Contractor will be responsible to sweep abutting adjacent areas and haul routes. The Contractor shall have 1 working day to sweep the adjacent areas and haul route when requested in writing by the Engineer.

The Contractor shall sweep the micro-surfaced streets and adjacent areas with a self-propelled vacuum or regenerative air sweeper. Any additional sweepings required to remove excess material shall be performed as directed by the Engineer at no additional expense to the City.

If rain is anticipated on sweeping days, the contractor shall re-schedule sweeping and notify the Engineer of the rescheduled date.

37-3.03C(9) Test Strip

The Contractor shall construct a test strip for evaluation by the Engineer 10 working days prior to the micro-surfacing application. The test strip shall be 500 feet to 1000 feet long and shall consist of the application courses specified. The test strip shall be constructed at the same time of day or night that the full production of micro-surfacing will be placed and may be constructed in 2 days or nights when multiple course applications are specified. The location of the test strip shall be specified by the City. The crew utilized to place the test strip shall be same as the crew that places microsurfacing for the remainder of the project.

The micro-surfacing test strip shall have a break time and shall be able to be open to cross traffic no greater than 1 hour after the micro-surfacing is placed. This time will be reflected on the global projects break time and capability of being open to cross traffic. The global project shall have this break time and shall be able to be open to cross traffic no greater than 1 hour after placement of the micro-surfacing. If the test strip does not meet this requirement the test strip will be rejected and shall be removed at the Contractors expense.

The Engineer will evaluate the completed test strip after 12 hours of traffic on the completed test strip to determine if the mix design and placement procedure are acceptable. If the mix design or the placement procedure is determined by the Engineer to be unacceptable, the test strip will be rejected, the Contractor shall make modifications, and a new test strip shall be constructed and evaluated by the Engineer. The cost of materials and placement of the test strips, which have been rejected, shall be borne by the Contractor and will not be considered as part of the contract work. If ordered by the Engineer, rejected test strips shall be removed at the Contractors expense.

37-3.03C(10) Repair of Early Distress

If bleeding, raveling, delamination, rutting, or washboarding occurs within 60 days after placing the micro-surfacing, the Contractor shall diligently pursue repairs by any method approved by the Engineer. The Contractor shall not be relieved from maintenance until repairs have been completed.

37-3.03D Payment

The payment quantity for micro-surfacing bid items paid for by weight is the weight determined by combining the weights of the aggregate and micro-surfacing emulsion. The payment quantity for micro-surfacing does not include the weights of added water, mineral filler, and additives.

Weight shall be determined from calibrations and revolutions per day and verified with weight back tickets. The revolutions for each truck shall be submitted to the construction inspector prior to the start of work and the final revolution count shall be submitted to the construction inspector at the end of the day for every day micro-surfacing is applied, work shall not be permitted until these requirements are met.

All weight tickets including aggregate and emulsion tickets shall be turned in on a daily basis. For materials that is stockpiled prior to the start of the project, those tickets are required on a daily basis and at the end of the business day. In that case, upon project completion, weight back tickets are required for the emulsion and leftover stockpile aggregate shall be deducted and removed.

Full compensation for conforming to all requirements specified in section 37-3.03, "Micro-Surfacings" shall be considered as included in the contract unit price paid per ton for "Micro-Surfacing (Type II)".

The Contractor shall use a spread rate of 17 pounds of dry aggregate per square yard to determine the contract bid item for "Micro-surfacing Type II".

SECTION 39. ASPHALT CONCRETE

Add to section 39-2.02A(1):

Type A HMA must comply with the provisions in section 71 of the City of Roseville Construction Standards for 1/2" maximum medium gradation.

Replace *Reserved* in 39-2.02A(2) with:

processed RAP: RAP that has been fractionated.

substitution rate: Amount of RAP aggregate substituted for virgin aggregate in percent.

binder replacement: Amount of RAP binder in OBC in percent.

surface course: Upper 0.2 feet of HMA exclusive of OGFC.

Replace *Reserved* in section 39-2.02B(3) with:

The grade of asphalt binder for Type A HMA must be PG 64-10.

Replace the 1st paragraph in section 39-2.02B(4)(b) with:

The aggregate gradation for Type A HMA must comply ½-inch.

SECTION 51: CONCRETE STRUCTURES

51-7.01A GENERAL. In addition to the Caltrans Standard Specifications:

Drainage inlets, drainage manholes, inlet structures, pipe outlet access control racks, concrete inlet structures, and other miscellaneous concrete structures must comply with section 101 of the City of Roseville Construction Standards.

Concrete aprons at drainage inlets must comply with section 73.

51-7.01D PAYMENT. Constructing drainage inlets, with grates, is included in the payment for Drainage Inlet (Type C).

SECTION 52: REINFORCEMENT

Add to section 52-1.04:

Payment for steel reinforcement in a drainage inlet is included in the payment for various types of drainage inlets.

SECTION 64: PLASTIC PIPE

64-1.01 GENERAL. In addition to the Caltrans Standard Specifications:

High-density polyethylene (HDPE) must comply with conform to the provisions in sections 31 and 101 of the City of Roseville Construction Standards.

SECTION 70: MISCELLANEOUS DRAINAGE FACILITIES

70-1.01 GENERAL. In addition to the Caltrans Standard Specifications:

High-density polyethylene (HDPE) must comply with conform to the provisions in sections 31 and 101 of the City of Roseville Construction Standards.

SECTION 73: CONCRETE CURBS AND SIDEWALKS

Replace 1st paragraph of section 73-1.02A with:

Concrete for curbs, sidewalks, and their appurtenances must be minor concrete containing at least 505 pounds of cementitious material per cubic yard. The maximum aggregate size must be 1 inch.

73-1.03A GENERAL. In addition to the Caltrans Standard Specifications:

Dowel bars must be epoxy-coated. Comply with section 40-1.02C(3).

Apply bonding agent between curb and existing concrete surface. Comply with section 41-1.02D.

Construct curbs and sidewalks monolithically. Only fixed form method is permitted unless authorized.

Clean the concrete surface by abrasive blasting and blow loose material from visible cracks with high-pressure air.

Restore curb markings as follows:

1. "S" indicates sanitary sewer lateral
2. "W" indicates water service lateral
3. Arrows and roman numerals indicate ties to water main valves
4. "High" indicates pressure gas main

73-2.01 GENERAL. In addition to the Caltrans Standard Specifications:

Comply with the following City of Roseville Standard:

1. ST-17 for Type 2 curb and gutter and sidewalk
2. ST-18 for Type 1 and Type 2 barrier curb
3. ST-29 for bus turnout/bus pad

Add to section 73-3.01:

73-3.01D Quality Assurance

73-3.01D(1) Flat Gutter Water Test

Test the curbs with gutters and paved surfaces on slopes of 0.75% or flatter. Water ponding greater than 0.25-inch must be corrected by removing and replacing the curb with gutter and paved surface at your expense until water ponding does not exceed 0.25-inch.

SECTION 77. LOCAL INFRASTRUCTURE

77-1.01 GENERAL. Comply with section 15 for adjusting utilities.

Water items must comply with section 81 of the City of Roseville Construction Standards.

Sanitary sewer items must comply with section 91 of the City of Roseville Construction Standards.

77-1.01C SUBMITTALS. Submit materials required to establish compliance with this Section.

Submittals must include the following:

1. Certified drawings showing all important details of construction and dimensions.
2. Descriptive literature, bulletins, and/or catalogs of the equipment.
3. The total weight of each item.
4. A complete bill of materials.
5. Additional submittal data, where noted with individual pieces of equipment.
6. Test Reports: Provide certified hydrostatic test data, per manufacturer's standard procedure or MSS-SP-61 for all valves.
7. Certificates: For each valve specified to be manufactured, tested, and/or installed in accordance with ANSI/AWWA and other standards, submit an affidavit of compliance with the appropriate standards, including certified results of required tests and certification of proper installation.
8. Manufacturer's installation and application data.
9. Operating and maintenance data: Operating and maintenance instructions shall be furnished to the Engineer. The instructions must be prepared specifically for this installation and include all required cuts, drawings, equipment lists, descriptions and other information required to instruct operating and maintenance personnel unfamiliar with such equipment.
10. Warranty: All equipment must meet one year warranty.

77-1.01D QUALITY ASSURANCE. Provide the services of a qualified and factory-trained service representative of the manufacturer to provide operational and maintenance instruction, for a 1-day, 8-hour period for combination air/vacuum valves.

Inspection of the units may be made by the Engineer or other representative of the Owner after delivery. The equipment is subject to rejection at any point due to failure to meet any of the specified requirements, even though submittal data may have been accepted previously. Equipment rejected after delivery shall be marked for identification and shall be removed from the jobsite at once.

77-1.01D (2) QUALIFICATIONS. Valves and appurtenances must be products of well-established firms who are fully experienced, (minimum of 10 years), reputable, and qualified in the manufacture of the particular equipment to be furnished.

The equipment must be designed, constructed, and installed in accordance with the best practices and methods, as applicable.

All units of the same type must be the product of one manufacturer.

77-1.03 CONSTRUCTION. Notify the City and the Engineer at least 10 working days before the intended shutdowns. Keep the duration of shutdowns to a minimum. The main line is limited to a continuous 48-hour shutdown for tie-in. Any 8-inch line can be shutdown for no more than 4 hours and must occur at night, unless authorized by the City. All parts for reconnection must be on-site and ready for installation before shutdown. After dewatering, contractor will have 48 hours to complete tie-in work before the main needs to be refilled and ready to be returned to service. All valve operations (including shutdowns) must be conducted by City staff only. If intermittent shutdowns are required while working next to pipelines, coordinate with the City as specified.

SECTION 86. SIGNALS, LIGHTING, AND ELECTRICAL SYSTEMS

In addition to Section 86 of Roseville Construction Standards and the Standard Specifications 86-2.14C Functional Testing, the following applies:

Functional Testing

All signal systems shall be ready for functional testing five working days prior to signal turn-on.

IISNS

The IISNS mast arm shall be in conformance with Roseville Standard Detail TS-11 and TS-12. Engineered sign mast arm and pole loading calculations must be provided to the City prior to sign mast arm installation.

Signal Interconnect Cable Testing

All fiber optic signal interconnect cables installed and/or modified as part of this project shall be fully tested per section 86-2.08 of the Roseville Construction Standards. Testing procedures shall be verified with the City.

Utility Locating

The Contractor is solely responsible to provide all labor and equipment necessary to locate existing underground facilities beyond the information provided by U.S.A. Markings include, but are not limited to, metal detectors, wire locations, and potholing.

SECTION 87. ELECTRICAL SYSTEMS

In addition to Section 86 of Roseville Construction Standards and the Caltrans Standard Specifications 87-1.03B Conduit Installation, the following applies:

Conduit Installation (Horizontal Directional Drilling Method)

Install all conduit under existing pavement using the Horizontal Directional Drilling Method. Install a conduit to a minimum depth of 4 feet and maximum depth of 6 feet. If you must install a conduit less than 4 feet in depth or greater than 6 feet in depth, the installation must be authorized.

The diameter of the bore hole must be no larger than 1.5 times the outside diameter of the conduit.

Water-based mineral slurry or wetting solution may be used to lubricate the boring tool and stabilize the soil surrounding the boring path.

Disposal of residue must comply with section 13-4.03D of the Caltrans Standard Specifications.

The horizontal directional drilling equipment must have directional control of the boring tool and have an electronic boring tool location detection system. During operation, the equipment must be able to determine the location of the tool both horizontally and vertically.

Do not use slurry cement backfill.

Use a mandrel to prove the conduit is free and clear of dirt, rocks, and other debris after installation.

SECTION 90. CONCRETE

90-1.02J CURING COMPOUND. In addition to the Caltrans Standard Specifications:

Concrete curing compound must be clear with fugitive red dye complying with section 71-5 of the City of Roseville Construction Standards.

CITY OF ROSEVILLE, CALIFORNIA

SHEET INDEX

[illegible]

Kimley»Horn
555 CAPITOL WALL, SUITE 300, SACRAMENTO, CA 95814
PHONE: 916-858-5800
WWW.KIMLEY-HORN.COM

KHA PROJECT	DATE	SCALE	AS SHOWN
097918101	JULY 2023	DESIGNED BY	MB
		DRAWN BY	MB
		CHECKED BY	DC

- WESTBROOK SPORTS COMPLEX
INTERSECTION IMPROVEMENTS**
CV-01
COVER SHEET
 CITY OF ROSEVILLE, PLACER COUNTY, CALIFORNIA

SHEET NUMBER
 1 OF 39



THE BASIS OF BEARINGS IS NAD83 CALIFORNIA COORDINATE SYSTEM ZONE 2, ESTABLISHED FROM OBSERVATIONS TO FOUND NGS MONUMENTS PID DL-9185 AND PID DR-8019. THE DISTANCES AND COORDINATES SHOWN HEREON ARE GROUND MEASUREMENTS. MULTIPLY THE DISTANCES AND COORDINATES SHOWN HEREON BY .99992689 FROM CONTROL POINT #610 TO OBTAIN THE 2010 EPOCH GRID COORDINATE DATUM OF NGS.

VERTICAL DATUM: CITY OF ROSEVILLE NAVD 88

BENCHMARK: BM 124, 3-1/4" BRASS DISK STAMPED "2018 PLS 8278"

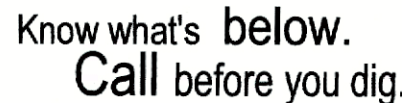
LOCATED BACK OF WALK NEXT TO HEADWALL SOUTHEAST CORNER OF BRIDGE DECK AT BLUE OAKS BLVD. AND KASEBERG CREEK.

ELEVATION = 96.44'

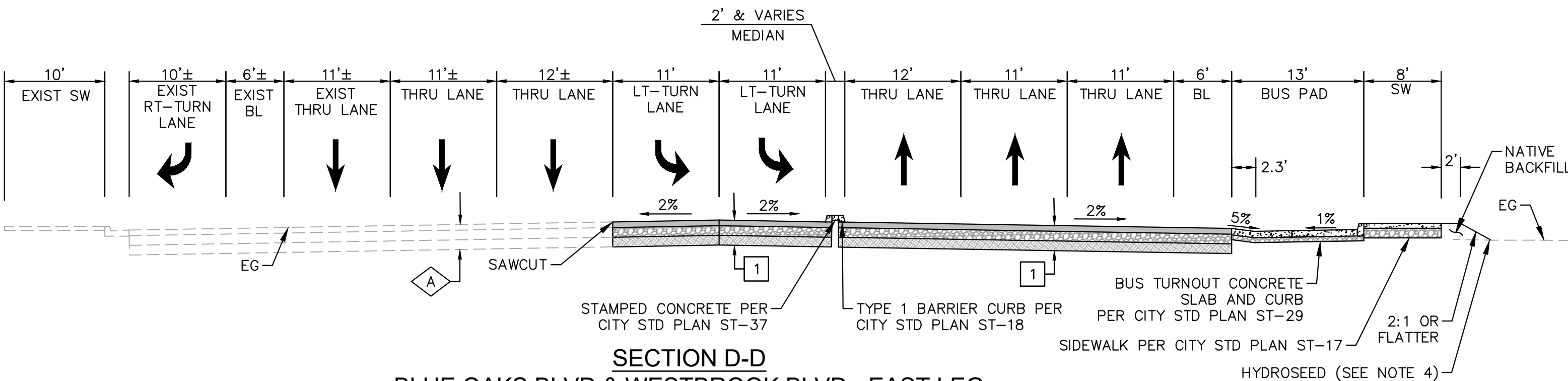
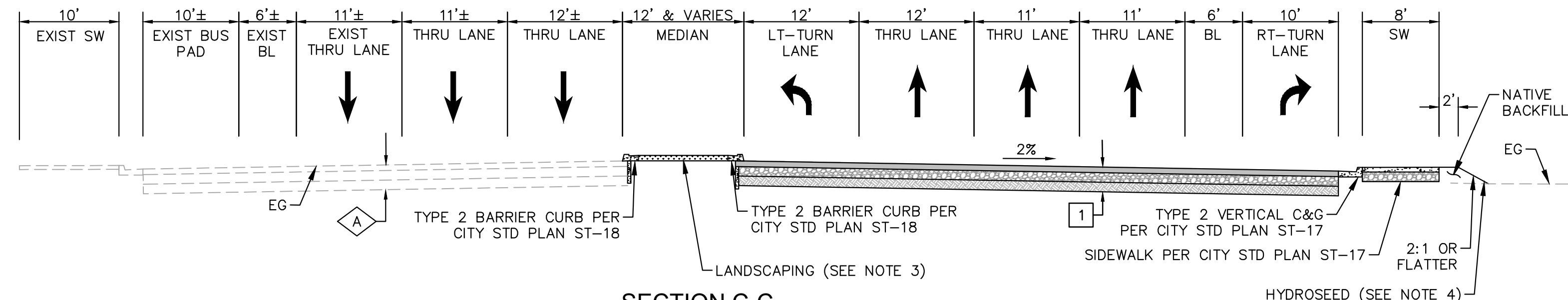
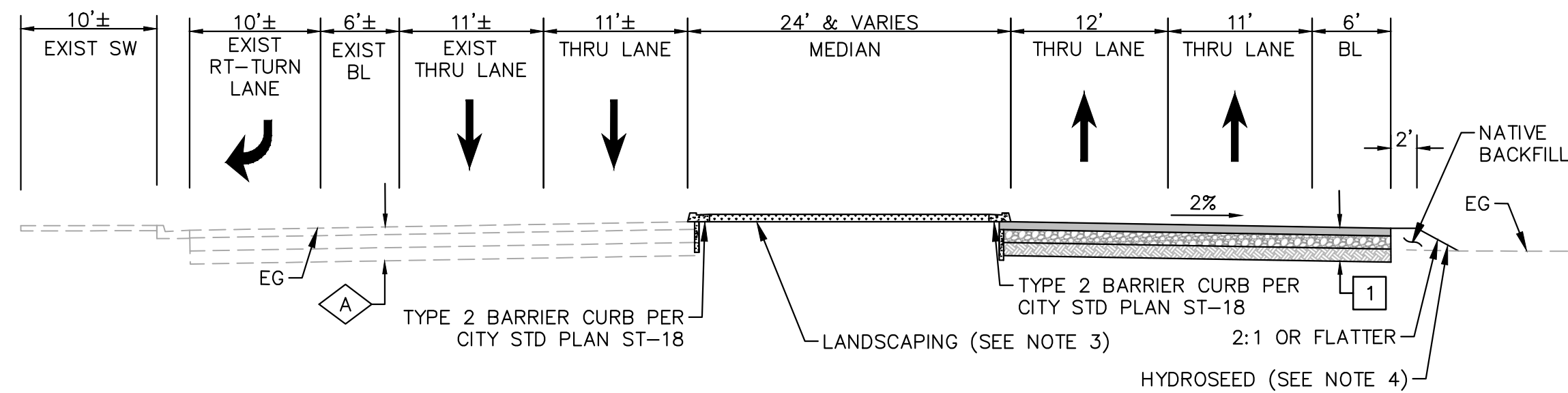
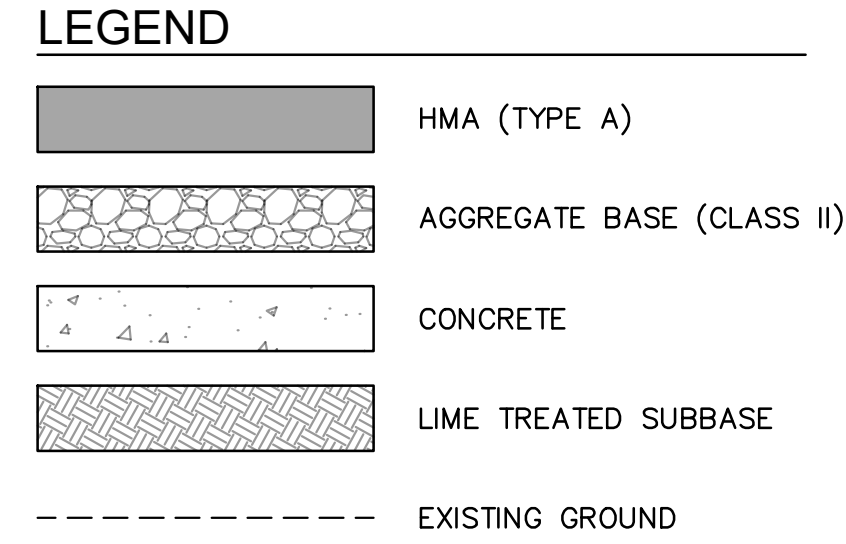
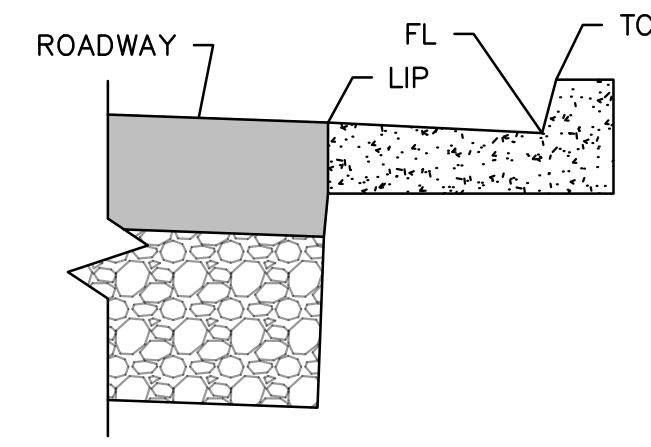
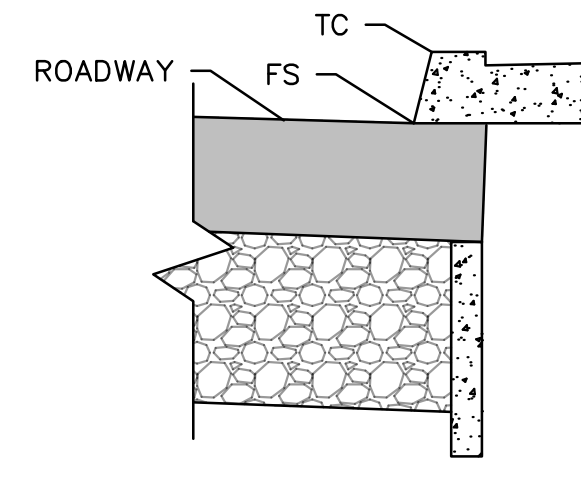
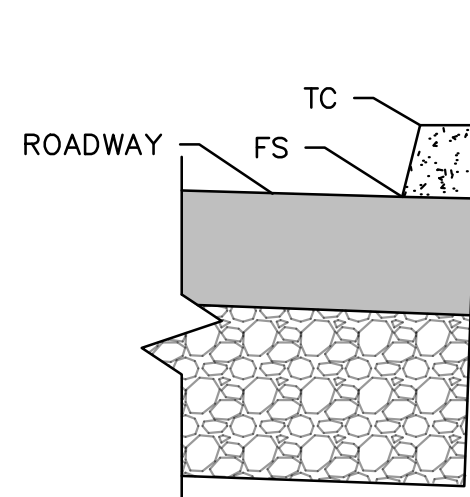
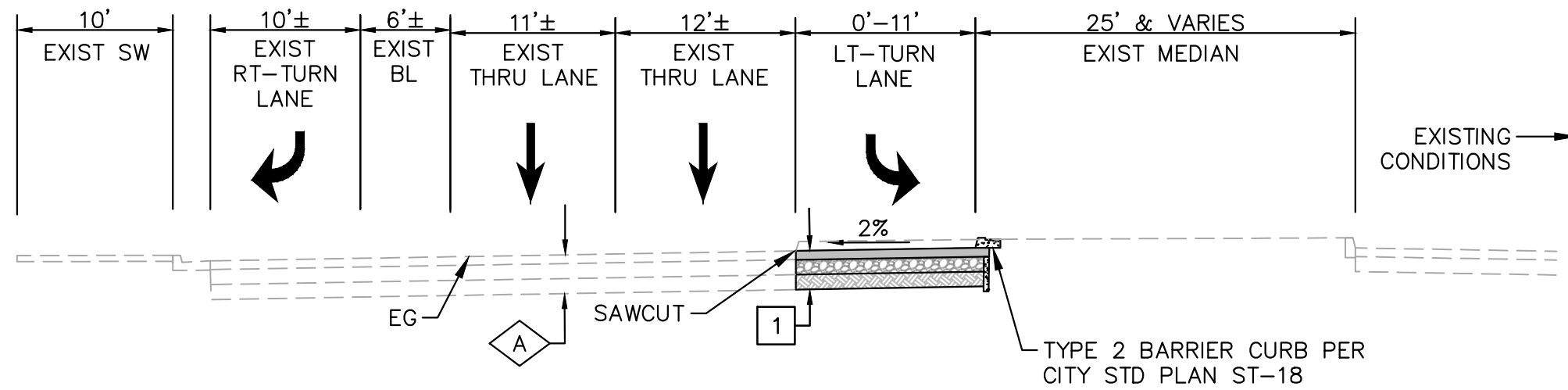
ABBREVIATIONS

CITY OF ROSEVILLEUTILITY REPRESENTATIVES/CONTACTS

UTILITY	REPRESENTATIVES		PHONE
U.S.A.	U.S.A.		(800) 227-2600
TELEPHONE	CONSOLIDATED COMMUNICATIONS	TONY NOLASCO	(916) 786-1212
GAS	PACIFIC GAS & ELECTRIC	SUSAN SMITH	(530) 889-3261
ELECTRIC	ROSEVILLE ELECTRIC DEPT.	JEFF WILCOX	(916) 746-1661
FIRE	ROSEVILLE FIRE DEPT.	JASON RIZZI	(916) 774-5823
WATER	CITY OF ROSEVILLE	SEAN BIGLEY	(916) 774-5750
SEWER	CITY OF ROSEVILLE	ENVIRONMENTAL UTILITIES	(916) 774-5750
CABLE T.V.	COMCAST CABLE	MARK DUBY	(800) 722-3206
STORM DRAIN	ROSEVILLE DEVELOPMENT SERVICES	ENGINEERING	(916) 774-5339

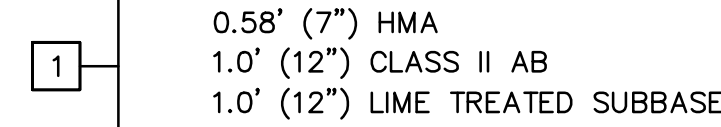


K:\SAC_TPTD\ROSEVILLE SPORTS COMPLEX INTERSECTIONS\08 CAD\PLANSHEETS\TX-01 TYPICAL SECTIONS.DWG
This document together with the concepts and designs presented herein, as an instrument of service, is intended only for the specific purpose and client for which it was prepared. Reuse of and improper reliance on this document without written authorization and adaptation by Kimley-Horn and Associates, Inc. shall be without liability to Kimley-Horn and Associates, Inc.

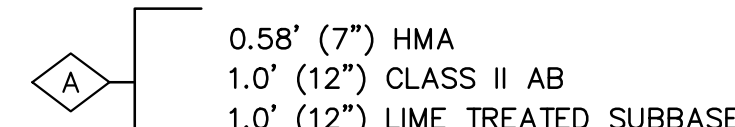


PAVEMENT STRUCTURAL SECTIONS

PROPOSED:



EXISTING:

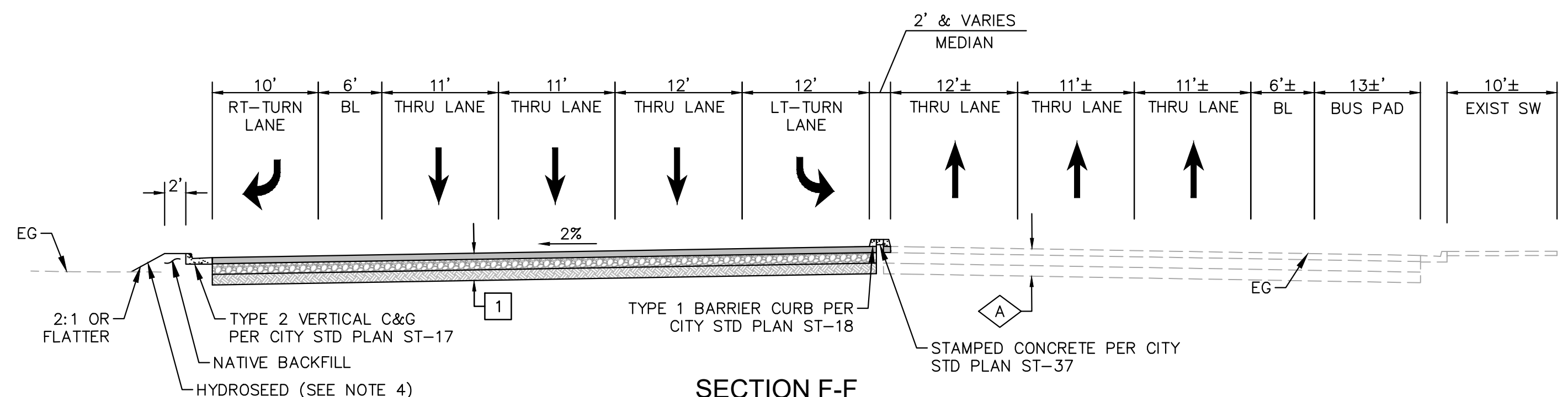
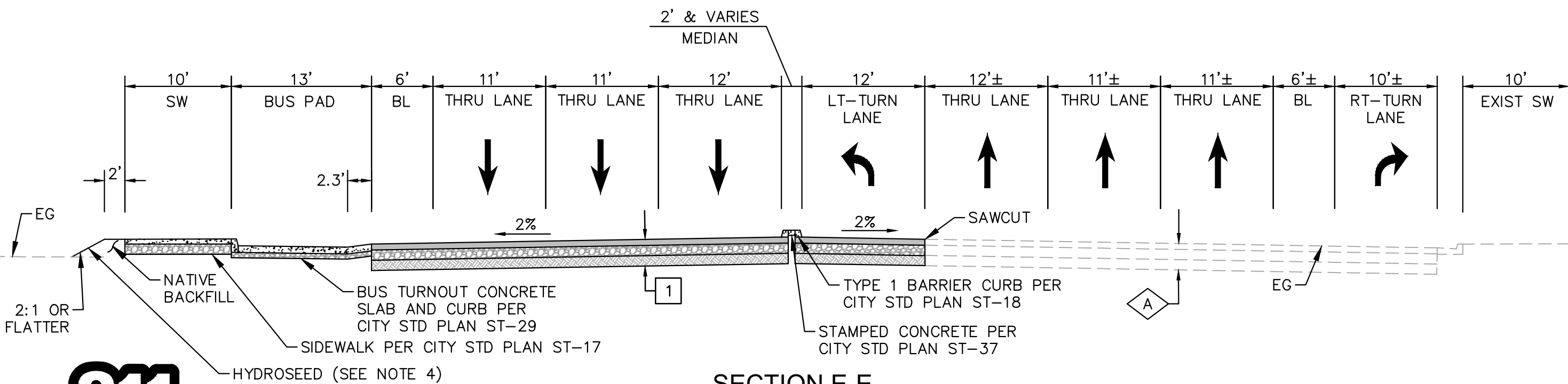


NOTES:

- PAVEMENT SECTIONS ASSUMED FROM AS-BUILTS ALONG BLUE OAKS BLVD AND WESTBROOK BLVD.
- FINAL PAVEMENT SECTIONS WILL BE BASED ON ACTUAL R-VALUES TAKEN AT FINAL SUBGRADE.
- WESTBROOK BLVD AND BLUE OAKS BLVD: T1=11 AND R-VALUE ASSUMED = 20.

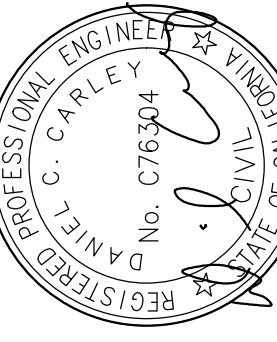
GENERAL NOTES

- SEE CD-SHEETS FOR DETAILS NOT SHOWN HERE, INCLUDING WORK ALONG MEDIANS AND CURB CUT DETAILS.
- LANE WIDTHS MAY VARY, SEE SIGNING AND STRIPING PLANS FOR DETAILS.
- LANDSCAPING & IRRIGATION TO BE DEVELOPED BY CONTRACTOR WITH APPROVAL FROM THE CITY PARKS DEPARTMENT. LANDSCAPING MATERIALS TO BE SIMILAR TO EXISTING PLANTINGS IN ADJACENT AREAS.
- INSTALL HYDROSEED ON EXPOSED 2:1 SLOPES. SEED MAX TO BE PER CALTRANS STDS AND APPROVED BY THE ENGINEER.



Know what's below.
Call before you dig.

Kimley»Horn
555 CAPITOL MALL, SUITE 300, SACRAMENTO, CA 95814
PHONE: 916.881.8888
WWW.KIMLEY-HORN.COM



KHA PROJECT	DATE	SCALE	DESIGNED BY	DRAWN BY	CHECKED BY
097918101	JULY 2023	AS SHOWN	MB	MB	DC

WESTBROOK SPORTS COMPLEX
INTERSECTION IMPROVEMENTS

TX-01

TYPICAL SECTIONS

CITY OF ROSEVILLE, PLACER COUNTY, CALIFORNIA



Know what's below.
Call before you dig

ALIGNMENT TABLE	
"WS"	WESTBROOK BLVD SOUTH
"WN"	WESTBROOK BLVD NORTH
"BW"	BLUE OAKS BLVD WEST
"BE"	BLUE OAKS BLVD EAST
"H"	HAYDEN PKWY

ALIGNMENT CURVE TABLE						
CURVE	RADIUS	LENGTH	CHORD BEARING	CHORD	DELTA	TANGENT
C2	4000.00'	154.93'	N88°23'46"E	154.92'	2'13"09"	77.47'
C3	4516.09'	154.92'	N88°23'45"E	154.92'	1'57"56"	77.47'
C4	2007.08'	144.22'	S88°25'43"E	144.19'	4'07"01"	72.14'
C5	1924.41'	837.30'	S67°59'58"E	830.71'	2'45"55"	425.38'
C6	1798.43'	244.81'	S82°26'44"E	244.62'	7'47"57"	122.59'
C7	2000.00'	429.78'	S79°59'33"E	428.95'	12'18"44"	215.72'

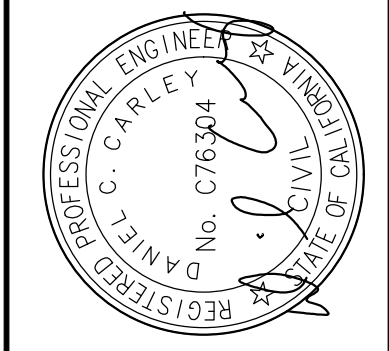
ALIGNMENT LINE TABLE		
LINE	LENGTH	BEARING
L2	655.11	N0°29'38.00"W
L3	824.40	N89°30'20.00"E
L4	81.60	N89°30'20.00"E
L5	504.52	N89°30'20.00"E
L6	551.58	S86°21'46.00"E
L7	1139.36	S86°21'46.00"E
L8	200.00	S59°18'28.80"E
L9	149.16	S56°25'07.31"E
L10	173.35	S86°08'55.00"E
L11	392.04	N3°51'05.00"E
L12	954.66	S73°50'11.00"E

*NOTE: SEE SHEETS L-01 AND L-02 FOR
HORIZONTAL CONTROL RELATED TO
WESTBROOK BLVD AT BROOKSTONE
DR INTERSECTIONS.

CONTROL POINTS							
POINT	ALIGNMENT	STATION	OFFSET	DESCRIPTION	NORTHING	EASTING	ELEVATION
3	"BW" LINE	25+94.82	54.78'LT	X IN CONC	6736171.14	2052157.26	89.66'
4	"BW" LINE	12+99.88	50.15'LT	X IN CONC	6736171.14	2052157.26	92.84'
5	"H" LINE	12+44.24	31.03'LT	MAG	6740677.46	2051246.58	89.02'
6	"BE" LINE	11+17.14	3.52'LT	MAG	6739263.59	2051678.25	91.32'

[illegible]

Kimley»»Horn
555 CAPITOL MALL, SUITE 300, SACRAMENTO, CA 95814
PHONE: 916-856-5800
WWW.KIMLEY-HORN.COM



KHA PROJECT	AS SHOWN
097918101	MB
DATE	MB
JULY 2023	DC
SCALE	
DESIGNED BY	
DRAWN BY	
CHECKED BY	

WESTBROOK SPORTS COMPLEX INTERSECTION IMPROVEMENTS

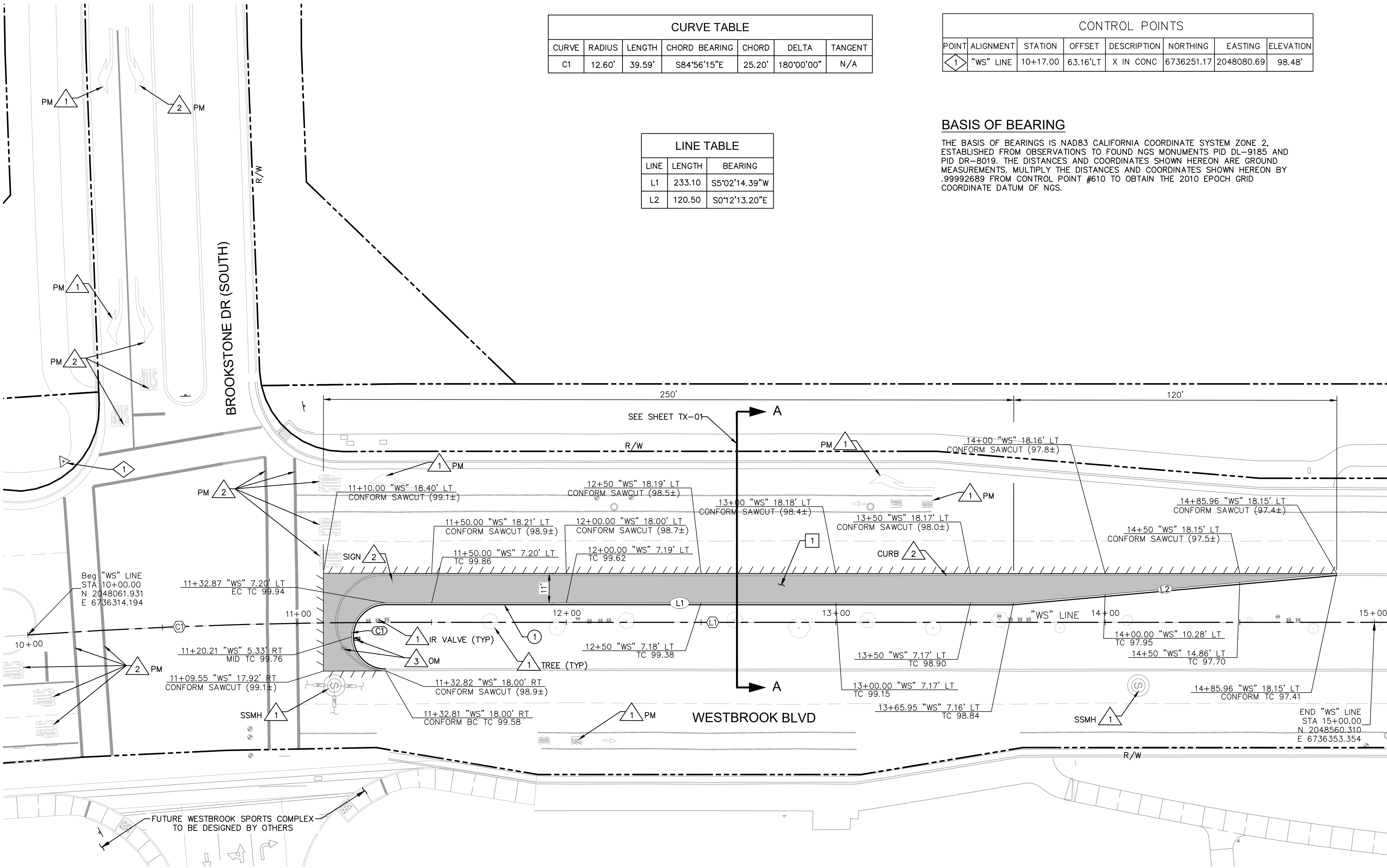
HC-01

HORIZONTAL CONTROL

CITY OF ROSEVILLE, PLACER COUNTY, CALIFORNIA

SHEET NUMBER
5 OF 39

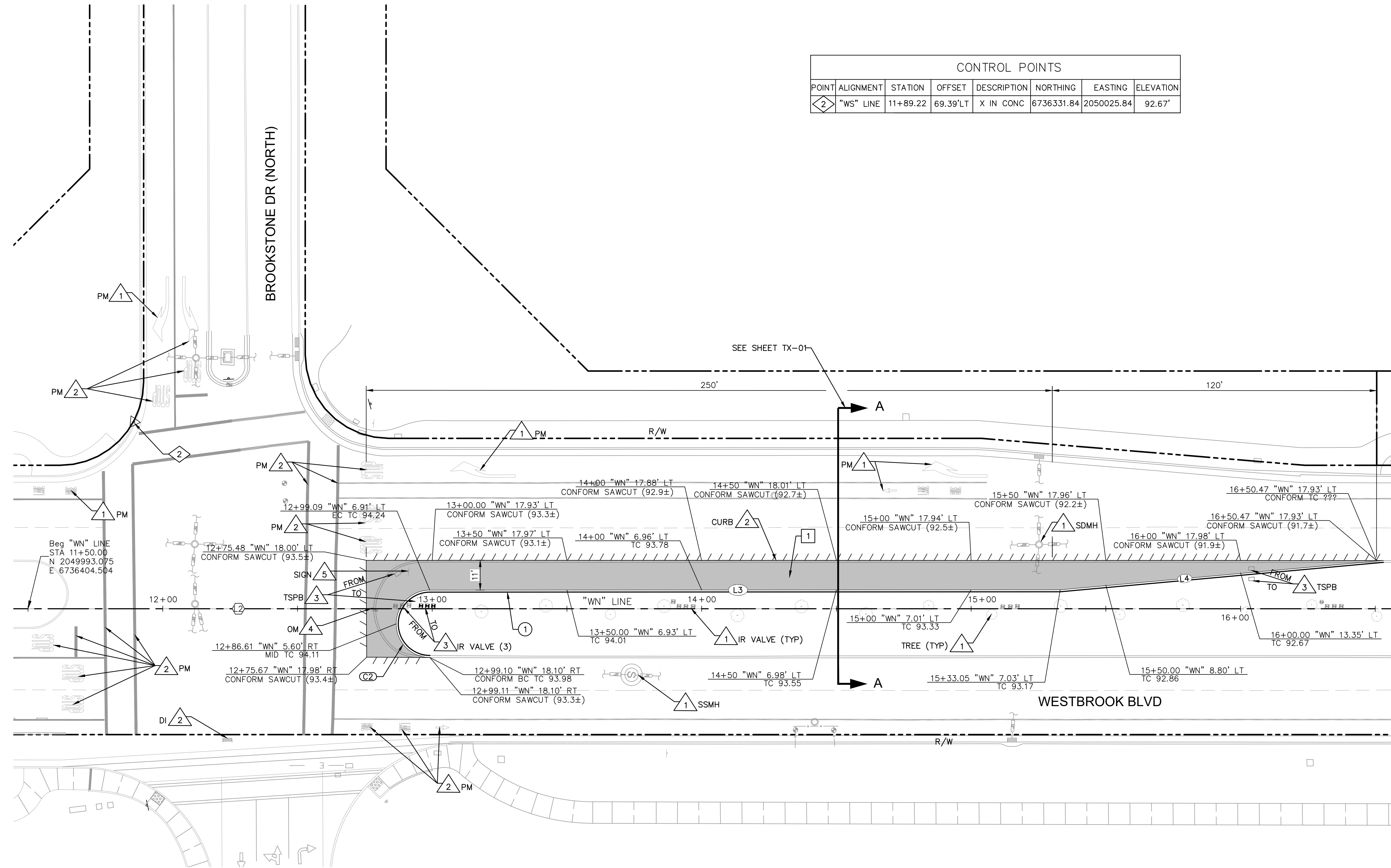
K:\SAC_TPTO\ROSEVILLE WESTBROOK SPORTS COMPLEX INTERSECTIONS\08 CADD\PLANSHEETS\L-01 LAYOUT WESTBROOK.DWG
This document, together with the concepts and designs presented herein, is intended only for the specific purpose and client for which it was prepared. Reuse of and improper reliance on this document without written authorization and adaptation by Kimley-Horn and Associates, Inc. shall be without liability to Kimley-Horn and Associates, Inc.



K:\SAC_TPT\ROSEVILLE WESTBROOK SPORTS COMPLEX INTERSECTIONS\08 CADD\PLANSHEETS\L-01 LAYOUT_WESTBROOK.DWG
This document, together with the concepts and designs presented herein, is intended only for the specific purpose and client for which it was prepared. Reuse of and improper reliance on this document without written authorization and adaptation by Kimley-Horn and Associates, Inc. shall be without liability to Kimley-Horn and Associates, Inc.



Know what's below.
Call before you dig.



CONTROL POINTS							
POINT	ALIGNMENT	STATION	OFFSET	DESCRIPTION	NORTHING	EASTING	ELEVATION
2	"WS" LINE	11+89.22	69.39' LT	X IN CONC	6736331.84	2050025.84	92.67'

LEGEND

- RIGHT OF WAY
- PROPERTY LINE
- HMA
- LANDSCAPING (BY OTHERS)
- BUS TURNOUT CONCRETE SLAB
- SIDEWALK
- STAMPED CONCRETE
- SAWCUT
- TRAFFIC SIGN
- PAVEMENT SECTION
SEE TX-01
- TYPICAL SECTION LOCATION
- CONTROL POINT

GENERAL NOTES

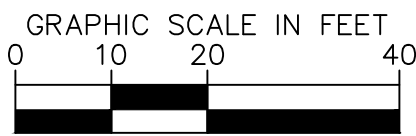
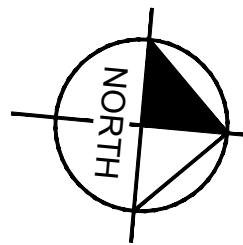
- CONTRACTOR TO PROTECT IN PLACE, DURING DEMOLITION AND CONSTRUCTION, ALL EXISTING FEATURES THAT ARE TO REMAIN AS NOTED ON THE PLAN.
- ANY EXISTING STRUCTURE, IMPROVEMENT, OR APPURTENANCE TO REMAIN THAT IS DAMAGED DURING DEMOLITION OR CONSTRUCTION SHALL BE IMMEDIATELY REPAIRED OR REPLACED BY THE CONTRACTOR AT THE CONTRACTOR'S EXPENSE.
- CONTRACTOR SHALL VERIFY AND LOCATE ALL EXISTING UNDERGROUND UTILITIES BEFORE CONSTRUCTION AND PROTECT IN PLACE, UNLESS OTHERWISE NOTED ON THE PLANS.
- ALL DIMENSIONS ARE MEASURED FROM FACE OF CURB UNLESS OTHERWISE NOTED ON THE PLANS.
- ALL UNDERGROUND UTILITIES SHALL BE INSTALLED PRIOR TO THE CONSTRUCTION OF SURFACE IMPROVEMENTS.
- CONTRACTOR TO PROVIDE SHOP DRAWINGS FOR REVIEW AND APPROVAL BY PARKS DEPARTMENT PRIOR TO DEMOLITION.
- EXISTING IRRIGATION LINES AND EMITTERS/SPRINKLERS IN CONFLICT WITH PROPOSED IMPROVEMENTS TO HAVE LINES CUT AND CAPPED TO THE SATISFACTION OF THE ENGINEER. REMAINING SYSTEM TO OPERATE AT THE LEVEL TO MATCH CONDITIONS BEFORE CONSTRUCTION.
- DEMOLITION OF STRIPING NEEDS TO BE IN CONFORMANCE WITH SECTION 84-1.01 OF THE CITY CONSTRUCTION STANDARDS.
- LANDSCAPING AND IRRIGATION TO BE REPAIRED CONSISTENT WITH PARKS CONSTRUCTION STANDARDS, LATEST EDITION.

DEMOLITION NOTES

- 1 EXISTING TO REMAIN. PROTECT IN PLACE.
- 2 REMOVE.
- 3 RELOCATE.
- 4 ADJUST TO GRADE.
- 5 REMOVE AND SALVAGE.

CONSTRUCTION NOTES

- 1 INSTALL TYPE 2 BARRIER CURB PER CITY OF ROSEVILLE STD. PLAN ST-18.

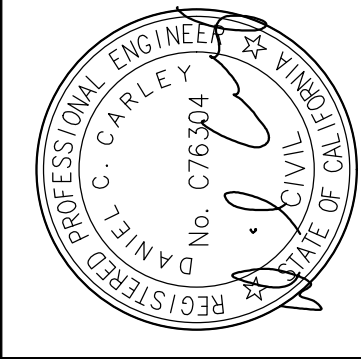


LINE TABLE		
LINE	LENGTH	BEARING
L3	233.96	N51°3'58.10"W
L4	120.49	N10°23'11.96"W

ALIGNMENT LINE TABLE		
LINE	LENGTH	BEARING
L2	888.79	N51°12'11.00"W

CURVE TABLE						
CURVE	RADIUS	LENGTH	CHORD BEARING	CHORD	DELTA	TANGENT
C2	12.50'	39.25'	N84°46'02"E	25.00'	179°52'41"	11746.88'

Kimley»Horn
555 CAPITOL MALL, SUITE 300, SACRAMENTO, CA 95814
PHONE: 916.865.8600
WWW.KIMLEY-HORN.COM



KHA PROJECT	DATE	SCALE	DESIGNED BY	DRAWN BY	CHECKED BY
097918101	JULY 2023	AS SHOWN	MB	MB	DC

WESTBROOK SPORTS COMPLEX
INTERSECTION IMPROVEMENTS

L-02

LAYOUT - WESTBROOK NORTH
CITY OF ROSEVILLE, PLACER COUNTY, CALIFORNIA

K:\SAC-TP\TO ROSEVILLE WESTBROOK SPORTS COMPLEX INTERSECTIONS\08 CADD\PLANS\SHEETS\L-03 LAYOUT BLUE OAKS.DWG
This document, together with the concepts and designs presented herein, is intended only for the specific purpose and client for which it was prepared. Reuse of and improper reliance on this document without written authorization and adaptation by Kimley-Horn and Associates, Inc. shall be without liability to Kimley-Horn and Associates, Inc.



Know what's below.
Call before you dig.

DEMOLITION NOTES

- 1 EXISTING TO REMAIN. PROTECT IN PLACE.
- 2 REMOVE.
- 3 RELOCATE.
- 4 ADJUST TO GRADE.
- 5 REMOVE AND SALVAGE.

CONSTRUCTION NOTES

- 1 INSTALL TYPE 2 BARRIER CURB PER CITY OF ROSEVILLE STD PLAN ST-18.
- 2 INSTALL TYPE 2 VERTICAL CURB AND GUTTER PER CITY OF ROSEVILLE STD PLAN ST-17.
- 3 INSTALL SIDEWALK PER CITY OF ROSEVILLE STD PLAN ST-17.
- 4 INSTALL BUS TURNOUT CONCRETE SLAB AND CURB PER CITY OF ROSEVILLE STD PLAN ST-29.
- 6 INSTALL 0.25' HMA (TYPE A) TEMPORARY PEDESTRIAN PATH.
- 7 INSTALL TEMPORARY SIDEWALK BARRICADES PER CITY STD PLAN ST-31.

GENERAL NOTES

- 1. CONTRACTOR TO PROTECT IN PLACE, DURING DEMOLITION AND CONSTRUCTION, ALL EXISTING FEATURES THAT ARE TO REMAIN AS NOTED ON THE PLAN.
- 2. ANY EXISTING STRUCTURE, IMPROVEMENT, OR APPURTENANCE TO REMAIN THAT IS DAMAGED DURING DEMOLITION OR CONSTRUCTION SHALL BE IMMEDIATELY REPAIRED OR REPLACED BY THE CONTRACTOR AT THE CONTRACTOR'S EXPENSE.
- 3. CONTRACTOR SHALL VERIFY AND LOCATE ALL EXISTING UNDERGROUND UTILITIES BEFORE CONSTRUCTION AND PROTECT IN PLACE UNLESS OTHERWISE NOTED ON THE PLANS.
- 4. ALL DIMENSIONS ARE MEASURED FROM FACE OF CURB UNLESS OTHERWISE NOTED ON THE PLANS.
- 5. ALL UNDERGROUND UTILITIES SHALL BE INSTALLED PRIOR TO THE CONSTRUCTION OF SURFACE IMPROVEMENTS.
- 6. CONTRACTOR TO PROVIDE SHOP DRAWINGS FOR REVIEW AND APPROVAL BY PARKS DEPARTMENT PRIOR TO DEMOLITION.
- 7. EXISTING IRRIGATION LINES AND EMITTERS/SPRINKLERS IN CONFLICT WITH PROPOSED IMPROVEMENTS TO HAVE LINES CUT AND CAPPED TO THE SATISFACTION OF THE ENGINEER. REMAINING SYSTEM TO OPERATE AT THE LEVEL TO MATCH CONDITIONS BEFORE CONSTRUCTION.
- 8. STREET LIGHTING LAYOUT AND DESIGN TO BE PROVIDED BY ROSEVILLE ELECTRIC. SEE STREET LIGHTING PLANS UNDER SEPARATE COVER BY ROSEVILLE ELECTRIC.
- 9. SEE DU-PLANS FOR UTILITY INFORMATION.
- 10. DEMOLITION OF STRIPING NEEDS TO BE IN CONFORMANCE WITH SECTION 84-1.01 OF THE CITY CONSTRUCTION STANDARDS.
- 11. LANDSCAPING AND IRRIGATION TO BE REPAIRED CONSISTENT WITH PARKS CONSTRUCTION STANDARDS, LATEST EDITION.
- 12. NEW MEDIAN LANDSCAPING AND IRRIGATION LAYOUT TO BE DEVELOPED BY THE CONTRACTOR AND SUBMITTED TO THE CITY'S PARKS DEPARTMENT FOR REVIEW & APPROVAL. LANDSCAPE MATERIALS AND LAYOUT TO BE CONSISTENT WITH ADJACENT PLANTINGS ALONG THE PROJECT CORRIDORS.

LEGEND

- RIGHT OF WAY
- PROPERTY LINE
- HMA
- LANDSCAPING (BY OTHERS)
- BUS TURNOUT CONCRETE SLAB
- SIDEWALK
- STAMPED CONCRETE
- MICROSURFACE
- SAWCUT
- TRAFFIC SIGN
- PAVEMENT SECTION SEE TX-01
- TYPICAL SECTION LOCATION
- CONTROL POINT
- STREET LIGHT - SEE NOTE 8

MATCHLINE "BW" LINE
STA 21+50 SEE SHEET L-04

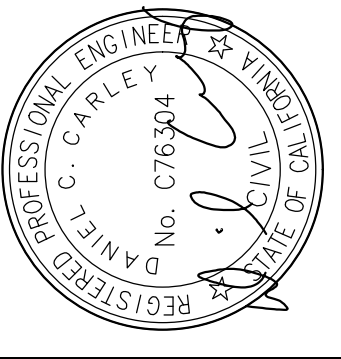
MATCHLINE "BW" LINE
STA 32+50 SEE SHEET L-04

WESTBROOK SPORTS COMPLEX
INTERSECTION IMPROVEMENTS
L-03
LAYOUT - BLUE OAKS

CITY OF ROSEVILLE, PLACER COUNTY, CALIFORNIA

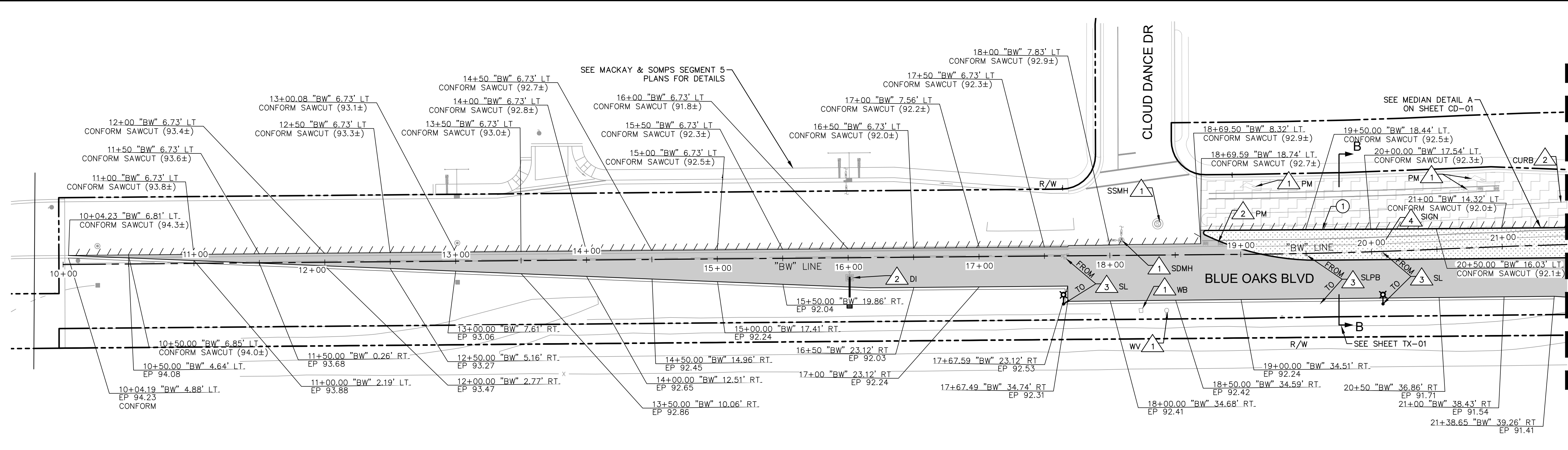
SHEET NUMBER
8 OF 39

KHA PROJECT
09/21/2021
DATE
JULY 2023
SCALE
AS SHOWN
DESIGNED BY
MB
DRAWN BY
MB
CHECKED BY
DC

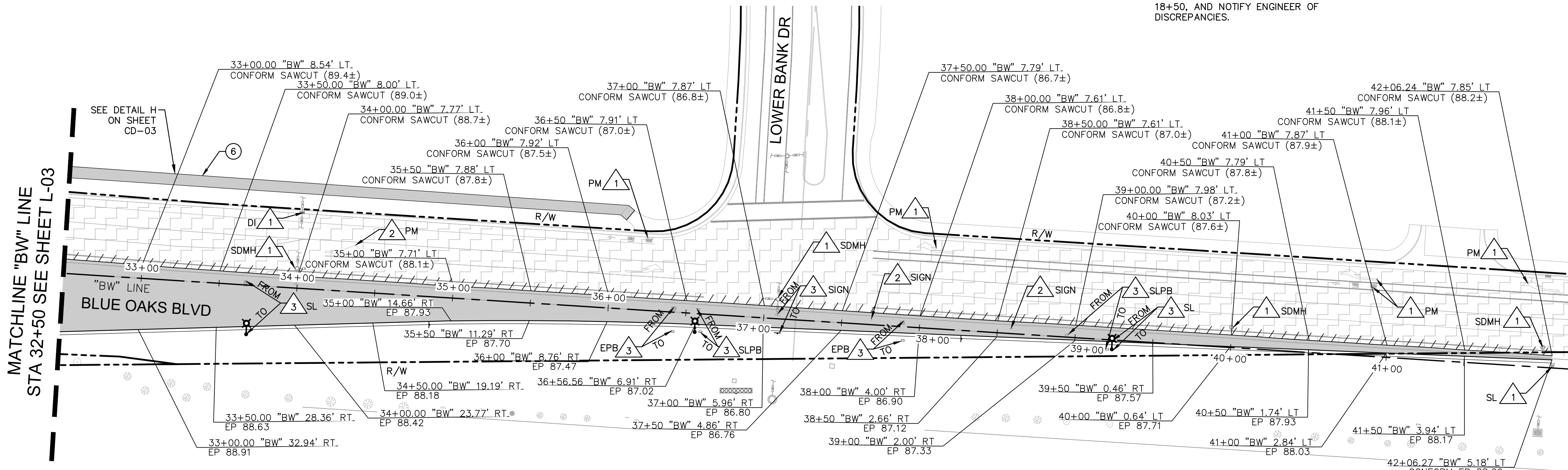


Kimley-Horn
555 CAPITOL MALL, SUITE 300, SACRAMENTO, CA 95814
PHONE: 916.885.8800
WWW.KIMLEY-HORN.COM

NO.	REVISIONS	DATE	BY



*NOTE: CONTRACTOR TO VERIFY CONFORM/SAWCUT ELEVATIONS ALONG BLUE OAKS PRIOR TO CONSTRUCTION FROM STA 10+00 TO STA 18+50, AND NOTIFY ENGINEER OF DISCREPANCIES.



GENERAL NOTES

- CONTRACTOR TO PROTECT IN PLACE, DURING DEMOLITION AND CONSTRUCTION, ALL EXISTING FEATURES THAT ARE TO REMAIN AS NOTED ON THE PLAN.
2. ANY EXISTING STRUCTURE, IMPROVEMENT, OR APPURTENANCE TO REMAIN THAT IS DAMAGED DURING DEMOLITION OR CONSTRUCTION SHALL BE IMMEDIATELY REPAIRED OR REPLACED BY THE CONTRACTOR AT THE CONTRACTOR'S EXPENSE.
3. CONTRACTOR SHALL VERIFY AND LOCATE ALL EXISTING UNDERGROUND UTILITIES BEFORE CONSTRUCTION AND PROTECT IN PLACE UNLESS OTHERWISE NOTED ON THE PLANS.
4. ALL DIMENSIONS ARE MEASURED FROM FACE OF CURB UNLESS OTHERWISE NOTED ON THE PLANS.
5. ALL UNDERGROUND UTILITIES SHALL BE INSTALLED PRIOR TO THE CONSTRUCTION OF SURFACE IMPROVEMENTS.
6. CONTRACTOR TO PROVIDE SHOP DRAWINGS FOR REVIEW AND APPROVAL BY PARKS DEPARTMENT PRIOR TO DEMOLITION.
7. EXISTING IRRIGATION LINES AND EMITTERS/SPRINKLERS IN CONFLICT WITH PROPOSED IMPROVEMENTS TO HAVE LINES CUT AND CAPPED TO THE SATISFACTION OF THE ENGINEER. REMAINING SYSTEM TO OPERATE AT THE LEVEL TO MATCH CONDITIONS BEFORE CONSTRUCTION.
8. STREET LIGHTING LAYOUT AND DESIGN TO BE PROVIDED BY ROSEVILLE ELECTRIC. SEE LT SHEETS BY OTHERS.
9. SEE DU-PLANS FOR UTILITY INFORMATION.
10. DEMOLITION OF STRIPING NEEDS TO BE IN CONFORMANCE WITH SECTION 84-1.01 OF THE CITY CONSTRUCTION STANDARDS.
11. LANDSCAPING AND IRRIGATION TO BE REPAIRED CONSISTENT WITH PARKS CONSTRUCTION STANDARDS LATEST EDITION.
12. NEW MEDIAN LANDSCAPING AND IRRIGATION LAYOUT TO BE DEVELOPED BY THE CONTRACTOR AND SUBMITTED TO THE CITY'S PARKS DEPARTMENT FOR REVIEW & APPROVAL. LANDSCAPE MATERIALS AND LAYOUT TO BE CONSISTENT WITH ADJACENT PLANTINGS ALONG THE PROJECT CORRIDORS.

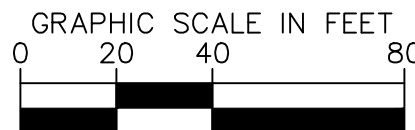
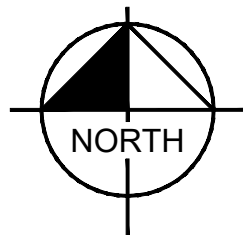
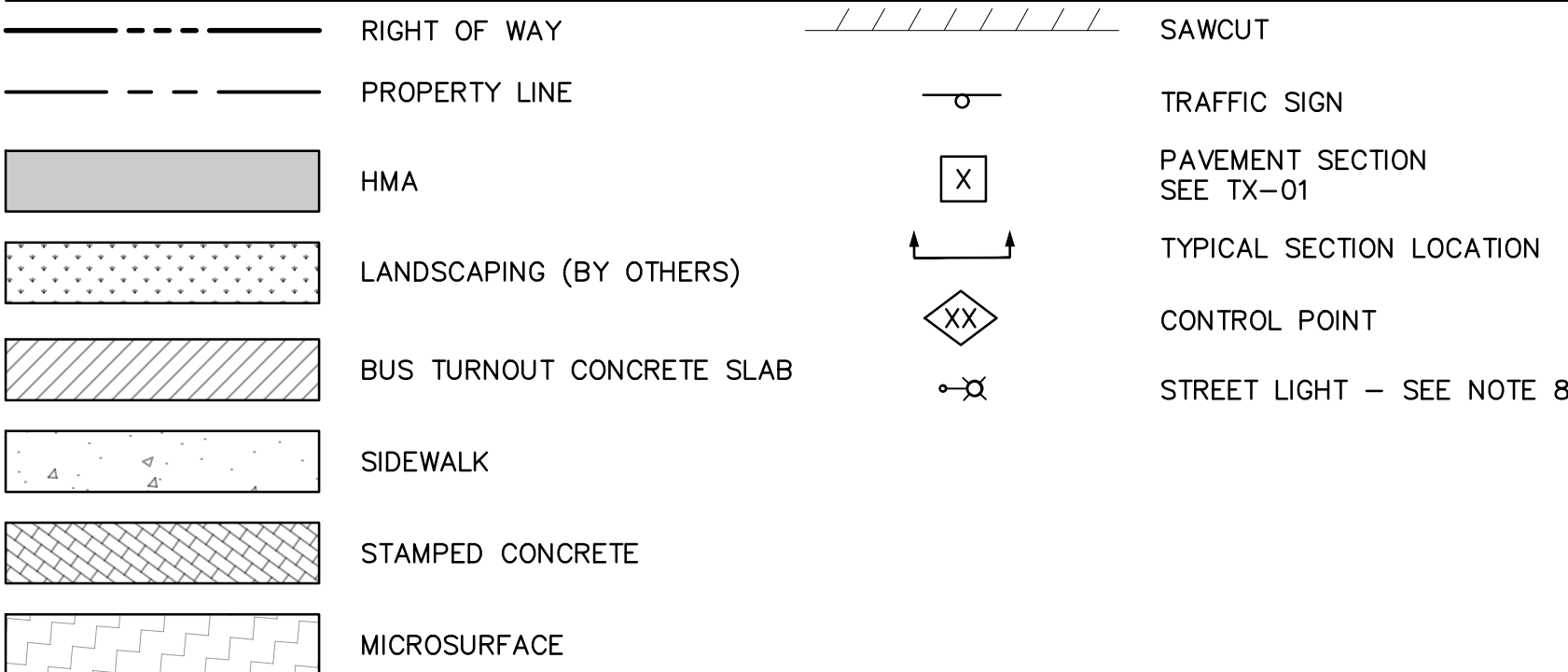
CONSTRUCTION NOTES

- ① INSTALL TYPE 2 BARRIER CURB PER CITY OF ROSEVILLE STD PLAN ST-18.
- ⑥ INSTALL 0.25' HMA (TYPE A) TEMPORARY PEDESTRIAN PATH.

DEMOLITION NOTES

- 1 EXISTING TO REMAIN. PROTECT IN PLACE.
- 2 REMOVE.
- 3 RELOCATE.
- 4 ADJUST TO GRADE.
- 5 REMOVE AND SALVAGE.

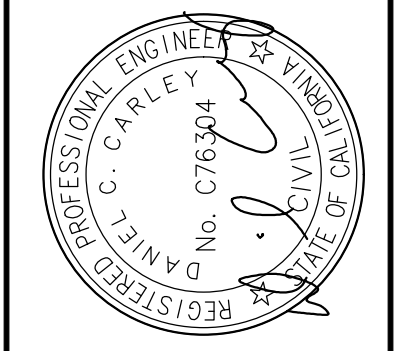
LEGEND



Know what's below.
Call before you dig

[illegible]

Kimley»»Horn
555 CAPITOL MALL, SUITE 300, SACRAMENTO, CA 95814
PHONE: 916-856-5800
WWW.KIMLEY-HORN.COM



KHA PROJECT	DATE
097918101	JULY 2023
SCALE	AS SHOWN
DESIGNED BY	MB
DRAWN BY	MB
CHECKED BY	DC

WESTBROOK SPORTS COMPLEX INTERSECTION IMPROVEMENTS

LAYOUT - BLUE OAKS

SHEET NUMBER
9 OF 39

K:\SAC_TPTO\ROSEVILLE WESTBROOK SPORTS COMPLEX INTERSECTIONS\08 CADD\PLANS\SHEETS\L-03 LAYOUT_BLUE_OAKS.DWG
This document, together with the concepts and designs presented herein, is intended only for the specific purpose and client for which it was prepared. Reuse of and improper reliance on this document without written authorization and adaptation by Kimley-Horn and Associates, Inc. shall be without liability to Kimley-Horn and Associates, Inc.



Know what's below.
Call before you dig.

DEMOLITION NOTES

- 1 EXISTING TO REMAIN. PROTECT IN PLACE.
- 2 REMOVE.
- 3 RELOCATE.
- 4 ADJUST TO GRADE.
- 5 REMOVE AND SALVAGE.

CONSTRUCTION NOTES

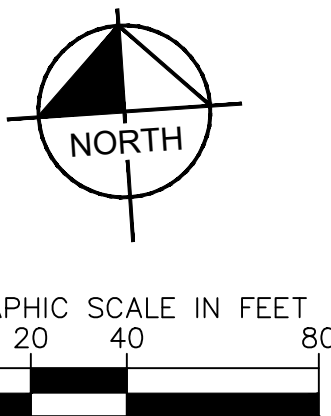
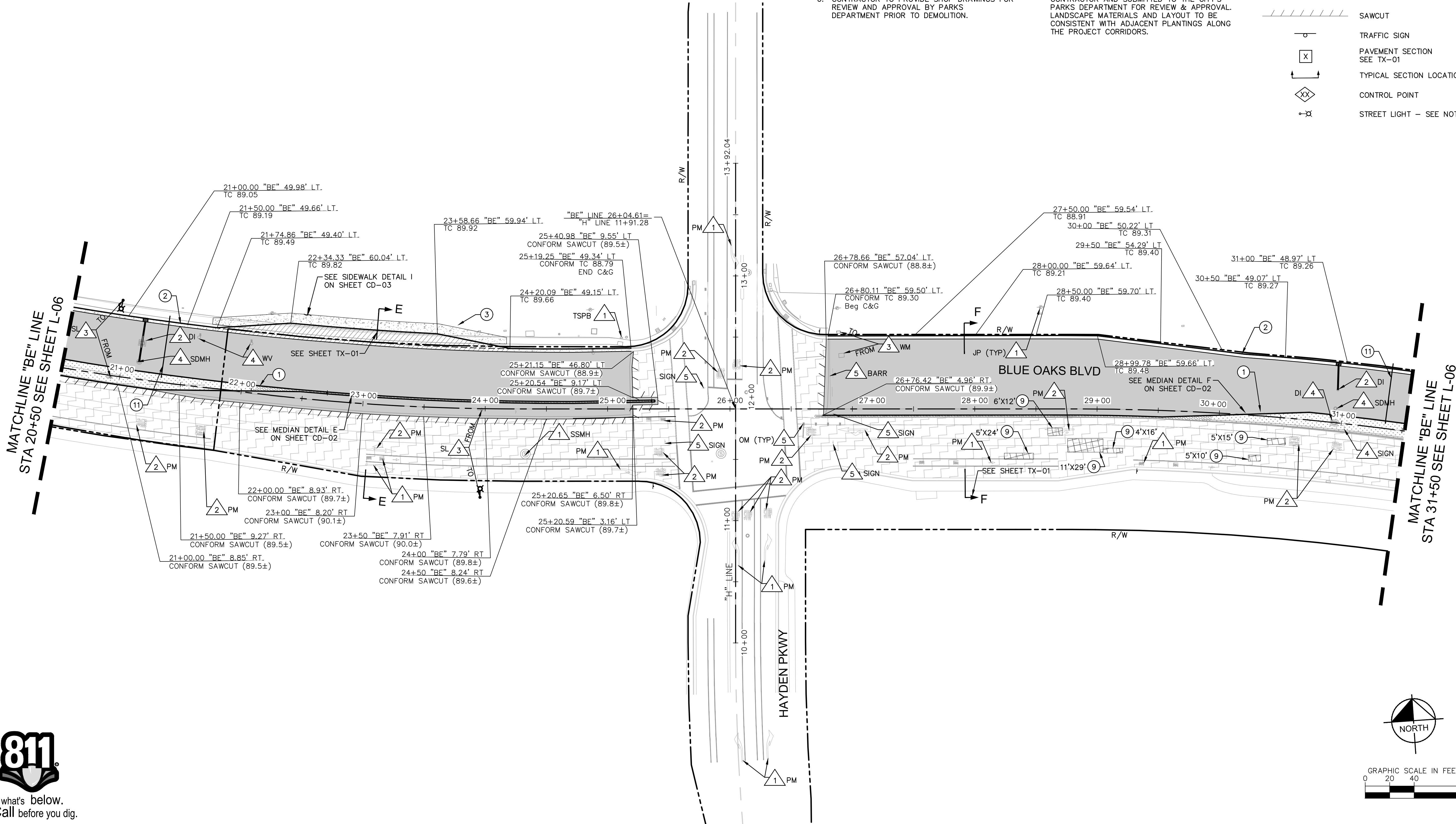
- 1 INSTALL TYPE 2 BARRIER CURB PER CITY OF ROSEVILLE STD PLAN ST-18.
- 2 INSTALL TYPE 2 VERTICAL CURB AND GUTTER PER CITY OF ROSEVILLE STD PLAN ST-17.
- 3 INSTALL SIDEWALK PER CITY OF ROSEVILLE STD PLAN ST-17.
- 9 DIGOUT TO A DEPTH OF 4 INCHES. FINAL LOCATIONS AND LIMITS TO BE MARKED IN THE FIELD WITH THE ENGINEER PRIOR TO CONSTRUCTION.

GENERAL NOTES

- 1. CONTRACTOR TO PROTECT IN PLACE, DURING DEMOLITION AND CONSTRUCTION, ALL EXISTING FEATURES THAT ARE TO REMAIN AS NOTED ON THE PLAN.
- 2. ANY EXISTING STRUCTURE, IMPROVEMENT, OR APPURTENANCE TO REMAIN THAT IS DAMAGED DURING DEMOLITION OR CONSTRUCTION SHALL BE IMMEDIATELY REPAIRED OR REPLACED BY THE CONTRACTOR AT THE CONTRACTOR'S EXPENSE.
- 3. CONTRACTOR SHALL VERIFY AND LOCATE ALL EXISTING UNDERGROUND UTILITIES BEFORE CONSTRUCTION AND PROTECT IN PLACE UNLESS OTHERWISE NOTED ON THE PLANS.
- 4. ALL DIMENSIONS ARE MEASURED FROM FACE OF CURB UNLESS OTHERWISE NOTED ON THE PLANS.
- 5. ALL UNDERGROUND UTILITIES SHALL BE INSTALLED PRIOR TO THE CONSTRUCTION OF SURFACE IMPROVEMENTS.
- 6. CONTRACTOR TO PROVIDE SHOP DRAWINGS FOR REVIEW AND APPROVAL BY PARKS DEPARTMENT PRIOR TO DEMOLITION.
- 7. EXISTING IRRIGATION LINES AND EMITTERS/SPRINKLERS IN CONFLICT WITH PROPOSED IMPROVEMENTS TO HAVE LINES CUT AND CAPPED TO THE SATISFACTION OF THE ENGINEER. REMAINING SYSTEM TO OPERATE AT THE LEVEL TO MATCH CONDITIONS BEFORE CONSTRUCTION.
- 8. STREET LIGHTING LAYOUT AND DESIGN TO BE PROVIDED BY ROSEVILLE ELECTRIC. SEE STREET LIGHTING PLANS UNDER SEPARATE COVER BY ROSEVILLE ELECTRIC.
- 9. SEE DU-PLANS FOR UTILITY INFORMATION.
- 10. DEMOLITION OF STRIPING NEEDS TO BE IN CONFORMANCE WITH SECTION 84-1.01 OF THE CITY CONSTRUCTION STANDARDS.
- 11. LANDSCAPING AND IRRIGATION TO BE REPAIRED CONSISTENT WITH PARKS CONSTRUCTION STANDARDS, LATEST EDITION.
- 12. NEW MEDIAN LANDSCAPING AND IRRIGATION LAYOUT TO BE DEVELOPED BY THE CONTRACTOR AND SUBMITTED TO THE CITY'S PARKS DEPARTMENT FOR REVIEW & APPROVAL. LANDSCAPE MATERIALS AND LAYOUT TO BE CONSISTENT WITH ADJACENT PLANTINGS ALONG THE PROJECT CORRIDORS.

LEGEND

- RIGHT OF WAY
- PROPERTY LINE
- HMA
- LANDSCAPING (BY OTHERS)
- BUS TURNOUT CONCRETE SLAB
- SIDEWALK
- STAMPED CONCRETE
- DIGOUT
- MICROSURFACE
- SAWCUT
- TRAFFIC SIGN
- PAVEMENT SECTION SEE TX-01
- TYPICAL SECTION LOCATION
- CONTROL POINT
- STREET LIGHT - SEE NOTE 8



WESTBROOK SPORTS COMPLEX
INTERSECTION IMPROVEMENTS

L-05

LAYOUT - BLUE OAKS

CITY OF ROSEVILLE, PLACER COUNTY, CALIFORNIA

KHA PROJECT

097918101

DATE

JULY 2023

SCALE

AS SHOWN

DESIGNED BY

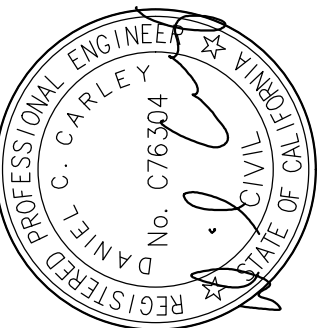
MB

DRAWN BY

MB

CHECKED BY

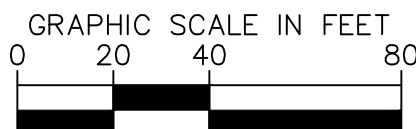
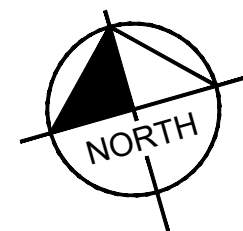
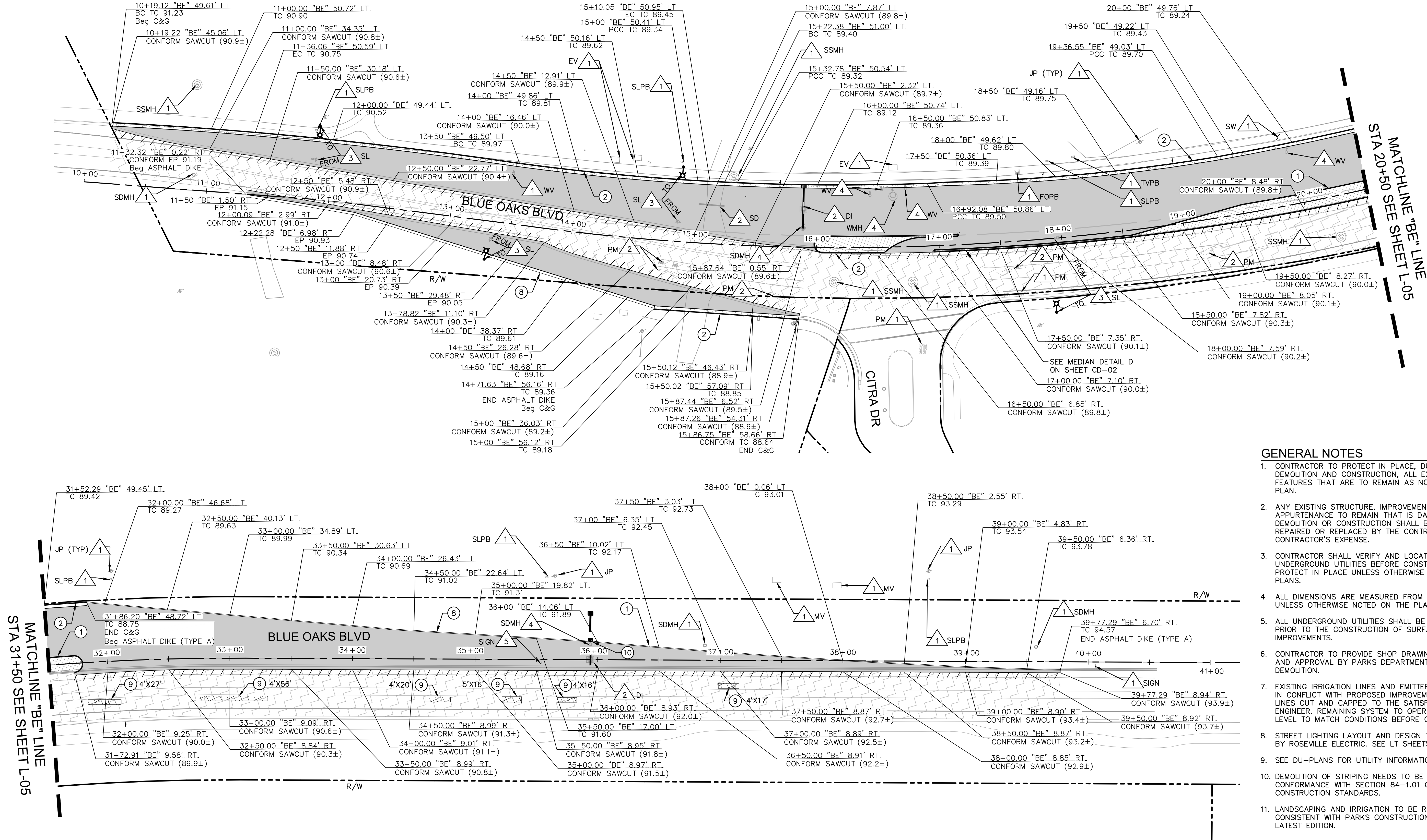
DC



Kimley-Horn
555 CAPITOL MALL, SUITE 300, SACRAMENTO, CA 95814
PHONE: 916.885.8600
WWW.KIMLEY-HORN.COM

SHEET NUMBER
10 OF 39

K:\SAC_TPTO\ROSEVILLE WESTBROOK SPORTS COMPLEX INTERSECTIONS\08 CADD\PLANSHEETS\L-03 LAYOUT BLUE OAKS.DWG
This document, together with the concepts and designs presented herein, is intended only for the specific purpose and client for which it was prepared. Reuse of and improper reliance on this document without written authorization and adaptation by Kimley-Horn and Associates, Inc. shall be without liability to Kimley-Horn and Associates, Inc.



LEGEND

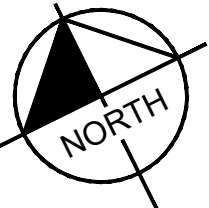
	RIGHT OF WAY		DIGOUT
	PROPERTY LINE		MICROSURFACE
	HMA		SAWCUT
	LANDSCAPING (BY OTHERS)		TRAFFIC SIGN
	BUS TURNOUT CONCRETE SLAB		PAVEMENT SECTION SEE TX-01
	SIDEWALK		TYPICAL SECTION LOCATION
	STAMPED CONCRETE		CONTROL POINT
			STREET LIGHT - SEE NOTE 8

DEMOLITION NOTES

- EXISTING TO REMAIN. PROTECT IN PLACE.
- REMOVE.
- RELOCATE.
- ADJUST TO GRADE.
- REMOVE AND SALVAGE.

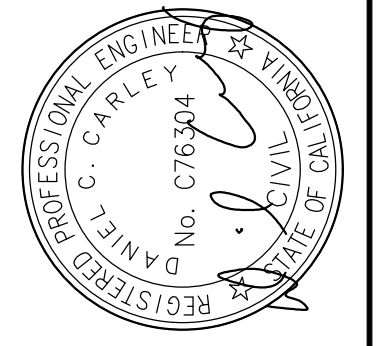
CONSTRUCTION NOTES

- INSTALL TYPE 2 BARRIER CURB PER CITY OF ROSEVILLE STD PLAN ST-18.
- INSTALL TYPE 2 VERTICAL CURB AND OUTTER PER CITY OF ROSEVILLE STD PLAN ST-17.
- INSTALL STATE "TYPE A" HIGH DIKE PER CITY STD PLAN ST-18.
- DIGOUT TO A DEPTH OF 4 INCHES. FINAL LOCATIONS AND LIMITS TO BE MARKED IN THE FIELD WITH THE ENGINEER PRIOR TO CONSTRUCTION.
- INSTALL 1' GAP IN ASPHALT DIKE.



NO.	REVISIONS	DATE	BY

Kimley»Horn
555 CAPITOL MALL, SUITE 300, SACRAMENTO, CA 95814
PHONE: 916.865.1100
WWW.KIMLEY-HORN.COM



KHA PROJECT	DATE	SCALE	DESIGNED BY	DRAWN BY	CHECKED BY
097918101	JULY 2023	AS SHOWN	MB	MB	DC

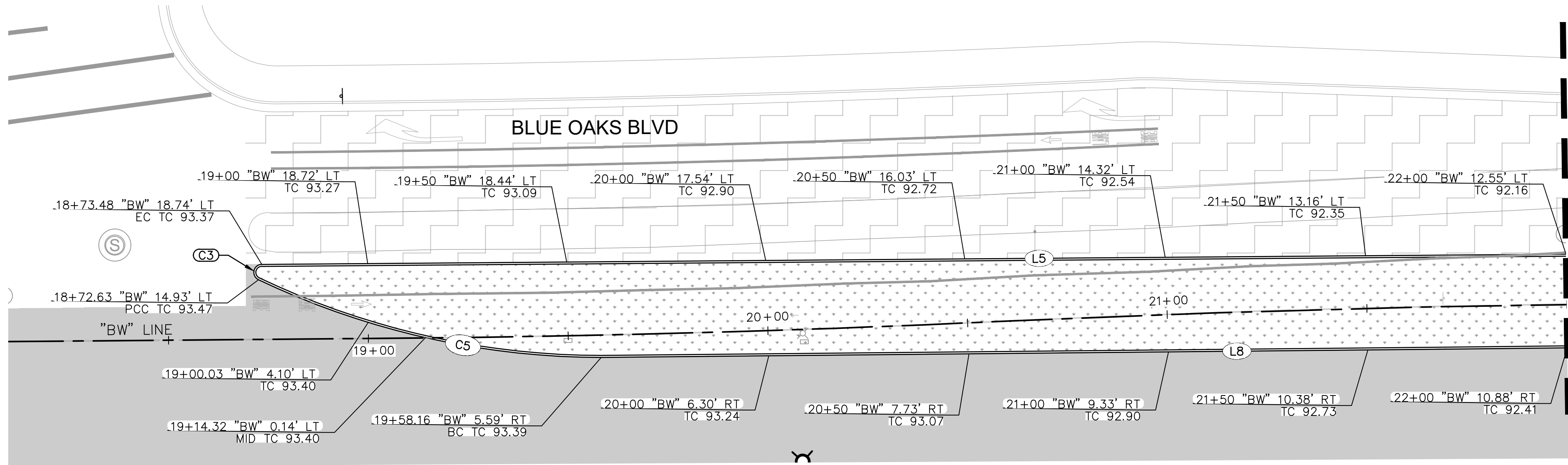
WESTBROOK SPORTS COMPLEX
INTERSECTION IMPROVEMENTS
L-06
LAYOUT - BLUE OAKS
CITY OF ROSEVILLE, PLACER COUNTY, CALIFORNIA



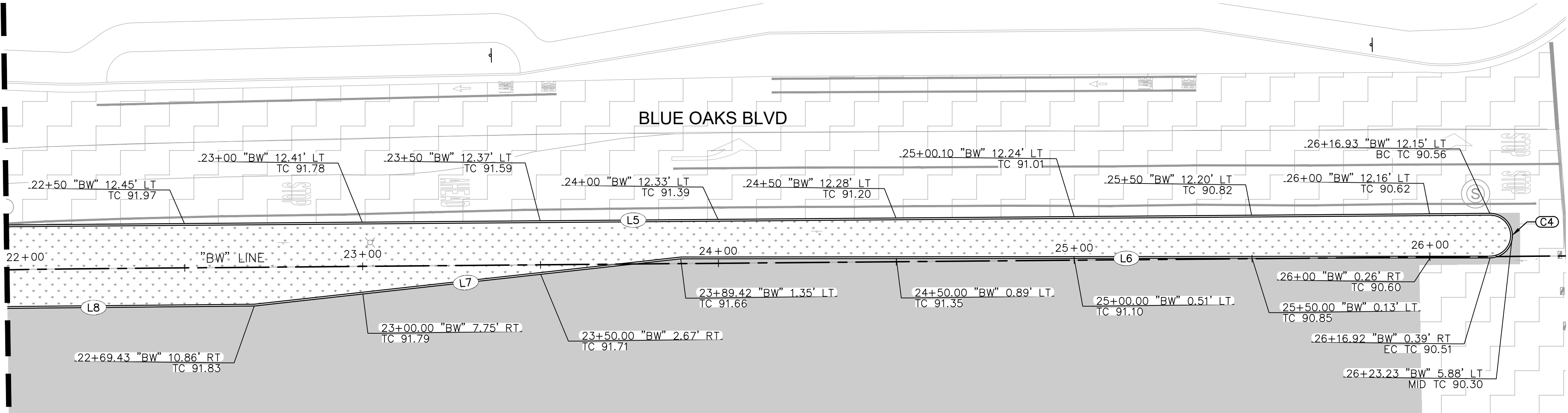
K:\SAC_TPTO\ROSEVILLE WESTBROOK SPORTS COMPLEX INTERSECTIONS\08 CADD\PLANSHEETS\CD-01 CONSTRUCTION DETAILS.DWG
This document, together with the concepts and designs presented herein, is intended only for the specific purpose and client for which it was prepared. Reuse of and improper reliance on this document without written authorization and adaptation by Kimley-Horn and Associates, Inc. shall be without liability to Kimley-Horn and Associates, Inc.

MATCHLINE "BW" LINE
STA 22+00 SEE ABOVE

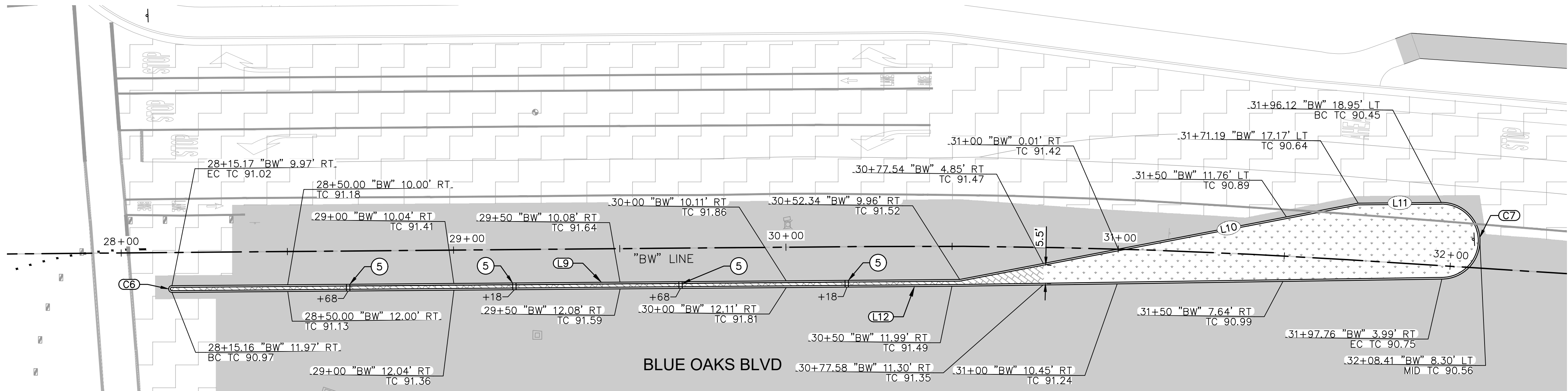
MATCHLINE "BW" LINE
STA 22+00 SEE BELOW



WEST MEDIAN DETAIL A
BLUE OAKS BLVD & WESTBROOK BLVD



WEST MEDIAN DETAIL B
BLUE OAKS BLVD & WESTBROOK BLVD



EAST MEDIAN DETAIL C
BLUE OAKS BLVD & WESTBROOK BLVD

LEGEND

- HMA PAVEMENT
- LANDSCAPING (BY OTHERS)
- BUS TURNOUT CONCRETE SLAB
- SIDEWALK
- STAMPED CONCRETE
- MICROSURFACE

CONSTRUCTION NOTES

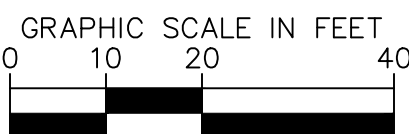
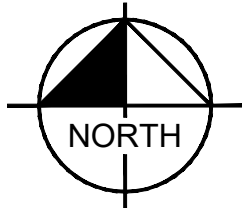
- INSTALL 1' WIDE CURB CUTS AT 50' SPACING O.C. PER DETAIL ON SHEET CD-03.

CURVE TABLE

CURVE	RADIUS	LENGTH	CHORD BEARING	CHORD	DELTA	TANGENT
C3	2.00'	5.40'	S12°12'07"W	3.90'	154°41'40"	8.91'
C4	6.27'	19.77'	N0°27'03"W	12.53'	180°47'12"	912.65'
C5	200.00'	88.67'	S77°13'48"E	87.95'	25°24'09"	45.08'
C6	1.00'	3.15'	S0°13'32"E	2.00'	180°27'03"	254.10'
C7	11.50'	36.13'	N0°27'03"W	23.00'	180°00'00"	INFINITY'

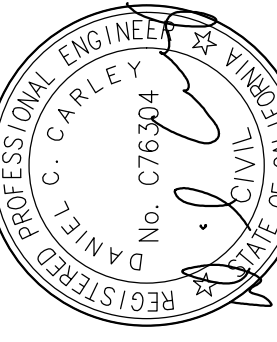
LINE TABLE

LINE	LENGTH	BEARING
L5	295.87	S89°32'56.51"W
L6	227.38	S89°56'32.52"W
L7	120.73	N83°42'05.16"E
L8	99.89	N89°26'04.44"E
L8	211.23	N89°26'04.44"E
L9	237.02	S89°32'56.48"W
L10	122.08	S79°10'00.56"W
L11	25.00	S89°32'56.51"W
L12	237.02	N89°32'56.51"E



Know what's below.
Call before you dig.

Kimley»Horn
555 CAPITOL MALL, SUITE 300, SACRAMENTO, CA 95814
PHONE: 916.865.8600
WWW.KIMLEY-HORN.COM

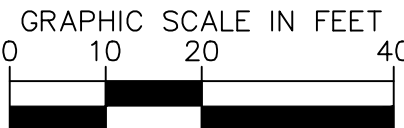
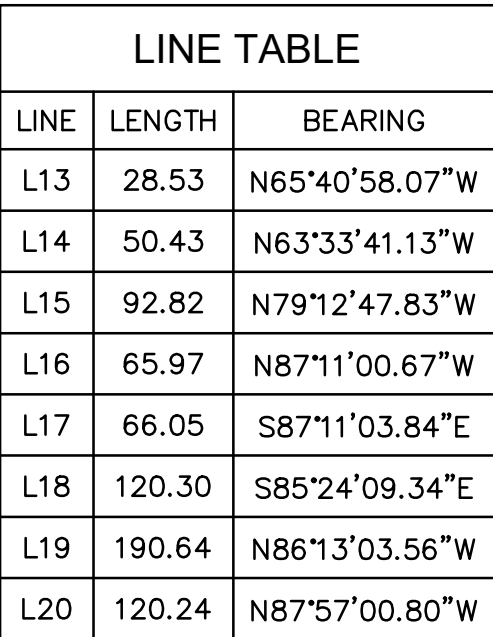
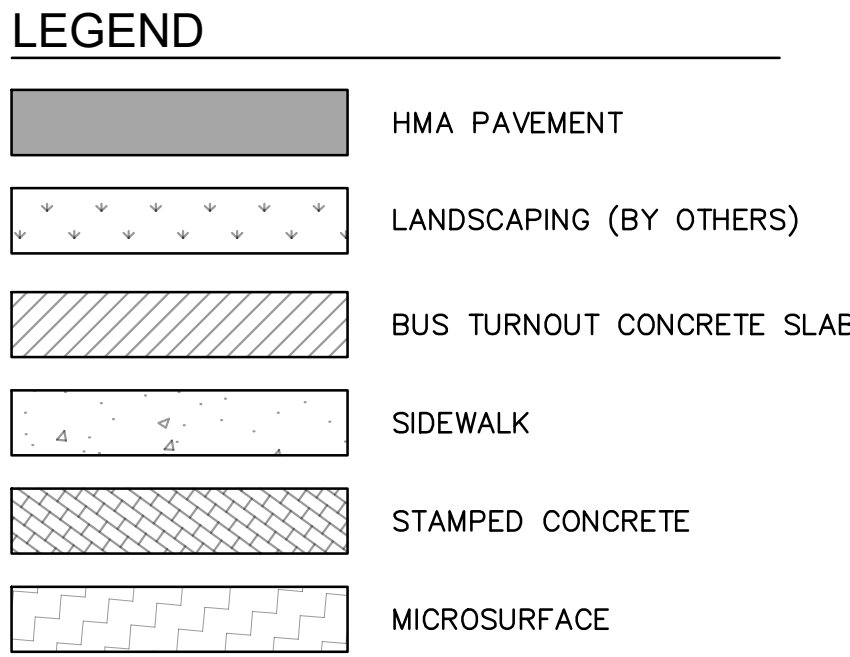
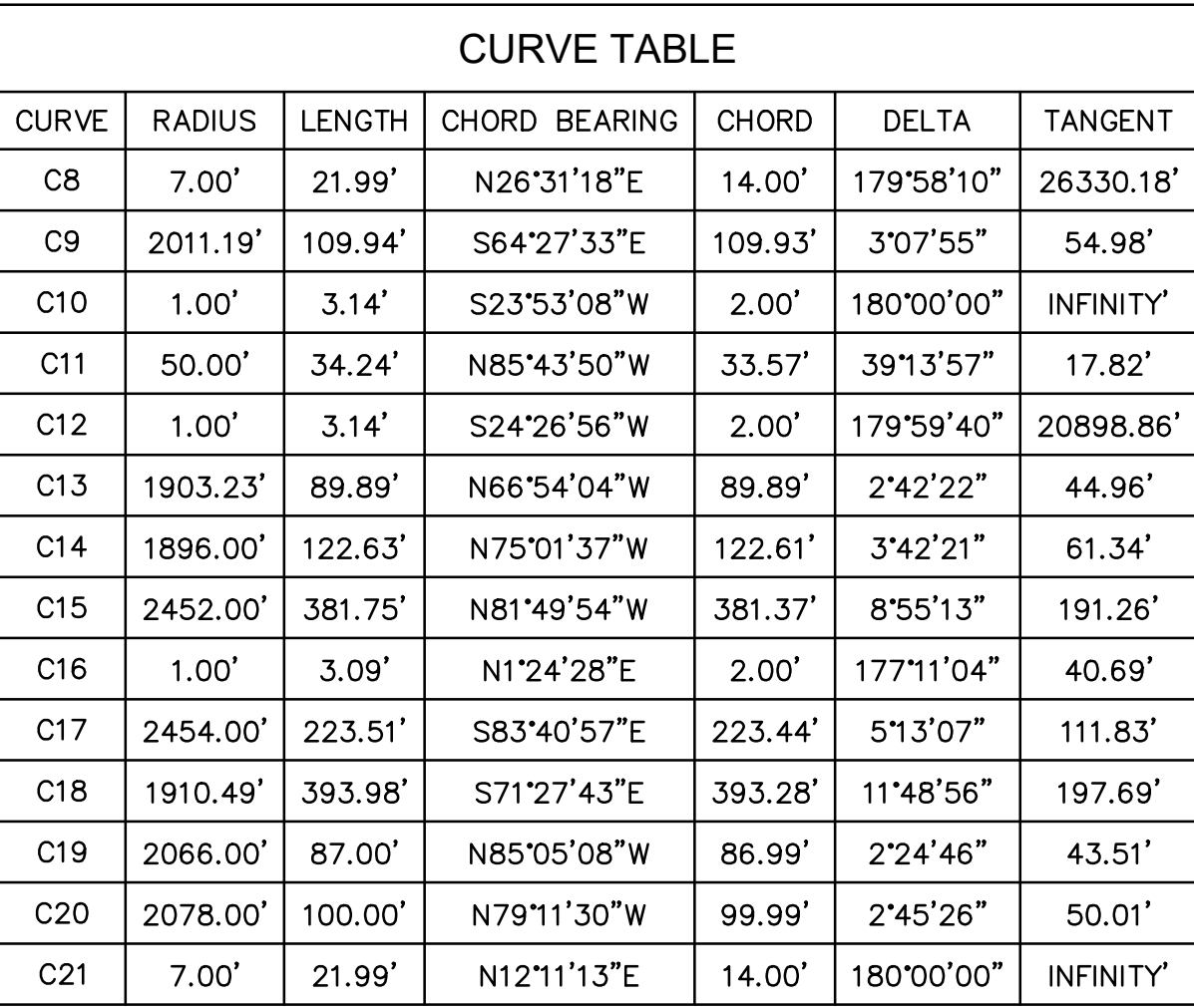


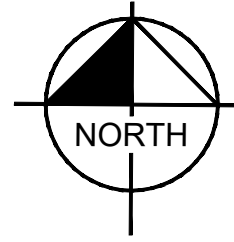
KHA PROJECT	097918101
DATE	JULY 2023
SCALE	AS SHOWN
DESIGNED BY	MB
DRAWN BY	MB
CHECKED BY	DC

WESTBROOK SPORTS COMPLEX
INTERSECTION IMPROVEMENTS

CD-01
CONSTRUCTION DETAILS

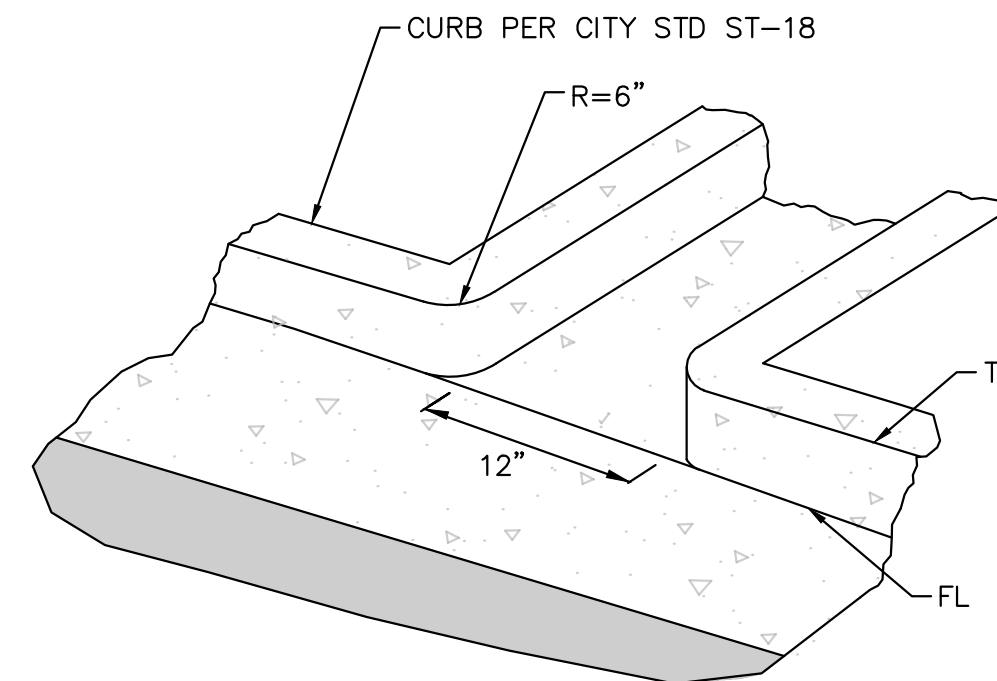
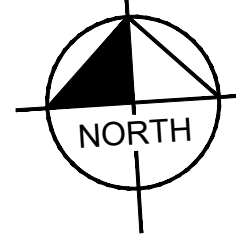
CITY OF ROSEVILLE, PLACER COUNTY, CALIFORNIA





	HMA PAVEMENT
	LANDSCAPING (BY OTHERS)
	BUS TURNOUT CONCRETE SLAB
	SIDEWALK
	STAMPED CONCRETE
	MICROSURFACE

LINE TABLE		
LINE	LENGTH	BEARING
L21	60.13	N81°15'30.59"W
L22	121.39	N89°32'56.51"E
L23	60.72	N79°06'43.03"E
L24	31.31	N89°32'56.51"E
L25	425.22	S86°00'21.52"E
L26	417.26	S86°08'51.53"E
L27	60.35	N89°39'26.15"W
L28	60.53	S74°44'22.90"E



GRAPHIC SCALE IN FEET

A horizontal scale bar with tick marks at 0, 10, 20, and 40 feet. The bar is divided into alternating black and white segments: a white segment from 0 to 10, a black segment from 10 to 20, and a white segment from 20 to 40.

SIDEWALK DETAIL 1
BLUE OAKS BLVD & HAYDEN PKWY



GRAPHIC SCALE IN FEET

20 40 80

SHEET NUMBER		
15	OF	39

**WESTBROOK SPORTS COMPLEX
INTERSECTION IMPROVEMENTS**

DU-01

DRAINAGE AND UTILITY

CITY OF ROSEVILLE, PLACER COUNTY, CALIFORNIA

K:\SAC_TPTO\ROSEVILLE WESTBROOK SPORTS COMPLEX INTERSECTIONS\08 CAD\PLANSHEETS\DU-01 DRAINAGE AND UTILITY.DWG
This document, together with the concepts and designs presented herein, is intended only for the specific purpose and client for which it was prepared. Reuse of and improper reliance on this document without written authorization and adaptation by Kimley-Horn and Associates, Inc. shall be without liability to Kimley-Horn and Associates, Inc.



UTILITY NOTES

- 1 REMOVE.
- 2 RELOCATE.
- 5 CONNECT TO EXISTING PER CITY OF ROSEVILLE STANDARDS.
- 6 INSTALL 12" WATER (DIP CL350) WITH 2" BLOWOFF AT END.
- 7 INSTALL 24" DIP RECYCLED WATER, (PURPLE PIPE).
- 8 EXISTING TO REMAIN.
- 11 PLACE 6" DIA PVC SCH 40. PIPE EXTEND MIN. 2' IN TO MEDIAN AND 3' PAST SIDEWALK FOR FURTURE IRRIGATION.

DRAINAGE NOTES

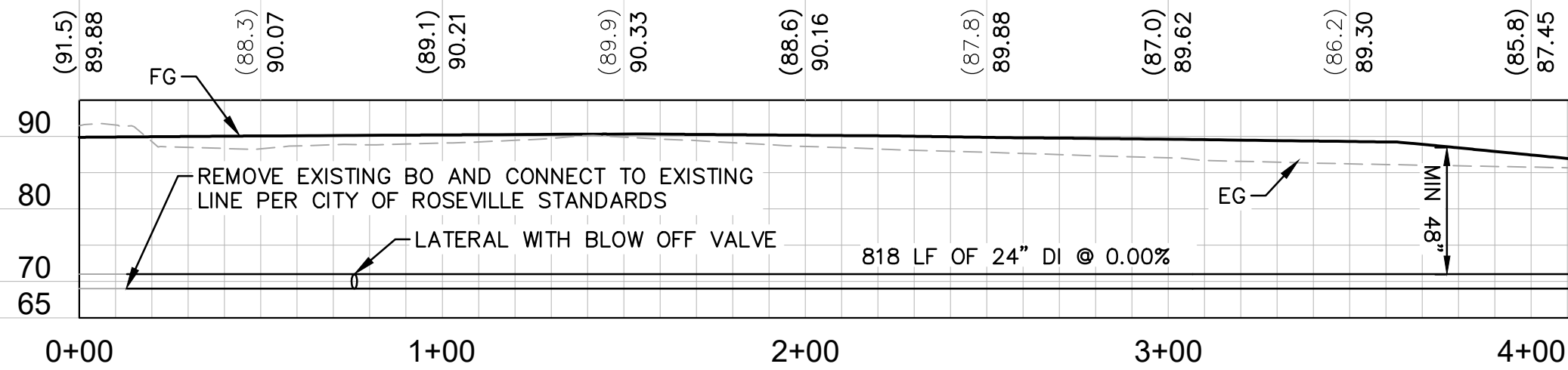
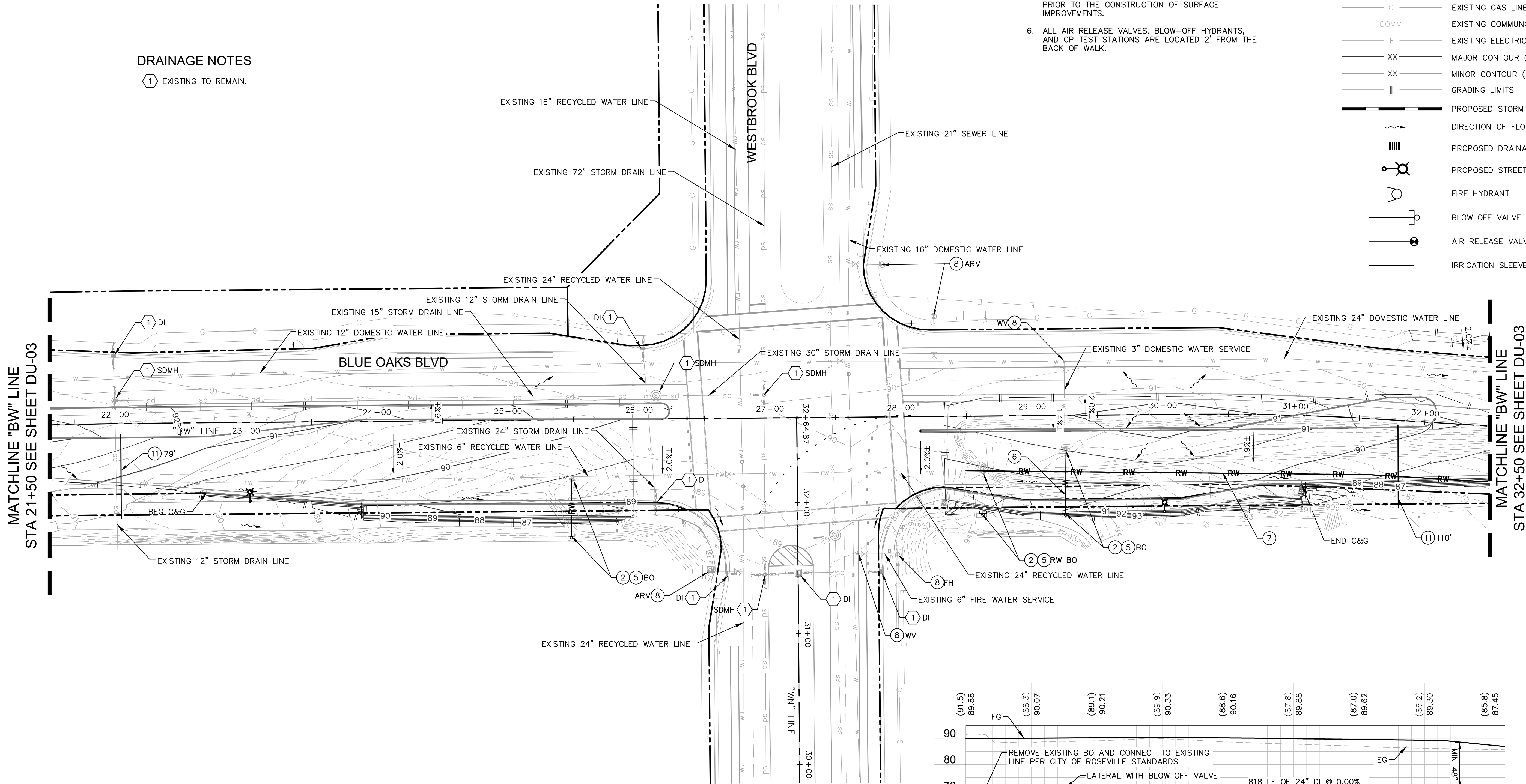
- 1 EXISTING TO REMAIN.

GENERAL NOTES

- 1. CONTRACTOR TO PROTECT IN PLACE, DURING DEMOLITION AND CONSTRUCTION, ALL EXISTING FEATURES THAT ARE TO REMAIN AS NOTED ON THE PLAN.
- 2. ANY EXISTING STRUCTURE, IMPROVEMENT, OR APPURTENANCE TO REMAIN THAT IS DAMAGED DURING DEMOLITION OR CONSTRUCTION SHALL BE IMMEDIATELY REPAIRED OR REPLACED BY THE CONTRACTOR AT THE CONTRACTOR'S EXPENSE.
- 3. CONTRACTOR SHALL VERIFY AND LOCATE ALL EXISTING UNDERGROUND UTILITIES BEFORE CONSTRUCTION AND PROTECT IN PLACE UNLESS OTHERWISE NOTED ON THE PLANS.
- 4. ALL DIMENSIONS ARE MEASURED FROM FACE OF CURB UNLESS OTHERWISE NOTED ON THE PLANS.
- 5. ALL UNDERGROUND UTILITIES SHALL BE INSTALLED PRIOR TO THE CONSTRUCTION OF SURFACE IMPROVEMENTS.
- 6. ALL AIR RELEASE VALVES, BLOW-OFF HYDRANTS, AND CP TEST STATIONS ARE LOCATED 2' FROM THE BACK OF WALK.

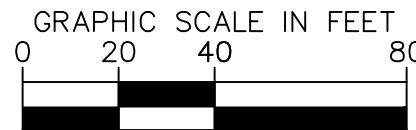
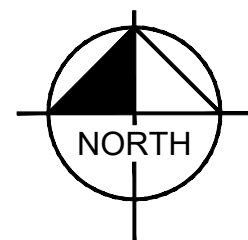
LEGEND

- RIGHT OF WAY
- CENTER LINE
- EXISTING MAJOR CONTOUR (1')
- EXISTING MINOR CONTOUR (0.5')
- PROPOSED DOMESTIC WATER
- EXISTING DOMESTIC WATER
- PROPOSED RECYCLED WATER
- EXISTING RECYCLED WATER
- EXISTING STORM DRAIN
- EXISTING SANITARY SEWER
- EXISTING GAS LINE
- EXISTING COMMUNICATIONS LINE
- EXISTING ELECTRICAL LINE
- MAJOR CONTOUR (1')
- MINOR CONTOUR (0.5')
- GRADING LIMITS
- PROPOSED STORM DRAIN
- DIRECTION OF FLOW
- PROPOSED DRAINAGE INLET
- PROPOSED STREET LIGHT
- FIRE HYDRANT
- BLOW OFF VALVE
- AIR RELEASE VALVE
- IRRIGATION SLEEVES



PROFILE - 24" RECYCLED WATER LINE

HORZ: 1"=40'
VERT: 1"=2'



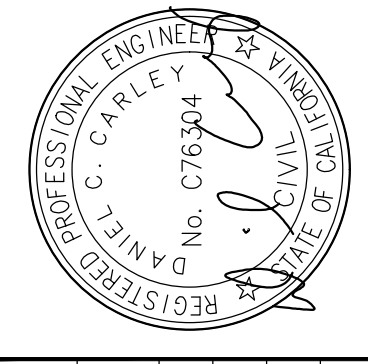
WESTBROOK SPORTS COMPLEX
INTERSECTION IMPROVEMENTS

DU-02

DRAINAGE AND UTILITY

CITY OF ROSEVILLE, PLACER COUNTY, CALIFORNIA

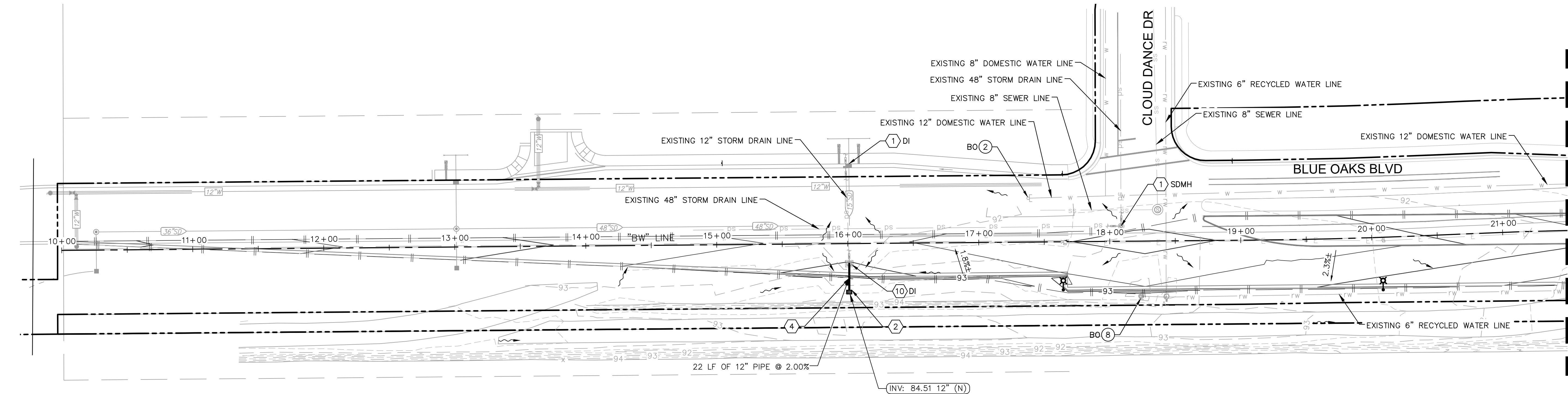
KHA PROJECT	DATE	SCALE	DESIGNED BY	DRAWN BY	CHECKED BY
097918101	JULY 2023	AS SHOWN	MB	MB	DC



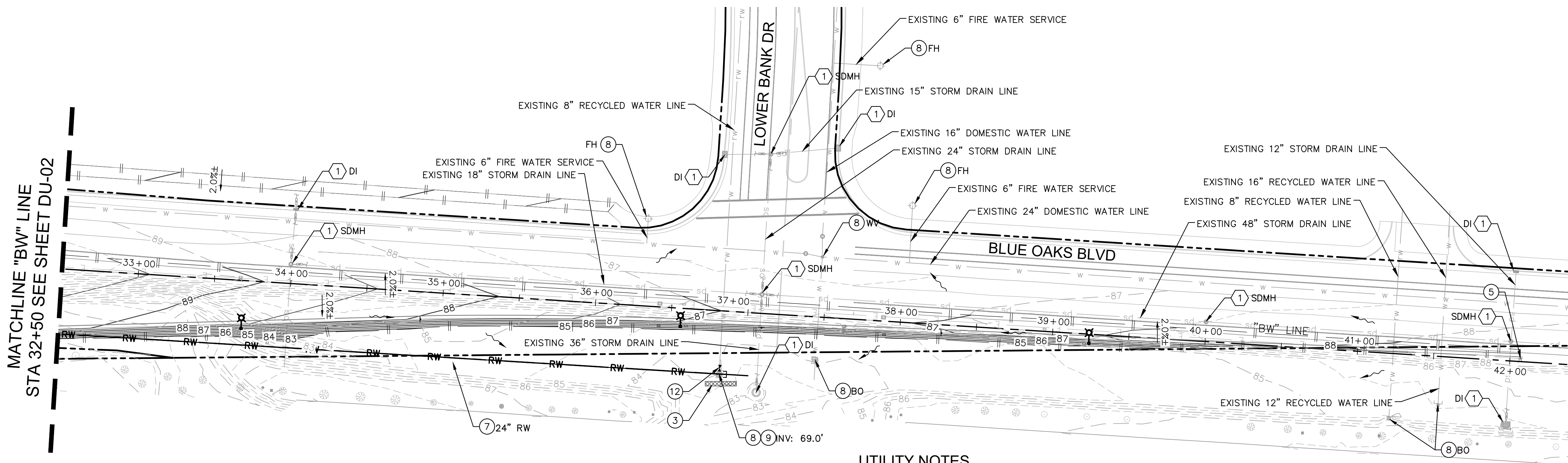
Kimley»Horn
555 CAPITOL MALL, SUITE 300, SACRAMENTO, CA 95814
PHONE: 916.885.8600
WWW.KIMLEY-HORN.COM

NO.	REVISIONS	DATE	BY

K:\SAC_TPT\ROSEVILLE WESTBROOK SPORTS COMPLEX INTERSECTIONS\08 CAD\PLANSHEETS\DU-01 DRAINAGE AND UTILITY.DWG
This document, together with the concepts and designs presented herein, is intended only for the specific purpose and client for which it was prepared. Reuse of and improper reliance on this document without written authorization and adaptation by Kimley-Horn and Associates, Inc. shall be without liability to Kimley-Horn and Associates, Inc.



MATCHLINE "BW" LINE
STA 21+50 SEE SHEET DU-02



LEGEND

	RIGHT OF WAY
	CENTER LINE
	EXISTING MAJOR CONTOUR (1')
	EXISTING MINOR CONTOUR (0.5')
	PROPOSED DOMESTIC WATER
	EXISTING DOMESTIC WATER
	PROPOSED RECYCLED WATER
	EXISTING RECYCLED WATER
	EXISTING STORM DRAIN
	EXISTING SANITARY SEWER
	EXISTING GAS LINE
	EXISTING COMMUNICATIONS LINE
	EXISTING ELECTRICAL LINE
	MAJOR CONTOUR (1')
	MINOR CONTOUR (0.5')
	GRADING LIMITS
	PROPOSED STORM DRAIN
	DIRECTION OF FLOW
	PROPOSED DRAINAGE INLET
	PROPOSED STREET LIGHT
	FIRE HYDRANT
	BLOW OFF VALVE
	AIR RELEASE VALVE

UTILITY NOTES

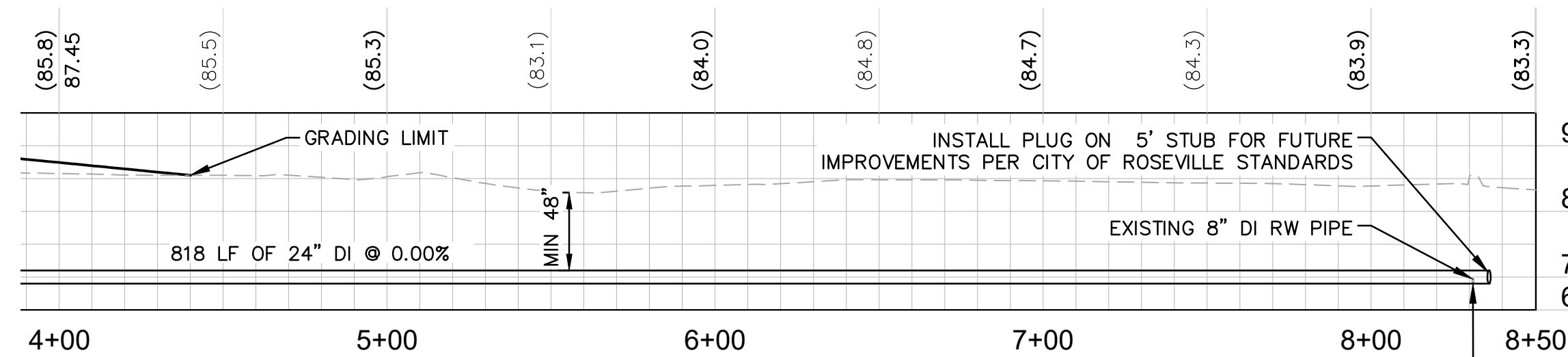
- RELOCATE.
- INSTALL W-41 ANODE TEST STATION. INSTALL 8 ANODES PER AS-BUILT CORROSION DESIGN.
- CONNECT TO EXISTING PER CITY OF ROSEVILLE STANDARDS.
- INSTALL 24" DIP RECYCLED WATER, (PURPLE PIPE).
- EXISTING TO REMAIN.
- INSTALL 24"x24"x8" TEE WITH 2" BLOWOFF PER CITY OF ROSEVILLE STD PLAN RW-1.
- INSTALL 8" VALVE PER CITY OF ROSEVILLE STD PLAN W-16.

DRAINAGE NOTES

- EXISTING TO REMAIN.
- INSTALL TYPE F PER CITY OF ROSEVILLE STD PLAN DR-03.
- INSTALL 12" HDPE STORM DRAIN PIPE AT 2% SLOPE.
- REMOVE.

GENERAL NOTES

- CONTRACTOR TO PROTECT IN PLACE, DURING DEMOLITION AND CONSTRUCTION, ALL EXISTING FEATURES THAT ARE TO REMAIN AS NOTED ON THE PLAN.
- ANY EXISTING STRUCTURE, IMPROVEMENT, OR APPURTENANCE TO REMAIN THAT IS DAMAGED DURING DEMOLITION OR CONSTRUCTION SHALL BE IMMEDIATELY REPAIRED OR REPLACED BY THE CONTRACTOR AT THE CONTRACTOR'S EXPENSE.
- CONTRACTOR SHALL VERIFY AND LOCATE ALL EXISTING UNDERGROUND UTILITIES BEFORE CONSTRUCTION AND PROTECT IN PLACE UNLESS OTHERWISE NOTED ON THE PLANS.
- ALL DIMENSIONS ARE MEASURED FROM FACE OF CURB UNLESS OTHERWISE NOTED ON THE PLANS.
- ALL UNDERGROUND UTILITIES SHALL BE INSTALLED PRIOR TO THE CONSTRUCTION OF SURFACE IMPROVEMENTS.
- ALL AIR RELEASE VALVES, BLOW-OFF HYDRANTS, AND CP TEST STATIONS ARE LOCATED 2' FROM THE BACK OF WALK.



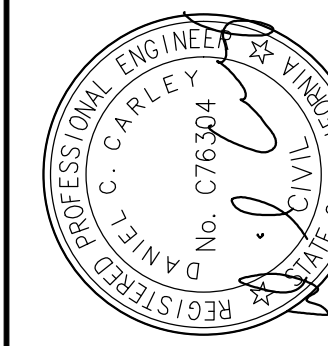
PROFILE - 24" RECYCLED WATER LINE

HORZ: 1"=40'
VERT: 1"=2'



Know what's below.
Call before you dig.

Kimley»Horn
555 CAPITOL MALL, SUITE 300, SACRAMENTO, CA 95814
PHONE: 916.855.8500
WWW.KIMLEY-HORN.COM



KHA PROJECT	DATE	SCALE	DESIGNED BY	DRAWN BY	CHECKED BY
097918101	JULY 2023	AS SHOWN	MB	MB	DC

WESTBROOK SPORTS COMPLEX
INTERSECTION IMPROVEMENTS

DU-03

DRAINAGE AND UTILITY

CITY OF ROSEVILLE, PLACER COUNTY, CALIFORNIA

SHEET NUMBER
17 OF 39

NO.	REVISIONS	DATE	BY

EN23-0153

K:\SAC_TPTO\ROSEVILLE WESTBROOK SPORTS COMPLEX INTERSECTIONS\08 CADD\PLANSHEETS\DU-01 DRAINAGE AND UTILITY.DWG
This document, together with the concepts and designs presented herein, is intended only for the specific purpose and client for which it was prepared. Reuse of and improper reliance on this document without written authorization and adaptation by Kimley-Horn and Associates, Inc. shall be without liability to Kimley-Horn and Associates, Inc.



Know what's below.
Call before you dig.

GENERAL NOTES

1. CONTRACTOR TO PROTECT IN PLACE, DURING DEMOLITION AND CONSTRUCTION, ALL EXISTING FEATURES THAT ARE TO REMAIN AS NOTED ON THE PLAN.
2. ANY EXISTING STRUCTURE, IMPROVEMENT, OR APPURTENANCE TO REMAIN THAT IS DAMAGED DURING DEMOLITION OR CONSTRUCTION SHALL BE IMMEDIATELY REPAIRED OR REPLACED BY THE CONTRACTOR AT THE CONTRACTOR'S EXPENSE.
3. CONTRACTOR SHALL VERIFY AND LOCATE ALL EXISTING UNDERGROUND UTILITIES BEFORE CONSTRUCTION AND PROTECT IN PLACE UNLESS OTHERWISE NOTED ON THE PLANS.
4. ALL DIMENSIONS ARE MEASURED FROM FACE OF CURB UNLESS OTHERWISE NOTED ON THE PLANS.
5. ALL UNDERGROUND UTILITIES SHALL BE INSTALLED PRIOR TO THE CONSTRUCTION OF SURFACE IMPROVEMENTS.
6. ALL AIR RELEASE VALVES, BLOW-OFF HYDRANTS, AND CP TEST STATIONS ARE LOCATED 2' FROM THE BACK OF WALK.

DRAINAGE NOTES

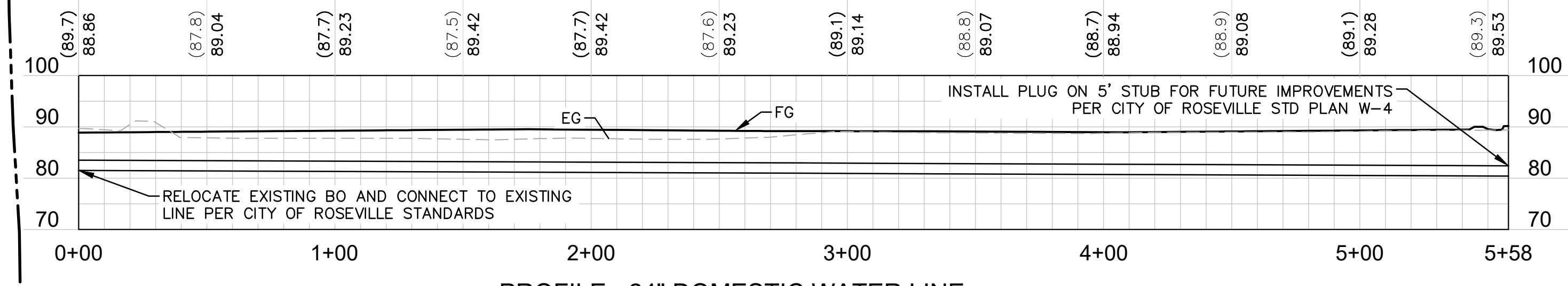
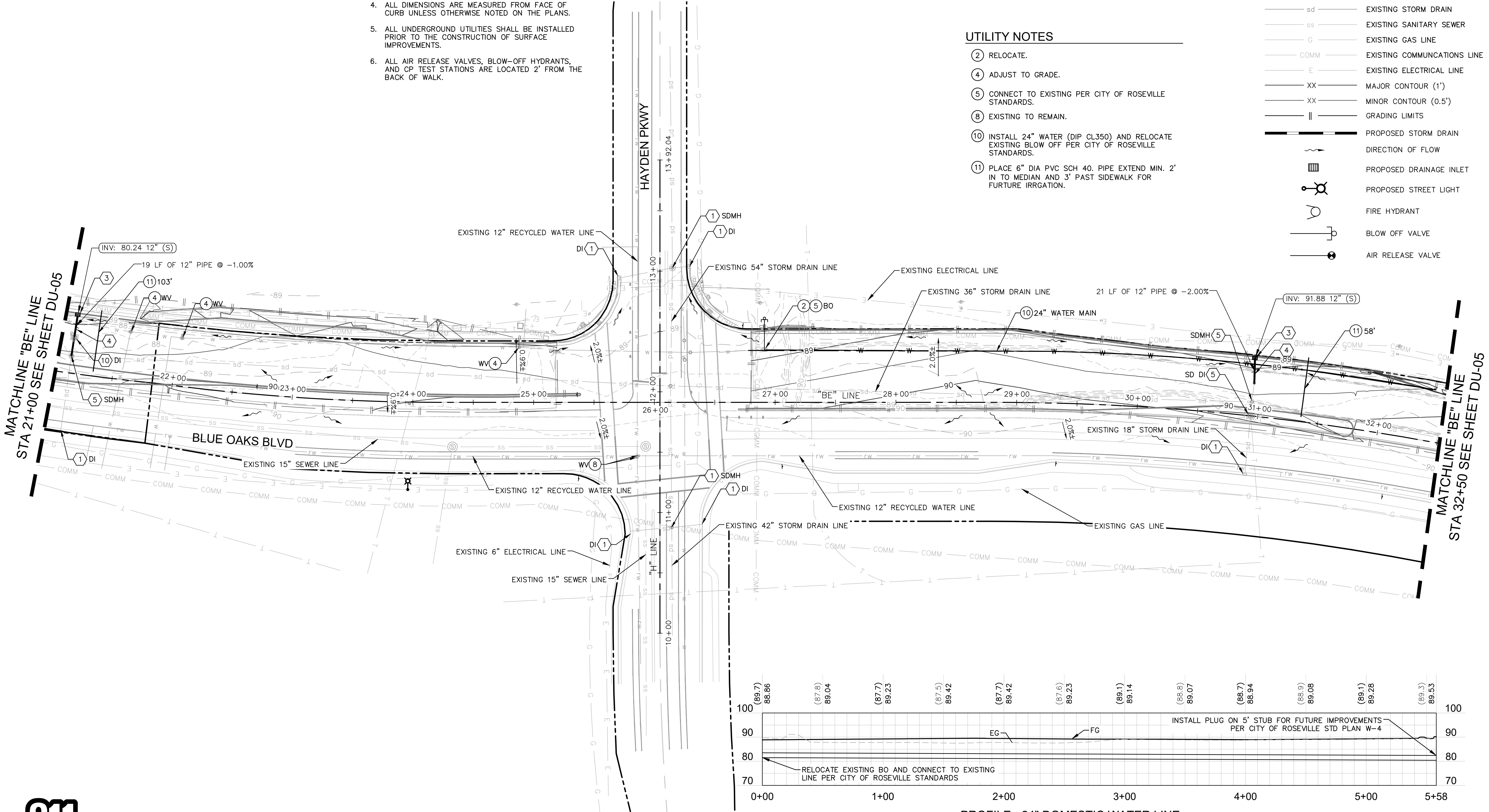
- 1 EXISTING TO REMAIN.
- 3 INSTALL TYPE C INLET PER CITY OF ROSEVILLE STD PLAN DR-1.
- 4 INSTALL 12" HDPE STORM DRAIN PIPE AT 2% SLOPE.
- 5 ADJUST TO GRADE.
- 10 REMOVE.

UTILITY NOTES

- 2 RELOCATE.
- 4 ADJUST TO GRADE.
- 5 CONNECT TO EXISTING PER CITY OF ROSEVILLE STANDARDS.
- 8 EXISTING TO REMAIN.
- 10 INSTALL 24" WATER (DIP CL350) AND RELOCATE EXISTING BLOW OFF PER CITY OF ROSEVILLE STANDARDS.
- 11 PLACE 6" DIA PVC SCH 40. PIPE EXTEND MIN. 2' IN TO MEDIAN AND 3' PAST SIDEWALK FOR FUTURE IRRIGATION.

LEGEND

- RIGHT OF WAY
- CENTER LINE
- XX --- EXISTING MAJOR CONTOUR (1')
- XX --- EXISTING MINOR CONTOUR (0.5')
- W --- PROPOSED DOMESTIC WATER
- w --- EXISTING DOMESTIC WATER
- RW --- PROPOSED RECYCLED WATER
- rw --- EXISTING RECYCLED WATER
- sd --- EXISTING STORM DRAIN
- ss --- EXISTING SANITARY SEWER
- G --- EXISTING GAS LINE
- COMM --- EXISTING COMMUNICATIONS LINE
- E --- EXISTING ELECTRICAL LINE
- XX --- MAJOR CONTOUR (1')
- XX --- MINOR CONTOUR (0.5')
- || GRADING LIMITS
- PROPOSED STORM DRAIN
- DIRECTION OF FLOW
- PROPOSED DRAINAGE INLET
- PROPOSED STREET LIGHT
- FIRE HYDRANT
- BLOW OFF VALVE
- AIR RELEASE VALVE



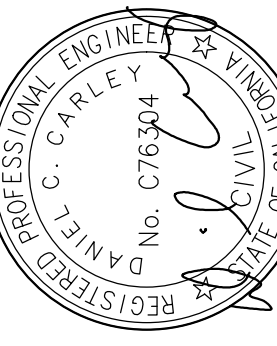
WESTBROOK SPORTS COMPLEX
INTERSECTION IMPROVEMENTS

DU-04

DRAINAGE AND UTILITY

CITY OF ROSEVILLE, PLACER COUNTY, CALIFORNIA

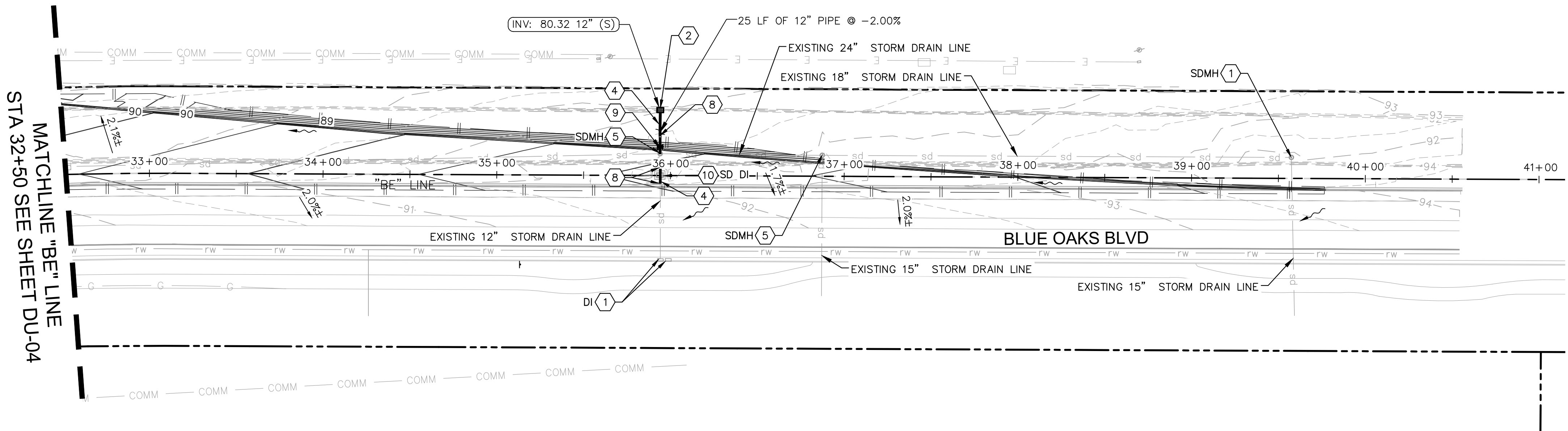
Kimley»Horn
555 CAPITOL MALL, SUITE 300, SACRAMENTO, CA 95814
PHONE: 916.885.6600
WWW.KIMLEY-HORN.COM



KHA PROJECT	097918101
DATE	JULY 2023
SCALE	AS SHOWN
DESIGNED BY	MB
DRAWN BY	MB
CHECKED BY	DC

SHEET NUMBER
18 OF 39

NO.	REVISIONS	DATE	BY



① REMOVE.

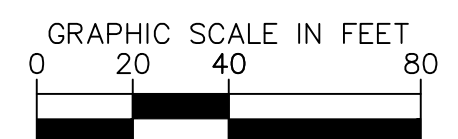
④ ADJUST TO GRADE.

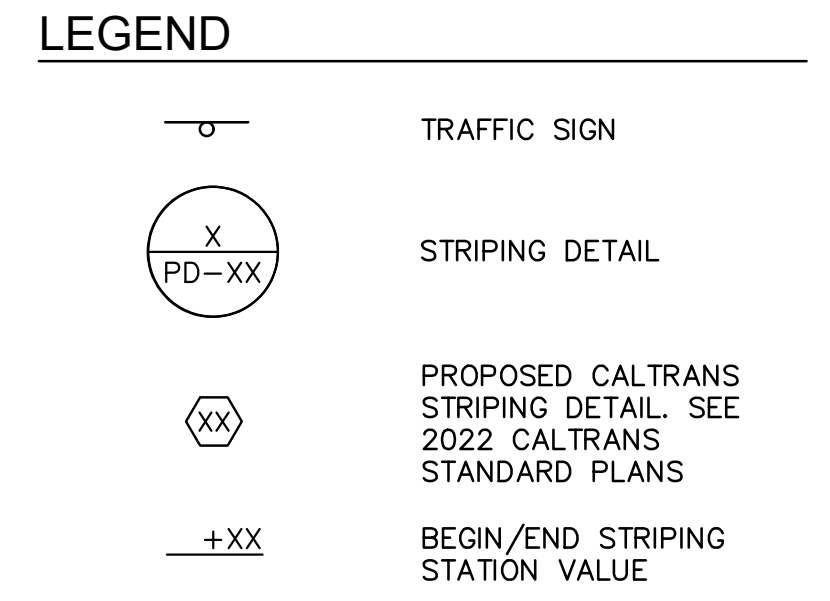
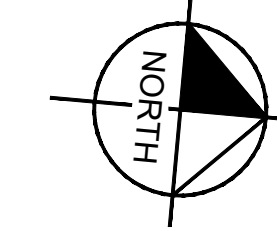
⑧ EXISTING TO REMAIN.

- 1 EXISTING TO REMAIN.
- 2 INSTALL TYPE F PER CITY OF ROSEVILLE STD PLAN DR-03.
- 3 INSTALL TYPE C INLET PER CITY OF ROSEVILLE STD PLAN DR-1.
- 4 INSTALL 12" HDPE STORM DRAIN PIPE AT 2% SLOPE.
- 5 ADJUST TO GRADE.
- 6 CONNECT TO EXISTING STORM DRAIN STUB.
- 7 INSTALL GRAVEL OR RIP RAP PAD, MIN. 6" DIA. ROCK.
- 8 REMOVE.

1. CONTRACTOR TO PROTECT IN PLACE, DURING DEMOLITION AND CONSTRUCTION, ALL EXISTING FEATURES THAT ARE TO REMAIN AS NOTED ON THE PLAN.
2. ANY EXISTING STRUCTURE, IMPROVEMENT, OR APPURTENANCE TO REMAIN THAT IS DAMAGED DURING DEMOLITION OR CONSTRUCTION SHALL BE IMMEDIATELY REPAIRED OR REPLACED BY THE CONTRACTOR AT THE CONTRACTOR'S EXPENSE.
3. CONTRACTOR SHALL VERIFY AND LOCATE ALL EXISTING UNDERGROUND UTILITIES BEFORE CONSTRUCTION AND PROTECT IN PLACE UNLESS OTHERWISE NOTED ON THE PLANS.
4. ALL DIMENSIONS ARE MEASURED FROM FACE OF CURB UNLESS OTHERWISE NOTED ON THE PLANS.
5. ALL UNDERGROUND UTILITIES SHALL BE INSTALLED PRIOR TO THE CONSTRUCTION OF SURFACE IMPROVEMENTS.
6. ALL AIR RELEASE VALVES, BLOW-OFF HYDRANTS, AND CP TEST STATIONS ARE LOCATED 2' FROM THE BACK OF WALK.

	CENTER LINE
	EXISTING MAJOR CONTOUR (1')
	EXISTING MINOR CONTOUR (0.5')
	PROPOSED DOMESTIC WATER
	EXISTING DOMESTIC WATER
	PROPOSED RECYCLED WATER
	EXISTING RECYCLED WATER
	EXISTING STORM DRAIN
	EXISTING SANITARY SEWER
	EXISTING GAS LINE
	EXISTING COMMUNICATIONS LINE
	EXISTING ELECTRICAL LINE
	MAJOR CONTOUR (1')
	MINOR CONTOUR (0.5')
	GRADING LIMITS
	PROPOSED STORM DRAIN
	DIRECTION OF FLOW
	PROPOSED DRAINAGE INLET
	PROPOSED STREET LIGHT
	FIRE HYDRANT
	BLOW OFF VALVE
	AIR RELEASE VALVE

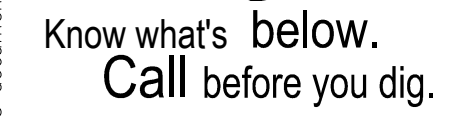
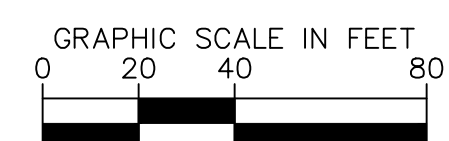
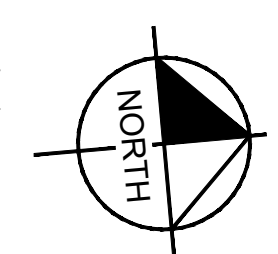




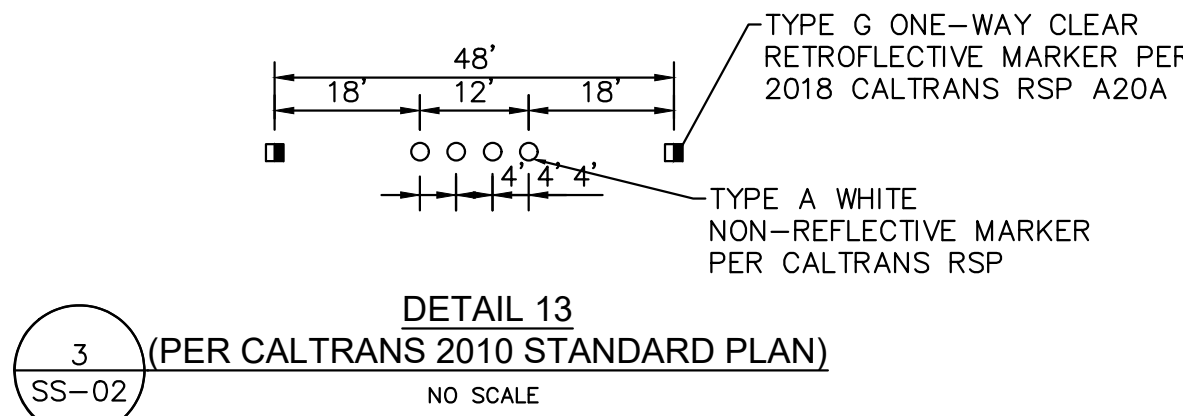
1. ALL EXISTING SIGNS SHALL BE PROTECTED IN PLACE UNLESS SPECIFIED FOR REMOVAL OR RELOCATION.
2. EXISTING SIGNS SPECIFIED FOR REMOVAL SHALL NOT BE REMOVED UNTIL NO LONGER PERTINENT TO TRAFFIC CONTROL.
3. ALL STRIPING CONFLICTING WITH PROPOSED STRIPING SHALL BE REMOVED PRIOR TO NEW STRIPING INSTALLATION.
4. CONTRACTOR TO LAYOUT (CAT TRACK) STRIPING AND HAVE ENGINEER APPROVE PRIOR TO INSTALLING STRIPES.
5. SEE 2018 CALTRANS STANDARD PLANS FOR PAVEMENT MARKING SYMBOLS AND LEGENDS DETAILS.
6. SEE LAYOUT SHEETS FOR PAVEMENT MARKING DEMONSTRATION.

- 1 INSTALL LIMIT LINE PER 2022 CALTRANS STD PLAN A24G.
- 2 INSTALL TYPE III (L) ARROW PER 2022 CALTRANS STD PLAN A24B.
- 5 INSTALL TYPE II (L) ARROW PER 2022 CALTRANS STD PLAN A24B.
- 7 INSTALL BASIC CROSSWALK PER 2022 CALTRANS STD PLAN A24F.

① FURNISH AND INSTALL NEW SIGN AS SHOWN
PER CITY OF ROSEVILLE STD PLAN TS-17A.



WESTBROOK SPORTS COMPLEX INTERSECTION IMPROVEMENTS SS-01 SIGNING AND STRIPING CITY OF ROSEVILLE, PLACER COUNTY, CALIFORNIA	KHA PROJECT 097918101									
	DATE JULY 2023									
	SCALE AS SHOWN									
	DESIGNED BY MB									
	DRAWN BY MB									
	CHECKED BY DC									
SHEET NUMBER 20 OF 39				No.	REVISIONS	DATE	BY			

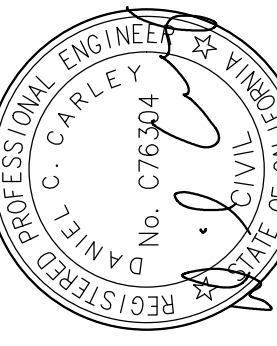


1. ALL EXISTING SIGNS SHALL BE PROTECTED IN PLACE UNLESS SPECIFIED FOR REMOVAL OR RELOCATION.
2. EXISTING SIGNS SPECIFIED FOR REMOVAL SHALL NOT BE REMOVED UNTIL NO LONGER PERTINENT TO TRAFFIC CONTROL.
3. ALL STRIPING CONFLICTING WITH PROPOSED STRIPING SHALL BE REMOVED PRIOR TO NEW STRIPING INSTALLATION.
4. CONTRACTOR TO LAYOUT (CAT TRACK) STRIPING AND HAVE ENGINEER APPROVE PRIOR TO INSTALLING STRIPES.
5. SEE 2018 CALTRANS STANDARD PLANS FOR PAVEMENT MARKING SYMBOLS AND LEGENDS DETAILS.
6. SEE LAYOUT SHEETS FOR PAVEMENT MARKING DEMOLITION.

- ① FURNISH AND INSTALL NEW SIGN AS SHOWN PER CITY OF ROSEVILLE STD PLAN TS-17A.
- ② FURNISH AND INSTALL OBJECT MARKER PER CITY OF ROSEVILLE STD PLAN TS-17A.

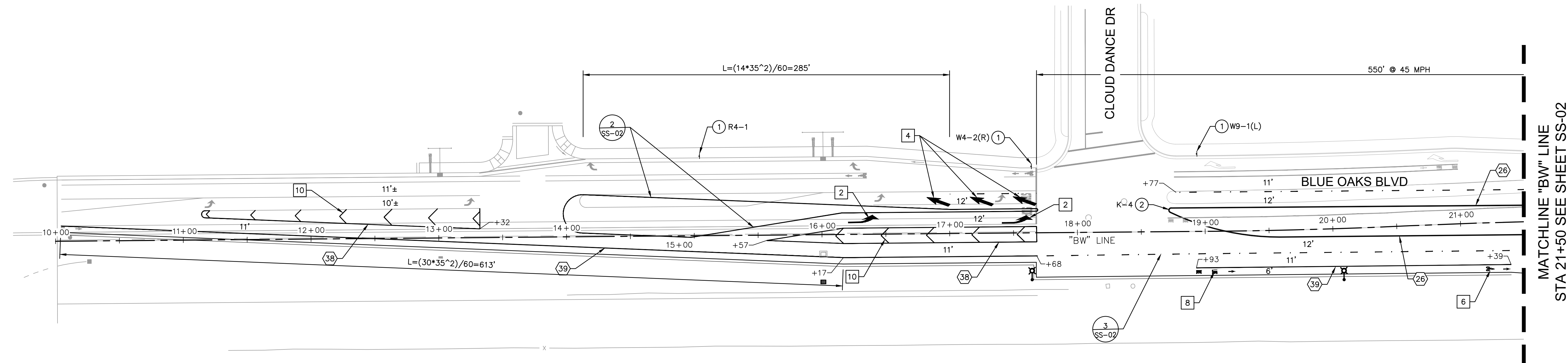
<u>+XX</u>	BEGIN/END STRIPING STATION VALUE
1	1+00.00
2	1+00.00
3	1+00.00
4	1+00.00
5	1+00.00
6	1+00.00
7	1+00.00
8	1+00.00
9	1+00.00
10	1+00.00
11	1+00.00
12	1+00.00
13	1+00.00
14	1+00.00
15	1+00.00
16	1+00.00
17	1+00.00
18	1+00.00
19	1+00.00
20	1+00.00
21	1+00.00
22	1+00.00
23	1+00.00
24	1+00.00
25	1+00.00
26	1+00.00
27	1+00.00
28	1+00.00
29	1+00.00
30	1+00.00
31	1+00.00
32	1+00.00
33	1+00.00
34	1+00.00
35	1+00.00
36	1+00.00
37	1+00.00
38	1+00.00
39	1+00.00
40	1+00.00
41	1+00.00
42	1+00.00
43	1+00.00
44	1+00.00
45	1+00.00
46	1+00.00
47	1+00.00
48	1+00.00
49	1+00.00
50	1+00.00
51	1+00.00
52	1+00.00
53	1+00.00
54	1+00.00
55	1+00.00
56	1+00.00
57	1+00.00
58	1+00.00
59	1+00.00
60	1+00.00
61	1+00.00
62	1+00.00
63	1+00.00
64	1+00.00
65	1+00.00
66	1+00.00
67	1+00.00
68	1+00.00
69	1+00.00
70	1+00.00
71	1+00.00
72	1+00.00
73	1+00.00
74	1+00.00
75	1+00.00
76	1+00.00
77	1+00.00
78	1+00.00
79	1+00.00
80	1+00.00
81	1+00.00
82	1+00.00
83	1+00.00
84	1+00.00
85	1+00.00
86	1+00.00
87	1+00.00
88	1+00.00
89	1+00.00
90	1+00.00
91	1+00.00
92	1+00.00
93	1+00.00
94	1+00.00
95	1+00.00
96	1+00.00
97	1+00.00
98	1+00.00
99	1+00.00
100	1+00.00
101	1+00.00
102	1+00.00
103	1+00.00
104	1+00.00
105	1+00.00
106	1+00.00
107	1+00.00
108	1+00.00
109	1+00.00
110	1+00.00
111	1+00.00
112	1+00.00
113	1+00.00
114	1+00.00
115	1+00.00
116	1+00.00
117	1+00.00
118	1+00.00
119	1+00.00
120	1+00.00
121	1+00.00
122	1+00.00
123	1+00.00
124	1+00.00
125	1+00.00
126	1+00.00
127	1+00.00
128	1+00.00
129	1+00.00
130	1+00.00
131	1+00.00
132	1+00.00
133	1+00.00
134	1+00.00
135	1+00.00
136	1+00.00
137	1+00.00
138	1+00.00
139	1+00.00
140	1+00.00
141	1+00.00
142	1+00.00
143	1+00.00
1	

- 1 INSTALL LIMIT LINE PER 2022 CALTRANS STD PLAN A24G.
- 2 INSTALL TYPE III (L) ARROW PER 2022 CALTRANS STD PLAN A24B.
- 3 INSTALL TYPE III (R) ARROW PER 2022 CALTRANS STD PLAN A24B.
- 4 INSTALL TYPE VI ARROW PER 2022 CALTRANS STD PLAN A24A.
- 6 INSTALL BIKE LANE MARKING PER 2022 CALTRANS STD PLAN A24C AND ARROW PER STD PLAN A24A.
- 8 INSTALL "BIKE LANE" WORD PER 2022 CALTRANS STD PLAN A24D AND ARROW PER STD PLAN A24A.
- 9 INSTALL BIKE DETECTOR MARKING PER 2022 CALTRANS STD PLAN A24C.



WESTBROOK SPORTS COMPLEX
INTERSECTION IMPROVEMENTS
SS-02
SIGNING AND STRIPING
CITY OF ROSEVILLE, PLACER COUNTY, CALIFORNIA

K:\SAC_TPT\ROSEVILLE WESTBROOK SPORTS COMPLEX INTERSECTIONS\08 CAD\PLANSHEETS\SS-01 SIGNING AND STRIPING.DWG
This document, together with the concepts and designs presented herein, is intended only for the specific purpose and client for which it was prepared. Reuse of and improper reliance on this document without written authorization and adaptation by Kimley-Horn and Associates, Inc. shall be without liability to Kimley-Horn and Associates, Inc.



MATCHLINE "BW" LINE
STA 21+50 SEE SHEET SS-02

SIGNING NOTES

- 1 FURNISH AND INSTALL NEW SIGN AS SHOWN PER CITY OF ROSEVILLE STD PLAN TS-17A.
- 2 FURNISH AND INSTALL OBJECT MARKER PER CITY OF ROSEVILLE STD PLAN TS-17A.

STRIPING NOTES

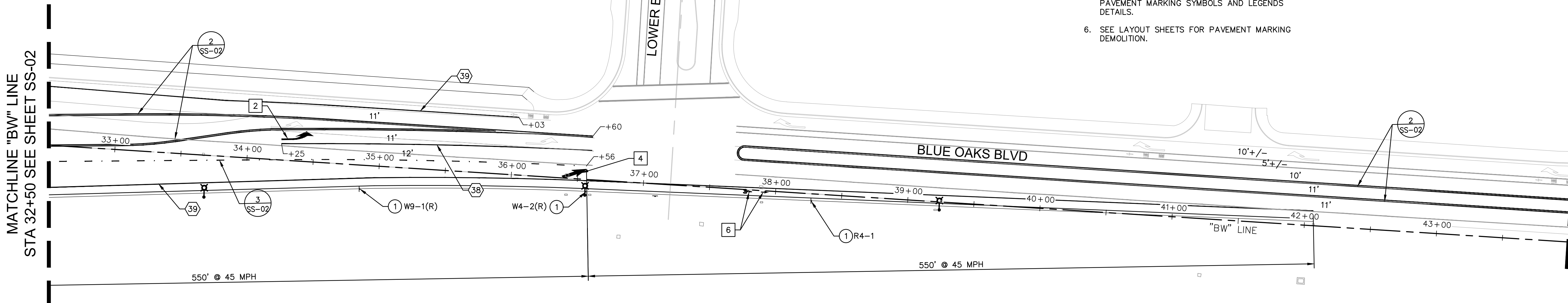
- 2 INSTALL TYPE III (L) ARROW PER 2022 CALTRANS STD PLAN A24B.
- 4 INSTALL TYPE VI ARROW PER 2022 CALTRANS STD PLAN A24A.
- 6 INSTALL BIKE LANE MARKING PER 2022 CALTRANS STD PLAN A24C AND ARROW PER STD PLAN A24A.
- 8 INSTALL "BIKE LANE" WORD PER 2022 CALTRANS STD PLAN A24D AND ARROW PER STD PLAN A24A.
- 10 INSTALL 6" WHITE PAINT STRIPING AT 45A' AND 15' O.C.

GENERAL NOTES

1. ALL EXISTING SIGNS SHALL BE PROTECTED IN PLACE UNLESS SPECIFIED FOR REMOVAL OR RELOCATION.
2. EXISTING SIGNS SPECIFIED FOR REMOVAL SHALL NOT BE REMOVED UNTIL NO LONGER PERTINENT TO TRAFFIC CONTROL.
3. ALL STRIPING CONFLICTING WITH PROPOSED STRIPING SHALL BE REMOVED PRIOR TO NEW STRIPING INSTALLATION.
4. CONTRACTOR TO LAYOUT (CAT TRACK) STRIPING AND HAVE ENGINEER APPROVE PRIOR TO INSTALLING STRIPES.
5. SEE 2018 CALTRANS STANDARD PLANS FOR PAVEMENT MARKING SYMBOLS AND LEGENDS DETAILS.
6. SEE LAYOUT SHEETS FOR PAVEMENT MARKING DEMOLITION.

LEGEND

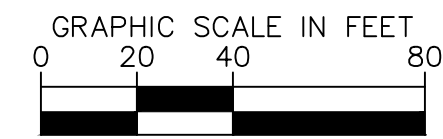
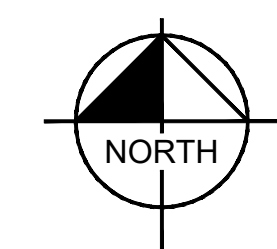
- | | |
|--|---|
| | TRAFFIC SIGN |
| | STRIPING DETAIL |
| | PROPOSED CALTRANS STRIPING DETAIL. SEE 2022 CALTRANS STANDARD PLANS |
| | BEGIN/END STRIPING STATION VALUE |



MATCHLINE "BW" LINE
STA 44+00 SEE SHEET SS-04



Know what's below.
Call before you dig.



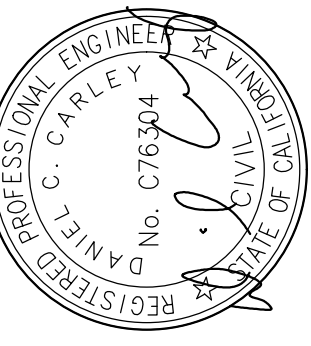
WESTBROOK SPORTS COMPLEX
INTERSECTION IMPROVEMENTS

SS-03

SIGNING AND STRIPING

CITY OF ROSEVILLE, PLACER COUNTY, CALIFORNIA

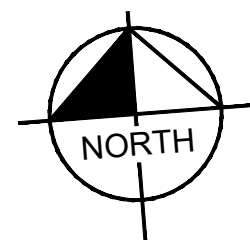
SHEET NUMBER
22 OF 39



KHA PROJECT	DATE	SCALE	DESIGNED BY	DRAWN BY	CHECKED BY
097918101	JULY 2023	AS SHOWN	MB	MB	DC

Kimley-Horn
555 CAPITOL MALL, SUITE 300, SACRAMENTO, CA 95814
PHONE: 916.865.8600
WWW.KIMLEY-HORN.COM

NO.	REVISIONS	DATE	BY



Call before you dig

PAVEMENT MARKING SCHEDULE		
PATTERN OR LEGEND	INSTALL	
	No.	TOTAL SQ. FT.
LIMIT LINE	18	105
	23	949
TYPE VI - LANE DROP ARROW		
	22	922
TYPE III - LEFT-TURN ARROW		
	9	377
TYPE II - RIGHT-TURN ARROW		
BIKE LANE MARKING	5	105

GENERAL NOTES

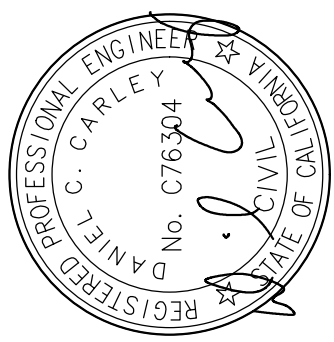
- ## LEGEND

SIGNING NOTES

- ## STRIPING NOTES

- ## DEMOLITION NOTES

- 2 REMOVE.

[illegible]

KHA PROJECT	AS SHOWN
097918101	MB
DATE	MB
JULY 2023	DC
SCALE	
DESIGNED BY	
DRAWN BY	
CHECKED BY	

WESTBROOK SPORTS COMPLEX INTERSECTION IMPROVEMENTS

SS-04

SIGNING AND STRIPING

CITY OF ROSEVILLE, PLACER COUNTY, CALIFORNIA

SHEET NUMBER
23 OF 39

K:\SAC_TPT\ROSEVILLE WESTBROOK SPORTS COMPLEX INTERSECTIONS\08 CADD\PLANSHEETS\SS-01 SIGNING AND STRIPING.DWG
This document, together with the concepts and designs presented herein, is intended only for the specific purpose and client for which it was prepared. Reuse of and improper reliance on this document without written authorization and adaptation by Kimley-Horn and Associates, Inc. shall be without liability to Kimley-Horn and Associates, Inc.



Know what's below.
Call before you dig.

STRIPING NOTES

1. INSTALL LIMIT LINE PER 2022 CALTRANS STD PLAN A24G.
2. INSTALL TYPE III (L) ARROW PER 2022 CALTRANS STD PLAN A24B.
3. INSTALL TYPE III (R) ARROW PER 2022 CALTRANS STD PLAN A24B.
4. INSTALL TYPE VI ARROW PER 2022 CALTRANS STD PLAN A24A.
6. INSTALL BIKE LANE MARKING PER 2022 CALTRANS STD PLAN A24C AND ARROW PER STD PLAN A24A.
7. INSTALL BASIC CROSSWALK PER 2022 CALTRANS STD PLAN A24F.
8. INSTALL "BIKE LANE" WORD PER 2022 CALTRANS STD PLAN A24D AND ARROW PER STD PLAN A24A.
9. INSTALL BIKE DETECTOR MARKING PER 2022 CALTRANS STD PLAN A24C.
10. INSTALL 6" WHITE PAINT STRIPING AT 45A' AND 15' O.C.

SIGNING NOTES

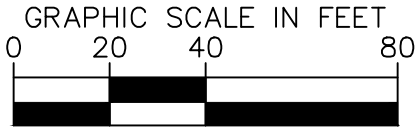
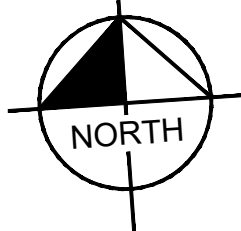
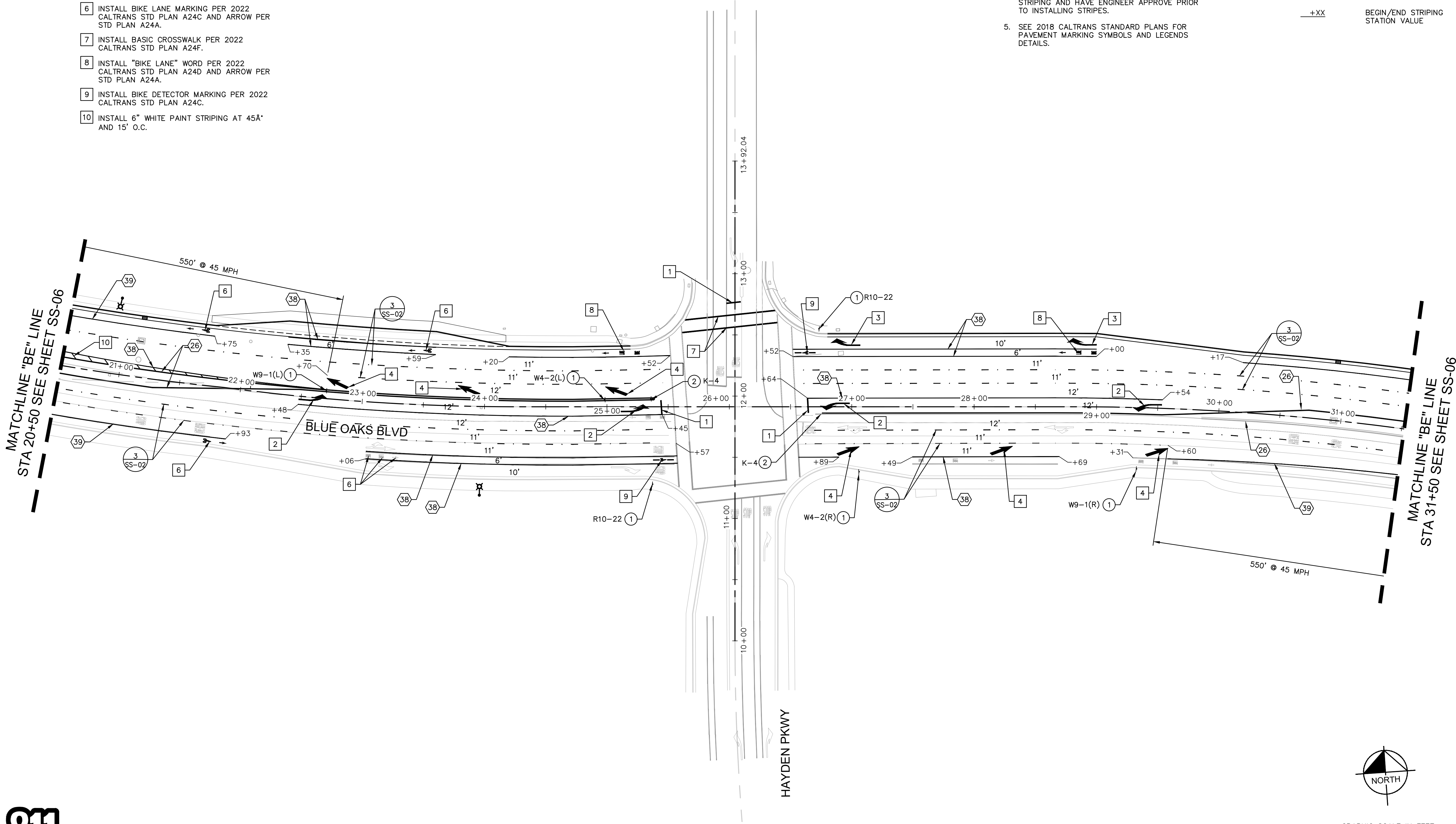
1. FURNISH AND INSTALL NEW SIGN AS SHOWN PER CITY OF ROSEVILLE STD PLAN TS-17A.
2. FURNISH AND INSTALL OBJECT MARKER PER CITY OF ROSEVILLE STD PLAN TS-17A.

GENERAL NOTES

1. ALL EXISTING SIGNS SHALL BE PROTECTED IN PLACE UNLESS SPECIFIED FOR REMOVAL OR RELOCATION.
2. EXISTING SIGNS SPECIFIED FOR REMOVAL SHALL NOT BE REMOVED UNTIL NO LONGER PERTINENT TO TRAFFIC CONTROL.
3. ALL STRIPING CONFLICTING WITH PROPOSED STRIPING SHALL BE REMOVED PRIOR TO NEW STRIPING INSTALLATION.
4. CONTRACTOR TO LAYOUT (CAT TRACK) STRIPING AND HAVE ENGINEER APPROVE PRIOR TO INSTALLING STRIPES.
5. SEE 2018 CALTRANS STANDARD PLANS FOR PAVEMENT MARKING SYMBOLS AND LEGENDS DETAILS.

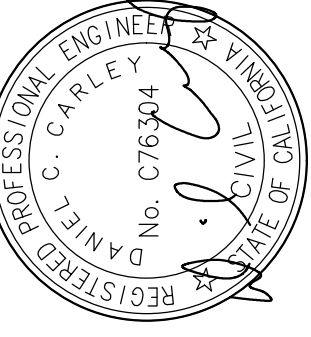
LEGEND

- TRAFFIC SIGN
- STRIPING DETAIL
- PROPOSED CALTRANS STRIPING DETAIL. SEE 2022 CALTRANS STANDARD PLANS
- BEGIN/END STRIPING STATION VALUE



NO.	REVISIONS	DATE	BY

Kimley»Horn
555 CAPITOL MALL, SUITE 300, SACRAMENTO, CA 95814
PHONE: 916.865.8220
WWW.KIMLEY-HORN.COM



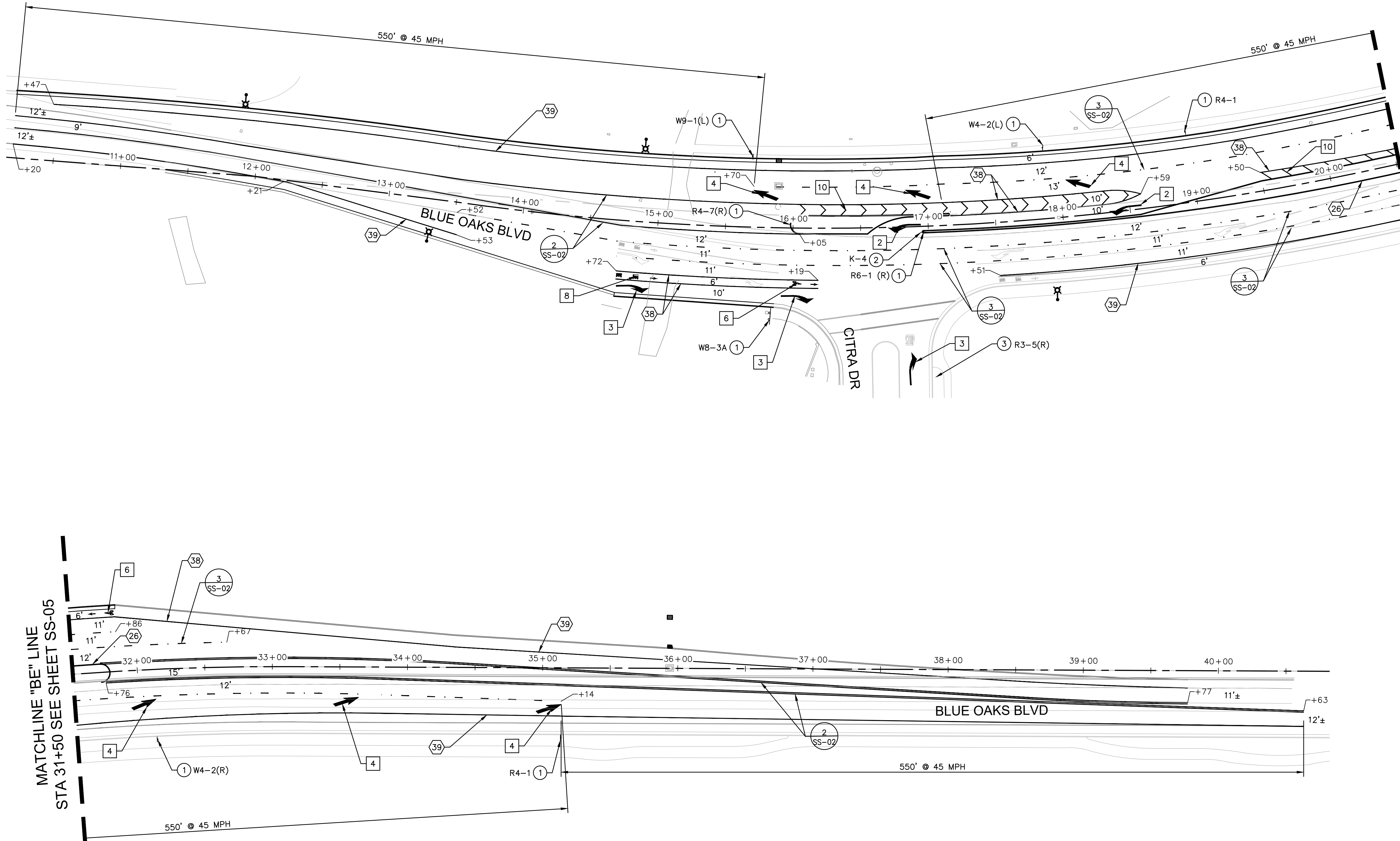
KHA PROJECT	DATE	SCALE	DESIGNED BY	DRAWN BY	CHECKED BY
097918101	JULY 2023	AS SHOWN	MB	MB	DC

WESTBROOK SPORTS COMPLEX
INTERSECTION IMPROVEMENTS
SS-05
SIGNING AND STRIPING
CITY OF ROSEVILLE, PLACER COUNTY, CALIFORNIA

K:\SAC_TPT\ROSEVILLE WESTBROOK SPORTS COMPLEX INTERSECTIONS\08 CAD\PLANSHEETS\SS-01 SIGNING AND STRIPING.DWG
This document, together with the concepts and designs presented herein, is intended only for the specific purpose and client for which it was prepared. Reuse of and improper reliance on this document without written authorization and adaptation by Kimley-Horn and Associates, Inc. shall be without liability to Kimley-Horn and Associates, Inc.

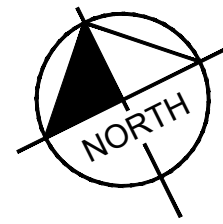


Know what's below.
Call before you dig.



LEGEND

- TRAFFIC SIGN
- STRIPING DETAIL
- PROPOSED CALTRANS STRIPING DETAIL. SEE 2022 CALTRANS STANDARD PLANS
- BEGIN/END STRIPING STATION VALUE



GENERAL NOTES

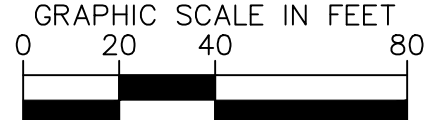
- ALL EXISTING SIGNS SHALL BE PROTECTED IN PLACE UNLESS SPECIFIED FOR REMOVAL OR RELOCATION.
- EXISTING SIGNS SPECIFIED FOR REMOVAL SHALL NOT BE REMOVED UNTIL NO LONGER PERTINENT TO TRAFFIC CONTROL.
- ALL STRIPING CONFLICTING WITH PROPOSED STRIPING SHALL BE REMOVED PRIOR TO NEW STRIPING INSTALLATION.
- CONTRACTOR TO LAYOUT (CAT TRACK) STRIPING AND HAVE ENGINEER APPROVE PRIOR TO INSTALLING STRIPES.
- SEE 2018 CALTRANS STANDARD PLANS FOR PAVEMENT MARKING SYMBOLS AND LEGENDS DETAILS.

STRIPING NOTES

- INSTALL TYPE III (L) ARROW PER 2022 CALTRANS STD PLAN A24B.
- INSTALL TYPE III (R) ARROW PER 2022 CALTRANS STD PLAN A24B.
- INSTALL TYPE VI ARROW PER 2022 CALTRANS STD PLAN A24A.
- INSTALL BIKE LANE MARKING PER 2022 CALTRANS STD PLAN A24C AND ARROW PER STD PLAN A24A.
- INSTALL "BIKE LANE" WORD PER 2022 CALTRANS STD PLAN A24D AND ARROW PER STD PLAN A24A.
- INSTALL 6" WHITE PAINT STRIPING AT 45' AND 15' O.C.

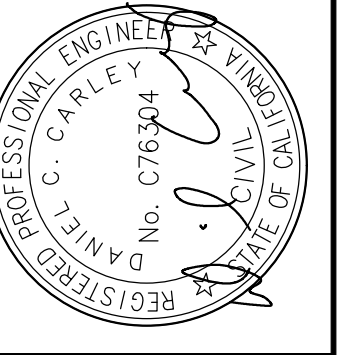
SIGNING NOTES

- FURNISH AND INSTALL NEW SIGN AS SHOWN PER CITY OF ROSEVILLE STD PLAN TS-17A.
- FURNISH AND INSTALL OBJECT MARKER PER CITY OF ROSEVILLE STD PLAN TS-17A.
- INSTALL NEW SIGN ON EXISTING SIGN POST AS SHOWN.



NO.	REVISIONS	DATE	BY

Kimley»Horn
555 CAPITOL MALL, SUITE 300, SACRAMENTO, CA 95814
PHONE: 916.865.8600
WWW.KIMLEY-HORN.COM



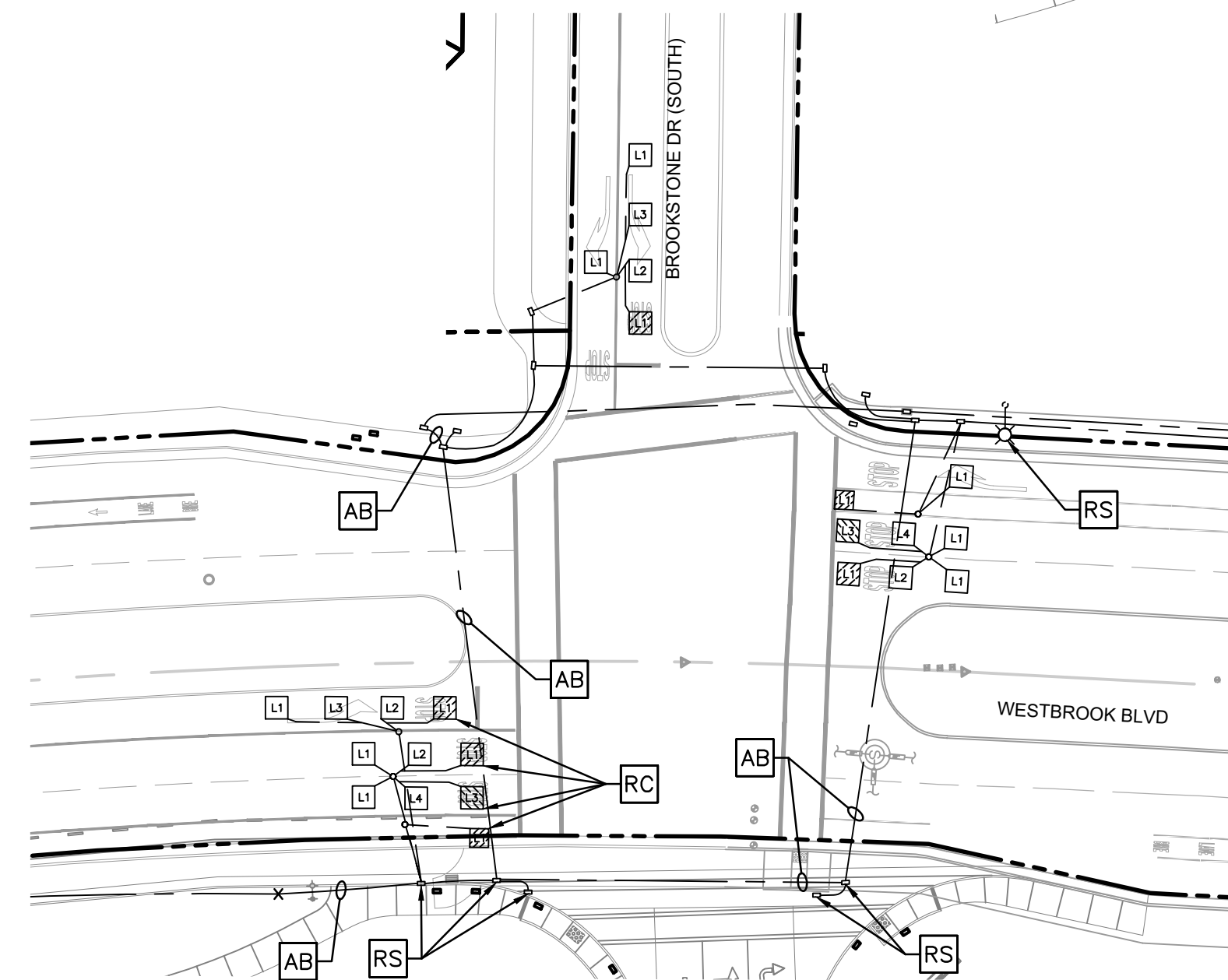
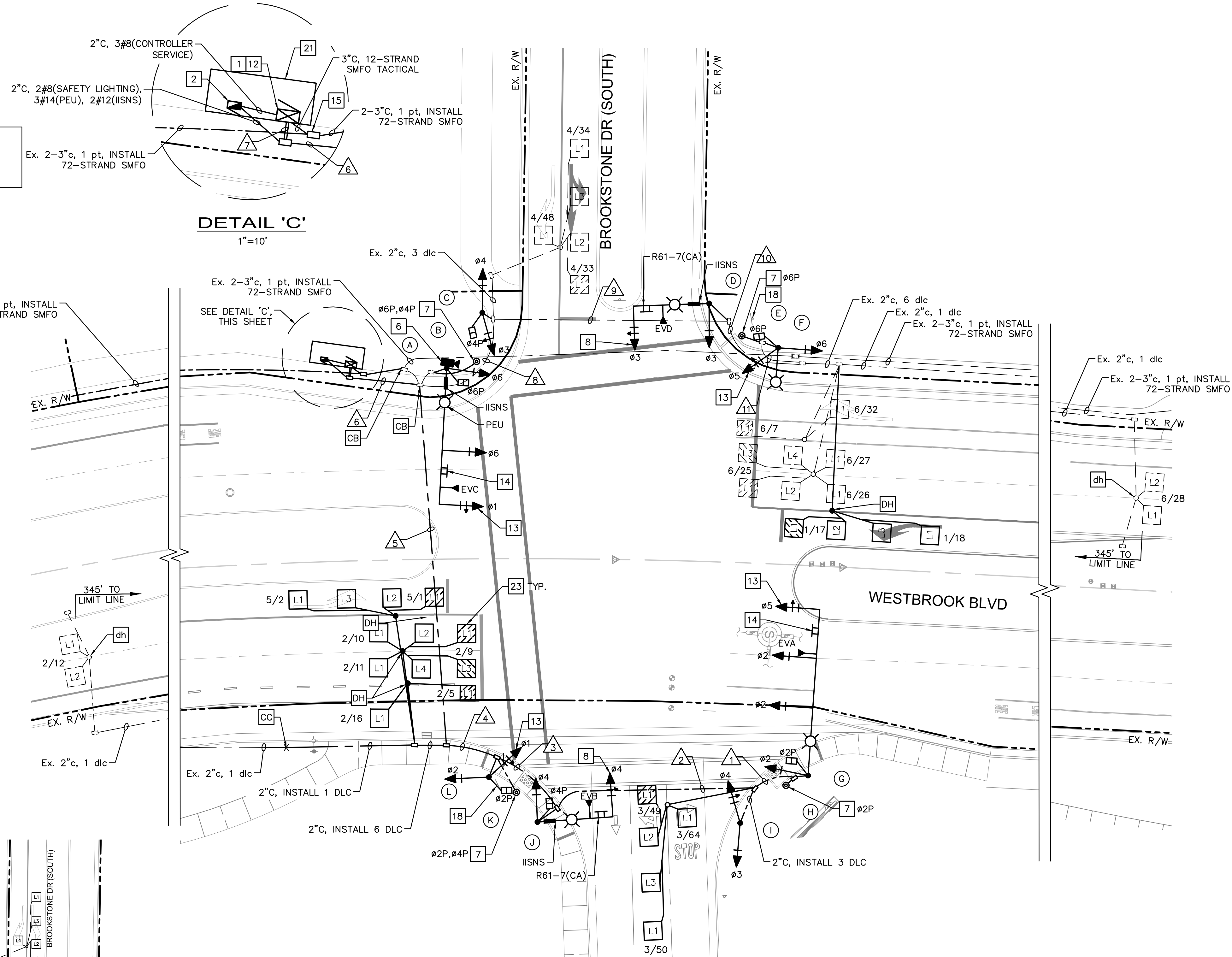
KHA PROJECT	DATE	SCALE	DESIGNED BY	DRAWN BY	CHECKED BY
097918101	JULY 2023	AS SHOWN	MB	MB	DC

WESTBROOK SPORTS COMPLEX
INTERSECTION IMPROVEMENTS

SS-06
SIGNING AND STRIPING

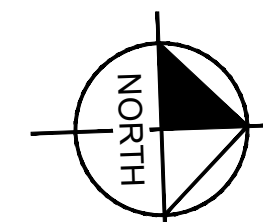
CITY OF ROSEVILLE, PLACER COUNTY, CALIFORNIA

EVA = 02 + 05
 EVB = 04
 EVC = 06 + 01
 EVD = 03

 $1'' = 40'$ 

GA

YELLOW REFLECTIVE TAPE



GRAPHIC SCALE IN FEET

A horizontal line with vertical tick marks at 0, 10, 20, and 40. The segment between 0 and 10 is divided into two equal parts by a vertical line. The segment between 10 and 20 is a single block. The segment between 20 and 40 is divided into two equal parts by a vertical line. The blocks between 0-5, 10-20, and 25-40 are white. The blocks between 5-10 and 20-25 are black.

1. ALL WORK SHALL CONFORM TO THE LATEST EDITIONS OF THE CITY OF ROSEVILLE CONSTRUCTION AND IMPROVEMENTS STANDARDS, STANDARD CONSTRUCTION SPECIFICATIONS, THE 2022 CALTRANS STANDARD SPECIFICATIONS AND PLANS, AND THE LATEST CALIFORNIA MUTCD.
2. ALL PULL BOXES ARE FIBERLYTE FL-36 UNLESS OTHERWISE NOTED.
3. ALL NO. 6E PULL BOXES SHALL BE INSTALLED WITH 12 IN. EXTENSIONS.

- 1 INSTALL CITY-FURNISHED NEMA TYPE-"STRETCH" P. CABINET, CITY TO PROVIDE AND INSTALL SIGNAL CONTROLLER.
- 2 INSTALL CITY-FURNISHED TESCO 120/240V TYPE 27-22 SERVICE PEDESTAL WITH BATTERY BACK-UP SYSTEM OR APPROVED EQUIVALENT. THE EQUIPMENT GROUNDING CONDUCTOR SHALL BE AWG #8 BARE COPPER, STRANDED WIRE IS NOT ACCEPTABLE.
- 6 INSTALL CITY-FURNISHED PTZ CCTV CAMERA. MOUNT BELOW LUMINAIRE MAST ARM (AS DIRECTED BY CITY ENGINEER). INSTALL ASSOCIATED COMMUNICATIONS AND POWER CABLES. SEE CITY STANDARD DETAIL TS-24 FOR MOUNTING DETAILS.
- 7 FURNISH AND INSTALL POLARA APS SYSTEM (INTELLIGENT NAVIGATOR INS2 WITH ICCU-S2 CONTROL UNIT) AND ASSOCIATED PUSH BUTTON STATION.
- 8 FURNISH AND INSTALL 4-SECTION VEHICLE HEAD PER DETAIL 'A', THIS SHEET.
- 12 FURNISH AND INSTALL SPH-01P & 12-PORT CCH PANEL WITH LC CONNECTORS IN CONTROLLER CABINET. TERMINATE TACTICAL CABLE PER TYPE-1 SPLICE ON CITY OF ROSEVILLE DESIGN & CONSTRUCTION STANDARDS, DETAIL TS-26 USING AFL FUSECONNECT LC9SMU-6.
- 13 FURNISH AND INSTALL 4-SECTION FLASHING YELLOW ARROW VEHICLE HEAD PER DETAIL 'B', THIS SHEET, AND CITY OF ROSEVILLE DESIGN & CONSTRUCTION STANDARDS, DETAIL TS-30.
- 14 FURNISH AND INSTALL "LEFT TURN YIELD ON FLASHING YELLOW" SIGN PER CITY OF ROSEVILLE DESIGN & CONSTRUCTION STANDARDS, DETAIL TS-30.
- 15 PROVIDE 100 FT. OF SLACK OF 72-STRAND SMFO CABLE IN PULL BOX. SPLICE FIBER OPTIC CABLES PER TYPE-1 SPLICING DIAGRAM ON SHEET FO-01.
- 18 INSTALL NEW 36"x48" "LEFT TURN YIELD ON FLASHING" - YELLOW ARROW SYMBOL SIGN ON NEW POST. INSTALL PER CITY OF ROSEVILLE DESIGN & CONSTRUCTION STANDARDS, DETAIL TS-30.
- 21 INSTALL CONTROLLER/SERVICE CABINET PAD PER CITY OF ROSEVILLE DESIGN & CONSTRUCTION STANDARDS, DETAIL TS-5.
- AB ABANDON, IF APPLIED TO CONDUIT, REMOVE CONDUCTORS
- CB INSTALL CONDUIT INTO EXISTING PULL BOX
- CC CONNECT NEW AND EXISTING CONDUIT. REMOVE EXISTING CONDUCTORS AND INSTALL CONDUCTORS AS INDICATED
- DH DETECTOR HANDHOLE
- RS REMOVE AND SALVAGE EQUIPMENT
- dh DETECTOR HANDHOLE

[illegible]

Kimley»Horn
555 CAPITOL MALL, SUITE 300, SACRAMENTO, CA 95814
PHONE: 916-858-5800
WWW.KIMLEY-HORN.COM



DATE	AS SHOWN
JULY 2023	
DESIGNED BY	MB
DRAWN BY	MB
CHECKED BY	DC

**WESTBROOK SPORTS COMPLEX
INTERSECTION IMPROVEMENTS**

TS-01

**TRAFFIC SIGNAL PLAN - WESTBROOK BLVD &
BROOKSTONE DR (SOUTH)**

CITY OF ROSEVILLE, PLACER COUNTY, CALIFORNIA

SHEET NUMBER
26 OF 39

Know what's below.
Call before you dig

K:\SAC_IPTO\ROSEVILLE- WESTBROOK SPORTS COMPLEX INTERSECTIONS\08 CADD\PLANSHEETS\TS-01 TRAFFIC SIGNAL- WESTBROOK.DWG
This document, together with the concepts and designs presented herein, as an instrument of service, is intended only for the specific purpose and client for which it was prepared. Reuse of and improper reliance on this document without written authorization and adaptation by Kimley-Horn and Associates, Inc. shall be without liability to Kimley-Horn and Associates, Inc.



Know what's below.
Call before you dig.

CONDUCTOR SCHEDULE														
CONDUCTOR DESIGNATION			NUMBER OF CONDUCTORS											
CABLE TYPE	STD	PHASE	RUN NUMBER											
			1	2	3	4	5	6	7	8	9	10	11	
VEH-PED 12CSC	(A)	1,6,6P												
	(B)	6P,4P							1	3				
	(C)	3,4,4P							1	1	1			
	(D)	3							1	1	1			
	(E)	6P							2	2	2	2	2	2
	(F)	5,6,6P							1	1	1	1	1	1
	(G)	2,5,2P							1	1	1			
	(H)	2P	1	1	1	1	1	1	1	1	1			
	(I)	3,4	2	2	2	2	2	2	2	2				
	(J)	4,4P				1	1	1	1	1				
PPB 3CSC	(K)	2P,4P				3	3	3	3	3				
	(L)	1,2,2P				1	1	1	1	1				
TOTAL CABLES 12/3 CONDUCTORS			1	2	2	4	5	4	8	8	3	2	1	2
#14	PEU							1						
#12	IISNS				2	2	2	2			2	2		
#8	LUMINAIRES		2	2	2	2		2			2	2	2	
	GROUND		1	1	1	1		1			1	1		
PULL TAPE			1	1	1	1	1	1	1	1(E)	1(E)	1(E)	1(E)	
DLC	Ø1							2	2	2	2	2		
	Ø2				6	6	6	6	6					
	Ø3			3	3	3	3	3	3					
	Ø4							3	3	3				
	Ø5				2	2	2	2	2	2				
	Ø6							6	6	6	6	6	6	
EVP			1	1	2	2	2	4	4	4	1	1	1	1
CAT 6E CABLE Ø	(A)							1	1					
PTZ CCTV POWER CABLE *								1	1					
CONDUIT SIZE			2-3"	2-3"	2-3"	2-3"	2-3"	2-4"	2-3"	2-3"	2-3"	2-3"	2-3"	2-3"
PERCENT FILL			4	8	18	18	16	20	18	15	11	7	3	

ALL CONDUCTORS AND CONDUIT ARE NEW UNLESS OTHERWISE NOTED.
(E) - DENOTES EXISTING CONDUIT
* - FURNISH AND INSTALL IMSA 14-3/20-1-STR 600 V POWER CABLE, COLOR CODE 3/C (BELDEN PART NUMBER 601195 OR CITY APPROVED EQUIVALENT). COIL 10 FEET SLACK AT THE TOP OF POLE.
Ø - FURNISH AND INSTALL MOHAWK LAN-TRAK OSP CAT6 CABLES (PART NUMBER M58790 OR CITY APPROVED EQUIVALENT). COIL 10 FEET OF SLACK AT TOP OF POLE.

POLE AND EQUIPMENT SCHEDULE											
LOCATION	STANDARD			VEHICLE SIGNAL MOUNTING		PEDESTRIAN SIGNAL MOUNTING	PPB		LED LUMINAIRE WATTAGE	REMARKS	
	TYPE	SIG. MA (FEET)	LUM. MA (FEET)	MAST ARM	POLE		Ø	ARROW			
(A)	29-5-100	45'	15'	MAS-4B MAS	SV-1-T	SP-1-T	-	-	183	INSTALL EVC ON SMA. INSTALL IISNS MAST ARM AND IISNS (Brookstone Dr). INSTALL PEU ON LUMINAIRE.	
(B)	PPB	-	-	-	-	-	6 8	RIGHT LEFT	-		
(C)	1-B (10')	-	-	-	TV-2-T	SP-1-T	-	-	-		
(D)	19-3-100	25'	15'	MAS-4B	SV-1-T	-	-	-	183	INSTALL EVD ON SMA. INSTALL IISNS MAST ARM AND IISNS (Westbrook Blvd).	
(E)	PPB	-	-	-	-	-	6	LEFT	-		
(F)	TYPE 15TS	-	-	-	TV-2-T	SP-1-T	-	-	-		
(G)	29-5-100	55'	15'	MAS-4B MAS MAS	SV-1-T	SP-1-T	-	-	183	INSTALL EVA ON SMA.	
(H)	PPB	-	-	-	-	-	2	RIGHT	-		
(I)	1-B (10')	-	-	-	TV-2-T	-	-	-	-		
(J)	17-3-100	20'	15'	MAS-4B	SV-1-T	SP-1-T	-	-	183	INSTALL EVB ON SMA. INSTALL IISNS MAST ARM AND IISNS (Westbrook Blvd).	
(K)	PPB	-	-	-	-	-	2 7	LEFT RIGHT	-		
(L)	1-B (10')	-	-	-	TV-2-T	SP-1-T	-	-	-		

NOTE:
ALL POLES AND EQUIPMENT ARE NEW.

WESTBROOK SPORTS COMPLEX
INTERSECTION IMPROVEMENTS
TS-02
TRAFFIC SIGNAL SCHEDULE - WESTBROOK BLVD &
BROOKSTONE DR (SOUTH)
CITY OF ROSEVILLE, PLACER COUNTY, CALIFORNIA

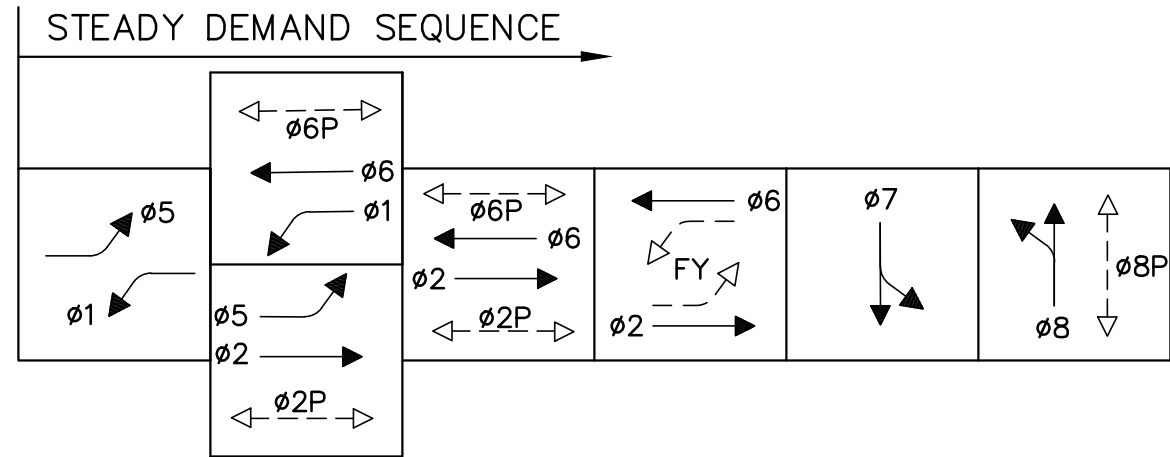
SHEET NUMBER
27 OF 39



Kimley-Horn
555 CAPITOL MALL, SUITE 300, SACRAMENTO, CA 95814
PHONE: 916-858-5500
WWW.KIMLEY-HORN.COM

REVISIONS		DATE	BY
No.			

PROPOSED PHASE SEQUENCE



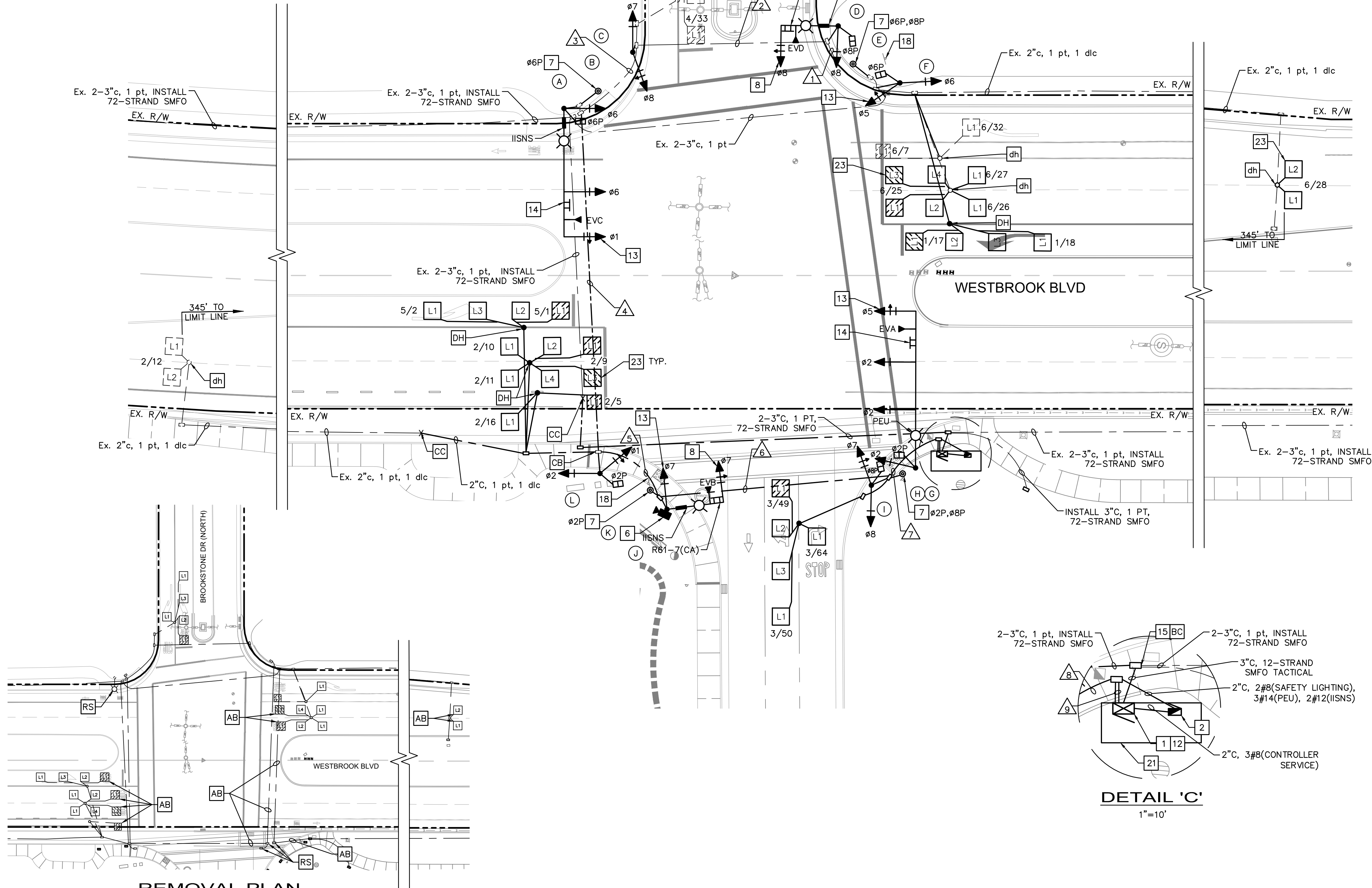
FYA = CH9 G FYA = CH.11 G

EVP ASSIGNMENTS

EVA = 02 + 05
EVB = 07
EVC = 06 + 01
EVD = 08

DETAIL 'A'
4-SECTION VEHICLE
HEAD
NO SCALE

DETAIL 'B'
FLASHING YELLOW ARROW
SIGNAL HEAD
NO SCALE



REMOVAL PLAN
1"=40'

DETAIL 'C'
1"=10'

CONSTRUCTION NOTES:

- 1 INSTALL CITY-FURNISHED NEMA TYPE-"STRETCH" P CABINET. CITY TO PROVIDE AND INSTALL SIGNAL CONTROLLER.
- 2 INSTALL CITY-FURNISHED TESCO 120/240V TYPE 27-22 SERVICE PEDESTAL WITH BATTERY BACK-UP SYSTEM OR APPROVED EQUIVALENT. THE EQUIPMENT GROUNDING CONDUCTOR SHALL BE AWG #8 BARE COPPER. STRANDED WIRE IS NOT ACCEPTABLE.
- 6 INSTALL CITY-FURNISHED PTZ CCTV CAMERA. MOUNT BELOW LUMINAIRE MAST ARM (AS DIRECTED BY CITY ENGINEER). INSTALL ASSOCIATED COMMUNICATIONS AND POWER CABLES. SEE CITY STANDARD DETAIL TS-24 FOR MOUNTING DETAILS.
- 7 FURNISH AND INSTALL POLARA APS SYSTEM (INTELLIGENT NAVIGATOR INS2 WITH ICCU-S2 CONTROL UNIT) AND ASSOCIATED PUSH BUTTON STATION.
- 8 FURNISH AND INSTALL 4-SECTION VEHICLE HEAD PER DETAIL 'A', THIS SHEET.
- 12 FURNISH AND INSTALL SPH-01P & 12-PART COH PANEL WITH LC CONNECTORS IN CONTROLLER CABINET. TERMINATE TACTICAL CABLE PER TYPE-1 SPLICE ON CITY OF ROSEVILLE DESIGN & CONSTRUCTION STANDARDS, DETAIL TS-26 USING AFL FUSECONNECT LC9SMU-6.
- 13 FURNISH AND INSTALL 4-SECTION FLASHING YELLOW ARROW VEHICLE HEAD PER DETAIL 'B', THIS SHEET, AND CITY OF ROSEVILLE DESIGN & CONSTRUCTION STANDARDS, DETAIL TS-30.
- 14 FURNISH AND INSTALL "LEFT TURN YIELD ON FLASHING YELLOW" SIGN PER CITY OF ROSEVILLE DESIGN & CONSTRUCTION STANDARDS, DETAIL TS-30.
- 15 PROVIDE 100 FT. OF SLACK OF 72-STRAND SMFO CABLE IN PULL BOX. SPLICE FIBER OPTIC CABLES PER TYPE-1 SPLICING DIAGRAM ON SHEET FO-01.
- 18 INSTALL NEW 36"x48" "LEFT TURN YIELD ON FLASHING" - YELLOW ARROW SYMBOL SIGN ON NEW POST. INSTALL PER CITY OF ROSEVILLE DESIGN & CONSTRUCTION STANDARDS, DETAIL TS-30.
- 21 INSTALL CONTROLLER/SERVICE CABINET PAD PER CITY OF ROSEVILLE DESIGN & CONSTRUCTION STANDARDS, DETAIL TS-5.
- 23 INSTALLING LOOPS IN EXISTING PAVEMENT: TOP LIFT MUST BE GROUND OUT. CUT/INSTALL LOOPS. RE-PAVE TOP LIFT.
- AB ABANDON, IF APPLIED TO CONDUIT, REMOVE CONDUCTORS
- BC INSTALL PULL BOX IN EXISTING CONDUIT RUN
- CB INSTALL CONDUIT INTO EXISTING PULL BOX
- CC CONNECT NEW AND EXISTING CONDUIT. REMOVE EXISTING CONDUCTORS AND INSTALL CONDUCTORS AS INDICATED
- DH DETECTOR HANDHOLE
- RC REMOVE AND SALVAGE EQUIPMENT
- RS REMOVE AND SALVAGE EQUIPMENT
- dh DETECTOR HANDHOLE

Kimley»Horn
555 CAPITOL Mall, Suite 300, Sacramento, CA 95814
PHONE: 916.865.8800
WWW.KIMLEY-HORN.COM



KHA PROJECT	097918101	DATE	JULY 2023	SCALE	AS SHOWN	DESIGNED BY	MB	DRAWN BY	MB	CHECKED BY	DC
-------------	-----------	------	-----------	-------	----------	-------------	----	----------	----	------------	----

WESTBROOK SPORTS COMPLEX
INTERSECTION IMPROVEMENTS

TS-03

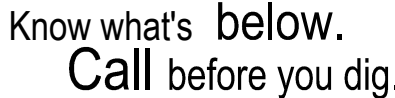
TRAFFIC SIGNAL PLAN - WESTBROOK BLVD &
BROOKSTONE DR (NORTH)
CITY OF ROSEVILLE, PLACER COUNTY, CALIFORNIA

SHEET NUMBER
28 OF 39

CONDUCTOR SCHEDULE													
CONDUCTOR DESIGNATION				NUMBER OF CONDUCTORS									
CABLE TYPE	STD	PHASE		RUN NUMBER									
				1	2	3	4	5	6	7	8	9	10
VEH-PED 12CSC	(A)	1,6,6P	/	/	/	/	/	/	/	/	/	/	/
	(B)		6P	/	/	/	/	2	2	2	2	2	2
	(C)	7,8	/	/	/	1	1	1	1	1	1	1	1
	(D)	8,8P	/	/	1	1	1	1	1	1	1	1	1
	(E)		6P,8P	/	3	3	3	3	3	3	3	3	3
	(F)	5,6,6P	/	1	1	1	1	1	1	1	1	1	1
	(G)	2,5,2P	/	/	/	/	/	/	/	/	/	/	/
	(H)		2P,8P	/	/	/	/	/	/	3	3	3	3
	(I)	7,8,8P	/	/	/	/	/	/	/	1	1	1	1
	(J)	7	/	/	/	/	1	1	1	1	1	1	1
	PPB 3CSC	(K)		2P	/	/	/	/	2	2	2	2	2
(L)		1,2,2P	/	/	/	/	1	1	1	1	1	1	1
TOTAL CABLES 12/3 CONDUCTORS				1	3	2	3	4	5	6	7	8	10
#14	PEU											1	
#12	IISNS				2	2	2	2	2	2	2	2	2
#8	LUMINAIRES				2	2	2	2	2	2	2	2	2
	GROUND				1	1	1	1	1	1	1	1	1
PULL TAPE				1(E)	1(E)	1(E)	1(E)	1	1	1	1	1	1
DLC	ø1			2	2	2	2	2	2	2	2	2	2
	ø2							5	5	5	5	5	5
	ø5							2	2	2	2	2	2
	ø6		6	6	6	6	6	6	6	6	6	6	6
	ø7				3	3	3	3	3	3	3	3	3
	ø8								3	3	3	3	3
EVP					1	1	2	1	3	3	4	4	4
CAT 6E CABLE ○	(J)							1	1	1	1	1	1
PTZ CCTV POWER CABLE *								1	1	1	1	1	1
CONDUIT SIZE				2-3" (E)	2-3" (E)	2-3" (E)	2-3" (E)	2-3" (E)	2-4"	2-4"	2-4"	2-4"	2-4"
PERCENT FILL					11	15	18	18	15	18	19	19	19

ALL CONDUCTORS AND CONDUIT ARE NEW UNLESS OTHERWISE NOTED.
(E) - DENOTES EXISTING CONDUIT

- * - FURNISH AND INSTALL IMSA 14-3/20-1-STR 600 V POWER CABLE, COLOR CODE 3/C (BELDEN PART NUMBER 601195 OR CITY APPROVED EQUIVALENT). COIL 10 FEET SLACK AT THE TOP OF POLE.
- o - FURNISH AND INSTALL MOHAWK LAN-TRAK OSP CAT6 CABLES (PART NUMBER M58790 OR CITY APPROVED EQUIVALENT). COIL 10 FEET OF SLACK AT TOP OF POLE.



POLE AND EQUIPMENT SCHEDULE										
LOCATION	STANDARD			VEHICLE SIGNAL MOUNTING		PEDESTRIAN SIGNAL MOUNTING	PPB		LED LUMINAIRE WATTAGE	REMARKS
	TYPE	SIG. MA (FEET)	LUM. MA (FEET)	MAST ARM	POLE		Ø	ARROW		
(A)	29-5-100	45'	15'	MAS-4B MAS	SV-1-T	SP-1-T	-	-	183	INSTALL EVC ON SMA. INSTALL IISNS MAST ARM AND IISNS (Brookstone Dr).
(B)	PPB	-	-	-	-	-	6	RIGHT	-	
(C)	1-B (10')	-	-	-	TV-2-T	-	-	-	-	
(D)	17-3-100	20'	15'	MAS-4B	SV-1-T	SP-1-T	-	-	183	INSTALL EVD ON SMA. INSTALL IISNS MAST ARM AND IISNS (Westbrook Blvd).
(E)	PPB	-	-	-	-	-	6 8	LEFT RIGHT	-	
(F)	1-B (10')	-	-	-	TV-2-T	SP-1-T	-	-	-	
(G)	29-5-100	55'	15'	MAS-4B MAS MAS	SV-1-T	SP-1-T	-	-	183	INSTALL EVA ON SMA. INSTALL PEU ON LUMINAIRE.
(H)	PPB	-	-	-	-	-	2 8	RIGHT LEFT	-	
(I)	1-B (10')	-	-	-	TV-2-T	SP-1-T	-	-	-	
(J)	17-3-100	20'	15'	MAS-4B	SV-1-T	-	-	-	183	INSTALL EVB ON SMA. INSTALL IISNS MAST ARM AND IISNS (Westbrook Blvd).
(K)	PPB	-	-	-	-	-	2	LEFT	-	
(L)	1-B (10')	-	-	-	TV-2-T	SP-1-T	-	-	-	

NOTE:
ALL POLES AND EQUIPMENT ARE NEW.

Kimley»Horn
555 CAPITOL MALL, SUITE 300, SACRAMENTO, CA 95814
PHONE: 916-858-5800
WWW.KIMLEY-HORN.COM

3555 CAPITOL MALL, SUITE 300, SACRAMENTO, CA 95811
PHONE: 916-858-5800
WWW.KIMLEY-HORN.COM



KHA PROJECT	DATE
097918101	JULY 2023
SCALE	AS SHOWN
DESIGNED BY	MB
DRAWN BY	MB
CHECKED BY	DC

WESTBROOK SPORTS COMPLEX INTERSECTION IMPROVEMENTS

TS-04
TRAFFIC SIGNAL SCHEDULE - WESTBROOK BLVD &
BROOKSTONE DR (NORTH)
CITY OF ROSEVILLE, PLACER COUNTY, CALIFORNIA

SHEET NUMBER
29 OF 39

No.	REVISIONS	DATE	BY
-----	-----------	------	----

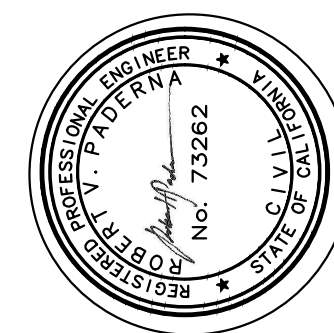
$$\begin{aligned} \text{EVA} &= \phi_2 + \phi_5 \\ \text{EVB} &= \phi_4 + \phi_7 \\ \text{EVC} &= \phi_6 + \phi_1 \\ \text{EVD} &= \phi_8 + \phi_3 \end{aligned}$$


Know what's below.
Call before you dig

- 1 INSTALL CITY-FURNISHED NEMA TYPE-"STRETCH" P CABINET. CITY TO PROVIDE AND INSTALL SIGNAL CONTROLLER.
- 2 INSTALL CITY-FURNISHED PT2 CCTV CAMERA. MOUNT BELOW LUMINAIRE MAST ARM (AS DIRECTED BY CITY ENGINEER). INSTALL ASSOCIATED COMMUNICATIONS AND POWER CABLES. SEE CITY STANDARD DETAIL TS-24 FOR MOUNTING DETAILS.
- 7 FURNISH AND INSTALL POLARA APS SYSTEM (INTELLIGENT NAVIGATOR iNS2 WITH ICCU-S2 CONTROL UNIT) AND ASSOCIATED PUSH BUTTON STATION.
- 12 FURNISH AND INSTALL SPH-01P & 12-PORT CCH PANEL WITH LC CONNECTORS IN CONTROLLER CABINET. TERMINATE TACTICAL CABLE PER TYPE-1 SPLICE ON CITY OF ROSEVILLE DESIGN & CONSTRUCTION STANDARDS, DETAIL TS-26 USING AFL FUSECONNECT LCGSMU-6.
- 15 PROVIDE 100 FT. OF SLACK OF TWICE-STRAND SMFO CABLE IN PULL BOX. SPLICE FIBER OPTIC CABLES PER TYPE-1 SPLICING DIAGRAM ON SHEET FO-01.
- 22 REMOVE EXISTING ABANDONED STREET LIGHT FOUNDATION. FILL WITH NATIVE.
- CB1 INSTALL CONDUIT INTO EXISTING PULL BOX

[illegible]

Kimley»Horn
555 CAPITOL MALL, SUITE 300, SACRAMENTO, CA 95814
PHONE: 916-858-5800
WWW.KIMLEY-HORN.COM



KHA PROJECT	AS SHOWN
097918101	MB
DATE	MB
JULY 2023	DC
SCALE	
DESIGNED BY	
DRAWN BY	
CHECKED BY	

**WESTBROOK SPORTS COMPLEX
INTERSECTION IMPROVEMENTS**

TS-05
**TRAFFIC SIGNAL PLAN - BLUE OAKS BLVD & WESTBROOK
BLVD**

CITY OF ROSEVILLE, PLACER COUNTY, CALIFORNIA

SHEET NUMBER
30 OF 39

K:\SAC_TPTO\ROSEVILLE WESTBROOK SPORTS COMPLEX INTERSECTIONS\08 CADD\PLANSHEETS\TS-05 TRAFFIC SIGNAL BLUE OAKS.DWG
This document, together with the concepts and designs presented herein, is an instrument of service, is intended only for the specific purpose and client for which it was prepared. Reuse of and improper reliance on this document without written authorization and adaptation by Kimley-Horn and Associates, Inc. shall be without liability to Kimley-Horn and Associates, Inc.



Know what's below.
Call before you dig.

CONDUCTOR SCHEDULE																		
CONDUCTOR DESIGNATION				NUMBER OF CONDUCTORS														
CABLE TYPE	STD	PHASE		RUN NUMBER														
				1	2	3	4	5	6	7	8	9	10					
VEH-PED 12CSC	(A)	2,5,2P		/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
	(B)		2P,8P	/	/	/	/	/	/	/	/	/	/	3	3	3	/	/
	(C)	7,8,8P		/	/	/	/	/	/	/	/	/	/	1	1	1	/	/
	(D)	4,7,4P		/	/	/	/	/	/	/	/	/	/	1	1	1	/	/
	(E)		2P,4P	/	/	/	/	/	/	/	/	/	/	3	3	3	3	3
	(F)	2,7,2P		/	/	/	/	/	/	/	/	/	/	1	1	1	/	/
	(G)	1,6,6P		/	/	/	/	/	/	/	/	/	/	1	1	1	/	/
	(H)		4P,6P	/	/	/	/	/	/	/	/	/	/	3	3	3	/	/
	(I)	3,4,4P		/	/	/	/	/	/	/	/	/	/	1	1	1	/	/
	(J)	3,8,8P		/	/	/	/	/	/	/	/	/	/	1	1	1	/	/
PPB 3CSC	(K)		6P,8P	/	/	/	/	/	/	/	/	/	/	3	3	3	/	/
	(L)	5,6,6P		/	/	/	/	/	/	/	/	/	/	1	1	1	/	/
TOTAL CABLES 12/3 CONDUCTORS				1	3	3	2	3	1	3	4	6	1	2	3	8	2	3
#12	IISNS			2	2	2		2	2	2	2	2		2				
#8	LUMINAIRES			2	2	2	2	2	2	2	2	2		2				
	GROUND			1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
PULL TAPE				1(E)	1(E)	1(E)	1(E)	1(E)	1(E)	1(E)	1(E)	1(E)	1(E)	1(E)	1(E)			
DLC	Ø1						2	2				2	2					
	Ø2											6	6	6				
	Ø3											3	3					
	Ø4				8		8					8	8					
	Ø5											2	2	2				
	Ø6					5	5					5	5					
	Ø7				2		2					2	2					
	Ø8											8						
EVP				1	1	1		2	1	1	4	4	1					
CAT 6E CABLE Ø	(A)								1	1	1	1						
PTZ CCTV POWER CABLE *									1	1	1	1						
CONDUIT SIZE				2-3"	2-3"	2-3"	2-3"	2-3"	2-3"	2-3"	2-4"	2-4"	2-3"	2-3"				
PERCENT FILL				5	7	12	8	21	5	8	24	23	12	3				

ALL CONDUCTORS AND CONDUIT ARE NEW UNLESS OTHERWISE NOTED.
(E) - DENOTES EXISTING CONDUIT
* - FURNISH AND INSTALL IMSA 14-3/20-1-STR 600 V POWER CABLE, COLOR CODE 3/C (BELDEN PART NUMBER 601195 OR CITY APPROVED EQUIVALENT). COIL 10 FEET SLACK AT THE TOP OF POLE.
Ø - FURNISH AND INSTALL MOHAWK LAN-TRAK OSP CAT6 CABLES (PART NUMBER M58790 OR CITY APPROVED EQUIVALENT). COIL 10 FEET OF SLACK AT TOP OF POLE.

POLE AND EQUIPMENT SCHEDULE										
LOCATION	STANDARD			VEHICLE SIGNAL MOUNTING		PEDESTRIAN SIGNAL MOUNTING	APS		LED LUMINAIRE WATTAGE	REMARKS
	TYPE	SIG. MA (FEET)	LUM. MA (FEET)	MAST ARM	POLE		ø	ARROW		
(A)	61-5-100 _E	50'	15' _E	MAT MAS	SV-1-T	SP-1-T	-	-	250W EQUIV _E	INSTALL EVA ON SMA. INSTALL IISNS MAST ARM AND IISNS (Blue Oaks Blvd).
(B)	PPB	-	-	-	-	-	2 8	RIGHT LEFT	-	
(C)	15TS _E	-	-	-	SV-2-T	SP-1-T	-	-	250W EQUIV _E	
(D)	61-5-100 _E	60'	15' _E	MAT 2-MAS	SV-1-T	SP-1-T	-	-	250W EQUIV _E	INSTALL EVB ON SMA. INSTALL IISNS MAST ARM AND IISNS (Westbrook Blvd).
(E)	PPB	-	-	-	-	-	2 4	LEFT RIGHT	-	
(F)	15TS _E	-	-	-	SV-2-T	SP-1-T	-	-	250W EQUIV _E	
(G)	61-5-100 _E	50'	15' _E	MAT MAS	SV-1-T	SP-1-T	-	-	250W EQUIV _E	INSTALL EVC ON SMA. INSTALL IISNS MAST ARM AND IISNS (Blue Oaks Blvd).
(H)	PPB	-	-	-	-	-	4 6	LEFT RIGHT	-	
(I)	15TS _E	-	-	-	SV-2-T	SP-1-T	-	-	250W EQUIV _E	
(J)	61-5-100 _E	65'	15' _E	MAT 2-MAS	SV-1-T	SP-1-T	-	-	250W EQUIV _E	INSTALL EVD ON SMA. INSTALL IISNS MAST ARM AND IISNS (Westbrook Blvd).
(K)	PPB	-	-	-	-	-	6 8	LEFT RIGHT	-	
(L)	15TS _E	-	-	-	SV-2-T	SP-1-T	-	-	250W EQUIV _E	

NOTE:
ALL POLES AND EQUIPMENT ARE NEW UNLESS OTHERWISE NOTED.
E - DENOTES EXISTING EQUIPMENT

WESTBROOK SPORTS COMPLEX
INTERSECTION IMPROVEMENTS
TS-06
TRAFFIC SIGNAL SCHEDULE - BLUE OAKS BLVD &
WESTBROOK BLVD
CITY OF ROSEVILLE, PLACER COUNTY, CALIFORNIA

SHEET NUMBER
31 OF 39



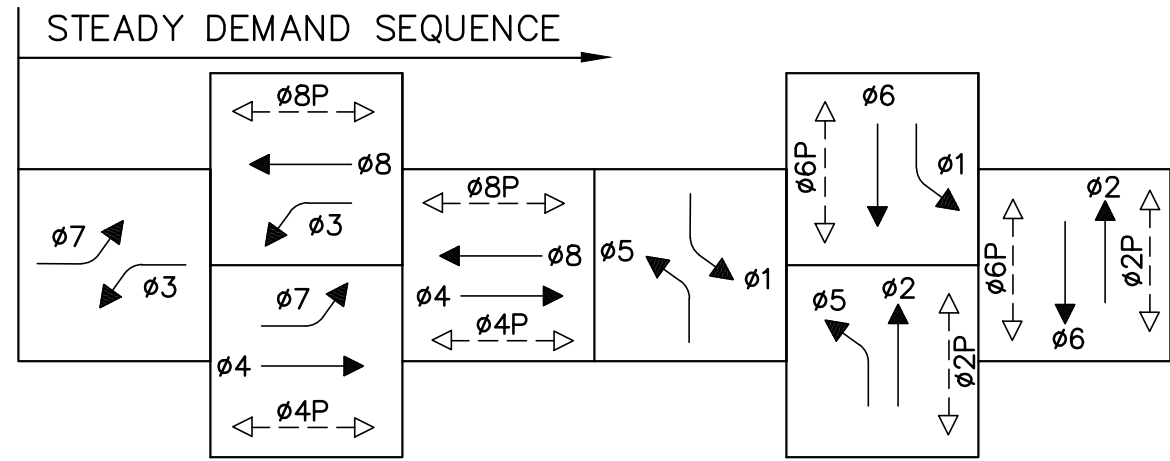
KHA PROJECT
097918101
DATE
JULY 2023
SCALE AS SHOWN
DESIGNED BY MB
DRAWN BY MB
CHECKED BY DC

Kimley-Horn
555 CAPITOL MALL, SUITE 300, SACRAMENTO, CA 95814
PHONE: 916.865.8200
WWW.KIMLEY-HORN.COM

REVISIONS		DATE	BY
No.			

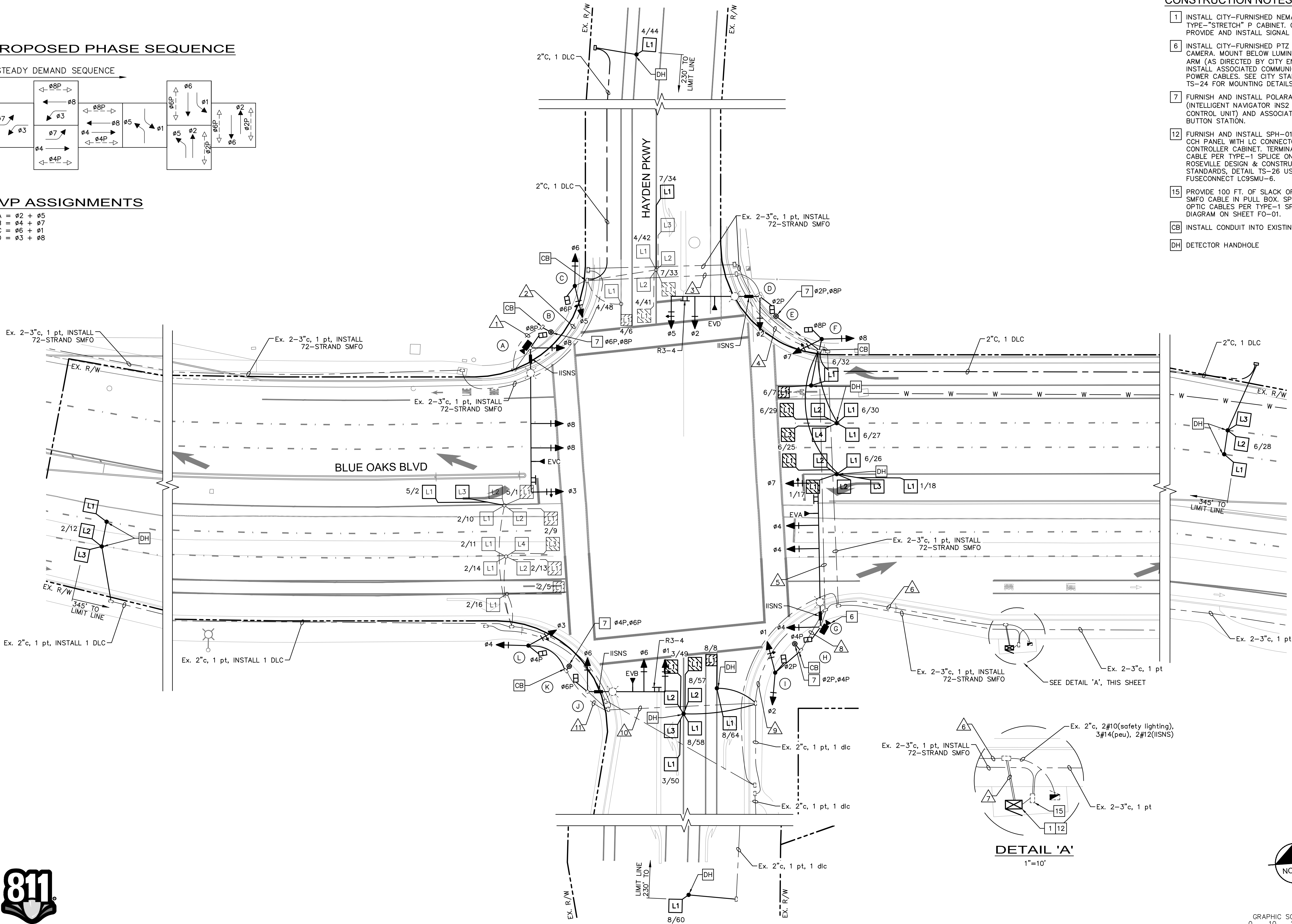
K:\SAC\TPTO\ROSEVILLE WESTBROOK SPORTS COMPLEX INTERSECTIONS\08 CADD\PLANSHEETS\TS-05 TRAFFIC SIGNAL BLUE OAKS.DWG
This document, together with the concepts and designs presented herein, is intended only for the specific purpose and client for which it was prepared. Reuse of and improper reliance on this document without written authorization and adaptation by Kimley-Horn and Associates, Inc. shall be without liability to Kimley-Horn and Associates, Inc.

PROPOSED PHASE SEQUENCE



EVP ASSIGNMENTS

EVA = ø2 + ø5
EVB = ø4 + ø7
EVC = ø6 + ø1
EVD = ø3 + ø8



CONSTRUCTION NOTES:

- 1 INSTALL CITY-FURNISHED NEMA TYPE-"STRETCH" P CABINET. CITY TO PROVIDE AND INSTALL SIGNAL CONTROLLER.
- 6 INSTALL CITY-FURNISHED PTZ CCTV CAMERA. MOUNT BELOW LUMINAIRE MAST ARM (AS DIRECTED BY CITY ENGINEER). INSTALL ASSOCIATED COMMUNICATIONS AND POWER CABLES. SEE CITY STANDARD DETAIL TS-24 FOR MOUNTING DETAILS.
- 7 FURNISH AND INSTALL POLARA APS SYSTEM (INTELLIGENT NAVIGATOR INS2 WITH ICCU-S2 CONTROL UNIT) AND ASSOCIATED PUSH BUTTON STATION.
- 12 FURNISH AND INSTALL SPH-01P & 12-PORT CCH PANEL WITH LC CONNECTORS IN CONTROLLER CABINET. TERMINATE TACTICAL CABLE PER TYPE-1 SPLICE ON CITY OF ROSEVILLE DESIGN & CONSTRUCTION STANDARDS, DETAIL TS-26 USING AFL FUSECONNECT LC9SMU-6.
- 15 PROVIDE 100 FT. OF SLACK OF 72-STRAND SMFO CABLE IN PULL BOX. SPLICE FIBER OPTIC CABLES PER TYPE-1 SPLICING DIAGRAM ON SHEET FO-01.
- CB INSTALL CONDUIT INTO EXISTING PULL BOX
- DH DETECTOR HANDHOLE

Ex. 2-3"c, 1 pt, INSTALL 72-STRAND SMFO

Ex. 2-3"c, 1 pt, INSTALL 72-STRAND SMFO

Ex. 2-3"c, 1 pt, INSTALL 72-STRAND SMFO

Ex. 2"c, 1 pt, INSTALL 1 DLC

Ex. 2"c, 1 pt, INSTALL 1 DLC

LIMIT LINE 230' TO

Ex. 2"c, 1 pt, 1 dlc

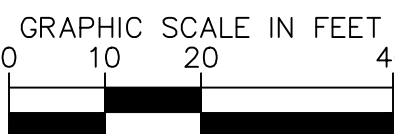
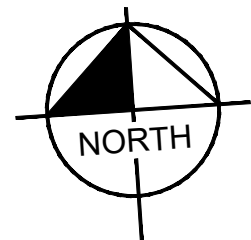
Ex. 2-3"c, 1 pt, INSTALL 72-STRAND SMFO

DETAIL 'A'

1"=10'

Ex. 2"c, 2#10(safety lighting), 3#14(peu), 2#12(IISNS)

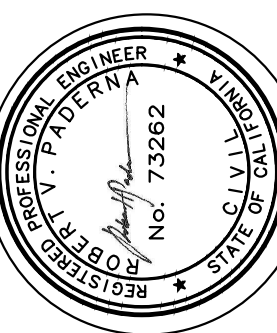
Ex. 2-3"c, 1 pt



Know what's below.
Call before you dig.

NO.	REVISIONS	DATE	BY

Kimley-Horn
555 CAPITOL MALL, SUITE 300, SACRAMENTO, CA 95814
PHONE: 916.865.8800
WWW.KIMLEY-HORN.COM



KHA PROJECT	097918101	DATE	JULY 2023
SCALE	AS SHOWN	DESIGNED BY	MB
		DRAWN BY	MB
		CHECKED BY	DC

**WESTBROOK SPORTS COMPLEX
INTERSECTION IMPROVEMENTS**
TS-07
TRAFFIC SIGNAL PLAN - BLUE OAKS BLVD & HAYDEN
PKWY
CITY OF ROSEVILLE, PLACER COUNTY, CALIFORNIA

SHEET NUMBER
32 OF 39

K:\SAC_TPTO\ROSEVILLE WESTBROOK SPORTS COMPLEX INTERSECTIONS\08 CADD\PLANSHEETS\TS-05 TRAFFIC SIGNAL_BLUE_OAKS.DWG
This document, together with the concepts and designs presented herein, is an instrument of service, is intended only for the specific purpose and client for which it was prepared. Reuse of and improper reliance on this document without written authorization and adaptation by Kimley-Horn and Associates, Inc. shall be without liability to Kimley-Horn and Associates, Inc.



Know what's below.
Call before you dig.

CONDUCTOR SCHEDULE															
CONDUCTOR DESIGNATION				NUMBER OF CONDUCTORS											
CABLE TYPE	STD	PHASE		RUN NUMBER											
				1	2	3	4	5	6	7	8	9	10	11	
VEH-PED 12CSC	(A)	3,8,8P		1	1	1	1	1	1	1	1	1	1	1	
	(B)		6P,8P	3	3	3	3	3	3	3	3				
	(C)	5,6,6P													
	(D)	5,2,2P				1	1	1	1	1	1				
	(E)		2P,8P						3	3	3				
	(F)	7,8,8P						1	1	1					
	(G)	4,7,4P							1	1	1				
	(H)		2P,4P						3	3	3				
	(I)	1,2,2P							1	1	1				
	(J)	1,6,6P							1	1		1	1		
PPB 3CSC	(K)		4P,6P						3	3		3	3	3	
	(L)	3,4,4P							1			1	1	1	
TOTAL CABLES 12/3 CONDUCTORS				1	3	1	2	3	3	4	6	8	12	12	3
#12	IISNS			2	2	2	2	2				2	2		
#8	LUMINAIRES			2	2	2	2	2				2	2		
	GROUND			1	1	1	1	1				1	1	1	
PULL TAPE				1(E)	1(E)	1(E)	1(E)	1(E)	1(E)	1(E)	1(E)	1(E)	1(E)	1(E)	
DLC	Ø1				2	2	2	2	2			2			
	Ø2								5	5		5			
	Ø3							2	2	2					
	Ø4								8	8		8	8		
	Ø5									2	2	2			
	Ø6				5	5	5	5	5						
	Ø7								2	2		2	2		
	Ø8							8	8	8					
EVP				1	1	2	2	4	4			1	1		
CAT 6E CABLE Ø	(A)			1	1	1	1	1	1						
PTZ CCTV POWER CABLE *				1	1	1	1	1	1						
CONDUIT SIZE				3" (E)	2-3" (E)	2-3" (E)	2-3" (E)	2-3" (E)	2-4" (E)	2-4" (E)	3" (E)	2-3" (E)	2-3" (E)	3" (E)	
PERCENT FILL				10	10	12	18	21	24	23	10	11	11	10	

ALL CONDUCTORS AND CONDUIT ARE NEW UNLESS OTHERWISE NOTED.
(E) - DENOTES EXISTING CONDUIT
* - FURNISH AND INSTALL IMSA 14-3/20-1-STR 600 V POWER CABLE, COLOR CODE 3/C (BELDEN PART NUMBER 601195 OR CITY APPROVED EQUIVALENT). COIL 10 FEET SLACK AT THE TOP OF POLE.
Ø - FURNISH AND INSTALL MOHAWK LAN-TRAK OSP CAT6 CABLES (PART NUMBER M58790 OR CITY APPROVED EQUIVALENT). COIL 10 FEET OF SLACK AT TOP OF POLE.

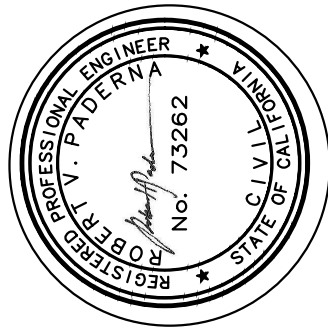
POLE AND EQUIPMENT SCHEDULE											
LOCATION	STANDARD			VEHICLE SIGNAL MOUNTING		PEDESTRIAN SIGNAL MOUNTING	APS		LED LUMINAIRE WATTAGE	REMARKS	
	TYPE	SIG. MA (FEET)	LUM. MA (FEET)	MAST ARM	POLE		ø	ARROW			
(A)	61-5-129 E	65'	15' E	MAT 2-MAS	SV-1-T	SP-1-T	-	-	250W EQUIV E	INSTALL EVC ON SMA. INSTALL IISNS MAST ARM AND IISNS (Hayden Pkwy).	
(B)	PPB	-	-	-	-	-	4 6	LEFT RIGHT	-		
(C)	1-B (10')	-	-	-	TV-2-T	SP-1-T	-	-	-		
(D)	26-4-129 E	40'	15' E	MAT MAS	SV-1-T	SP-1-T	-	-	250W EQUIV E	INSTALL EVD ON SMA. INSTALL IISNS MAST ARM AND IISNS (Blue Oaks Blvd). INSTALL R3-4 ON SMA.	
(E)	PPB	-	-	-	-	-	6 8	LEFT RIGHT	-		
(F)	1-B (10')	-	-	-	TV-2-T	SP-1-T	-	-	-		
(G)	61-5-129 E	65'	15' E	MAT 2-MAS	SV-1-T	SP-1-T	-	-	250W EQUIV E	INSTALL EVA ON SMA. INSTALL IISNS MAST ARM AND IISNS (Hayden Pkwy).	
(H)	PPB	-	-	-	-	-	2 8	RIGHT LEFT	-		
(I)	1-B (10')	-	-	-	TV-2-T	SP-1-T	-	-	-		
(J)	26-4-129 E	35'	15' E	MAT MAS	SV-1-T	SP-1-T	-	-	250W EQUIV E	INSTALL EVB ON SMA. INSTALL IISNS MAST ARM AND IISNS (Blue Oaks Blvd). INSTALL R3-4 ON SMA.	
(K)	PPB	-	-	-	-	-	2 4	LEFT RIGHT	-		
(L)	1-B (10')	-	-	-	TV-2-T	SP-1-T	-	-	-		

NOTE:
ALL POLES AND EQUIPMENT ARE NEW UNLESS OTHERWISE NOTED.
E - DENOTES EXISTING EQUIPMENT

WESTBROOK SPORTS COMPLEX
INTERSECTION IMPROVEMENTS

TS-08
TRAFFIC SIGNAL SCHEDULE - BLUE OAKS BLVD &
HAYDEN PKWY
CITY OF ROSEVILLE, PLACER COUNTY, CALIFORNIA

KHA PROJECT
097918101
DATE
JULY 2023
SCALE AS SHOWN
DESIGNED BY MB
DRAWN BY MB
CHECKED BY DC



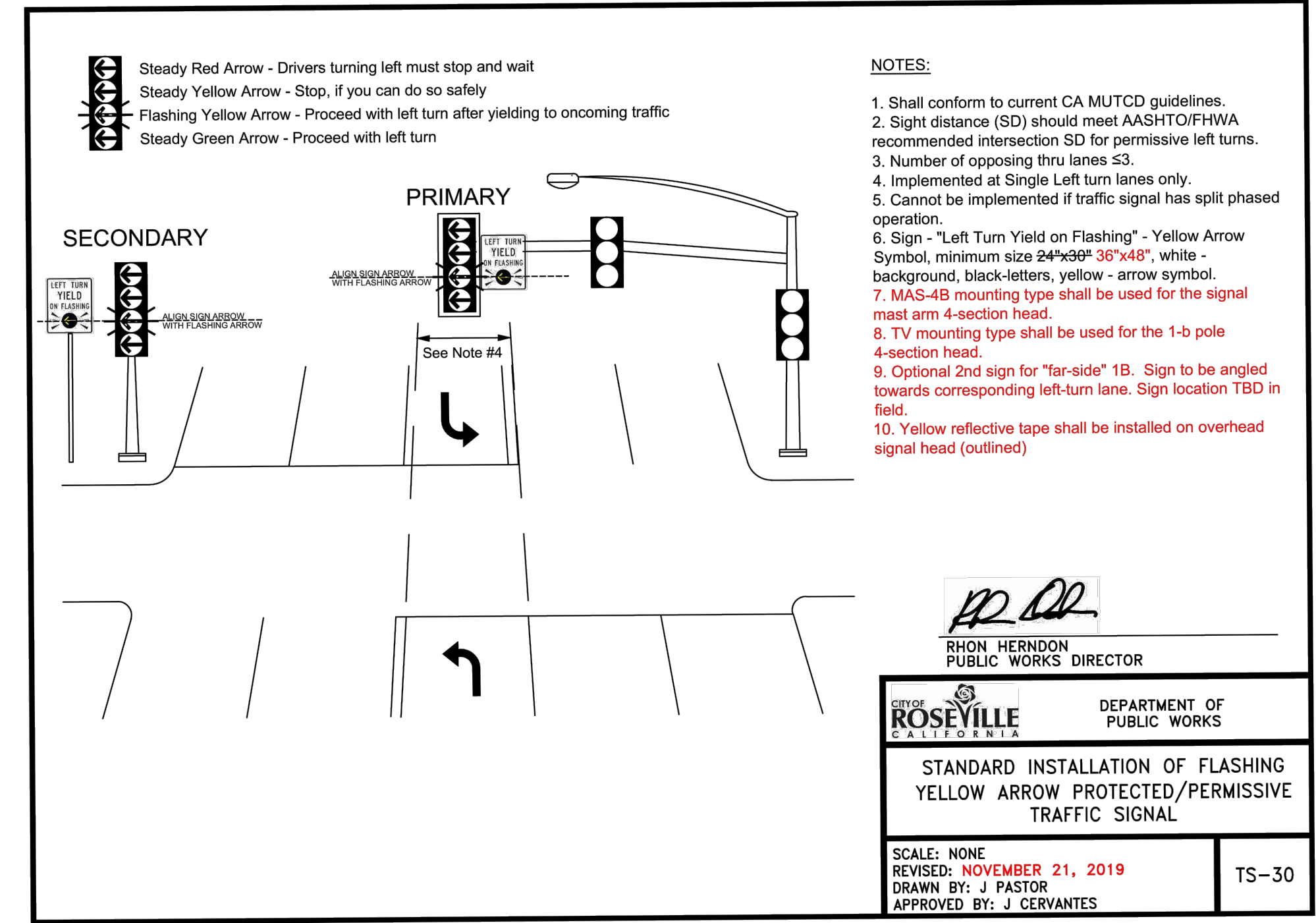
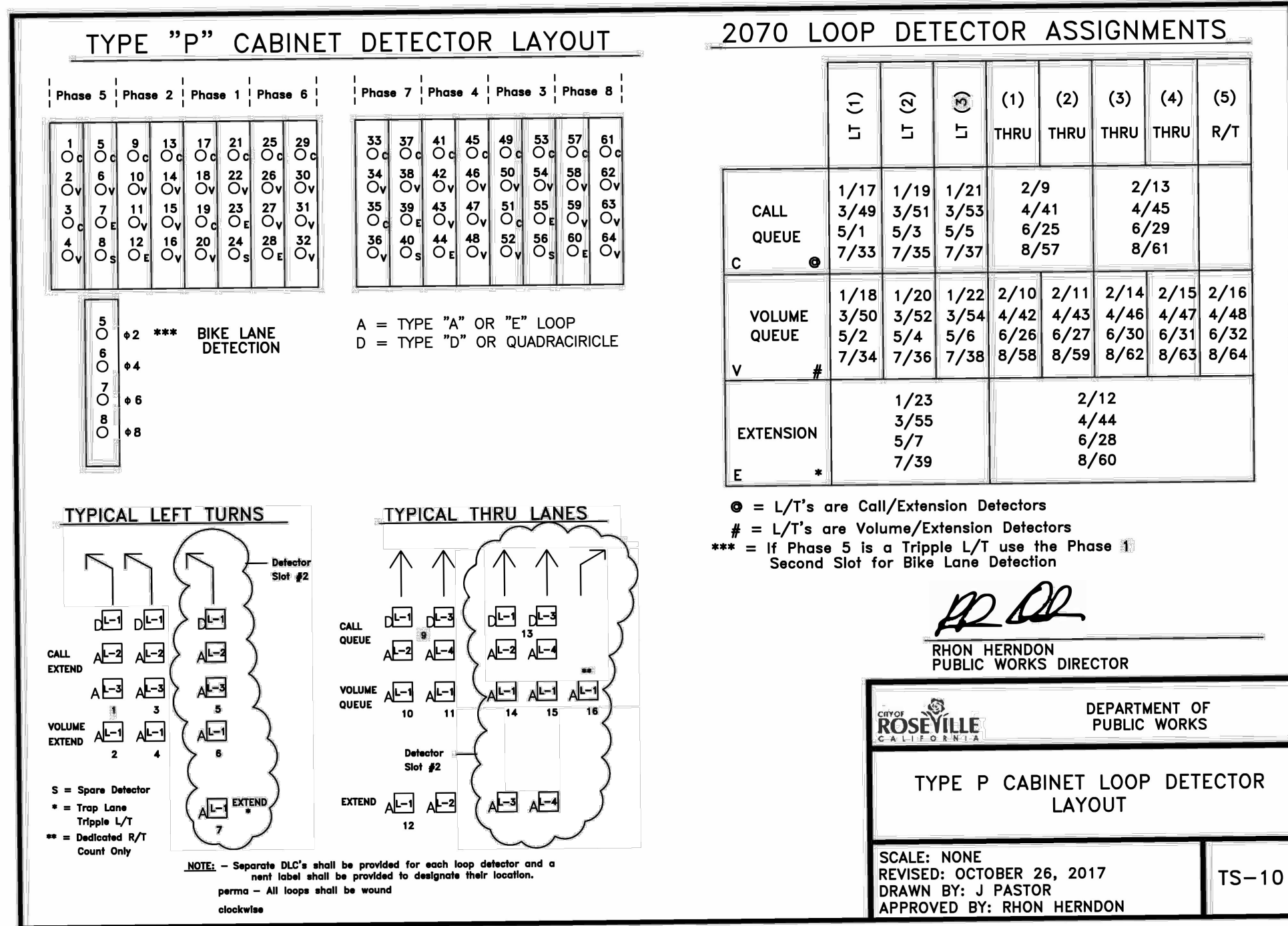
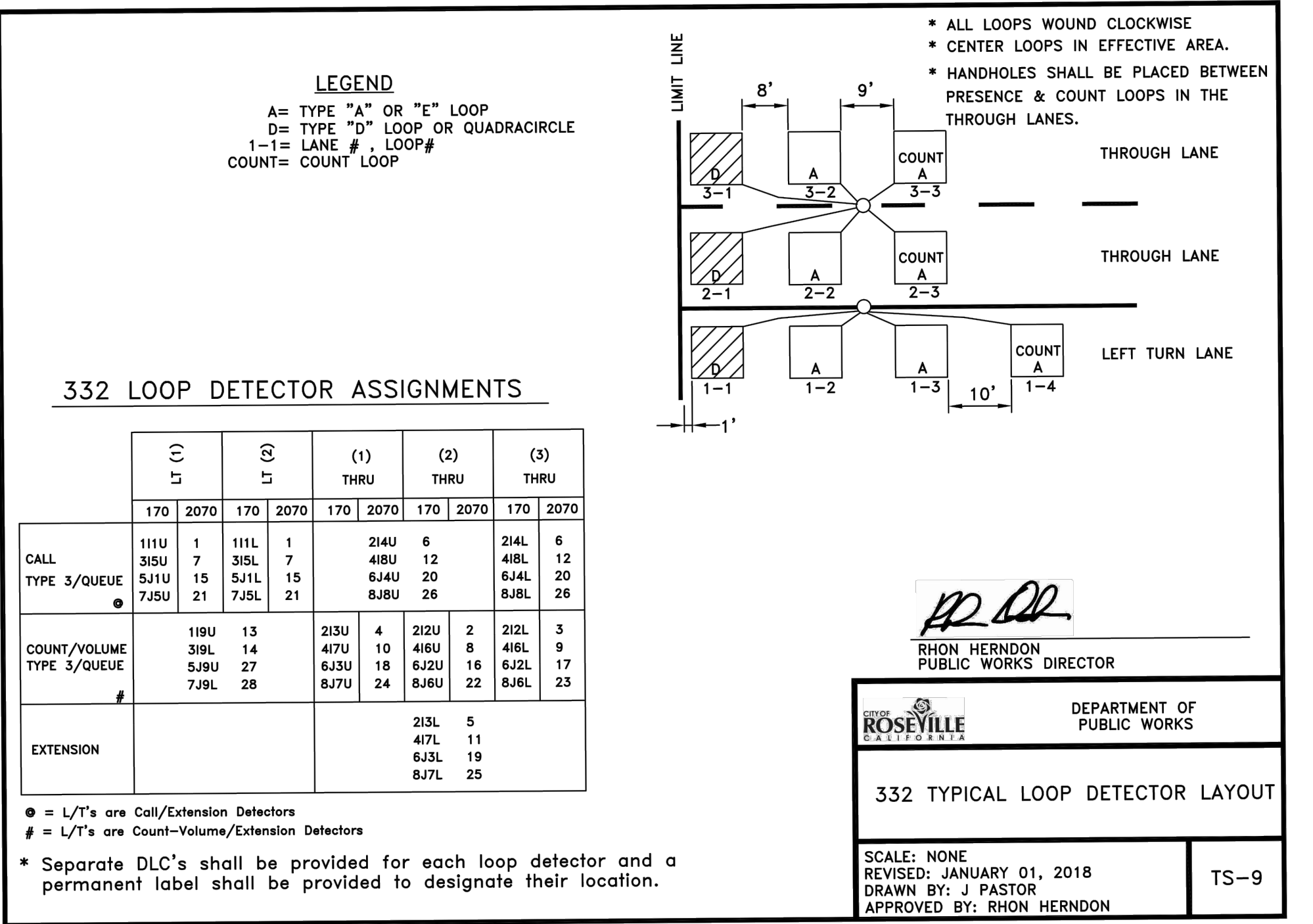
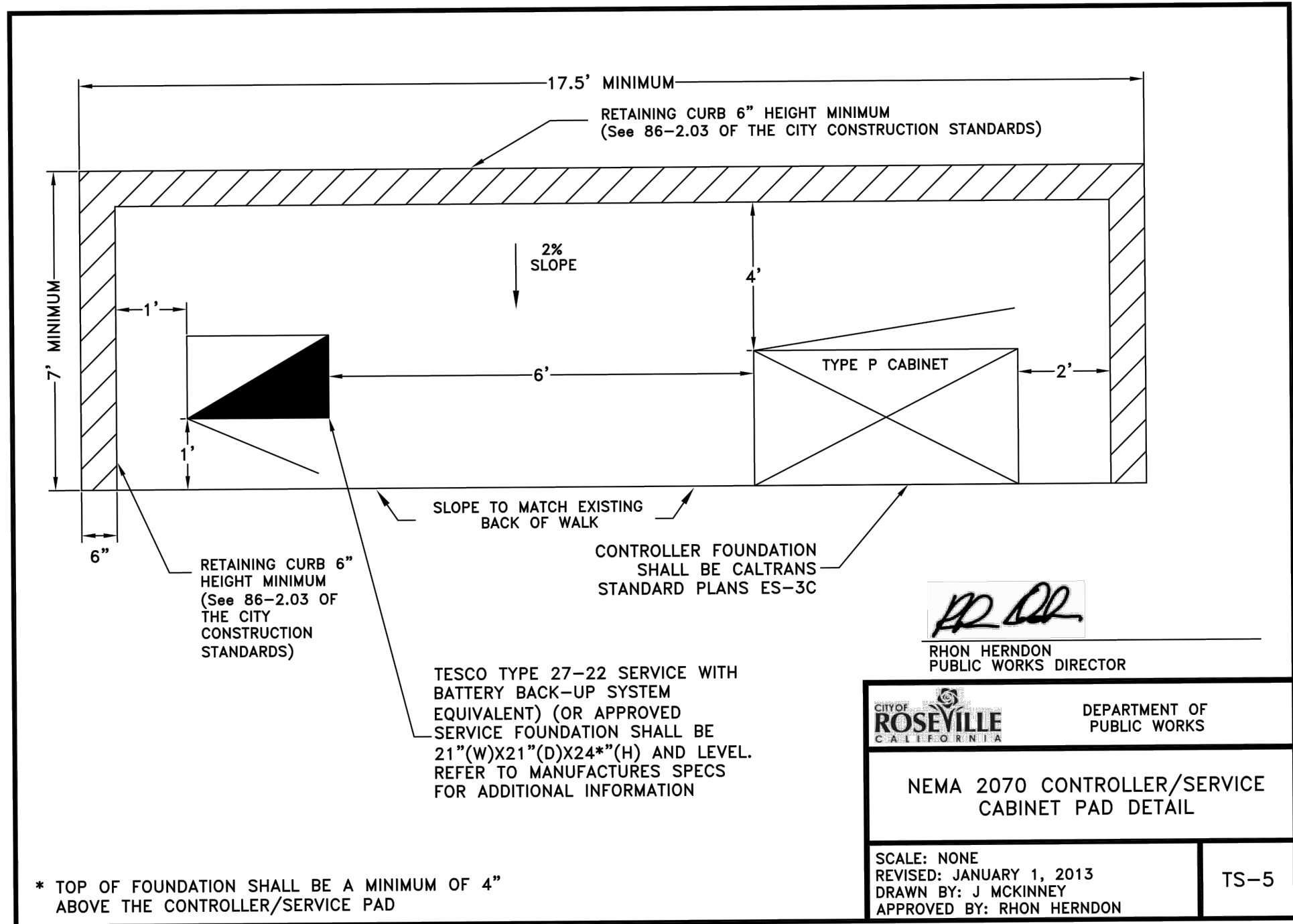
Kimley-Horn
555 CAPITOL MALL, SUITE 300, SACRAMENTO, CA 95814
PHONE: 916.865.8200
WWW.KIMLEY-HORN.COM

REVISIONS		DATE	BY
No.			

K:\SAC\TPTO\ROSEVILLE WESTBROOK SPORTS COMPLEX INTERSECTIONS\08 CADD\PLANSHEETS\TS-05 TRAFFIC SIGNAL BLUE_OAKS.DWG
This document, together with the concepts and designs presented herein, is an instrument of service, is intended only for the specific purpose and client for which it was prepared. Reuse of and improper reliance on this document without written authorization and adaptation by Kimley-Horn and Associates, Inc. shall be without liability to Kimley-Horn and Associates, Inc.



Know what's below.
Call before you dig.



WESTBROOK SPORTS COMPLEX
INTERSECTION IMPROVEMENTS

TS-09

TRAFFIC SIGNAL DETAILS

CITY OF ROSEVILLE, PLACER COUNTY, CALIFORNIA

KHA PROJECT
097918101
DATE
JULY 2023
SCALE
AS SHOWN
DESIGNED BY
MB
DRAWN BY
MB
CHECKED BY
DC

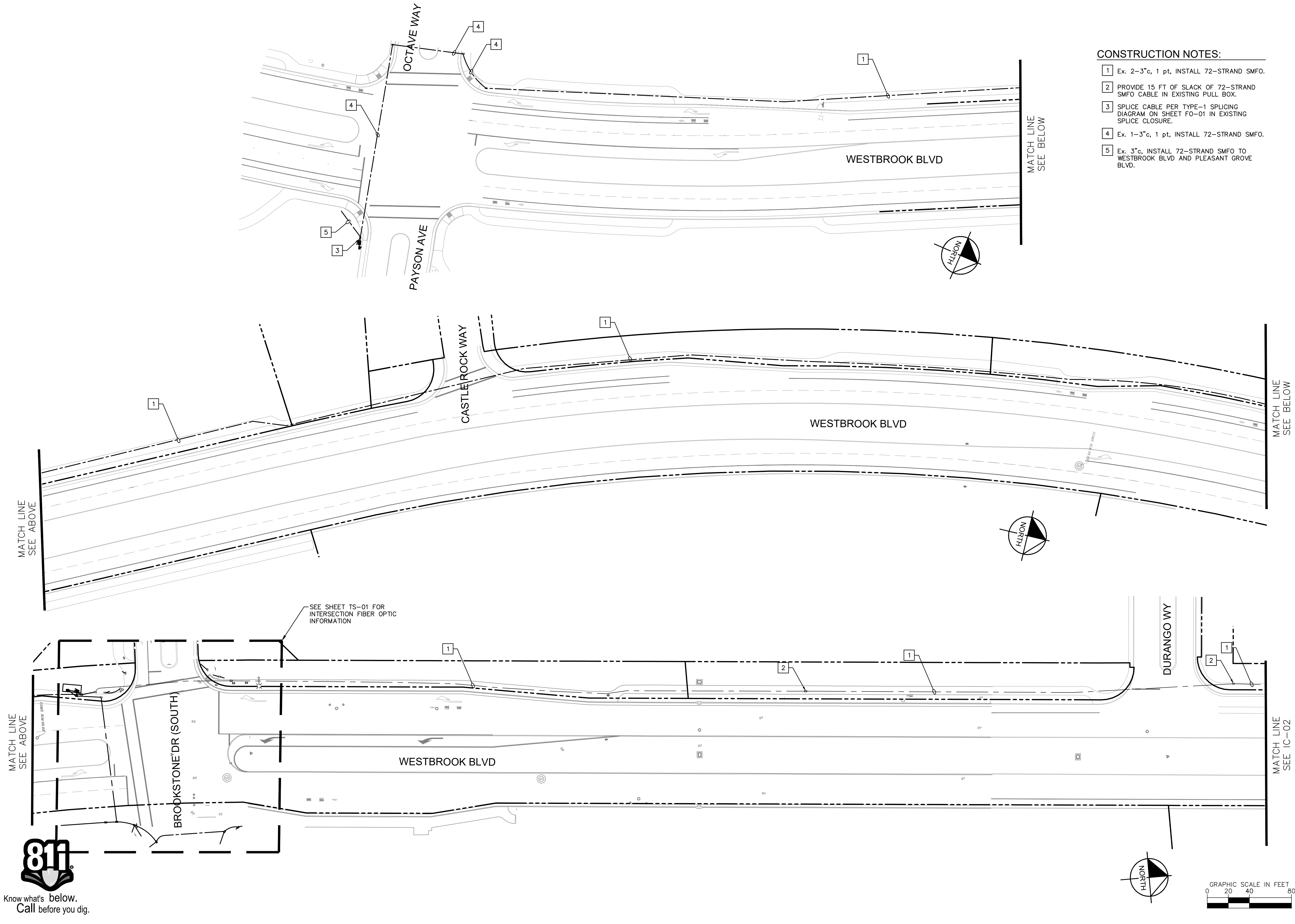


Kimley»Horn
555 CAPITOL MALL, SUITE 300, SACRAMENTO, CA 95814
PHONE: 916.865.8800
WWW.KIMLEY-HORN.COM

REVISIONS
No. DATE BY

SHEET NUMBER
34 OF 39

K:\SAC_TPTO\ROSEVILLE WESTBROOK SPORTS COMPLEX INTERSECTIONS\08 CADD\PLANSHEETS\IC-01 INTERCONNECT.DWG
This document, together with the concepts and designs presented herein, is an instrument of service, and shall be without liability to Kimley-Horn and Associates, Inc. shall be without liability to Kimley-Horn and Associates, Inc. shall be without liability to Kimley-Horn and Associates, Inc.



CONSTRUCTION NOTES:

- 1 Ex. 2-3"c, 1 pt, INSTALL 72-STRAND SMFO.
- 2 PROVIDE 15 FT OF SLACK OF 72-STRAND SMFO CABLE IN EXISTING PULL BOX.
- 3 SPLICE CABLE PER TYPE-1 SPLICING DIAGRAM ON SHEET FO-01 IN EXISTING SPLICE CLOSURE.
- 4 Ex. 1-3"c, 1 pt, INSTALL 72-STRAND SMFO.
- 5 Ex. 3"c, INSTALL 72-STRAND SMFO TO WESTBROOK BLVD AND PLEASANT GROVE BLVD.



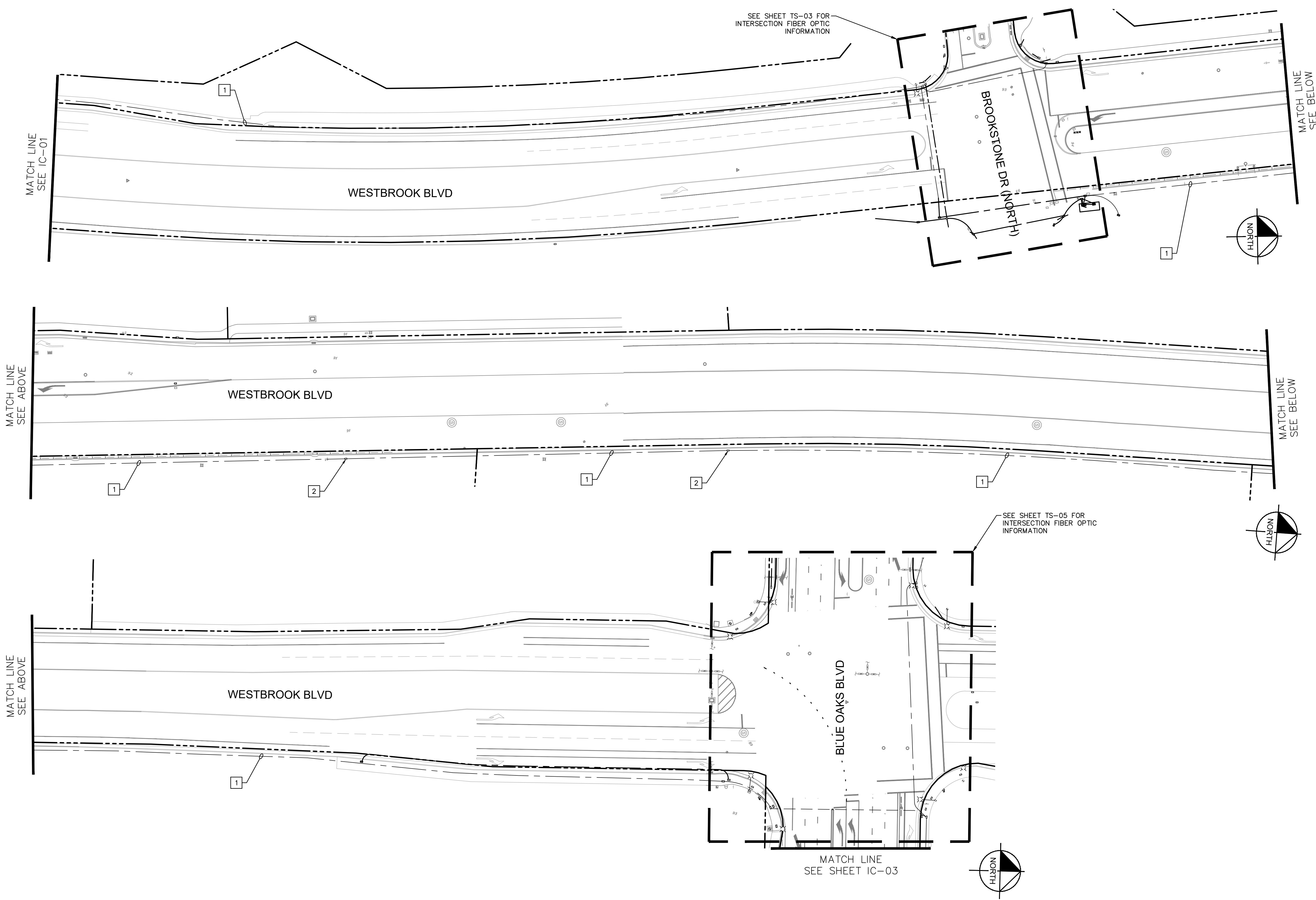
WESTBROOK SPORTS COMPLEX INTERSECTIONS		KHA PROJECT 097918101		KIMLEY-HORN		No.	
INTERCONNECT PLAN - WESTBROOK BLVD		DATE JULY 2023		REGISTERED PROFESSIONAL ENGINEER No. 73262		DATE	
CITY OF ROSEVILLE, PLACER COUNTY, CALIFORNIA		SCALE AS SHOWN		MB		REVISIONS	
IC-01		DESIGNED BY		MB		BY	
SHEET NUMBER 35 OF 39		DRAWN BY		MB		DATE	
		CHECKED BY		DC			

Kimley-Horn
555 CAPITOL MALL, SUITE 300, SACRAMENTO, CA 95814
PHONE: 916.865.8600
WWW.KIMLEY-HORN.COM

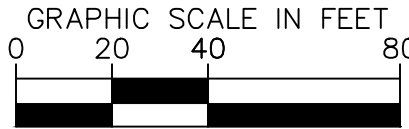
K:\SAC_TPTO\ROSEVILLE WESTBROOK SPORTS COMPLEX INTERSECTIONS\08 CADD\PLANSHEETS\IC-01 INTERCONNECT.DWG
This document, together with the concepts and designs presented herein, is intended only for the specific purpose and client for which it was prepared. Reuse of and improper reliance on this document without written authorization and adaptation by Kimley-Horn and Associates, Inc. shall be without liability to Kimley-Horn and Associates, Inc.



Know what's below.
Call before you dig.

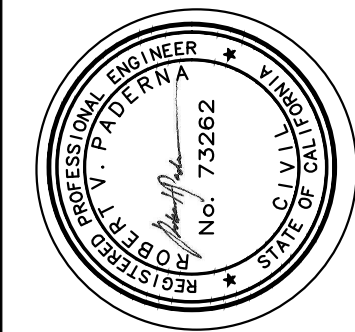


- CONSTRUCTION NOTES:
- 1 Ex. 2-3"e, 1 pt, INSTALL 72-STRAND SMFO.
 - 2 PROVIDE 15 FT OF SLACK OF 72-STRAND SMFO CABLE IN EXISTING PULL BOX.



WESTBROOK SPORTS COMPLEX
INTERSECTION IMPROVEMENTS
IC-02
INTERCONNECT PLAN - WESTBROOK BLVD
CITY OF ROSEVILLE, PLACER COUNTY, CALIFORNIA

KHA PROJECT	097918101
DATE	JULY 2023
SCALE	AS SHOWN
DESIGNED BY	MB
DRAWN BY	MB
CHECKED BY	DC



Kimley»Horn
555 CAPITOL MALL, SUITE 300, SACRAMENTO, CA 95814
PHONE: 916.865.8200
WWW.KIMLEY-HORN.COM

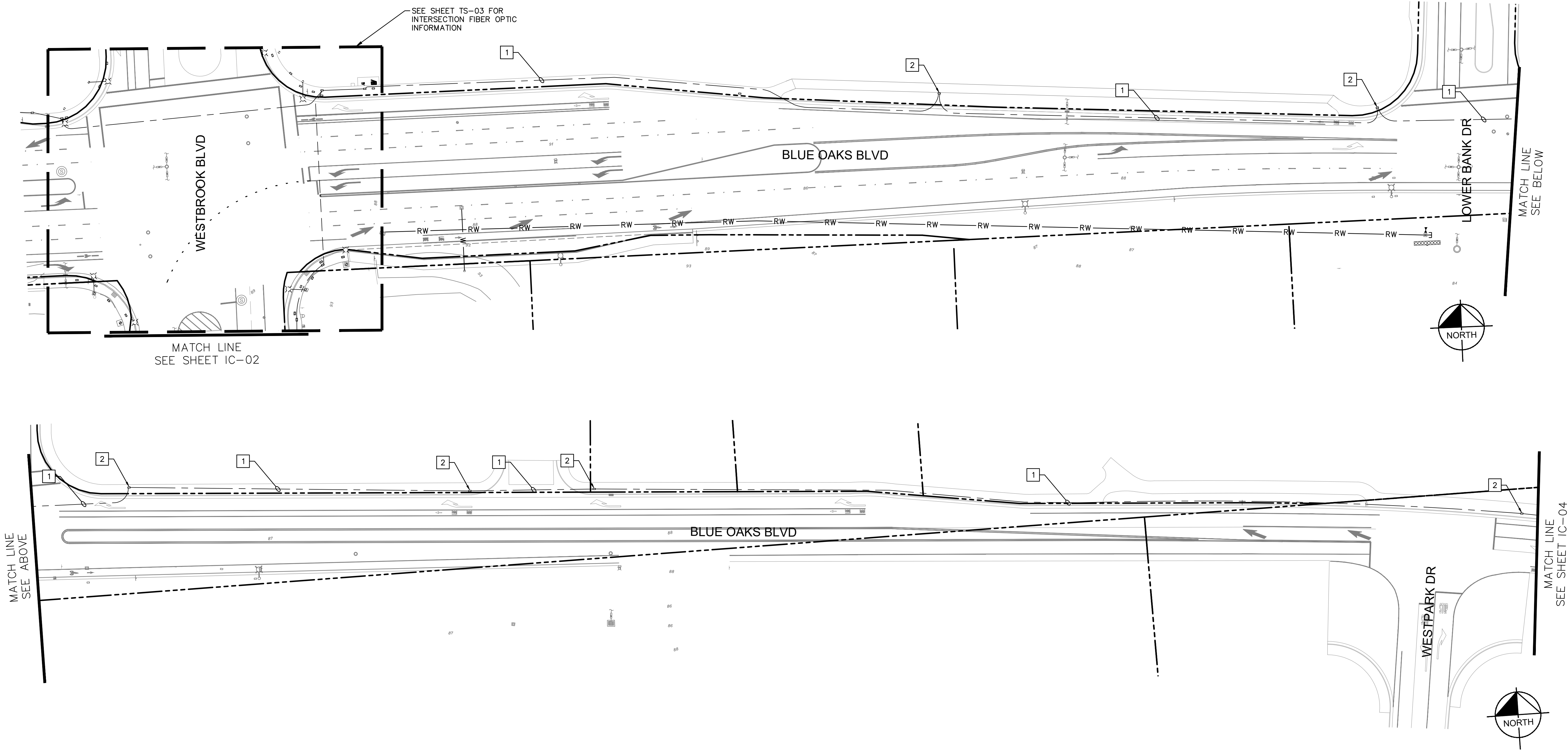
NO.	REVISIONS	DATE	BY

SHEET NUMBER
36 OF 39

K:\SAC_TPTO\ROSEVILLE WESTBROOK SPORTS COMPLEX INTERSECTIONS\08 CADD\PLANSHEETS\IC-01 INTERCONNECT.DWG
This document, together with the concepts and designs presented herein, as an instrument of service, is intended only for the specific purpose and client for which it was prepared. Reuse of and improper reliance on this document without written authorization and adaptation by Kimley-Horn and Associates, Inc. shall be without liability to Kimley-Horn and Associates, Inc.



Know what's below.
Call before you dig.



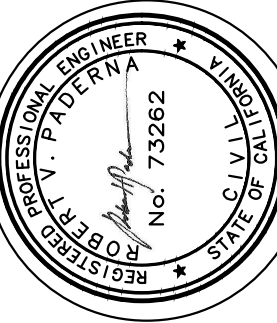
- CONSTRUCTION NOTES:**
- 1 Ex. 2-3"e, 1 pt, INSTALL 72-STRAND SMFO.
 - 2 PROVIDE 15 FT. OF SLACK OF 72-STRAND SMFO CABLE IN EXISTING PULL BOX.

WESTBROOK SPORTS COMPLEX
INTERSECTION IMPROVEMENTS
IC-03
INTERCONNECT PLAN - BLUE OAKS BLVD
CITY OF ROSEVILLE, PLACER COUNTY, CALIFORNIA

SHEET NUMBER
37 OF 39

NO.	REVISIONS	DATE	BY

Kimley»Horn
555 CAPITOL MALL, SUITE 300, SACRAMENTO, CA 95814
PHONE: 916.885.8800
WWW.KIMLEY-HORN.COM

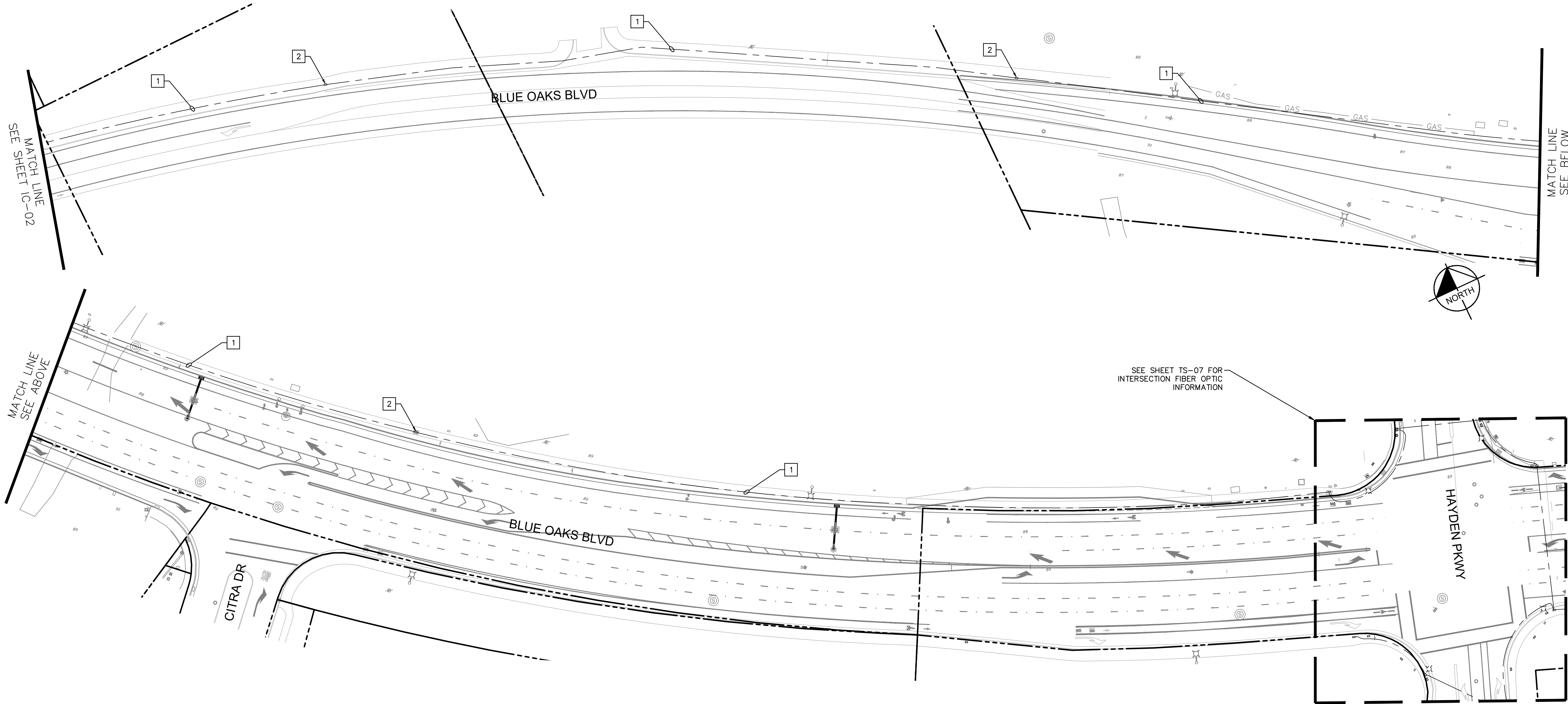


KHA PROJECT	DATE	SCALE	DESIGNED BY	DRAWN BY	CHECKED BY
097918101	JULY 2023	AS SHOWN	MB	MB	DC

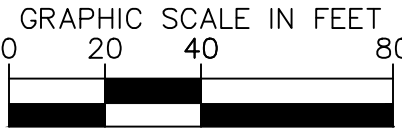
K:\SAC_TPTO\ROSEVILLE WESTBROOK SPORTS COMPLEX INTERSECTIONS\08 CADD\PLANSHEETS\IC-01 INTERCONNECT.DWG
This document, together with the concepts and designs presented herein, is intended only for the specific purpose and client for which it was prepared. Reuse of and improper reliance on this document without written authorization and adaptation by Kimley-Horn and Associates, Inc. shall be without liability to Kimley-Horn and Associates, Inc.



Know what's below.
Call before you dig.

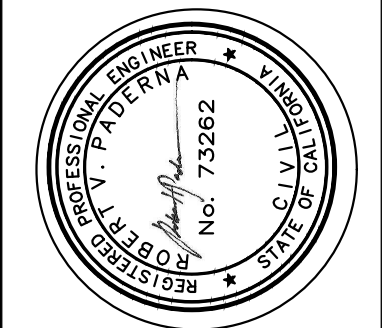


- CONSTRUCTION NOTES:**
- 1 Ex. 2-3"e, 1 pt, INSTALL 72-STRAND SMFO.
 - 2 PROVIDE 15 FT. OF SLACK OF 72-STRAND SMFO CABLE IN EXISTING PULL BOX.



WESTBROOK SPORTS COMPLEX
INTERSECTION IMPROVEMENTS
IC-04
INTERCONNECT PLAN - BLUE OAKS BLVD
CITY OF ROSEVILLE, PLACER COUNTY, CALIFORNIA

KHA PROJECT	097918101
DATE	JULY 2023
SCALE	1"=40'
DESIGNED BY	MB
DRAWN BY	MB
CHECKED BY	DC



Kimley»Horn
555 CAPITOL MALL, SUITE 300, SACRAMENTO, CA 95814
PHONE: 916.885.8800
WWW.KIMLEY-HORN.COM

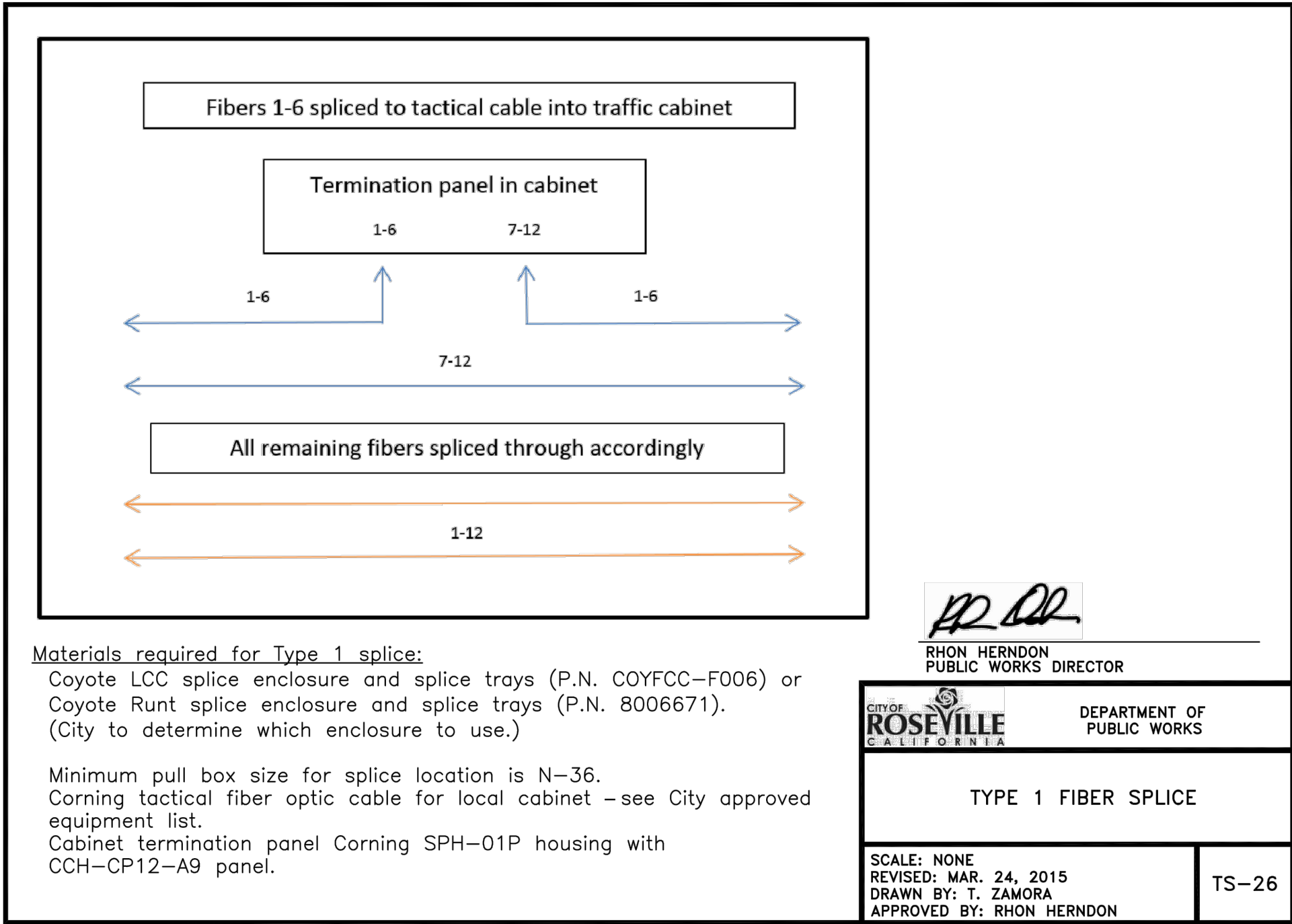
NO.	REVISIONS	DATE	BY

SHEET NUMBER
38 OF 39

K:\SAC_IPT\ROSEVILLE WESTBROOK SPORTS COMPLEX INTERSECTIONS\08 CADD\PLANSHEETS\FO-01 FIBER OPTIC SPLICE DIAGRAMS.DWG
This document, together with the concepts and designs presented herein, as an instrument of service, is intended only for the specific purpose and client for which it was prepared. Reuse of and improper reliance on this document without written authorization and adaptation by Kimley-Horn and Associates, Inc., shall be without liability to Kimley-Horn and Associates, Inc.

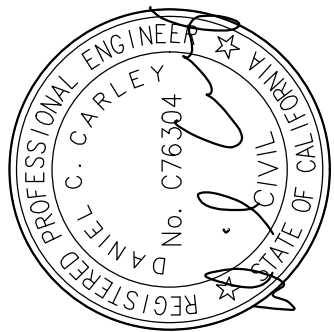


Know what's below.
Call before you dig.



WESTBROOK SPORTS COMPLEX
INTERSECTION IMPROVEMENTS
FO-01
FIBER OPTIC SPLICE DIAGRAM
CITY OF ROSEVILLE, PLACER COUNTY, CALIFORNIA

KHA PROJECT
097918101
DATE
JULY 2023
SCALE AS SHOWN
DESIGNED BY MB
DRAWN BY MB
CHECKED BY DC



Kimley»Horn
555 CAPITOL MALL, SUITE 300, SACRAMENTO, CA 95814
PHONE: 916.865.8800
WWW.KIMLEY-HORN.COM

No.	REVISIONS	DATE	BY



COUNCIL COMMUNICATION

CC #: 2861
File #: 0203-09

Title: Lighting Repair and Replacement Project - Contract Purchase Agreement
Contact: Blaine Wiegel 916-746-1833 bwiegel@roseville.ca.us

Meeting Date: 8/16/2023
Item #: 6.3.

RECOMMENDATION TO COUNCIL

Staff recommends that the City Council adopt a resolution authorizing the City Manager to execute Contract Purchase Agreement #3002760 with WESCO Services LLC dba WESCO Energy Solutions, to provide lighting repair services and light emitting diode (LED) fixture replacements at the Pleasant Grove Wastewater Treatment Plant.

BACKGROUND

The Pleasant Grove Wastewater Treatment Plant (PGWWTP) is currently utilizing incandescent lighting that requires large amounts of electricity. All plant fixtures are reaching or past the end of life. This repair/replacement project will upgrade many fixtures while retrofitting others to lower wattage, resulting in lower electricity costs. The projected annual savings for work outlined in the project proposal is \$141,227 which provides a complete return on investment in just under three years (2.91yrs). This will reduce energy consumption at the PGWWTP by 461,357-kilowatt hours (kWh) per year.

FISCAL IMPACT

The estimated cost for this service is \$481,248 with a 10% contingency (\$48,124.80) for increasing lighting material costs, for a total not to exceed \$529,372.80. Funding will be provided from the Environmental Utilities Department's Dry Creek and Pleasant Wastewater Treatment Plants Lighting Rehabilitation Project budget in the Wastewater Regional Rehabilitation Fund.

ENVIRONMENTAL REVIEW

The proposed project involves the repair of an existing facility. This activity is categorically exempt from CEQA as a Class 1 Exemption (State CEQA Guidelines Section 15301). The exemption has been prepared and no further CEQA action is required.

CITY COUNCIL STRATEGIC PLAN/OVERARCHING GOALS

Goal E - Deliver exceptional city services

Goal F - Invest in well-planned infrastructure and growth

Respectfully Submitted,

Blaine Wiegel, Preventative Maintenance Coordinator

Richard Plecker, Environmental Utilities Director



Dominick Casey, City Manager

ATTACHMENTS:

Description

Resolution 23-332

Contract

Proposal

CEQA Exemption

RESOLUTION NO. 23-332

APPROVING A CONTRACT PURCHASE AGREEMENT, BY AND BETWEEN THE CITY
OF ROSEVILLE AND WESCO SERVICES LLC DBA WESCO ENERGY SOLUTIONS,
AND AUTHORIZING THE CITY MANAGER TO EXECUTE IT ON
BEHALF OF THE CITY OF ROSEVILLE

WHEREAS, a contract purchase agreement (3002760) to provide lighting repair services and light emitting diode (LED) fixture replacements at the Pleasant Grove Wastewater Treatment Plant, by and between the City of Roseville and WESCO Services LLC dba WESCO Energy Solutions, has been reviewed by the City Council.

BE IT FURTHER RESOLVED that the City Manager or his designee is authorized to approve change orders, consistent with the contract terms, provided that the net cost of all change orders shall not exceed ten percent (10%) of the contract amount.

NOW, THEREFORE, BE IT RESOLVED by the Council of the City of Roseville that said contract purchase agreement is approved and that the City Manager is authorized to execute it on behalf of the City of Roseville.

PASSED AND ADOPTED by the Council of the City of Roseville this ____ day of _____, 2023, by the following vote on roll call:

AYES COUNCILMEMBERS:

NOES COUNCILMEMBERS:

ABSENT COUNCILMEMBERS:

MAYOR

ATTEST:

City Clerk



Contract Purchase Agreement 3002760

Supplier Details:

Company WESCO Services LLC dba WESCO Energy Solutions
Contact Migle Clark
Address 225 West Station Square Dr Ste 700

Pittsburgh, PA 15219

Submit your response to:

Company City of Roseville
Contact Sue Jessup
Address Purchasing Division
311 Vernon St
Roseville, CA 95678
Phone (916) 746-1107
Fax (916) 746-1115
E-mail SJessup@roseville.ca.us

This Contract Purchase Agreement is sent for your review and acceptance. Notify the Buyer via email of any needed changes to the company name, address, and contact information. The Buyer will update the agreement prior to you signing the document.

Return signed copies of the agreement to the Buyer noted on the agreement. Alterations or modifications to the agreement are not allowed. Upon receipt of all necessary documents, the City will sign the agreement and return a fully executed copy to you. Receipt of the signed copy will be your notice to proceed with the work in accordance with the terms and conditions of the agreement. Work must not begin until the contract has been fully executed.

The following guidelines must be followed for the signature block on the agreement:

Sole proprietorship - By owner

Partnership - Any general partner

Corporation - Two options:

(1) A signature from the President and the corporate seal; **OR**

(2) One signature from the Chairman of the Board, President, or any Vice President **AND** one signature from the Secretary, any Assistant Secretary, Chief Financial Officer, or any Treasurer or Assistant Treasurer of the corporation

*General Manager, Office Manager and/or Sales Manager are not corporate officer titles. The agreement will be rejected if not signed in accordance with these guidelines.

Insurance requirements:

The City's insurance requirements are referenced on Attachment A of the agreement. By signing the agreement, you are confirming that your company has the minimum insurance limits required.



Contract Purchase Agreement 3002760

Agreement	3002760
Agreement Date	05-MAY-2023
Change Order	2
Change Order Date	07-JUN-2023
Revision	1
Agreement Amount	481,284.00 USD

Invoice To **City of Roseville**
Accounts Payable
311 Vernon St
ROSEVILLE CA 95678

Phone: (916) 774-5488
Fax: (916) 784-3796
Email: accountspayable@roseville.ca.us

Supplier **WESCO Services LLC dba WESCO Energy**
Solutions
 225 West Station Square Dr Ste 700
 Pittsburgh, PA 15219
Phone: ()
Fax: ()
Email: Migle.Clark@anixter.com

Description of Labor, equipment and/or materials THE VENDOR SHALL PROVIDE SERVICES AND EQUIPMENT FOR MAINTENANCE AND UPGRADE OF LIGHTING AT THE PLEASANT GROVE WASTEWATER TREATMENT PLANT (PGWWTP) FOR THE ROSEVILLE'S ENVIRONMENTAL UTILITIES DEPARTMENT IN ACCORDANCE WITH THE ATTACHED WESCO DISTRIBUTION INC LIGHTING IMPROVEMENT PROPOSAL DATED 3/30/2023 UTILIZING THE OMNIA REGION 4 ESC - TX CONTRACT #R192008.

START DATE: EXECUTED AGREEMENT
 END DATE: UPON FINAL PAYMENT

CONTACT BLAINE WIEGEL IN THE ENVIRONMENTAL UTILITIES DEPARTMENT AT (916) 746-1833 OR BWIEGEL@ROSEVILLE.CA.US FOR QUESTIONS REGARDING THIS AGREEMENT.

Customer #	Supplier #	Payment Terms	Freight Terms	FOB	Shipping Method
	12133	Net 30	Freight on Board at the destination	Destination	Best Method
Start Date	End Date	Confirm To			
		Sue Jessup Phone 1-916-746-1107			

Attention: Total Cost not to exceed the agreement amount without prior approval of the Purchasing office.

Contract Purchase Agreement 3002760

Contract Terms and Conditions

1. To the fullest extent allowed by law, Contractor shall defend, indemnify, and save and hold harmless City, its officers, agents, and employees from any claims, suits or actions of every name, kind and description brought forth, or on account of, injuries to or death of any person (including but not limited to workers and the public), or damage to tangible property, resulting from or arising out of Contractor's willful misconduct or negligent act or omission while engaged in the performance of obligations or exercise of rights created by this Agreement, except those matters arising from City's sole negligence or willful misconduct. Contractor's responsibility for such defense and indemnity obligations shall survive the termination or completion of this Agreement for the full period of time allowed by law. The defense and indemnity obligations of this Agreement are undertaken in addition to, and shall not in any way be limited by, the insurance obligations contained in this Agreement.
2. Contractor is an independent contractor, and shall not be considered an officer, agent or employee of the City.
3. Without the written consent of the City, this Agreement is not assignable by Contractor either in whole or in part.
4. Time is of importance of this Agreement.
5. At any time during the term of this Agreement, the City has the right to terminate this Agreement, provided Contractor is given thirty (30) days written notice. City's termination shall be without further liability to City; however, Contractor shall be entitled to all costs reasonably incurred prior to the date of termination. Contractor acknowledges that City may terminate this Agreement should funds not be appropriated by its governing body to continue services under this Agreement. Contractor has the right to terminate this Agreement with thirty (30) days written notice to the City if the City is found to be in breach of the Agreement.
6. This Agreement may only be amended or modified in writing. It is integrated and contains the complete understanding of the parties.
7. All equipment, supplies and services sold to the City of Roseville shall conform to the general safety orders of the State of California.
8. Unless notified to the contrary, in writing, the City assumes that the Contractor has accepted the work in accordance with the plans and specifications (if any) and agrees to do the work in compliance with this Agreement.
9. All fair employment practices must be adhered to. In addition, if the project referenced on this service agreement is a Public Works project, all prevailing wage laws must be complied with. For prevailing wage contracts over \$25,000, copies of certified payroll must be submitted with invoices. Prevailing wage rates may be obtained from the State Department of Industrial Relations and/or the following website address: <http://www.dir.ca.gov/dlsr/DPreWageDetermination.htm>.
10. Contractor agrees to the below insurance requirements:
 - a. Unless otherwise specified, the Contractor shall maintain the policies of insurance outlined in Attachment A, incorporated herein by this reference, in full force and effect during the term of this Agreement. The City of Roseville retains sole discretion in determining the types and proper levels of insurance coverage.
 - b. Form. Contractor shall submit a certificate evidencing such coverage for the period covered by this Agreement in a form satisfactory to Risk Management and the City Attorney, prior to undertaking any work hereunder. Any insurance written on a claims made basis is subject to the approval of Risk Management and the City Attorney.
 - c. Additional Insureds. Contractor shall also provide a separate endorsement or section of the policy showing City, its officers, agents, employees, and volunteers as additional insureds for each type of coverage, except for Workers' Compensation. Such insurance shall specifically cover the contractual liability

Contract Purchase Agreement 3002760

of Contractor. The additional insured coverage under the Contractor's policy shall be primary and noncontributory, as evidenced by a separate endorsement or section of the policy, and shall not seek contribution from City's insurance or self-insurance. In addition, the additional insured coverage shall be at least as broad as the Insurance Services Office (ISO) CG 20 01 Endorsement. Any available insurance proceeds in excess of the specified minimum insurance coverage requirements and limits shall be available to the additional insureds. Furthermore, the requirements for coverage and limits shall be:

- (1) the minimum coverage and limits specified in this Agreement; or
 - (2) the full coverage and maximum limits of any insurance proceeds available to the named insureds, whichever is greater.
- d. Cancellation/Modification. Contractor's insurance agency shall provide thirty (30) days written notice to City prior to cancellation or modification of any insurance required by this Agreement.
 - e. Umbrella/Excess Insurance. The limits of insurance required in this Agreement may be satisfied by a combination of primary and excess insurance. Any excess insurance shall contain or be endorsed to contain a provision that such coverage shall also apply on a primary and noncontributory basis for the benefit of City (if agreed to in a written contract) before City's own insurance shall be called upon to protect it as a named insured.
 - f. Subcontractors. Contractor agrees to include in its contracts with all subcontractors the same requirements and provisions of this Agreement, including the indemnity and insurance requirements, to the extent they apply to the scope of the subcontractor's work. Furthermore, Contractor shall require its subcontractors to agree to be bound to Contractor and City in the same manner and to the same extent as Contractor is bound to City under this Agreement. Additionally, Contractor shall obligate its subcontractors to comply with these same provisions with respect to any tertiary subcontractor, regardless of tier. A copy of City's indemnity and insurance provisions will be furnished to the subcontractor or tertiary subcontractor upon request.
 - g. Self-Insured Retentions. All self-insured retentions (SIR) must be disclosed to Risk Management for approval and shall not reduce the limits of liability. Policies containing any SIR provision shall provide or be endorsed to provide that the SIR may be satisfied by either the named insured or City. City reserves the right to obtain a full certified redacted copy of any insurance policy and endorsements, however such redactions shall be limited to Contractor's financial information listed on the policy, excluding limits of coverage. The failure to exercise this right shall not constitute a waiver of such right.
 - h. Waiver of Subrogation. Contractor hereby agrees to waive subrogation which any insurer of Contractor may acquire from Contractor by virtue of the payment of any loss under a Workers Compensation, Commercial General Liability or Automobile Liability policy. All Workers Compensation, Commercial General Liability and Automobile Liability policies shall be endorsed with a waiver of subrogation in favor of City, its officers, agents, employees and volunteers for all work performed by Contractor, its employees, agents and subcontractors.
 - i. Liability/Remedies. Insurance coverage in the minimum amounts set forth herein shall not be construed to relieve Contractor of liability in excess of such coverage, nor shall it preclude City from taking such other actions as are available to it under any other provisions of this Agreement or law.
11. Contractor shall comply with all federal, state and local laws and ordinances, including but not limited to the City's storm water regulations, as may be applicable to the performance of services under this Agreement. Failure to comply with local ordinances may result in monetary fines and cancellation of this Agreement. Refer to www.roseville.ca.us/stormwater for links to more information on the City's storm water regulations.
 12. In the event that the terms of any attachment or exhibit conflict with any terms of this Agreement, the terms of this Agreement shall control.
 13. This Agreement may be executed in one or more counterparts, each of which shall be deemed an original, but all of which together shall constitute one and the same

Contract Purchase Agreement 3002760

instrument. In the event that any signature is delivered by facsimile transmission or by e-mail delivery of a ".pdf" format data file, such signature shall create a valid and binding obligation of the party executing (or on whose behalf such signature is executed) with the same force and effect as if such facsimile or ".pdf" signature page were an original hereof.

14. If either party commences any legal action against the other party arising out of this Agreement or the performance thereof, the prevailing party in such action shall be entitled to recover its reasonable litigation expenses, including but not limited to, court costs, expert witness fees, discovery expenses, and attorneys' fees. Any action arising out of this Agreement shall be brought in Placer County, California, regardless of where else venue may lie. This Agreement shall be governed by and construed in accordance with the laws of the State of California.
15. This Agreement shall be binding upon the heirs, successors, executors, administrators and assigns of the respective parties hereto.
16. If any of the provisions contained in this Agreement are for any reason held invalid or unenforceable, such holding shall not affect the remaining provisions or the validity and enforceability of the Agreement as a whole.
17. For purposes of this Agreement, the terms "Contractor," "Consultant," and "Supplier" are used interchangeably.
18. If the project referenced on this agreement is a Public Works project, then the following shall apply: No contractor or subcontractor may work on a public works project unless registered with the Department of Industrial Relations pursuant to Labor Code section 1725.5. During the performance of this agreement, Contractor and its subcontractors shall have a continuing legal obligation to maintain current registration with the Department of Industrial Relations. Contractor is hereby notified that this project is subject to compliance monitoring and enforcement by the Department of Industrial Relations.
19. If the project referenced on this agreement is a Public Works project, then the following shall apply: Contractor must submit all claims as defined in and in accordance with the claim resolution process set forth in Section 9204 of the Public Contract Code. Each such claim must be sent to the City by registered mail or certified mail with return receipt requested and must contain reasonable documentation to support the claim. All claims must be received prior to acceptance of the work.
20. Contractor certifies that Contractor, its employees, directors, officers, agents, subcontractors, vendors, and volunteers are not presently debarred, excluded, suspended, declared ineligible, voluntarily excluded, or proposed for debarment, exclusion, suspension or ineligibility by any federal, state, or local department or agency.
21. This Agreement may be amended via change order, but only if such change order is made in writing, approved by the City, and signed by both parties.
22. CONTRACTOR agrees to defend and indemnify CITY if, despite the parties intent and practice, any venue, agency, or court with competent jurisdiction determines that CONTRACTOR and/or any of its agents, officers, employees, volunteers, independent contractors, or subcontractors, are characterized as employee(s) of CITY. CONTRACTOR and CITY agree that: (a) CONTRACTOR is free from the control and direction of CITY in connection with the performance of the work; (b) CONTRACTOR is providing services directly to CITY; (c) CONTRACTOR has and will maintain at all relevant times a business license; (d) CONTRACTOR maintains a business location that is separate from CITY; (e) CONTRACTOR is customarily engaged in an independently established business of the same nature as that involved in the work performed hereunder; (f) CONTRACTOR actually contracts with other businesses to provide the same or similar services and maintains a clientele without restrictions from CITY; (g) CONTRACTOR advertises and holds itself out to the public as available to provide the same or similar services; (h) CONTRACTOR provides its own tools, vehicles, and equipment to perform the services; (i) CONTRACTOR has negotiated its own rates; (j) CONTRACTOR set its own hours and location of work in accomplishing CITY's on-call needs; and (k) CONTRACTOR has the right to control the manner and means of accomplishing the result desired and exercises its own expert independent judgement.
23. Notwithstanding anything else contained herein to the contrary, in no event shall (i) either Party be liable to the other for any indirect, special, punitive, exemplary, speculative,

Contract Purchase Agreement 3002760

consequential, contingent, liquidated, incidental or other similar damages, including without limitation, damages for lost revenues, lost profits, lost business or business interruptions arising in any manner pursuant to or in connection with this Agreement, the Goods or Services; and (ii) Supplier's maximum liability whether such liability is claimed as a result of breach of contract, indemnity, warranty, tort (including negligence), strict liability or otherwise, pursuant to or in connection with any and all claims arising under this Agreement, shall be limited to the dollar value of the purchase price of the Good or Service giving rise to the claim under this Agreement or the required insurance limits.

The supplier named hereon by the acceptance of this order agrees to the provisions of this document titled "Contract Purchase Agreement" and all accompanying terms, conditions, and attachments.

Roseville Business License No. _____

Contractor License No. _____

DIR Registration No. 1000444019

Check mark the applicable company type below:

_____ Corporation

 X Limited Liability Company

_____ Partnership

_____ Sole Proprietor

*City Reserves the right to withhold any payments to contractor in the event of noncompliance with insurance requirements or if required by law.
General T&C
REV 3/2/21 JS
Negotiated 6/7/2023 between Wesco Services LLC dba Wesco Energy Solutions and the City of Roseville JS/VB.*

Contract Purchase Agreement 3002760

**ATTACHMENT A
HUMAN RESOURCES/RISK MANAGEMENT DIVISION
INSURANCE REQUIREMENTS
AGREEMENT UNDER FORMAL BID LIMIT**

General - Required Coverage:

- General Liability: \$1 Million per occurrence /\$2 Million aggregate
- Automobile Liability: \$1 Million combined single limit
- Workers' Compensation: Statutory *Must provide a Waiver of subrogation
- Additional Insured Endorsement (AIE) - General Liability policy: CG 20 38 04 13 or an equivalent, blanket endorsement or section of the policy. Endorsement shall cover the City of Roseville, its officers, agents, employees and volunteers as additional insured.
- Policies must be primary and non-contributory
- A 30 day notice of cancellation must be provided

Additional Liability/Insurance Requirements if required by Agreement (and marked below):

Construction: _____

General Liability:
\$2 Million/occurrence
\$4 Million aggregate

Design Professional: _____

General Liability:
\$2 Million/occurrence
\$4 Million aggregate
Professional Liability:
\$2 Million/occurrence

Professional Consultant: _____

Professional Liability:
\$1 Million/occurrence

IT Services: _____

Professional Liability:
\$1 Million/occurrence
No auto required
Cyber Liability:
\$1 Million/occurrence

Special Events/Caterers-Vendors: _____

No auto required
No workers' comp required

Professional Counseling/ Psychological: _____

Professional Liability:
\$1 Million/occurrence
No auto required

Insurance Verification

By signing the agreement included with this document, you are confirming that your company has the minimum insurance limits required above.

A copy of your insurance certificate is not required at this time. The City may request proof of insurance at any time.

Questions Regarding Insurance Requirements Contact Risk Management at (916) 774-5202

Contract Purchase Agreement 3002760

Supplier

Signature: Wayne MacNeal

Print Name: Wayne MacNeal

Title: Director of Business Operations

Date: 6/9/2023

Supplier

Signature: _____

Print Name: _____

Title: _____

Date: _____

City of Roseville, A Municipal Corporation

Signature: _____

Print Name: **Dominick Casey**

Title: **City Manager**

Date: _____

Certificate Of Completion

Envelope Id: DA304FCEB3954BBFB7491CF837780E4B		Status: Completed
Subject: Signature Request/DocuSign: City of Roseville CA PO 3002760_1_WESCO Energy Services		
Source Envelope:		
Document Pages: 35	Signatures: 1	Envelope Originator: Heather Looney 225 W Station Square Dr #700 Pittsburgh, PA 15219 Heather.Looney@wescodist.com IP Address: 98.97.41.209
Certificate Pages: 1	Initials: 0	
AutoNav: Enabled		
EnvelopeId Stamping: Enabled		
Time Zone: (UTC-05:00) Eastern Time (US & Canada)		

Record Tracking

Status: Original	Holder: Heather Looney	Location: DocuSign
6/9/2023 9:41:45 AM	Heather.Looney@wescodist.com	

Signer Events

Wayne MacNeal		Timestamp
WMacNeal@wescodist.com		
Director of Operations		
Wesco		
Security Level: Email, Account Authentication (None)	Signature Adoption: Pre-selected Style	Sent: 6/9/2023 10:47:51 AM
	Using IP Address: 99.162.89.128	Viewed: 6/9/2023 10:55:15 AM
		Signed: 6/9/2023 10:55:20 AM

Electronic Record and Signature Disclosure:
Not Offered via DocuSign

In Person Signer Events	Signature	Timestamp
Editor Delivery Events	Status	Timestamp
Agent Delivery Events	Status	Timestamp
Intermediary Delivery Events	Status	Timestamp
Certified Delivery Events	Status	Timestamp
Carbon Copy Events	Status	Timestamp
Witness Events	Signature	Timestamp
Notary Events	Signature	Timestamp
Envelope Summary Events	Status	Timestamps
Envelope Sent	Hashed/Encrypted	6/9/2023 10:47:51 AM
Certified Delivered	Security Checked	6/9/2023 10:55:15 AM
Signing Complete	Security Checked	6/9/2023 10:55:20 AM
Completed	Security Checked	6/9/2023 10:55:20 AM
Payment Events	Status	Timestamps



LIGHTING IMPROVEMENT PROPOSAL

**LED UPGRADE
Roseville Waste Water Plant
5051 W Park Ave
Roseville, CA**

Omnia Contract #: R192008

Proposal Date
March 30, 2023

Proposal Expires
May 30, 2023



Executive Summary

Proposal To:	-	Facility:	Roseville Waste Water Plant 5051 W Park Ave Roseville, CA	Energy Provider:	-
Company:	-			Energy Rate:	\$0.2000 / kWh

ANNUAL SAVINGS		Mixed Omnia LED Upgrade (Rev.4)
Lighting Savings (pre-controls)		\$79,022
Control Savings		\$19,750
Maintenance Savings		\$25,169
HVAC Savings		\$17,285
Total Annual Savings		\$141,227
PROJECT COST		
Total Project Cost		\$491,212
Less Estimated Rebate ¹		\$(9,927)
PROJECTED NET INVESTMENT		\$481,284
¹Subject to availability of funds. May require pre-approval.		
FINANCIAL METRICS ²		
Payback		3.41 yrs
Net Present Value		\$572,983
Internal Rate of Return		28.86%
10-Year Cumulative Savings		\$930,983
²Financial Metrics are calculated on a 10-year system life utilizing a 6.00% cost of capital.		



Project Overview

Mixed Omnia LED Upgrade (Rev.4)

PROJECT COST

Total Project Cost \$491,212

Less Estimated Rebate¹ \$(9,927)

PROJECTED NET INVESTMENT **\$481,284**

FINANCIAL METRICS

Payback 3.41 yrs

Internal Rate of Return 28.86%

Net Present Value \$572,983

10 Years Cumulative Savings \$930,983

ENVIRONMENTAL ANALYSIS

A reduction of **461,357 kWh** is equivalent to:



267 acres of trees
planted



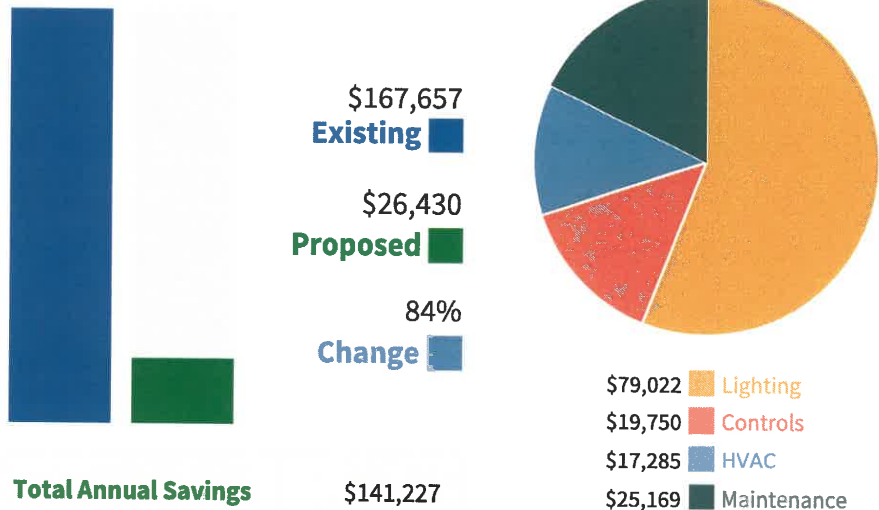
69 cars
removed from the roads



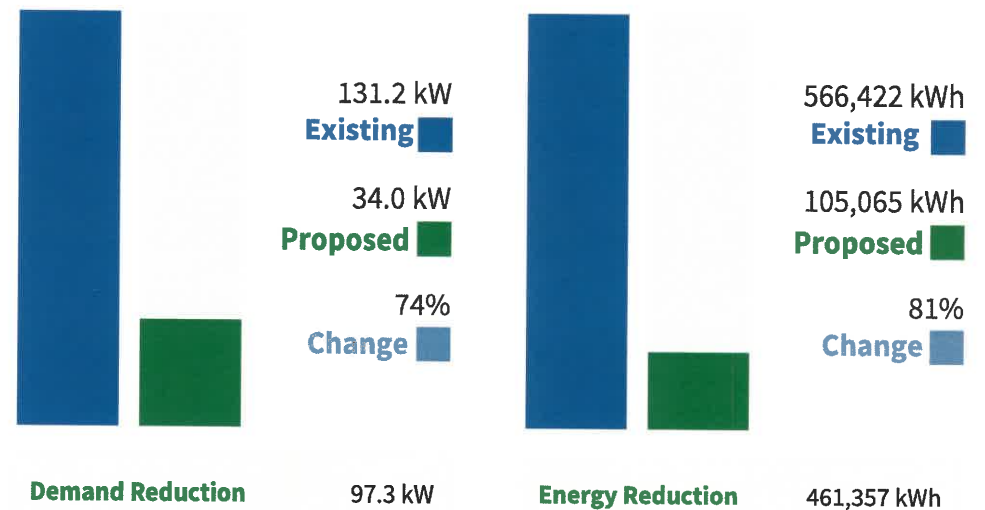
325,632 kgCO₂e
reduced carbon dioxide emissions

Subject to availability of funds. May require pre-approval

ANNUAL SAVINGS ANALYSIS



ENERGY ANALYSIS

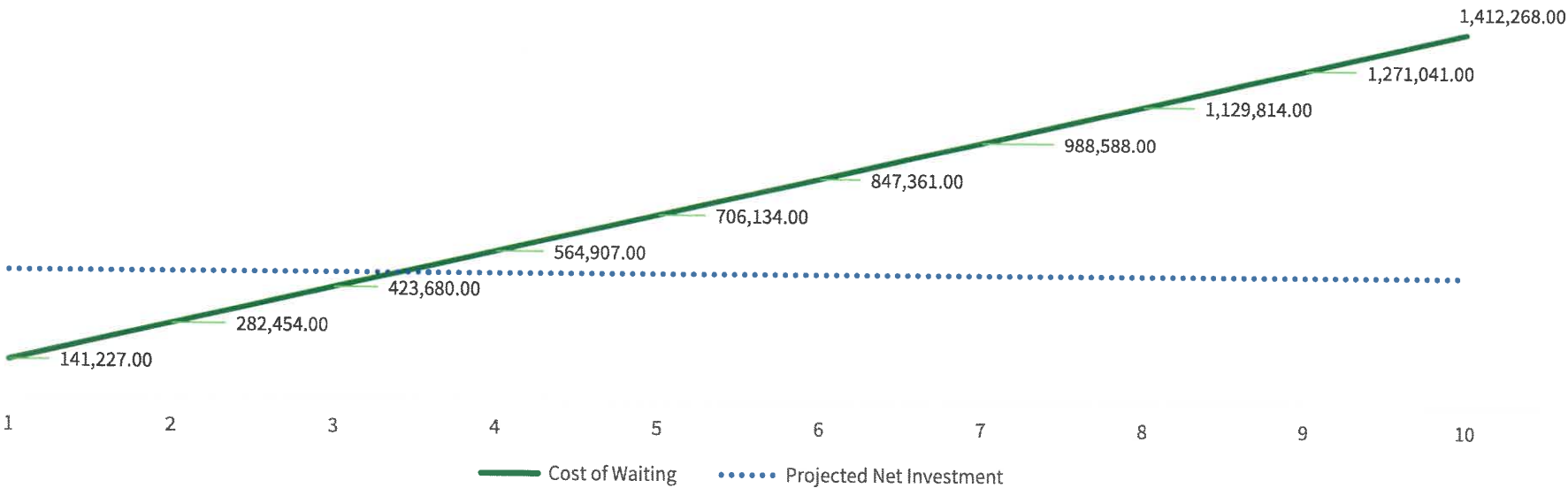




Cost of Waiting

Mixed Omnia LED Upgrade (Rev.4)

Monthly	Yearly	10 Years
\$11,769	\$141,227	\$1,412,268



Cost of waiting includes energy savings and maintenance savings applied as an average annual amount over a 10 year analysis period.



Package

Mixed Omnia LED Upgrade (Rev.4)

EXISTING	WATTS ¹	QTY
Area Light High Pressure Sodium 150W 1-Lamp	188.0W	132
Area Light High Pressure Sodium 400W 1-Lamp	457.0W	64
Canopy CFL Pin Base 32W 1-Lamp	28.2W	4
Canopy CFL Pin Base 42W 2-Lamp	73.9W	16
Downlight CFL Pin Base 26W 2-Lamp	45.8W	6
Downlight CFL Pin Base 32W 1-Lamp	28.2W	19
Exit & Emergency CFL Pin Base 15W 2-Lamp	26.4W	40
Exit & Emergency Halogen 20W 2-Lamp	40.0W	7
Exit & Emergency Halogen 25W 2-Lamp	50.0W	18
Exit & Emergency Halogen 35W 2-Lamp	70.0W	2
Exit & Emergency Incandescent 60W 2-Lamp	120.0W	3
Exit & Emergency Incandescent 60W 2-Lamp	120.0W	1

PROPOSED SOLUTION	WATTS ¹	QTY
Area & Site/LED/Shoebox	75.0W	132
Area & Site/LED/Shoebox	150.0W	64
Downlight/LED/Round/6 in/4000K/80 CRI/zerototen/White Finish	18.0W	4
Decorative/LED/Retrofit Kit/4000K/80 CRI/zerototen	23.5W	16
Downlight/LED/Round/6 in/4000K/80 CRI/zerototen/White Finish	24.0W	6
Downlight/LED/Round/6 in/4000K/80 CRI/zerototen/White Finish	12.0W	19
Exit & Emergency/LED/Combo	3.3W	40
PAR16/LED/40Deg/E26/Internal Driver/4000K/120V/Dimmable/2 lamp(s) per fixture	13.0W	7
PAR16/LED/40Deg/E26/Internal Driver/4000K/120V/Dimmable/2 lamp(s) per fixture	13.0W	18
PAR16/LED/40Deg/E26/Internal Driver/4000K/120V/Dimmable/2 lamp(s) per fixture	13.0W	2
A19/LED/230Deg/E26/Internal Driver/4000K/120V/Non Dimmable/2 lamp(s) per fixture	24.0W	3
Corn Cob/LED/Internal Driver/5700K/120-277V/2 lamp(s) per fixture	48.0W	1

**EXISTING****WATTS¹ QTY**

Exit & Emergency LED 10W 2-Lamp	20.0W	2
Exit & Emergency LED 5W 1-Lamp	5.0W	9
Exit & Emergency LED 5W 2-Lamp	10.0W	2
Flood Light LED 15W 1-Lamp	15.0W	2
Highbay High Pressure Sodium 200W 1-Lamp	240.0W	11
Highbay High Pressure Sodium 250W 1-Lamp	295.0W	29
Highbay High Pressure Sodium 250W 1-Lamp	295.0W	16
Industrial Hood T8 4 ft 32W 2-Lamp	74.9W	46
Industrial Hood T8 4 ft 32W 2-Lamp	74.9W	8
Industrial Hood T8 4 ft 32W 3-Lamp	112.3W	94
Industrial Hood T8 4 ft 32W 3-Lamp	112.3W	52
Industrial Hood T8 4 ft 32W 3-Lamp	112.3W	6

PROPOSED SOLUTION**WATTS¹ QTY**

Excluded from Scope		2
Excluded from Scope		9
Excluded from Scope		2
Excluded from Scope		2
HID Vertical Replacement/LED/EX39/Internal Driver/4000K/100-277V/Dimmable/1 lamp(s) per fixture	80.0W	11
"Selectable CCT & Power" - Highbays & Lowbays/Round/LED/90° Beam Angle/4000/5000K/82 CRI/120-277V/0-10V Dimming/Precision die-cast Aluminum Housin/Wet Location/Polycarbonate Lens/White Finish (100/125/150W)	150.0W	29
Highbays & Lowbays/LED/Round	55.0W	16
Linear/LED/Commercial/4 ft/4000K/80 CRI/zerototen	40.0W	46
Linear/LED/Commercial/4 ft+/4000K/80+/0-10V Dimming/Yes	40.0W	8
Linear/LED/Commercial/4 ft/4000K/80 CRI/zerototen	40.0W	94
Linear/LED/Commercial/4 ft+/4000K/80+/0-10V Dimming/Yes	40.0W	52
T8 Linear/LED/240Deg/G13/External Driver/4000K/120-277V/Dimmable/1 lamp(s) per fixture	13.0W	6



EXISTING	WATTS ¹	QTY	PROPOSED SOLUTION	WATTS ¹	QTY
Industrial Hood T8 4 ft 32W 4-Lamp	149.8W	18	T8 Linear/LED/240Deg/G13/External Driver/4000K/120-277V/Dimmable/1 lamp(s) per fixture	13.0W	18
Other High Pressure Sodium 150W 1-Lamp	188.0W	11	"Field-Adjustable CCT & Selectable Wattage" - Corn Cob/LED/360 Deg/E26/Internal Driver/3000K/4000K/5000K/100-277V/(36/45/54W & 5220/6525/7830Lm)	54.0W	11
Other High Pressure Sodium 150W 1-Lamp	188.0W	3	Corn Cob/LED/Internal Driver/5700K/120-277V/1 lamp(s) per fixture	24.0W	3
Other High Pressure Sodium 250W 1-Lamp	295.0W	9	Highbays & Lowbays/LED/Round	50.0W	9
Other High Pressure Sodium 70W 1-Lamp	86.0W	1	Corn Cob/LED/Internal Driver/5700K/120-277V/1 lamp(s) per fixture	24.0W	1
Other T8 4 ft 32W 2-Lamp	56.3W	2	T8 Linear/LED/240Deg/G13/External Driver/4000K/120-277V/0-10V Dimming/1 lamp(s) per fixture	13.0W	2
Other T8 4 ft 32W 4-Lamp	112.6W	13	T8 Linear/LED/220Deg/G13/Internal Driver/4000K/120-277V/Non Dimmable/4 lamp(s) per fixture	42.0W	13
Other T8 4 ft 32W 4-Lamp	112.6W	23	T8 Linear/LED/240Deg/G13/External Driver/4000K/120-277V/Dimmable/1 lamp(s) per fixture	13.0W	23
Strip T8 3 ft 25W 1-Lamp	29.2W	13	T8 Linear/LED/220Deg/G13/Internal Driver/4000K/120-277V/Non Dimmable/1 lamp(s) per fixture	12.0W	13
Strip T8 4 ft 32W 1-Lamp	37.4W	6	T8 Linear/LED/220Deg/G13/Internal Driver/4000K/100-277V/0-10V Dimmable/1 lamp(s) per fixture	14.0W	6



EXISTING	WATTS ¹	QTY	PROPOSED SOLUTION	WATTS ¹	QTY
Strip T8 4 ft 32W 1-Lamp	37.4W	19	T8 Linear/LED/220Deg/G13/Internal Driver/4000K/120-277V/Non Dimmable/1 lamp(s) per fixture	10.5W	19
Troffer T8 2 ft 17W 2-Lamp	29.9W	12	Troffers & Panels/LED/Flat Panel/2 x 2 ft/Field Selectable/80+/0-10V Dimming	17.0W	12
Troffer T8 2 ft 17W 2-Lamp	29.9W	4	Troffers & Panels/LED/Flat Panel/2 x 2 ft/Field Selectable/80+/0-10V Dimming/Yes	17.0W	4
Troffer T8 4 ft 32W 3-Lamp	84.5W	14	Troffers & Panels/LED/Flat Panel/2 x 4 ft/4000K/80+/0-10V Dimming/Yes	30.0W	14
Troffer T8 4 ft 32W 3-Lamp	84.5W	31	Troffers & Panels/LED/Flat Panel/2 x 4 ft/Field Selectable/80+/0-10V Dimming	30.0W	31
Undercabinet T8 3 ft 25W 1-Lamp	22.0W	6	T8 Linear/LED/220Deg/G13/Internal Driver/4000K/120-277V/Non Dimmable/1 lamp(s) per fixture	12.0W	6
Undercabinet T8 4 ft 32W 1-Lamp	28.2W	3	T8 Linear/LED/220Deg/G13/Internal Driver/4000K/120-277V/Non Dimmable/1 lamp(s) per fixture	10.5W	3
Vapor Tight T8 4 ft 32W 2-Lamp	56.3W	8	T8 Linear/LED/220Deg/G13/Internal Driver/4000K/100-277V/0-10V Dimmable/2 lamp(s) per fixture	28.0W	8
Vapor Tight T8 4 ft 32W 2-Lamp	56.3W	4	Vapor Tight/LED/Linear/4 ft+/Field Selectable/80+/0-10V Dimming	50.0W	4
Wallpack CFL Pin Base 26W 1-Lamp	22.9W	1	"Selectable CCT" - Wall Mount/Security/LED/3000K/4000K/5000K/70 CRI/120-277V/0-10V Dimming/Integrated Button Photocell/Bronze Finish	15.0W	1
Wallpack CFL Pin Base 26W 2-Lamp	45.8W	2	"Selectable CCT" - Wall Mount/Security/LED/3000K/4000K/5000K/70	30.0W	2





EXISTING

WATTS¹ QTY

	WATTS ¹	QTY
Wallpack High Pressure Sodium 150W 1-Lamp	188.0W	38
Wallpack High Pressure Sodium 150W 1-Lamp	188.0W	6
Wallpack High Pressure Sodium 70W 1-Lamp	86.0W	91
Wrap T8 4 ft 32W 2-Lamp	56.3W	2
Total Quantity Existing		929

PROPOSED SOLUTION

WATTS¹ QTY

CRI/120-277V/0-10V Dimming/Integrated Button
Photocell/Bronze Finish

"Selectable CCT" - Wall
Mount/Traditional/LED/3000K/4000K/5000K/80
CRI/120-277V/Photocell/Wall Mount/Bronze
Finish



Highbays & Lowbays/LED/Round

"Adjustable Wattage" - Corn Cob/LED/360
Deg/E26/Internal Driver/5000K/100-
277V/Dimmable (6/12/18W & 870/1740/2610 Lm)

T8 Linear/LED/220Deg/G13/Internal
Driver/4000K/120-277V/Non Dimmable/2 lamp(s)
per fixture

Total Quantity Proposed

929

¹Total System Wattage



Line by Line

Mixed Omnia LED Upgrade (Rev.4)

Reference	E Existing / P Proposed Solution	# of Fixtures	kW per Fixture	Annual Hours	Peak Savings (kW)	Lighting Savings (kWh)	Controls Savings (kWh)	HVAC Savings	Total Savings (kWh)
Admin Bldg North									
Open Office	E Downlight CFL Pin Base 26W 2-Lamp	3	0.046	2,346	0.1	153	51	36	240
	P Downlight/LED/Round/6 in/4000K/80 CRI/zerototen/White Finish	3	0.024						
Open Office	E Downlight CFL Pin Base 32W 1-Lamp	5	0.028	2,346	0.1	190	42	41	273
	P Downlight/LED/Round/6 in/4000K/80 CRI/zerototen/White Finish	5	0.012						
Open Office	E Exit & Emergency LED 5W 1-Lamp	1	0.005	2,346	0.0	0	0	0	0
	P Excluded from Scope	1	0.005						
Open Office	E Other T8 4 ft 32W 4-Lamp	6	0.113	2,346	0.6	1,402	55	255	1,712
	P T8 Linear/LED/240Deg/G13/External Driver/4000K/120-277V/Dimmable	6	0.013						
Restroom	E Exit & Emergency LED 5W 2-Lamp	1	0.010	2,346	0.0	0	0	0	0
	P Excluded from Scope	1	0.010						
Restroom	E Strip T8 4 ft 32W 1-Lamp	2	0.037	2,346	0.1	126	25	26	177
	P T8 Linear/LED/220Deg/G13/Internal Driver/4000K/120-277V/Non Dimmable	2	0.010						
Restroom (02)	E Exit & Emergency LED 5W 2-Lamp	1	0.010	2,346	0.0	0	0	0	0
	P Excluded from Scope	1	0.010						
Restroom (02)	E Strip T8 4 ft 32W 1-Lamp	2	0.037	2,346	0.1	126	25	26	177
	P T8 Linear/LED/220Deg/G13/Internal Driver/4000K/120-277V/Non Dimmable	2	0.010						
Corridor	E Exit & Emergency LED 5W 1-Lamp	1	0.005	2,346	0.0	0	0	0	0
	P Excluded from Scope	1	0.005						
Corridor	E Strip T8 4 ft 32W 1-Lamp	6	0.037	2,346	0.2	329	101	75	505
	P T8 Linear/LED/220Deg/G13/Internal Driver/4000K/100-277V/0-10V Dimmable	6	0.014						
Corridor	E Troffer T8 2 ft 17W 2-Lamp	4	0.030	2,346	0.1	121	81	35	237
	P Troffers & Panels/LED/Flat Panel/2 x 2 ft/Field Selectable/80+/0-10V Dimming	4	0.017						
Corridor	E Troffer T8 2 ft 17W 2-Lamp	2	0.030	2,346	0.0	61	41	18	120
	P Troffers & Panels/LED/Flat Panel/2 x 2 ft/Field Selectable/80+/0-10V Dimming/Yes	2	0.017						
Training	E Downlight CFL Pin Base 26W 2-Lamp	2	0.046	2,346	0.1	102	57	28	187
	P Downlight/LED/Round/6 in/4000K/80 CRI/zerototen/White Finish	2	0.024						
Training	E Downlight CFL Pin Base 32W 1-Lamp	1	0.028	2,346	0.0	38	14	9	61
	P Downlight/LED/Round/6 in/4000K/80 CRI/zerototen/White Finish	1	0.012						
Training	E Exit & Emergency LED 5W 1-Lamp	1	0.005	2,346	0.0	0	0	0	0
	P Excluded from Scope	1	0.005						
Training	E Other T8 4 ft 32W 4-Lamp	4	0.113	2,346	0.4	935	62	174	1,171
	P T8 Linear/LED/240Deg/G13/External Driver/4000K/120-277V/Dimmable	4	0.013						
Training	E Undercabinet T8 4 ft 32W 1-Lamp	2	0.028	2,346	0.0	83	0	15	98
	P T8 Linear/LED/220Deg/G13/Internal Driver/4000K/120-277V/Non Dimmable	2	0.010						
Process Control	E Downlight CFL Pin Base 32W 1-Lamp	8	0.028	2,346	0.2	304	68	65	437
	P Downlight/LED/Round/6 in/4000K/80 CRI/zerototen/White Finish	8	0.012						
Process Control	E Other T8 4 ft 32W 4-Lamp	3	0.113	2,346	0.3	701	27	127	855



Reference	E Existing / P Proposed Solution	# of Fixtures	kW per Fixture	Annual Hours	Peak Savings (kW)	Lighting Savings (kWh)	Controls Savings (kWh)	HVAC Savings	Total Savings (kWh)
Server Room	P T8 Linear/LED/240Deg/G13/External Driver/4000K/120-277V/Dimmable	3	0.013						
	E Other T8 4 ft 32W 2-Lamp	1	0.056	2,346	0.0	102	16	20	138
Server Room	P T8 Linear/LED/240Deg/G13/External Driver/4000K/120-277V/0-10V Dimming	1	0.013						
	E Other T8 4 ft 32W 4-Lamp	4	0.113	2,346	0.4	935	62	174	1,171
Maintenance	P T8 Linear/LED/240Deg/G13/External Driver/4000K/120-277V/Dimmable	4	0.013						
	E Exit & Emergency LED 10W 2-Lamp	1	0.020	2,346	0.0	0	0	0	0
Maintenance	P Excluded from Scope	1	0.020						
	E Other T8 4 ft 32W 4-Lamp	13	0.113	2,346	0.9	2,153	384	444	2,981
Laboratory	P T8 Linear/LED/220Deg/G13/Internal Driver/4000K/120-277V/Non Dimmable	13	0.042						
	E Exit & Emergency LED 10W 2-Lamp	1	0.020	2,346	0.0	0	0	0	0
Laboratory	P Excluded from Scope	1	0.020						
	E Other T8 4 ft 32W 2-Lamp	1	0.056	2,346	0.0	102	16	20	138
Laboratory	P T8 Linear/LED/240Deg/G13/External Driver/4000K/120-277V/0-10V Dimming	1	0.013						
	E Other T8 4 ft 32W 4-Lamp	6	0.113	2,346	0.6	1,402	93	262	1,757
Laboratory	P T8 Linear/LED/240Deg/G13/External Driver/4000K/120-277V/Dimmable	6	0.013						
	E Undercabinet T8 3 ft 25W 1-Lamp	5	0.022	2,346	0.0	117	0	21	138
Laboratory	P T8 Linear/LED/220Deg/G13/Internal Driver/4000K/120-277V/Non Dimmable	5	0.012						
	E Undercabinet T8 4 ft 32W 1-Lamp	1	0.028	2,346	0.0	42	0	7	49
Exterior	P T8 Linear/LED/220Deg/G13/Internal Driver/4000K/120-277V/Non Dimmable	1	0.010						
	E Canopy CFL Pin Base 32W 1-Lamp	4	0.028	2,346	0.1	96	51	26	173
Exterior	P Downlight/LED/Round/6 in/4000K/80 CRI/zerototen/White Finish	4	0.018						
	E Canopy CFL Pin Base 42W 2-Lamp	16	0.074	2,346	0.9	1,892	265	377	2,534
Exterior	P Decorative/LED/Retrofit Kit/4000K/80 CRI/zerototen	16	0.024						
	E Flood Light LED 15W 1-Lamp	2	0.015	2,346	0.0	0	0	0	0
Exterior	P Excluded from Scope	2	0.015						
	E Wallpack CFL Pin Base 26W 1-Lamp	1	0.023	2,346	0.0	19	11	5	35
Exterior	P "Selectable CCT" - Wall Mount/Security/LED/3000K/4000K/5000K/70 CRI/120-277V/0-10V Dimming/Integrated Button Photocell/Bronze Finish	1	0.015						
	E Wallpack CFL Pin Base 26W 2-Lamp	2	0.046	2,346	0.0	74	42	20	136
Bobcat Storage	P "Selectable CCT" - Wall Mount/Security/LED/3000K/4000K/5000K/70 CRI/120-277V/0-10V Dimming/Integrated Button Photocell/Bronze Finish	2	0.030						
	E Vapor Tight T8 4 ft 32W 2-Lamp	4	0.056	2,346	0.1	59	239	52	350
	P Vapor Tight/LED/Linear/4 ft+/Field Selectable/80+/0-10V Dimming	4	0.050						
					5.3	11,664	1,828	2,358	15,850
Admin Bldg South									
Corridor	E Exit & Emergency LED 5W 1-Lamp	1	0.005	2,346	0.0	0	0	0	0
	P Excluded from Scope	1	0.005						
Corridor	E Troffer T8 2 ft 17W 2-Lamp	2	0.030	2,346	0.0	61	41	18	120
	P Troffers & Panels/LED/Flat Panel/2 x 2 ft/Field Selectable/80+/0-10V Dimming/Yes	2	0.017						



Reference	E Existing / P Proposed Solution	# of Fixtures	kW per Fixture	Annual Hours	Peak Savings (kW)	Lighting Savings (kWh)	Controls Savings (kWh)	HVAC Savings	Total Savings (kWh)
Corridor	E Troffer T8 2 ft 17W 2-Lamp	5	0.030	2,346	0.1	151	102	44	297
Private Office	P Troffers & Panels/LED/Flat Panel/2 x 2 ft/Field Selectable/80+/0-10V Dimming	5	0.017						
	E Troffer T8 4 ft 32W 3-Lamp	2	0.084	2,346	0.1	256	72	57	385
Private Office (02)	P Troffers & Panels/LED/Flat Panel/2 x 4 ft/Field Selectable/80+/0-10V Dimming	2	0.030						
	E Troffer T8 4 ft 32W 3-Lamp	3	0.084	2,346	0.2	384	108	86	578
Storage	P Troffers & Panels/LED/Flat Panel/2 x 4 ft/Field Selectable/80+/0-10V Dimming	3	0.030						
	E Wrap T8 4 ft 32W 2-Lamp	2	0.056	2,346	0.1	166	30	34	230
Mechanical/Maintenance	P T8 Linear/LED/220Deg/G13/Internal Driver/4000K/120-277V/Non Dimmable	2	0.021						
	E Exit & Emergency LED 5W 1-Lamp	2	0.005	2,346	0.0	0	0	0	0
Mechanical/Maintenance	P Excluded from Scope	2	0.005						
	E Industrial Hood T8 4 ft 32W 3-Lamp	6	0.112	2,346	0.6	1,398	93	261	1,752
Mechanical/Maintenance	P T8 Linear/LED/240Deg/G13/External Driver/4000K/120-277V/Dimmable	6	0.013						
	E Industrial Hood T8 4 ft 32W 4-Lamp	18	0.150	2,346	2.5	5,777	280	1,060	7,117
Private	P T8 Linear/LED/240Deg/G13/External Driver/4000K/120-277V/Dimmable	18	0.013						
	E Downlight CFL Pin Base 26W 2-Lamp	1	0.046	2,346	0.0	51	29	14	94
Private	P Downlight/LED/Round/6 in/4000K/80 CRI/zerototen/White Finish	1	0.024						
	E Exit & Emergency LED 5W 1-Lamp	2	0.005	2,346	0.0	0	0	0	0
Private	P Excluded from Scope	2	0.005						
	E Troffer T8 2 ft 17W 2-Lamp	1	0.030	2,346	0.0	30	20	9	59
Private	P Troffers & Panels/LED/Flat Panel/2 x 2 ft/Field Selectable/80+/0-10V Dimming	1	0.017						
	E Troffer T8 2 ft 17W 2-Lamp	2	0.030	2,346	0.0	61	41	18	120
Men's Locker	P Troffers & Panels/LED/Flat Panel/2 x 2 ft/Field Selectable/80+/0-10V Dimming	2	0.017						
	E Downlight CFL Pin Base 32W 1-Lamp	2	0.028	2,346	0.0	76	17	16	109
Men's Locker	P Downlight/LED/Round/6 in/4000K/80 CRI/zerototen/White Finish	2	0.012						
	E Strip T8 3 ft 25W 1-Lamp	13	0.029	2,346	0.2	525	110	111	746
Men's Locker	P T8 Linear/LED/220Deg/G13/Internal Driver/4000K/120-277V/Non Dimmable	13	0.012						
	E Strip T8 4 ft 32W 1-Lamp	5	0.037	2,346	0.1	316	37	62	415
Women's Locker	P T8 Linear/LED/220Deg/G13/Internal Driver/4000K/120-277V/Non Dimmable	5	0.010						
	E Downlight CFL Pin Base 32W 1-Lamp	1	0.028	2,346	0.0	38	8	8	54
Women's Locker	P Downlight/LED/Round/6 in/4000K/80 CRI/zerototen/White Finish	1	0.012						
	E Strip T8 4 ft 32W 1-Lamp	10	0.037	2,346	0.3	631	74	123	828
Private Office (03)	P T8 Linear/LED/220Deg/G13/Internal Driver/4000K/120-277V/Non Dimmable	10	0.010						
	E Troffer T8 4 ft 32W 3-Lamp	2	0.084	2,346	0.1	256	72	57	385
Private Office (04)	P Troffers & Panels/LED/Flat Panel/2 x 4 ft/Field Selectable/80+/0-10V Dimming	2	0.030						
	E Troffer T8 4 ft 32W 3-Lamp	2	0.084	2,346	0.1	256	72	57	385
Storage (02)	P Troffers & Panels/LED/Flat Panel/2 x 4 ft/Field Selectable/80+/0-10V Dimming	2	0.030						
	E Downlight CFL Pin Base 32W 1-Lamp	2	0.028	2,346	0.0	76	17	16	109
Break room	P Downlight/LED/Round/6 in/4000K/80 CRI/zerototen/White Finish	2	0.012						
	E Exit & Emergency LED 5W 1-Lamp	1	0.005	2,346	0.0	0	0	0	0



Reference	E Existing / P Proposed Solution	# of Fixtures	kW per Fixture	Annual Hours	Peak Savings (kW)	Lighting Savings (kWh)	Controls Savings (kWh)	HVAC Savings	Total Savings (kWh)
Break room	P Excluded from Scope	1	0.005						
	E Troffer T8 4 ft 32W 3-Lamp	8	0.084	2,346	0.5	1,023	287	229	1,539
Break room	P Troffers & Panels/LED/Flat Panel/2 x 4 ft/Field Selectable/80+/0-10V Dimming	8	0.030						
	E Undercabinet T8 3 ft 25W 1-Lamp	1	0.022	2,346	0.0	23	0	4	27
	P T8 Linear/LED/220Deg/G13/Internal Driver/4000K/120-277V/Non Dimmable	1	0.012						
					4.9	11,555	1,510	2,284	15,349
Blower Bldg									
Mechanical	E Exit & Emergency CFL Pin Base 15W 2-Lamp	5	0.026	2,346	0.1	271	0	47	318
	P Exit & Emergency/LED/Combo	5	0.003						
Mechanical	E Industrial Hood T8 4 ft 32W 2-Lamp	15	0.075	2,346	0.7	1,228	718	341	2,287
	P Linear/LED/Commercial/4 ft/4000K/80 CRI/zerototen	15	0.040						
Mechanical	E Industrial Hood T8 4 ft 32W 2-Lamp	3	0.075	2,346	0.1	246	144	68	458
	P Linear/LED/Commercial/4 ft+/4000K/80+/0-10V Dimming/Yes	3	0.040						
Mechanical	E Industrial Hood T8 4 ft 32W 3-Lamp	7	0.112	2,346	0.6	1,187	335	266	1,788
	P Linear/LED/Commercial/4 ft/4000K/80 CRI/zerototen	7	0.040						
Mechanical	E Industrial Hood T8 4 ft 32W 3-Lamp	2	0.112	2,346	0.2	339	96	76	511
	P Linear/LED/Commercial/4 ft+/4000K/80+/0-10V Dimming/Yes	2	0.040						
Mechanical	E Troffer T8 4 ft 32W 3-Lamp	2	0.084	2,346	0.1	256	72	57	385
	P Troffers & Panels/LED/Flat Panel/2 x 4 ft/Field Selectable/80+/0-10V Dimming	2	0.030						
Mechanical	E Troffer T8 4 ft 32W 3-Lamp	2	0.084	2,346	0.1	256	72	57	385
	P Troffers & Panels/LED/Flat Panel/2 x 4 ft/Field Selectable/80+/0-10V Dimming	2	0.030						
Mechanical	E Wallpack High Pressure Sodium 70W 1-Lamp	7	0.086	2,346	0.5	1,117	151	222	1,490
	P "Adjustable Wattage" - Corn Cob/LED/360 Deg/E26/Internal Driver/5000K/100-277V/Dimmable (6/12/18W & 870/1740/2610 Lm)	7	0.018						
					2.4	4,900	1,588	1,134	7,622
Centrifuge Bldg									
Interior	E Exit & Emergency CFL Pin Base 15W 2-Lamp	4	0.026	2,346	0.1	217	0	38	255
	P Exit & Emergency/LED/Combo	4	0.003						
Interior	E Industrial Hood T8 4 ft 32W 3-Lamp	5	0.112	2,346	0.4	848	239	190	1,277
	P Linear/LED/Commercial/4 ft/4000K/80 CRI/zerototen	5	0.040						
Interior	E Industrial Hood T8 4 ft 32W 3-Lamp	14	0.112	2,346	1.2	2,375	670	533	3,578
	P Linear/LED/Commercial/4 ft+/4000K/80+/0-10V Dimming/Yes	14	0.040						
Exterior	E Wallpack High Pressure Sodium 70W 1-Lamp	8	0.086	4,380	0.5	2,383	189	450	3,022
	P "Adjustable Wattage" - Corn Cob/LED/360 Deg/E26/Internal Driver/5000K/100-277V/Dimmable (6/12/18W & 870/1740/2610 Lm)	8	0.018						
					2.2	5,823	1,098	1,211	8,132
Chemical Bldg									
Interior	E Exit & Emergency CFL Pin Base 15W 2-Lamp	2	0.026	2,346	0.0	108	0	19	127
	P Exit & Emergency/LED/Combo	2	0.003						



Reference	E Existing / P Proposed Solution	# of Fixtures	kW per Fixture	Annual Hours	Peak Savings (kW)	Lighting Savings (kWh)	Controls Savings (kWh)	HVAC Savings	Total Savings (kWh)
Interior	E Industrial Hood T8 4 ft 32W 3-Lamp	20	0.112	2,346	1.7	3,392	957	761	5,110
	P Linear/LED/Commercial/4 ft/4000K/80 CRI/zerototen	20	0.040						
Interior	E Troffer T8 4 ft 32W 3-Lamp	2	0.084	2,346	0.1	256	0	45	301
	P Troffers & Panels/LED/Flat Panel/2 x 4 ft/4000K/80+/0-10V Dimming/Yes	2	0.030						
Interior	E Troffer T8 4 ft 32W 3-Lamp	3	0.084	2,346	0.2	384	0	67	451
	P Troffers & Panels/LED/Flat Panel/2 x 4 ft/Field Selectable/80+/0-10V Dimming	3	0.030						
Interior	E Troffer T8 4 ft 32W 3-Lamp	8	0.084	2,346	0.4	1,023	0	179	1,202
	P Troffers & Panels/LED/Flat Panel/2 x 4 ft/4000K/80+/0-10V Dimming/Yes	8	0.030						
Exterior	E Area Light High Pressure Sodium 150W 1-Lamp	4	0.188	4,380	0.5	1,980	0	346	2,326
	P Area & Site/LED/Shoebox	4	0.075						
Exterior	E Wallpack High Pressure Sodium 150W 1-Lamp	8	0.188	4,380	1.2	4,485	1,072	973	6,530
	P "Selectable CCT" - Wall Mount/Traditional/LED/3000K/4000K/5000K/80 CRI/120-277V/Photocell/Wall Mount/Bronze Finish	8	0.060						
Exterior	E Wallpack High Pressure Sodium 70W 1-Lamp	4	0.086	4,380	0.3	1,191	161	237	1,589
	P "Adjustable Wattage" - Corn Cob/LED/360 Deg/E26/Internal Driver/5000K/100-277V/Dimmable (6/12/18W & 870/1740/2610 Lm)	4	0.018						
					4.4	12,819	2,190	2,627	17,636
Chlorine Contact Basin									
A									
Exterior	E Area Light High Pressure Sodium 150W 1-Lamp	24	0.188	2,346	3.3	6,362	2,449	1,542	10,353
	P Area & Site/LED/Shoebox	24	0.075						
					3.3	6,362	2,449	1,542	10,353
Bioassay Building #2									
Interior	E Exit & Emergency CFL Pin Base 15W 2-Lamp	5	0.026	2,346	0.1	271	0	47	318
	P Exit & Emergency/LED/Combo	5	0.003						
Interior	E Industrial Hood T8 4 ft 32W 3-Lamp	6	0.112	2,346	0.5	1,018	287	228	1,533
	P Linear/LED/Commercial/4 ft+/4000K/80+/0-10V Dimming/Yes	6	0.040						
Interior	E Industrial Hood T8 4 ft 32W 3-Lamp	15	0.112	2,346	1.3	2,544	718	571	3,833
	P Linear/LED/Commercial/4 ft/4000K/80 CRI/zerototen	15	0.040						
Exterior	E Wallpack High Pressure Sodium 70W 1-Lamp	6	0.086	4,380	0.4	1,787	142	338	2,267
	P "Adjustable Wattage" - Corn Cob/LED/360 Deg/E26/Internal Driver/5000K/100-277V/Dimmable (6/12/18W & 870/1740/2610 Lm)	6	0.018						
					2.3	5,620	1,147	1,184	7,951
Effluent Storage Basin									
Exterior	E Exit & Emergency Halogen 25W 2-Lamp	1	0.050	4,380	0.0	162	0	28	190
	P PAR16/LED/40Deg/E26/Internal Driver/4000K/120V/Dimmable	1	0.013						
Exterior	E Wallpack High Pressure Sodium 150W 1-Lamp	5	0.188	4,380	0.6	2,803	394	560	3,757
	P "Selectable CCT" - Wall Mount/Traditional/LED/3000K/4000K/5000K/80 CRI/120-277V/Photocell/Wall Mount/Bronze Finish	5	0.060						
					0.6	2,965	394	588	3,947



Reference	E Existing / P Proposed Solution	# of Fixtures	kW per Fixture	Annual Hours	Peak Savings (kW)	Lighting Savings (kWh)	Controls Savings (kWh)	HVAC Savings	Total Savings (kWh)
Electrical Bldg #1									
Interior	E Exit & Emergency CFL Pin Base 15W 2-Lamp	3	0.026	2,346	0.1	163	0	28	191
	P Exit & Emergency/LED/Combo	3	0.003						
Interior	E Industrial Hood T8 4 ft 32W 3-Lamp	14	0.112	2,346	1.2	2,375	670	533	3,578
	P Linear/LED/Commercial/4 ft/4000K/80 CRI/zerototen	14	0.040						
Interior	E Industrial Hood T8 4 ft 32W 3-Lamp	6	0.112	2,346	0.5	1,018	287	228	1,533
	P Linear/LED/Commercial/4 ft+/4000K/80+/0-10V Dimming/Yes	6	0.040						
Exterior	E Wallpack High Pressure Sodium 70W 1-Lamp	9	0.086	4,380	0.6	2,681	213	506	3,400
	P "Adjustable Wattage" - Corn Cob/LED/360 Deg/E26/Internal Driver/5000K/100-277V/Dimmable (6/12/18W & 870/1740/2610 Lm)	9	0.018						
					2.4	6,237	1,170	1,295	8,702
Electrical Bldg #2									
Interior	E Exit & Emergency CFL Pin Base 15W 2-Lamp	3	0.026	2,346	0.1	163	0	28	191
	P Exit & Emergency/LED/Combo	3	0.003						
Interior	E Industrial Hood T8 4 ft 32W 3-Lamp	5	0.112	2,346	0.4	848	239	190	1,277
	P Linear/LED/Commercial/4 ft/4000K/80 CRI/zerototen	5	0.040						
Interior	E Industrial Hood T8 4 ft 32W 3-Lamp	15	0.112	2,346	1.3	2,544	718	571	3,833
	P Linear/LED/Commercial/4 ft+/4000K/80+/0-10V Dimming/Yes	15	0.040						
Exterior	E Wallpack High Pressure Sodium 70W 1-Lamp	9	0.086	4,380	0.6	2,681	213	506	3,400
	P "Adjustable Wattage" - Corn Cob/LED/360 Deg/E26/Internal Driver/5000K/100-277V/Dimmable (6/12/18W & 870/1740/2610 Lm)	9	0.018						
					2.4	6,236	1,170	1,295	8,701
Filter Support Bldg									
Exterior	E Area Light High Pressure Sodium 150W 1-Lamp	3	0.188	2,346	0.4	795	306	193	1,294
	P Area & Site/LED/Shoebox	3	0.075						
Exterior	E Wallpack High Pressure Sodium 70W 1-Lamp	12	0.086	2,346	0.8	1,914	152	362	2,428
	P "Adjustable Wattage" - Corn Cob/LED/360 Deg/E26/Internal Driver/5000K/100-277V/Dimmable (6/12/18W & 870/1740/2610 Lm)	12	0.018						
Interior	E Exit & Emergency CFL Pin Base 15W 2-Lamp	5	0.026	2,346	0.1	271	0	47	318
	P Exit & Emergency/LED/Combo	5	0.003						
Interior	E Industrial Hood T8 4 ft 32W 2-Lamp	2	0.075	2,346	0.1	164	56	39	259
	P Linear/LED/Commercial/4 ft+/4000K/80+/0-10V Dimming/Yes	2	0.040						
Interior	E Industrial Hood T8 4 ft 32W 2-Lamp	5	0.075	2,346	0.2	409	141	96	646
	P Linear/LED/Commercial/4 ft/4000K/80 CRI/zerototen	5	0.040						
Interior	E Industrial Hood T8 4 ft 32W 3-Lamp	7	0.112	2,346	0.6	1,187	197	242	1,626
	P Linear/LED/Commercial/4 ft+/4000K/80+/0-10V Dimming/Yes	7	0.040						
Interior	E Industrial Hood T8 4 ft 32W 3-Lamp	20	0.112	2,346	1.7	3,392	563	692	4,647
	P Linear/LED/Commercial/4 ft/4000K/80 CRI/zerototen	20	0.040						
Interior	E Troffer T8 4 ft 32W 3-Lamp	3	0.084	2,346	0.2	384	63	78	525
	P Troffers & Panels/LED/Flat Panel/2 x 4 ft/Field Selectable/80+/0-10V Dimming	3	0.030						



Reference	E Existing / P Proposed Solution	# of Fixtures	kW per Fixture	Annual Hours	Peak Savings (kW)	Lighting Savings (kWh)	Controls Savings (kWh)	HVAC Savings	Total Savings (kWh)
Interior	E Troffer T8 4 ft 32W 3-Lamp	2	0.084	2,346	0.1	256	42	52	350
	P Troffers & Panels/LED/Flat Panel/2 x 4 ft/4000K/80+/0-10V Dimming/Yes	2	0.030						
					4.2	8,772	1,520	1,801	12,093
Filters Structure									
Exterior	E Area Light High Pressure Sodium 150W 1-Lamp	12	0.188	2,346	1.6	3,181	1,225	771	5,177
	P Area & Site/LED/Shoebox	12	0.075						
Exterior	E Exit & Emergency Halogen 25W 2-Lamp	2	0.050	2,346	0.1	174	18	34	226
	P PAR16/LED/40Deg/E26/Internal Driver/4000K/120V/Dimmable	2	0.013						
Exterior	E Wallpack High Pressure Sodium 70W 1-Lamp	8	0.086	2,346	0.5	1,276	101	241	1,618
	P "Adjustable Wattage" - Corn Cob/LED/360 Deg/E26/Internal Driver/5000K/100-277V/Dimmable (6/12/18W & 870/1740/2610 Lm)	8	0.018						
					2.2	4,631	1,344	1,046	7,021
Grit Basin Bldg									
Exterior	E Wallpack High Pressure Sodium 150W 1-Lamp	1	0.188	2,346	0.1	300	42	60	402
	P "Selectable CCT" - Wall Mount/Traditional/LED/3000K/4000K/5000K/80 CRI/120-277V/Photocell/Wall Mount/Bronze Finish	1	0.060						
Interior	E Exit & Emergency Halogen 20W 2-Lamp	2	0.040	2,346	0.1	127	0	22	149
	P PAR16/LED/40Deg/E26/Internal Driver/4000K/120V/Dimmable	2	0.013						
Interior	E Exit & Emergency Incandescent 60W 2-Lamp	1	0.120	2,346	0.1	225	0	39	264
	P A19/LED/230Deg/E26/Internal Driver/4000K/120V/Non Dimmable	1	0.024						
Interior	E Other High Pressure Sodium 150W 1-Lamp	11	0.188	2,346	1.5	3,458	418	678	4,554
	P "Field-Adjustable CCT & Selectable Wattage" - Corn Cob/LED/360 Deg/E26/Internal Driver/3000K/4000K/5000K/100-277V/(36/45/54W & 5220/6525/7830Lm)	11	0.054						
					1.8	4,110	460	799	5,369
Influent Pump Station									
Ground Level	E Exit & Emergency Halogen 20W 2-Lamp	5	0.040	2,346	0.1	317	0	55	372
	P PAR16/LED/40Deg/E26/Internal Driver/4000K/120V/Dimmable	5	0.013						
Ground Level	E Exit & Emergency Incandescent 60W 2-Lamp	2	0.120	2,346	0.2	450	0	79	529
	P A19/LED/230Deg/E26/Internal Driver/4000K/120V/Non Dimmable	2	0.024						
Ground Level	E Highbay High Pressure Sodium 250W 1-Lamp	16	0.295	2,346	3.8	9,009	0	1,577	10,586
	P Highbays & Lowbays/LED/Round	16	0.055						
Ground Level	E Other High Pressure Sodium 150W 1-Lamp	3	0.188	2,346	0.5	1,154	0	202	1,356
	P Corn Cob/LED/Internal Driver/5700K/120-277V	3	0.024						
Lower Level	E Exit & Emergency Halogen 35W 2-Lamp	2	0.070	2,346	0.1	267	0	47	314
	P PAR16/LED/40Deg/E26/Internal Driver/4000K/120V/Dimmable	2	0.013						
Lower Level	E Exit & Emergency Incandescent 60W 2-Lamp	1	0.120	2,346	0.1	169	0	30	199
	P Corn Cob/LED/Internal Driver/5700K/120-277V	1	0.048						
Lower Level	E Other High Pressure Sodium 250W 1-Lamp	9	0.295	2,346	2.2	5,173	0	905	6,078
	P Highbays & Lowbays/LED/Round	9	0.050						
Lower Level	E Other High Pressure Sodium 70W 1-Lamp	1	0.086	2,346	0.1	145	0	25	170



Reference	E Existing / P Proposed Solution	# of Fixtures	kW per Fixture	Annual Hours	Peak Savings (kW)	Lighting Savings (kWh)	Controls Savings (kWh)	HVAC Savings	Total Savings (kWh)
Exterior	P Corn Cob/LED/Internal Driver/5700K/120-277V	1	0.024						
	E Wallpack High Pressure Sodium 150W 1-Lamp	6	0.188	2,346	0.9	2,083	0	365	2,448
	P Highbays & Lowbays/LED/Round	6	0.040						
					8.0	18,767	0	3,285	22,052
Oxidation Ditch 1									
Exterior	E Area Light High Pressure Sodium 150W 1-Lamp	13	0.188	8,760	1.8	12,868	4,954	3,119	20,941
	P Area & Site/LED/Shoebox	13	0.075						
					1.8	12,868	4,954	3,119	20,941
Oxidation Ditch 2									
Exterior	E Area Light High Pressure Sodium 150W 1-Lamp	13	0.188	8,760	1.8	12,868	4,954	3,119	20,941
	P Area & Site/LED/Shoebox	13	0.075						
					1.8	12,868	4,954	3,119	20,941
Oxidation Ditch 3									
Exterior	E Area Light High Pressure Sodium 150W 1-Lamp	12	0.188	8,760	1.6	11,879	4,573	2,879	19,331
	P Area & Site/LED/Shoebox	12	0.075						
					1.6	11,879	4,573	2,879	19,331
RAS WAS Bldg Pump Rm									
Interior	E Exit & Emergency CFL Pin Base 15W 2-Lamp	2	0.026	8,760	0.0	405	0	71	476
	P Exit & Emergency/LED/Combo	2	0.003						
Interior	E Exit & Emergency Halogen 25W 2-Lamp	4	0.050	8,760	0.1	1,296	0	227	1,523
	P PAR16/LED/40Deg/E26/Internal Driver/4000K/120V/Dimmable	4	0.013						
Interior	E Highbay High Pressure Sodium 250W 1-Lamp	10	0.295	8,760	1.4	12,702	3,942	2,913	19,557
	P "Selectable CCT & Power" - Highbays & Lowbays/Round/LED/90° Beam Angle/4000/5000K/82 CRI/120-277V/0-10V Dimming/Precision die-cast Aluminum Housin/Wet Location/Polycarbonate Lens/White Finish (100/125/150W)	10	0.150						
Interior	E Wallpack High Pressure Sodium 150W 1-Lamp	5	0.188	8,760	0.6	5,606	788	1,119	7,513
	P "Selectable CCT" - Wall Mount/Traditional/LED/3000K/4000K/5000K/80 CRI/120-277V/Photocell/Wall Mount/Bronze Finish	5	0.060						
					2.1	20,009	4,730	4,330	29,069
RAS WAS Bldg Upper Level									
Interior	E Exit & Emergency CFL Pin Base 15W 2-Lamp	2	0.026	2,346	0.0	108	0	19	127
	P Exit & Emergency/LED/Combo	2	0.003						
Interior	E Exit & Emergency Halogen 25W 2-Lamp	1	0.050	2,346	0.0	87	0	15	102
	P PAR16/LED/40Deg/E26/Internal Driver/4000K/120V/Dimmable	1	0.013						
Interior	E Industrial Hood T8 4 ft 32W 2-Lamp	3	0.075	2,346	0.1	246	144	68	458
	P Linear/LED/Commercial/4 ft+/4000K/80+/0-10V Dimming/Yes	3	0.040						
Interior	E Industrial Hood T8 4 ft 32W 2-Lamp	16	0.075	2,346	0.8	1,310	766	363	2,439



Reference	E Existing / P Proposed Solution	# of Fixtures	kW per Fixture	Annual Hours	Peak Savings (kW)	Lighting Savings (kWh)	Controls Savings (kWh)	HVAC Savings	Total Savings (kWh)
Exterior	P Linear/LED/Commercial/4 ft/4000K/80 CRI/zerototen	16	0.040						
	E Area Light High Pressure Sodium 150W 1-Lamp	5	0.188	4,380	0.7	2,475	953	600	4,028
Exterior	P Area & Site/LED/Shoebox	5	0.075						
	E Wallpack High Pressure Sodium 70W 1-Lamp	6	0.086	4,380	0.4	1,787	142	338	2,267
	P "Adjustable Wattage" - Corn Cob/LED/360 Deg/E26/Internal Driver/5000K/100-277V/Dimmable (6/12/18W & 870/1740/2610 Lm)	6	0.018						
					2.0	6,013	2,005	1,403	9,421
Site Plan									
Exterior	E Area Light High Pressure Sodium 150W 1-Lamp	38	0.188	4,380	5.1	18,808	7,240	4,558	30,606
Exterior	P Area & Site/LED/Shoebox	38	0.075						
	E Area Light High Pressure Sodium 400W 1-Lamp	64	0.457	4,380	22.5	86,058	24,388	19,328	129,774
Exterior	P Area & Site/LED/Shoebox	64	0.150						
	E Vapor Tight T8 4 ft 32W 2-Lamp	8	0.056	4,380	0.3	992	294	225	1,511
Exterior	P T8 Linear/LED/220Deg/G13/Internal Driver/4000K/100-277V/0-10V Dimmable	8	0.028						
	E Wallpack High Pressure Sodium 70W 1-Lamp	10	0.086	4,380	0.7	2,978	237	563	3,778
	P "Adjustable Wattage" - Corn Cob/LED/360 Deg/E26/Internal Driver/5000K/100-277V/Dimmable (6/12/18W & 870/1740/2610 Lm)	10	0.018						
					28.6	108,836	32,159	24,674	165,669
Solids Handling Lower Level									
Interior	E Exit & Emergency CFL Pin Base 15W 2-Lamp	7	0.026	2,346	0.2	379	0	66	445
Interior	P Exit & Emergency/LED/Combo	7	0.003						
	E Exit & Emergency Halogen 25W 2-Lamp	5	0.050	2,346	0.2	434	0	76	510
Interior	P PAR16/LED/40Deg/E26/Internal Driver/4000K/120V/Dimmable	5	0.013						
	E Highbay High Pressure Sodium 200W 1-Lamp	5	0.240	2,346	0.9	1,877	479	412	2,768
Interior	P HID Vertical Replacement/LED/EX39/Internal Driver/4000K/100-277V/Dimmable	5	0.080						
	E Highbay High Pressure Sodium 250W 1-Lamp	3	0.295	2,346	0.6	1,021	538	273	1,832
	P "Selectable CCT & Power" - Highbays & Lowbays/Round/LED/90° Beam Angle/4000/5000K/82 CRI/120-277V/0-10V Dimming/Precision die-cast Aluminum Housin/Wet Location/Polycarbonate Lens/White Finish (100/125/150W)	3	0.150						
Interior	E Industrial Hood T8 4 ft 32W 3-Lamp	2	0.112	2,346	0.2	339	96	76	511
Interior	P Linear/LED/Commercial/4 ft+/4000K/80+/0-10V Dimming/Yes	2	0.040						
	E Industrial Hood T8 4 ft 32W 3-Lamp	8	0.112	2,346	0.7	1,357	383	304	2,044
Interior	P Linear/LED/Commercial/4 ft/4000K/80 CRI/zerototen	8	0.040						
	E Troffer T8 4 ft 32W 3-Lamp	4	0.084	2,346	0.3	511	144	115	770
Interior	P Troffers & Panels/LED/Flat Panel/2 x 4 ft/Field Selectable/80+/0-10V Dimming	4	0.030						
	E Troffer T8 4 ft 32W 3-Lamp	2	0.084	2,346	0.1	256	72	57	385
Interior	P Troffers & Panels/LED/Flat Panel/2 x 4 ft/4000K/80+/0-10V Dimming/Yes	2	0.030						
	E Wallpack High Pressure Sodium 150W 1-Lamp	16	0.188	2,346	2.0	4,805	0	841	5,646



Reference	E Existing / P Proposed Solution	# of Fixtures	kW per Fixture	Annual Hours	Peak Savings (kW)	Lighting Savings (kWh)	Controls Savings (kWh)	HVAC Savings	Total Savings (kWh)
Exterior	P "Selectable CCT" - Wall Mount/Traditional/LED/3000K/4000K/5000K/80 CRI/120-277V/Photocell/Wall Mount/Bronze Finish	16	0.060						
	E Wallpack High Pressure Sodium 70W 1-Lamp	10	0.086	4,380	0.7	2,978	237	563	3,778
	P "Adjustable Wattage" - Corn Cob/LED/360 Deg/E26/Internal Driver/5000K/100-277V/Dimmable (6/12/18W & 870/1740/2610 Lm)	10	0.018						
					5.9	13,957	1,949	2,783	18,689
Solids Handling Mezzanine									
Interior	E Exit & Emergency Halogen 25W 2-Lamp	3	0.050	2,346	0.1	260	0	46	306
Interior	P PAR16/LED/40Deg/E26/Internal Driver/4000K/120V/Dimmable	3	0.013						
	E Highbay High Pressure Sodium 250W 1-Lamp	16	0.295	2,346	3.0	5,443	2,872	1,455	9,770
	P "Selectable CCT & Power" - Highbays & Lowbays/Round/LED/90° Beam Angle/4000/5000K/82 CRI/120-277V/0-10V Dimming/Precision die-cast Aluminum Housin/Wet Location/Polycarbonate Lens/White Finish (100/125/150W)	16	0.150						
					3.1	5,703	2,872	1,501	10,076
Solids Polymer Storage									
Exterior	E Area Light High Pressure Sodium 150W 1-Lamp	3	0.188	4,380	0.4	1,485	572	360	2,417
	P Area & Site/LED/Shoebox	3	0.075						
					0.4	1,485	572	360	2,417
UV Disinfection Basin									
Exterior	E Area Light High Pressure Sodium 150W 1-Lamp	5	0.188	4,380	0.7	2,475	953	600	4,028
	P Area & Site/LED/Shoebox	5	0.075						
Exterior	E Highbay High Pressure Sodium 200W 1-Lamp	6	0.240	4,380	1.0	4,205	0	736	4,941
	P HID Vertical Replacement/LED/EX39/Internal Driver/4000K/100-277V/Dimmable	6	0.080						
Exterior	E Wallpack High Pressure Sodium 150W 1-Lamp	3	0.188	4,380	0.4	1,682	402	365	2,449
	P "Selectable CCT" - Wall Mount/Traditional/LED/3000K/4000K/5000K/80 CRI/120-277V/Photocell/Wall Mount/Bronze Finish	3	0.060						
					2.1	8,362	1,355	1,701	11,418
UV Electrical Bldg									
Interior	E Exit & Emergency CFL Pin Base 15W 2-Lamp	2	0.026	2,346	0.0	108	0	19	127
	P Exit & Emergency/LED/Combo	2	0.003						
Interior	E Exit & Emergency Halogen 25W 2-Lamp	2	0.050	2,346	0.1	174	0	30	204
	P PAR16/LED/40Deg/E26/Internal Driver/4000K/120V/Dimmable	2	0.013						
Interior	E Industrial Hood T8 4 ft 32W 2-Lamp	10	0.075	2,346	0.5	819	479	227	1,525
	P Linear/LED/Commercial/4 ft/4000K/80 CRI/zerototen	10	0.040						
Exterior	E Wallpack High Pressure Sodium 70W 1-Lamp	2	0.086	4,380	0.1	596	47	113	756
	P "Adjustable Wattage" - Corn Cob/LED/360 Deg/E26/Internal Driver/5000K/100-277V/Dimmable (6/12/18W & 870/1740/2610 Lm)	2	0.018						
					0.7	1,697	526	389	2,612



About Wesco

ABOUT US

Wesco is a leader in industrial supply with an extensive offering of electrical, data communications, general maintenance, repair, and operating (MRO) and electrical OEM products. We create solutions for customers that reduce operating and supply chain costs, increase energy efficiency, eliminate waste, accelerate project schedules, and make it easier to do business overall. Our network of branches delivers industrial supply products fast, and our vast catalogue of supplier partners enables Wesco to be your one-stop shop for electrical and MRO products. As a Fortune 500 company, our industrial supply solutions leverage our buying power and extensive procurement experience that leaders across a broad range of industries trust to deliver value, service and results that exceed customer expectations.

OUR APPROACH

It is our belief that there is no “one” solution to achieving a successful lighting renovation project. Different considerations will motivate clients for different reasons, which is why we analyze multiple solutions for each project that we develop. It is our practice to consider multiple vendors and various LED lighting and controls solutions that could apply to your facility. We believe that the solution(s) provided herein provide the greatest value when accounting for energy reduction, price, costs reduction (including maintenance), and available subsidies.

WE OFFER TURN-KEY SOLUTIONS

Our turn-key solutions include:

- Audit and Design
- Fixtures and Materials
- Installation
- Project Management
- Rebate Administration
- Disposal and Recycling
- Warranty Administration

PROPOSAL KEY CONTACTS

Chris Brookmon

EMAIL cbrookmon@wesco.com
PHONE (704) 201-6025

: Sales Representative

Trevis Baker

EMAIL trevis.baker@wescodist.com
PHONE 510-313-3852

: Solution Specialist



Standard Project Notes and Exceptions

- We will require plans to complete the Lighting control layout and Title 24 paperwork.
- Verify color temp.
- All Classification will need to be reviewed and verified prior to order.
- Emergency drivers/ballast are expressly excluded unless noted otherwise.
- Pricing excludes all applicable taxes and freight charges.
- Pricing is valid for 30 days, but material costs may need to be adjusted for tariff rates if a PO is received after these additional costs are imposed.
- Pricing completed at standard labor rates only. If Union or Prevailing Wage is required, then the quote will need to be revised.
- Due to frequently changing rebate programs, rebate estimates will need to be verified post award of project and pre-installation.
- Electrical repairs, replacement, rework or modifications beyond the initial fixture connection are expressly excluded.
- Acceptance of this quote includes acceptance of all noted exceptions.
- Any change in proposed quantities or recommendations will require a revision to the quote.
- Any required permits or associated fees are not included in the quoted pricing.
- Performance and payment bonds are not included in the quoted pricing.
- Asbestos/leaking PCBs/Lead removal is not included in the quoted price above and will need to be removed by a qualified contractor if encountered.
- Quoted pricing excludes electrical circuitry and conduit work.
- Attic stock or material to be left onsite after the job has been completed is not included in the quoted pricing.
- Pre/post M&V services are not included in the quoted pricing.
- Pricing assumes reasonable access to all fixtures.
- Quote excludes scaffolding.
- Quote excludes fixture mounting hardware. Existing mounting hardware will be used unless noted in this proposal.
- Post award re-design services (CAD drawings/reflective ceiling plans/stamped electrical drawings) are not included in the quoted pricing.
- New lens replacements and sockets are not included in the quoted pricing and will be handled via change order if required.
- Quoted pricing assumes universal voltage (120/277). If 480V is needed, a revision to the quote will be required.
- This quote excludes the upgrade of pre-existing conditions to meet current code requirements.
- Quoted pricing does not include Title 24 compliance, permits, stamped drawings, fees or acceptance testing.
- Savings are estimates only and will vary dependent upon how the building is operated and occupied. Equipment age and condition can influence savings performance.
- All system commissioning will be conducted in the most efficient manner to assure full system functionality with minimal impact on project installation times. This is at the discretion of the commissioning authority. Exceptions to this policy will require advanced notice and may include a change order to meet more stringent requirements.
- Pre-existing non-compliant electrical, mounting, and mounting hardware, and/or structural conditions will be brought to the customer's attention immediately upon discovery. Remediation of pre-existing, non-compliant electrical, mounting, and mounting hardware, and/or structural conditions is not included in work scope. Remediation can be incorporated into a change order or excluded. Pre-existing, non-compliant conditions that prevent scheduled work from occurring may be subject to restocking fees and/or demobilization charge not included in contract price.
- Upon award a 25% mobilization fee will be billed and deducted from final invoice.
- WESCO reserves the right to adjust the Unit Pricing at any time during the validity period if the exchange rate fluctuates by more than +/-5%.
- To the extent Contractor incurs unusual expenses as a result of a pandemic or epidemic. Contractor may charge for such expenses in addition to the quote provided herein. Such expenses may include, but are not limited to, additional time on site required to comply with regulations; reduction in planned efficiencies; and travel and lodging expenses.
- WESCO will endeavor to maximize all available rebates, however no monies are guaranteed until confirmed by the Utility company. Rebate values are estimated based upon current planned installation quantities and products but are subject to adjustment based upon final installation.
- To the extent that Customer wishes to move forward without the Utility company's pre-approval, or fails to provide any and all necessary paperwork in order to process the rebate, then Customer agrees to a reconciliation between anticipated monies credited on the face of the invoice and the funds received upon Utility approval.



April, 2022

RE: Contractor and Grantee Compliance with Economic Sanctions Imposed in Response to Russia's Actions in Ukraine

Dear Vendor:

On March 4, 2022, Governor Gavin Newsom issued Executive Order N-6-22 (EO) regarding sanctions in response to Russian aggression in Ukraine. The EO is located at <https://www.gov.ca.gov/wp-content/uploads/2022/03/3.4.22-Russia-Ukraine-Executive-Order.pdf>.

The EO directs all agencies and departments that are subject to the Governor's authority to take certain immediate steps, including notifying all contractors and grantees of their obligations to comply with existing economic sanctions imposed by the U.S. government in response to Russia's actions in Ukraine, as well as any sanctions imposed under state law.

This correspondence serves as a notice under the EO that as a contractor or grantee, compliance with the economic sanctions imposed in response to Russia's actions in Ukraine is required, including with respect to, but not limited to, the federal executive orders identified in the EO and the sanctions identified on the U.S. Department of the Treasury website (<https://home.treasury.gov/policy-issues/financial-sanctions/sanctions-programs-and-country-information/ukraine-russia-related-sanctions>). Failure to comply may result in the termination of contracts or grants, as applicable.

Please note that for any agreements or grants valued at \$5 million or more you must report to the City of Roseville your compliance with economic sanctions including steps you have taken in response to Russia's actions in Ukraine, including, but not limited to, desisting from making new investments in, or engaging in financial transactions with, Russian entities, not transferring technology to Russia or Russian entities, and directly providing support to the government and people of Ukraine.

Sincerely,

DocuSigned by:
Shannon Wiest 4/25/2022
A3035660A19747F
Shannon Wiest
City of Roseville
Purchasing and Warehouse Manager



Notice of Exemption

To: Placer County Clerk
Recorder's Office
2954 Richardson Drive
Auburn, CA 95603

From: City of Roseville
Development Services Dept.
311 Vernon Street
Roseville, CA 95678

Project Title: Lighting Repair and Replacement Project – Contract Purchase Agreement

Project Location(s): 5051 Westpark Drive, Roseville, CA 95747. Assessor's Parcel Number 017-101-025-000.

Project Description: The Environmental Utilities Department (EU) requests that the City Council adopt a resolution authorizing a Contract Purchase Agreement to provide lighting repair services and light emitting diode (LED) fixture replacements at the Pleasant Grove Wastewater Treatment Plant (PGWWTP). The PGWWTP is currently utilizing incandescent lighting that requires large amounts of electricity. All plant fixtures are reaching or past the end of life. This repair/replacement project will upgrade many fixtures while retrofitting others to lower wattage, resulting in lower electricity costs and reduce energy consumption at the PGWWTP by 461,357-kilowatt hours (kWh) per year. The project would not result in an expansion of use.

Public Agency Approving Project: Roseville City Council

Agency/Individual Carrying Out Project: City of Roseville Environmental Utilities Department

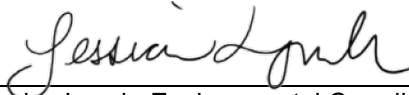
Reason why this Project is Exempt: The project qualifies for a Class 1 Categorical Exemption as described in Section 15301 and Section 15302 of the California Environmental Quality Act (CEQA) guidelines which states:

"Class 1 (Existing Facilities) consists of ... the repair ... of existing public or private structures, facilities, mechanical equipment, or topographical features, involving negligible or no expansion of existing or former use... Examples include, but are not limited to: (a) Interior or exterior alterations involving such things as interior partitions, plumbing, and electrical conveyances."

The project consists of replacing and repairing existing incandescent lighting with LED fixtures, which would decrease energy consumption and cost. The project would not result in expansion of use. Consequently, the Class 1 Categorical Exemption applies.

Lead Agency Contact Person: Blaine Wiegel, Roseville Department of Environmental Utilities (916-746-1833).

Signature:



Jessica Lynch, Environmental Coordinator
City of Roseville

Date: 07-31-2023



COUNCIL COMMUNICATION

CC #: 2869

File #: 0900-02-02-2 & 0201-01

Title: Pleasant Grove Wastewater Treatment Plant Influent Pump Station Rehabilitation Project – Design-Build Construction Agreement and Budget Adjustment

Contact: Jeremy Snyder 916-413-9236 jsnyder@roseville.ca.us

Meeting Date: 8/16/2023

Item #: 6.4.

RECOMMENDATION TO COUNCIL

Staff recommends that the City Council adopt a resolution authorizing the City Manager to execute a design-build construction agreement with Syblon Reid for the Pleasant Grove Wastewater Treatment Plant Influent Pump Station Pumps and Variable Frequency Drive Replacement Project.

Staff additionally recommends that the City Council adopt an ordinance to approve a budget adjustment for the Pleasant Grove Wastewater Treatment Plant Influent Pump Station Pumps and Variable Frequency Drive Replacement Project.

BACKGROUND

The Environmental Utilities Department (EUD) released Request for Proposals No. 08-114 to solicit proposals for complete design-build services for the Pleasant Grove Wastewater Treatment Plant Influent Pump Station Pumps and Variable Frequency Drive Replacement Project. The Project includes installation, testing, communications/networking, programming and Supervisory Control and Data Acquisition (SCADA) integration, and engineering of multiple Variable Frequency Drives (VFD's) and influent pump replacements. EUD's technical staff evaluated proposals from qualified vendors on qualifications, experience, and cost. Syblon Reid was ranked first in overall scoring.

The Project was initiated to replace end-of-life electrical equipment and pumps at the influent pump station at the Pleasant Grove Wastewater Treatment Plant. The VFD's are no longer supported and spare parts are unavailable. Additionally, the original equipment manufacturer no longer exists that would be able to provide service and/or parts. The pumps are beginning to require significant repair more often, have become less reliable, and the rebuild costs, due to the age of the equipment, has increased significantly.

FISCAL IMPACT

EUD's Pleasant Grove Wastewater Treatment Plant Influent Pump Station Pumps and Variable Frequency Drive Replacement Project requires an additional \$2,478,200 from available resources in the Wastewater Regional Rehabilitation Fund to complete the work. The recommended budget adjustment increases the Project's total budget to \$4,012,200 – to cover the design-build agreement with Syblon Reid of \$3,812,200 plus an additional budget \$200,000 for staff secondary labor and technology equipment purchases.

Overall costs for the Project will be shared between the South Placer Wastewater Authority (SPWA) partners, which include the City of Roseville, the South Placer Municipal Utilities District (SPMUD) and Placer County (County). The City's Wastewater Regional Rehabilitation Fund will be reimbursed for approximately 35 percent of the Project's actual cost from its partners SPMUD and the County. For this \$2,478,200 budget request, EUD will be reimbursed approximately \$867,370. The resultant fiscal impact of this budget request to the available resources in the Wastewater Regional Rehabilitation Fund will be \$1,610,830 after the City is reimbursed. Overall, the City's share of the project's total lifetime budget will be approximately \$2,607,930, which is the total lifetime budget less the estimated 35% reimbursed from the SPWA partners.

ENVIRONMENTAL REVIEW

The proposed project involves the repair and maintenance of an existing facility. This activity is categorically exempt from CEQA as a Class 1 Exemption (State CEQA Guidelines Section 15301). The Exemption has been prepared and no further CEQA action is required.

CITY COUNCIL STRATEGIC PLAN/OVERARCHING GOALS

Goal A - Remain fiscally responsible in a changing world

Goal E - Deliver exceptional city services

Goal F - Invest in well-planned infrastructure and growth

Respectfully Submitted,

Jeremy Snyder, Preventative Maintenance Supervisor

Richard D. Plecker, Environmental Utilities Director



Dominick Casey, City Manager

ATTACHMENTS:

Description

Resolution 23-336

Design-Build Construction Agreement

Ordinance 6699

Budget Adjustment

Successful Proposal (part 1 of 2)

Successful Proposal (part 2 of 2)

Request for Proposal - RFP 08-114

CEQA Exemption

RESOLUTION NO. 23-336

APPROVING A DESIGN-BUILD CONSTRUCTION AGREEMENT, BY AND BETWEEN
SYBLON REID AND THE CITY OF ROSEVILLE, AND AUTHORIZING THE CITY
MANAGER TO EXECUTE IT ON BEHALF OF THE CITY OF ROSEVILLE

WHEREAS, a Design-Build Construction Agreement for the Pleasant Grove Wastewater Treatment Plant Influent Pump Station Rehabilitation project, by and between Syblon Reid and the City of Roseville, has been reviewed by the City Council; and

NOW, THEREFORE, BE IT RESOLVED by the Council of the City of Roseville that said agreement is hereby approved.

PASSED AND ADOPTED by the Council of the City of Roseville this ____ day of _____, 20__, by the following vote on roll call:

AYES COUNCILMEMBERS:

NOES COUNCILMEMBERS:

ABSENT COUNCILMEMBERS:

MAYOR

ATTEST:

City Clerk

DESIGN-BUILD CONSTRUCTION AGREEMENT
(PROJECT: Pleasant Grove Wastewater Treatment Plant Influent Pump Station
Rehabilitation)

This Design-Build Construction Agreement ("Agreement") is made and entered into this ____ day of _____, 20__23__, by and between the City of Roseville, a municipal corporation ("CITY") and Syblon Reid, a CA General Partnership ("CONTRACTOR").

RECITALS

WHEREAS, CITY has issued a Request for Proposals pursuant to which CITY solicited proposals from design-build contractors to construct the Pleasant Grove Wastewater Treatment Plant Influent Pump Station Rehabilitation project ("Project"); and

WHEREAS, CONTRACTOR has submitted a Proposal, dated June 7, 2023 attached hereto and made a part hereof as Exhibit F, and CITY has selected CONTRACTOR to provide design and construction services as set forth in this Agreement; and

WHEREAS, CONTRACTOR is ready, willing and able to perform the aforementioned services required in accordance with the terms and conditions of this Agreement; and
NOW, THEREFORE, CITY and CONTRACTOR agree as follows:

ARTICLE 1

DEFINITIONS

1.1 "Applicable Laws" means all laws, codes, ordinances, rules and regulations of governmental authorities having jurisdiction over the Site and/or the Work.

1.2 "Application for Payment" means the document prepared by CONTRACTOR and submitted to CITY showing CONTRACTOR's entitlement to progress payments, the requirements of which are more fully described in Section 5.3 hereof.

1.3 "Architect/Engineer" means a licensed professional(s) (and/or entity(ies)) retained by CONTRACTOR, with the approval of CITY, who provides architectural, design and/or engineering services as may be required by the Work. The Architect/Engineer shall be registered in the State of California and the architect and/or engineer of record for the Work pursuant to their design responsibilities. The Architect/Engineer shall be the Architect/Engineer(s) stated in the Proposal, unless substituted by CONTRACTOR based upon CITY's written pre-approval.

1.4 "Authorized Representatives" means the Design-Build Team and those individuals appointed by CITY and CONTRACTOR from time to time in accordance with the provisions of Section 3.1.1.

1.5 "Business Day" means any day when the office of the City Clerk of the City of Roseville is open for business.

1.6 "Certificate of Substantial Completion" means a certificate prepared by CONTRACTOR in accordance with Section 5.12 and forwarded to CITY.

1.7 "Certificate of Final Completion" means a certificate prepared by CONTRACTOR and forwarded to CITY stating that the Project is finally complete and that CONTRACTOR is entitled to Final Payment in accordance with Article 5 hereof.

1.8 "Change Directive" means a written order signed by CITY directing a change in the Work. A Change Directive shall state a proposed basis for adjustment, if any, in the GMP or Schedule. CITY may order changes in the Work within the general scope of the Contract, and a Change Directive shall be used in the absence of total agreement on the terms of a Change Order.

1.9 "Change Order" means a written order signed by CONTRACTOR and CITY authorizing a change in the Work, which also may adjust the GMP and/or the Schedule, and which shall constitute a Modification. The GMP and/or Schedule may be changed only by Change Order.

1.10 "Change Proposal" means a proposal for a Change Order submitted by CONTRACTOR to CITY, either at the request of CITY, or at CONTRACTOR's own initiative.

1.11 "Construction Allowance Items" [reserved]

1.12 "Construction Documents" means the plans and specifications prepared by the Design-Build Team for the Project, approved by CITY, and incorporated into this Agreement by reference after such approval, to be used to construct the Project. The Construction Documents shall set forth in detail all items necessary to complete the construction of the Project in accordance with the Contract Documents (subject to their completion following commencement of the Construction Phase). All amendments and modifications to the Plans and Specifications must be approved by CITY prior to incorporation into this Agreement. CONTRACTOR's attention is hereby directed to the confidentiality requirements of Section 2.2.

1.13 "Construction Notice to Proceed" means the notice given by CITY to CONTRACTOR stating that the Site is available to CONTRACTOR and directing CONTRACTOR to commence construction of the Project in accordance with Section 4.2.1.

1.14 "Construction Phase" means the period beginning with the issuance of the Construction Notice to Proceed and ending on the date of Final Completion of the Project.

1.15 "Construction Work" means that portion of the Work consisting of the provision of labor, materials, equipment and services in connection with the construction of the Project as set forth in the Contract Documents.

1.16 "Contingency Costs" means those items of Cost of the Work attributable to a contingency for which CITY is responsible and which are payable by CITY to CONTRACTOR pursuant to a Change Order as provided in Article 6.

1.17 "Contract Documents" means this 1) Agreement, 2) its Exhibits, and 3) the Construction Documents, all of which, together with this Agreement, form the entire integrated agreement between CITY and CONTRACTOR. In the event of a conflict between any of these documents, this Agreement controls, followed by its Exhibits.

1.18 "Contract" or "Agreement" means this Design-Build Construction Agreement, its exhibits, and all amendments and/or modifications hereto executed by the parties.

1.19 "Contract Time" means the period of time, including authorized adjustments, allotted in the Schedule for the Final Completion of the Work.

1.20 "CONTRACTOR" means the individual or entity identified in the preamble to this Agreement.

1.21 "CONTRACTOR Event of Default" shall have the meaning set forth in Section 12.1 hereof.

1.22 "Cost of the Work" consists of those items of Work, which are paid for by CITY to CONTRACTOR, and consist of those categories of costs set forth as allowable on Exhibit A.

1.23 "CPM" means a critical path method schedule in the form of precedents, networks and time sequences.

1.24 "Day" or "Days" means calendar days.

1.25 "Delay Costs" means those items of Cost of the Work attributable to an Excusable Delay for which CITY is responsible and which are payable by CITY to CONTRACTOR pursuant to a Change Order as provided in Article 6.

1.26 "Design-Build Team" includes the following: Architect/Engineer; CONTRACTOR; and/or others as coordinated by CONTRACTOR and CITY.

1.27 "Design Development Documents" means the drawings, specifications and other documents prepared by the Design-Build Team for CITY's review and approval prior to the preparation of the Construction Documents. The Design Development Documents shall illustrate the scale and relationship of Project components, outline the nature and structural exterior and three dimensional scale of the Project and shall fix and describe in detail the configuration and character of the Project concerning all items of the Project necessary for the complete and final preparation of the Construction Documents in accordance with the requirements of the Contract Documents, including architectural and electrical systems, materials and such other elements as may be appropriate. CONTRACTOR's attention is hereby directed to the confidentiality requirements of Section 2.2.

1.28 "Design Materials" means any and all documents, shop drawings, electronic information, data, plans, drawings, sketches, illustrations, specifications, descriptions, models and other information developed, prepared, furnished, delivered or required to be delivered by CONTRACTOR to CITY under the Contract Documents or developed or prepared by CONTRACTOR specifically to discharge its duties under the Contract Documents. CONTRACTOR's attention is hereby directed to the confidentiality requirements of Section 2.2.

1.29 "Design Work" means that portion of the Work consisting of the design services required to be provided in connection with the design of the Project as set forth in the Contract Documents, which shall be performed consistent with the standards of professional care set forth herein.

1.30 "Excusable Delay" shall have the meaning set forth in Section 4.4.2 hereof.

1.31 "Fee", if applicable, means the fee payable to CONTRACTOR pursuant to this Contract and as part of the GMP, if shown on Exhibit A attached hereto.

1.32 "Final Completion" means the point at which the Work has been completed in accordance with the terms and conditions of the Contract Documents, including completion of all Punch list items.

1.33 "Force Majeure" means labor dispute (excluding labor shortage), fire, unusual delay in transportation or delivery, unavoidable casualty, flood (assuming CONTRACTOR has taken reasonable precautions), earthquake, epidemic, civil disturbance, war, freight embargo, riot, sabotage (by persons other than CONTRACTOR or Subcontractors), material shortage or any other similar act or condition, in each case only to the extent the event in question is beyond the reasonable control of and without the fault or negligence of CONTRACTOR.

1.34 "Governmental Approvals" means those CITY approvals necessary for the completion of the Project, including, but not limited to, modification of existing zoning, vacation of certain streets and/or alleys, and modifications to or variances from applicable building or zoning regulations.

1.35 "Guaranteed Maximum Price" or "GMP" means the amount set forth on Exhibit A hereto, which may be increased or decreased in accordance with the provisions of the Contract Documents.

1.36 "Hazardous Materials" means those items identified on Exhibit C hereto.

1.37 "Indemnified Parties" includes, but is not limited to, CITY, its agents, officers, employees, and volunteers.

1.38 "Liquidated Damages" means the damages payable by CONTRACTOR to CITY in the event CONTRACTOR does not achieve Final Completion of the Project by the date required on the Schedule, as adjusted, as more fully described in Section 4.6 hereof.

1.39 "Modification" means an amendment to this Agreement executed by the parties after the date hereof.

1.40 "Party" shall mean CITY or CONTRACTOR individually, and **"Parties"** shall mean CITY and CONTRACTOR collectively.

1.41 "Payment and Performance Bonds" means the payment bond and performance bond issued by an admitted Surety covering the faithful performance and completion of the Construction Work, including payment for all materials and labor furnished or supplied in connection with the Construction Work, by CONTRACTOR. Such bonds shall be in the form described in Exhibit E.

1.42 "Project" means the design and construction of the project described in the Recitals, together with all on-site infrastructure, site improvements and appurtenances to be designed, if any, constructed and installed in connection therewith, as more fully set forth and described in the Contract Documents and as required thereby or reasonably inferred therefrom.

1.43 "Project Manager" means the person assigned by the director of the CITY administering department to monitor the Project and Work.

1.44 "Punch List" means those minor items of Work to be completed after Substantial Completion and prior to Final Completion, which do not prevent the Project from being used for the purpose for which it is intended and which will not prevent beneficial occupancy or use.

1.45 "Retention" means the amount withheld from progress payments from CITY to CONTRACTOR from time to time, as more fully described in Article 5 hereof.

1.46 "Schedule" means the schedule pursuant to the Proposal and/or other Contract Documents to which CONTRACTOR has agreed to complete the Work. The Schedule shall be adjusted pursuant to the provisions of the Contract Documents. In the event the Schedule is not contained within the Proposal, then CONTRACTOR shall provide to CITY, within fifteen (15) days of issuance of a notice to proceed by CITY, with a complete milestone schedule identifying, among other things, critical paths (if any) and total calendar days until Substantial and Final Completion. In the event the Schedule is contained in the Proposal, the start of the Schedule shall be adjusted by the CONTRACTOR to reflect the date of the Notice To Proceed.

1.47 "Scheduled Date of Substantial Completion" means the date CONTRACTOR has agreed to achieve Substantial Completion of the Project in accordance with the Schedule, as adjusted.

1.48 "Scope Change Costs" means those items of Cost of the Work attributable to changes in scope of the Work and payable by CITY to CONTRACTOR pursuant to a Change Order, as provided in Article 6.

1.49 "Separate Contractors" means those individuals or entities (including, but not limited to, concessionaires) who have entered into arrangements with CITY for the provision of labor, materials or other services in connection with the Project.

1.50 "Site" is the real property on which the Project will be located.

1.51 "Subcontract" means an agreement between CONTRACTOR and another person or entity engaged to perform a portion of the Work.

1.52 "Subcontractor" means an individual or entity who has entered into an agreement with CONTRACTOR or another Subcontractor for the provision of labor, materials or other services required to be performed by CONTRACTOR under the Contract Documents.

1.53 "Substantial Completion" means the stage in the progress of the Work when the Work or a designated portion thereof is sufficiently complete in accordance with the Contract Documents so that CITY may use the Project for its intended purpose.

1.54 "Surety" means one or more issuers of the Payment and Performance Bonds, each of which shall be admitted and licensed to do business in the State of California.

1.55 "Unexcusable Delay" shall have the meaning set forth in Section 4.4.

1.56 "Work" or "Scope of Work" means the Project, inclusive of all labor, materials and services required to be performed or provided by CONTRACTOR officers, employees, agents, Subcontractors or Suppliers pursuant to the provisions of this Agreement and its Exhibits (including, the entirety of Exhibit F).

ARTICLE 2 SCOPE OF WORK / PROJECT REQUIREMENTS

2.1 Performance of Work. CONTRACTOR shall perform the Work in accordance with this Agreement. CONTRACTOR covenants and agrees that it shall be responsible for performing and completing, and for causing all Subcontractors (including Architect/Engineer) to perform and complete, the Work in accordance with the Contract Documents, standard professional and trade practices, and Applicable Laws. CONTRACTOR will retain an Architect/Engineer for design services required by the Work and the Architect/Engineer shall be the engineer of record. CONTRACTOR covenants that the Work and the materials provided thereunder shall be appropriate for the purposes stated in the Request for Proposal and Proposal. Although it is the responsibility of CONTRACTOR to conform the Work to Applicable Laws at all times, to the extent there is a change in one or more Applicable Laws after the date of execution of this Contract, and such change has the effect of increasing the cost or time of performance of the Work, such change may be the subject of a Change Order under the provisions of Article 6 hereof.

2.1.1. Noise and Night Work. CONTRACTOR shall comply with CITY's noise ordinance.

2.2 Professional Standard; Ownership of Documents.

2.2.1 Standards of Performance. The Work shall be performed by CONTRACTOR in accordance with the professional standards applicable to projects, buildings or work of complexity, quality and scope comparable to the Work and the Project. CONTRACTOR may make such additions or substitutions to personnel and responsibilities as it deems necessary or appropriate in order to carry out its responsibilities hereunder, provided such personnel shall be suitably qualified. Nothing in this Agreement shall be construed to create any contractual liability with CITY toward any Subcontractor.

2.2.2 Design Documents and Materials, and Confidentiality.

2.2.2.1 CITY shall have unlimited rights to copy and use in connection with the Project all Design Materials, including the right to use same on the Project at no additional cost to CITY, regardless of degree of completion, provided that said services performed have been fully paid for as required by the terms of this Agreement. CONTRACTOR and its Subcontractors shall keep all design documents confidential, and shall not disclose such documents except as may be required in performance of the Work or pursuant to legal process.

2.3 Local Conditions; Environmental Site Conditions.

2.3.1 Local Conditions. CONTRACTOR represents that it has taken steps reasonably necessary to ascertain the nature and location of the Work, and that it has investigated and satisfied itself as to the general and local conditions which are applicable to the Work such as (a) conditions bearing on transportation, disposal, handling and storage of materials; (b) the availability of labor, water, power and roads; (c) normal weather conditions; (d) observable physical conditions at the Site; (e) the surface conditions of the ground; and (f) the character of equipment and facilities needed prior to and during the performance of the Work. To the extent CONTRACTOR encounters subsurface or concealed conditions which differ materially from that actually known by CONTRACTOR on the date of this Agreement or from those ordinarily found to exist and generally recognized as inherent in the activities of the character provided in the Contract Documents; then CONTRACTOR shall give notice to CITY promptly before conditions are disturbed and in no event later than two (2) Days after the first observance of the conditions if a Change Order is contemplated by CONTRACTOR due to such condition. Such materially different conditions may entitle CONTRACTOR to an equitable adjustment in the GMP and/or Schedule pursuant to the Change Order provisions of this Agreement.

2.3.2 Hazardous Materials. The Parties' agreement as to the handling of Hazardous Materials discovered at the Site (and not brought there by CONTRACTOR or any Subcontractor) is set forth in Exhibit C hereto, and the only duties and responsibilities of CONTRACTOR in connection therewith are as therein specified, notwithstanding any other provision of this Agreement.

2.4 Design Development Documents and Construction Documents.

2.4.1 General. The Design-Build Team understands that all construction documents, working drawings and specifications (“Submittals”) must be coordinated with, and approved by, CITY prior to construction. CONTRACTOR shall allow CITY a minimum of fourteen (14) days for review of Submittals and corrections made thereto. CONTRACTOR shall work with the Design-Build Team to prepare, for the approval of CITY, working drawings and specifications setting forth in detail the requirements for the construction of the Project in its entirety including the necessary bidding information. CITY’s review of the Design Development Documents and the Construction Documents shall not relieve CONTRACTOR from its responsibilities under this Agreement, or be deemed to be an approval or waiver by CITY of any deviation from, or of CONTRACTOR’s failure to comply with, any provision or requirement of the Contract Documents, unless such deviation or failure has been identified as such in writing in the document submitted for approval by CONTRACTOR and approved by CITY. CONTRACTOR shall comply with all CITY construction standards as deemed applicable by the CITY. CONTRACTOR shall provide CITY with a complete, accurate, full size, and current set of as-built drawings in a hard copy acceptable to City prior to Final Completion.

2.4.2 Reliance on Approvals. CONTRACTOR shall be entitled to rely on the approvals of CITY with respect to the Design Materials. If CITY revokes, modifies or otherwise changes in a material way its approval of a given system after such system has been designed and approved, or modifies the original Scope of Work in a material manner requiring modification to one or more systems which have been designed and approved, CONTRACTOR shall be entitled to a Change Order in accordance with the provisions of Article 6 hereof, provided that prior to such approval CONTRACTOR has made CITY aware of future design decisions which may be affected by such approval. No Change Order shall be issued to the extent such modification is due to the fault or neglect of CONTRACTOR.

2.4.3 Review of Contract Documents and Field Conditions. CONTRACTOR shall take field measurements and verify field conditions and shall carefully compare such field conditions and other information known to CONTRACTOR with the Contract Documents before commencing activities. CONTRACTOR shall perform the Work in accordance with the Contract Documents and submittals approved in accordance with the procedures set forth in this Agreement.

2.5 Legal Requirements. CONTRACTOR shall comply with Applicable Laws, and shall give applicable notices pertaining thereto. Except with respect to Governmental Approvals, CONTRACTOR shall prepare and file all documents required to obtain the necessary approvals of governmental authorities having jurisdiction over the Work and/or the Project and shall secure and pay for permits and governmental fees, licenses and inspections necessary for the proper execution of the Work and completion of the Project. Notwithstanding the foregoing, CITY has informed CONTRACTOR that fees in connection with building permits, street use permits, and similar permits relating to construction will be waived and are not to be included in the GMP. If and to the extent charges in the future for such permits are imposed in the future, such charges shall be paid by CITY, or shall be the subject of a Change Order to the Contract in accordance with the Change Order provisions of this Agreement.

2.6 Services and Facilities.

2.6.1 General. CONTRACTOR shall provide everything required for the orderly progress and proper execution and completion of the Work and the Project in accordance with the requirements of the Contract Documents, whether temporary or permanent and whether or not incorporated or to be incorporated into the Work, including, but not limited to, services, labor, materials, equipment, furnishings, tools, construction equipment and machinery, utilities, transportation and other facilities and services.

2.6.2 Supervision. CONTRACTOR shall supervise and direct the Work in accordance with its best skill and attention. CONTRACTOR shall be solely responsible for and have control over construction means, methods, techniques, sequences and procedures. CONTRACTOR shall be responsible to CITY for the acts and omissions of, and whenever this Contract refers to the negligence, fault or omission of CONTRACTOR, such term shall include the negligence, fault or omission of, CONTRACTOR's employees, Subcontractors and their agents and employees, and other persons performing portions of the Work under an agreement with CONTRACTOR. CONTRACTOR shall not be relieved of obligations to perform the Work in accordance with the Contract Documents by tests, inspections or approvals required or performed by persons other than CONTRACTOR.

2.6.3 Coordination. CONTRACTOR shall coordinate construction requirements with governmental agencies, utilities, and all other parties either involved in infrastructure improvements or otherwise affected by the design and construction requirements.

2.6.3.1 Design-Build Development Coordination. CONTRACTOR understands and agrees that all Design Development Documents and time schedules prepared by Architect/Engineer must be coordinated with CONTRACTOR and CITY. CONTRACTOR shall participate and provide recommendations in the development of the drawings and other documents to fix and describe the size and character of the Project in its entirety as to structural, and electrical systems, materials and other essentials as may be necessary according to good engineering and architectural practice.

2.6.3.2 Construction Documents Coordination. [reserved]

2.6.4. Cooperation. CONTRACTOR shall cooperate with the Architect/Engineer, and CITY's financial, design and construction consultants and all other designated representatives during the design and construction of the Project.

2.6.5 Management. CONTRACTOR shall implement suitable management systems and work plans for the Project relative to Project safety, quality assurance and managing and controlling the Work.

2.6.6 Reports. CONTRACTOR shall prepare and submit to CITY monthly progress reports on the Work accomplished during the previous monthly period, which reports shall be prepared in a manner and in a format reasonably acceptable to CITY. Such reports shall be

furnished at the time of submission of each monthly Application for Payment. As part of such report, CONTRACTOR shall provide an updated Schedule, including CPM, if any, illustrating the progress that has been made, by reference to the initial CPM, and specifying whether the Work is on schedule or behind schedule and actions being taken to correct Schedule slippage. The monthly report shall also set forth CONTRACTOR's projected progress for the forthcoming month.

2.7 Warranty. CONTRACTOR warrants to CITY that any and all materials, equipment and furnishings incorporated in the Work will be of good quality and new unless otherwise required or permitted by the Contract Documents, that the Work will be free from defects not inherent in the quality required or permitted, and that the Work will conform with the requirements of the Contract Documents. Work not conforming to these requirements, including substitutions not properly approved and authorized, may be considered defective by CITY at its sole discretion.

CONTRACTOR shall warranty the Work for a period of one-year commencing upon recording of the notice of completion. If within this one-year warranty period any of the Work is found to be defective or not in accordance with the requirements of the Contract Documents, CONTRACTOR shall correct it promptly after receipt of written notice from CITY to do so. CITY shall give such notice promptly after discovery of the condition. CONTRACTOR shall bear the cost of correction.

CONTRACTOR's attention is directed to Section 9.3 below regarding Warranty Bond requirements.

2.8 Taxes. CONTRACTOR shall pay, as Cost of the Work, all existing and future applicable federal, state and local sales, consumer, use and similar taxes, whether direct or indirect, relating to, or incurred in connection with, the performance of the Work (excluding taxes based on CONTRACTOR's income). In the event CONTRACTOR is obligated to pay any new or increased taxes or duties adopted after the date hereof, the amount of such new or increased taxes shall increase the GMP pursuant to the Change Order provisions of this Contract. In the event CONTRACTOR receives the benefit of a tax exemption or tax reduction taking effect after the date hereof, the amount of such exemption or reduction shall decrease the GMP pursuant to the Change Order provisions of this Contract

2.9 Access by CITY. CONTRACTOR shall afford CITY and its authorized designees access to the Project Site at all times, subject to reasonable prior notice for access outside of normal business hours.

2.10 Use of Site. CITY shall be permitted beneficial use of the Work.

2.11 Patents, Trademarks, Copyrights. CONTRACTOR shall pay, as a Cost of the Work, all-applicable royalties and license fees on any matters arising in connection with the Work. CONTRACTOR shall defend all suits or claims for infringement of patent, trademark, and copyrights against the Indemnified Parties, and shall save the Indemnified Parties harmless from loss on account thereof for any and all matters arising in connection with the Work or the Project (such costs to be paid as Cost of the Work), except with respect to any particular design process

or the product of a particular manufacturer or manufacturers specified and required by CITY, other than pursuant to the recommendation or suggestion of CONTRACTOR or a subcontractor; provided however, if CONTRACTOR has reason to believe that the design, process or product so specified is an infringement of a patent, CONTRACTOR shall be responsible for any loss resulting unless CONTRACTOR has provided CITY with prompt written notice of CONTRACTOR's belief, and CITY has nevertheless elected to go forward with such design, process or product so specified.

2.12 Rubbish; Debris; Cleanup. During the performance of all on-site Work, CONTRACTOR shall at all times, as a Cost of the Work, keep the Site and adjacent streets, properties and sidewalks reasonably free from waste materials, debris and/or rubbish, and shall employ adequate dust control measures. If accumulation of such materials, debris, rubbish or dust constitutes a nuisance or safety hazard or is otherwise objectionable in the reasonable opinion of CITY, CONTRACTOR shall promptly remove them. Upon Substantial Completion of the Work, or any portion or component thereof, CONTRACTOR shall remove from the Site, or applicable portion thereof, all tools, construction equipment, machinery, surplus materials, waste materials and rubbish and shall leave the Site in a "broom clean" condition. If CONTRACTOR fails to clean up as provided in the Contract Documents, CITY may do so and the cost thereof shall be charged to CONTRACTOR as a Cost of the Work.

2.13 Permits, Fees and Notices. Unless otherwise provided in the Contract Documents, and subject to the provisions of Section 2.5 hereof, CONTRACTOR shall secure all permits, governmental fees, licenses and inspections necessary for the proper execution and completion of the Work. To the extent there is a change in the type or cost of any of such permits, fees, licenses or inspection occurring after execution of this Agreement, there shall be an equitable adjustment in the GMP and Schedule on account of such change in accordance with the Change Order provisions. CONTRACTOR shall comply with and give notices required by Applicable Laws.

2.14 Shop Drawings, Product Data, Samples and Other Submittals.

2.14.1 Documents and Samples at the Site. From and after commencement of the Construction Work, CONTRACTOR shall maintain at the site one record copy of the Construction Documents, and any and all amendments thereto, in good order and marked to record changes and selections made during the Construction Phase. In addition, CONTRACTOR shall maintain at the site approved shop drawings, product data, samples and similar required submittals. These shall be provided to CITY upon completion of the Work.

2.14.2 Shop Drawings, Product Data, Samples and Other Submittals.

2.14.2.1 Shop Drawings are drawings, diagrams, schedules and other data specially prepared for the Work by CONTRACTOR, a Subcontractor, manufacturer, supplier or distributor to illustrate some portion of the Work.

2.14.2.2 Product Data are illustrations, standard schedules, performance charts, instructions, brochures, diagrams and other information furnished by CONTRACTOR to illustrate materials or equipment for some portion of the Work.

2.14.2.3 Samples are physical examples, which illustrate materials, equipment or workmanship and establish standards by which the Work will be judged.

2.14.2.4 Shop Drawings, Product Data, Samples and similar submittals are not Contract Documents. The purpose of their submittal is to demonstrate for those portions of the Work for which submittals are required the way CONTRACTOR proposes to conform the construction to the Construction Documents.

2.14.2.5 Submission of items listed in section 2.14.2.4. [reserved]

2.14.3 Responsibility. CONTRACTOR shall not be relieved of responsibility for the deviations from requirements of the Contract Documents by CITY's approval of Shop Drawings, Product Data, Samples or similar submittals unless CONTRACTOR has specifically informed CITY of such deviation at the time of the submittal and CITY has given written approval to the specific deviation. CONTRACTOR shall not be relieved of responsibility for errors or omissions in Shop Drawings, Product Data, Samples or similar submittals by CITY's approval thereof.

2.15 Tests and Inspections

2.15.1 Initial Tests and Inspections. Tests, inspections and approvals of portions of the Construction Work shall be made as required by the Contract Documents, Applicable Laws or normal construction practices and/or as directed by CITY. Unless otherwise provided, CONTRACTOR shall make arrangements for such tests, inspections and approvals with an independent testing laboratory or entity acceptable to CITY, or with the appropriate public authority. The costs of such tests, inspections and approvals shall be a cost paid by CONTRACTOR. CONTRACTOR shall give CITY timely notice of when and where tests and inspections are to be made so that CITY may observe such procedures. All costs of tests, inspections or approvals imposed upon CONTRACTOR by changes in Applicable Laws occurring after execution of this Agreement shall be an increase to the GMP in accordance with the Change Order provisions herein.

2.15.2 Additional Tests and Inspections. If CITY, or any other public authority having jurisdiction, determines that portions of the Construction Work require additional testing, inspection or approval beyond that required by subsection 2.15.1, CITY will instruct CONTRACTOR to make arrangements for such additional testing, inspection or approval by an entity acceptable to CITY, and CONTRACTOR shall give timely notice to CITY of when and where tests and inspections are to be made so CITY may observe such procedures. If such additional tests and/or inspections reveal failure of the portions of the Work to comply with the requirements of the Contract Documents, the costs of such tests and required correction shall be paid as a Cost of the Work, subject to the limitations set forth in Section 2.22 hereof. If the additional tests and/or inspections show that the portions of the Work comply with the

requirements of the Contract Documents, the costs thereof shall be an increase to the GMP in accordance with the Change Order provisions of this Agreement.

2.15.3 Required Certificates. Required certificates of testing, inspection or approval shall, unless otherwise required by the Contract Documents, be secured by CONTRACTOR and promptly delivered to CITY.

2.15.4 Timing of Testing. Tests or inspections conducted pursuant to the Contract Documents shall be made promptly to avoid unreasonable delay in the Work.

2.16 Execution, Correlation and Intent.

2.16.1 Execution of Agreement. Execution of this Agreement by CONTRACTOR is a representation that CONTRACTOR has visited the Site, become familiar with the local conditions under which the Work is to be performed and correlated personal observations with requirements of the Contract Documents.

2.16.2 Intent of Contract Documents. The intent of the Contract Documents is to include all items necessary for the proper execution and completion of the Work by CONTRACTOR. The Contract Documents are complementary and what is required by one shall be as binding as if required by all; performance by CONTRACTOR shall be required only to the extent consistent with the Contract Documents and reasonably inferable from them as being necessary to produce the intended results.

2.16.3 Organization of Materials. Organization of the Design Materials into divisions, sections and articles, and arrangement of drawings does not necessarily control CONTRACTOR in dividing the Construction Work among Subcontractors or in establishing the extent of Construction Work performed by any trade.

2.16.4 Meaning of Words. Unless otherwise stated in this Agreement, words which have well-known technical or construction industry meanings are used in accordance with such recognized meanings.

2.17 Labor and Materials; Liens (Stop Payment Notice Claims); Indemnity. Unless otherwise provided in the Contract Documents, CONTRACTOR shall provide and pay for labor, materials, equipment, tools, construction equipment and machinery, water, heat, utilities, transportation, and other facilities and services necessary for the proper execution and completion of the Work, whether temporary or permanent and whether or not incorporated or to be incorporated in the Work. CONTRACTOR shall enforce strict discipline and good order among CONTRACTOR's employees, subcontractors, and other persons carrying out the Work. CONTRACTOR shall not permit employment of unfit persons or persons not skilled in tasks assigned to them.

CONTRACTOR shall not permit any Subcontractor, materialman, or laborer to place liens on the Project covering any portion of the Work for which CITY has made payment to CONTRACTOR. If any liens (e.g., stop payment notice claims) are imposed, CITY may

withhold payment in the amount of 125% of the claim until such time an unconditional release is provided in a form satisfactory to CITY. CONTRACTOR shall indemnify, defend, and hold harmless CITY regarding any claim or lien that proceeds to, or is the subject of litigation. CITY may withhold payment(s) pending compliance with this provision.

2.18 Cutting and Patching.

2.18.1 Cutting and Patching of the Work. CONTRACTOR shall be responsible for cutting, fitting, or patching required to complete the Work or to make its parts fit together properly.

2.18.2 Damage to Work of CITY or Separate Contractors. CONTRACTOR shall not damage or endanger a portion of the completed Work, fully or partially completed construction of CITY, or work or construction by Separate Contractor(s) by cutting, patching or otherwise altering such construction or work, or by excavation. CONTRACTOR shall not cut or otherwise alter such construction by CITY or a Separate Contractor except with written consent of CITY and of such Separate Contractor, such consent not to be unreasonably withheld.

2.19 Uncovering of Construction Work.

2.19.1 Uncovering. If a portion of the Construction Work is covered contrary to CITY's written request to observe such work prior to it being covered or contrary to requirements of the Contract Documents, it must, if directed in writing by CITY, be uncovered for CITY's observation and be replaced without change in the Schedule or GMP. The costs of such uncovering and replacement shall be Cost of the Work, subject to the limitation set forth in Section 2.22 hereof.

2.19.2 Covering of Work Requested to be Observed. If a portion of the Construction Work has been covered which CITY has not specifically requested to observe prior to it's being covered, CITY may request to see such Construction Work and it shall be uncovered by CONTRACTOR. If such Construction Work is in accordance with the Contract Documents, costs of uncovering and replacement shall, by appropriate Change Order, be charged to CITY and shall increase the GMP. An appropriate time extension shall also be given. If such Construction Work is not in accordance with the Contract Documents, CONTRACTOR shall pay such costs as Cost of the Work, unless such condition was caused by CITY or a Separate Contractor in which event CITY shall be responsible for payment of such costs by appropriate Change Order, and an appropriate time extension shall also be given.

2.20 Correction of Work.

2.20.1 Work Rejected by CITY. CONTRACTOR shall promptly correct Construction Work rejected by CITY or failing to conform to the requirements of the Contract Documents, whether observed before or after Substantial Completion and whether or not fabricated, installed or completed. CONTRACTOR shall bear the costs of correcting such rejected Construction Work, as a Cost of the Work, including additional testing and inspection and compensation for services and expenses of CITY made necessary thereby.

2.20.2 [Intentionally deleted].

2.20.3 Removal of Work. CONTRACTOR shall remove from the Site portions of the Construction Work, which are not in accordance with the requirements of the Contract Documents and are neither corrected by CONTRACTOR nor accepted by CITY. The costs incurred in removing such Work shall be a Cost of the Work, subject to the limitation set forth in Section 2.22 hereof.

2.20.4 Failure to Correct Nonconforming Work. If CONTRACTOR fails to correct nonconforming Construction Work within a reasonable time, CITY may correct it in accordance with the terms of this Agreement. If CONTRACTOR does not proceed with correction of such nonconforming Construction Work within a reasonable time fixed by written notice from CITY, CITY may remove it and store the salvageable materials or equipment at CONTRACTOR's expense. If CONTRACTOR does not pay costs of such removal and storage within ten (10) Days after written notice, CITY may, upon ten (10) additional Days written notice, sell such materials and equipment at auction or at private sale and shall account for the proceeds thereof, after deducting costs and damages that should have been borne by CONTRACTOR, including compensation for services and expenses made necessary thereby. If such proceeds of sale do not cover costs which CONTRACTOR should have borne, CONTRACTOR shall pay such excess to CITY. If such proceeds are in excess of the costs which CONTRACTOR should have borne, such excess shall be paid by CITY to CONTRACTOR. If such costs arise during the performance of the Work, such costs shall be charged against the Cost of the Work. If such costs arise after Substantial Completion, such costs shall be payable as provided in Section 5.1.

2.20.5 Damaged or Destroyed Work. CONTRACTOR shall bear the cost of correcting destroyed or damaged construction, whether completed or partially completed, of CITY or Separate Contractors caused by CONTRACTOR's correction or removal of Construction Work which is not in accordance with the requirements of the Contract Documents. If such costs arise during the performance of the Work, such costs shall be charged against the Cost of the Work. If such costs arise after Substantial Completion, such costs shall be payable as provided in Section 5.1.

2.20.6 No Limitation. Nothing contained in this section 2.20 shall be construed to establish a period of limitation with respect to other obligations which CONTRACTOR might have under the Contract Documents.

2.21 Value Engineering. CONTRACTOR shall suggest to CITY value engineering to reduce the cost of the Project, which CITY may accept at its sole discretion.

2.21.1 Subcontractors Bids. CONTRACTOR shall use its best effort to choose the highest quality of materials, equipment, component systems and types of construction for the most reasonable prices for inclusion in the Construction Documents, and make reasonable adjustments in the scope of the Project so that the total cost bid by the bidding Subcontractors will not exceed the estimate.

2.22 Acceptance of Nonconforming Work. If CITY prefers to accept Work, which is not in accordance with the requirements of the Contract Documents, CITY may do so instead of requiring its removal and correction, in which case the GMP will be reduced as appropriate and equitable. Such adjustment shall be effected whether or not final payment has been made.

2.23 Contractor Registration. No contractor or subcontractor may work on a public works project unless registered with the Department of Industrial Relations pursuant to Labor Code section 1725.5. During the performance of this Contract, CONTRACTOR and its subcontractors shall have a continuing legal obligation to maintain current registration with the Department of Industrial Relations. CONTRACTOR is hereby notified that this Project is subject to compliance monitoring and enforcement by the Department of Industrial Relations.

ARTICLE 3 CITY'S RIGHTS AND RESPONSIBILITIES

3.1. Information and Services Required of CITY.

3.1.1 CITY Designation of Authorized Representative. Both Parties shall designate, from time to time, one or more representatives authorized to act on their behalf with respect to the Project, together with the scope of his/her respective authority. CONTRACTOR shall not be entitled to rely on directions from anyone outside the scope of that person's authority as set forth in written delegations pursuant to this Agreement. Directions and decisions made by Authorized Representative(s) of CITY shall be subject to any further approval(s) required by any provisions of CITY's Charter or the Roseville Municipal Code.

3.1.2 Communication. During the term of this Contract, CITY shall communicate with Subcontractors, suppliers and others performing any part of the Work only through CONTRACTOR's Authorized Representative.

3.1.3 Governmental Approvals. CITY shall be responsible for obtaining the Governmental Approvals. Any delay in obtaining the Governmental Approvals may entitle CONTRACTOR to an equitable adjustment in the Schedule and GMP in accordance with the Change Order provisions of this Agreement, except to the extent such delay is due to the fault or neglect of CONTRACTOR.

3.2 [Intentionally deleted.]

3.3 [Intentionally deleted.]

3.4 Activities on the Site by CITY or Separate Contractors.

3.4.1 CITY's Right to Award Separate Contracts. CITY reserves the right to perform work or operations related to the Project, with CITY's own forces, and to award separate contracts to Separate Contractors in connection with other portions of the Project.

3.4.2 Integration of the Work with Separate Contractors. Following the request of CITY, CONTRACTOR shall prepare a plan in order to integrate the work performed by Separate Contractors with the performance of the Work, and shall submit such plan to CITY for approval. The plan shall be fair and reasonable for CONTRACTOR and the Separate Contractors, and CONTRACTOR shall work with the Separate Contractors to reach agreement on such plan. CONTRACTOR shall arrange the performance of the Work so that the Work and the work of the Separate Contractors are, to the extent applicable, properly integrated, jointed in an acceptable manner, and performed in the proper sequence so that any disruption or damage to the Work or to any work of Separate Contractors is avoided.

3.4.3 Coordination. CONTRACTOR shall provide for the coordination of the activities of CONTRACTOR and its Subcontractors with the activities of the Separate Contractors. CONTRACTOR shall participate with all Separate Contractors and CITY in reviewing and coordinating the schedules of the Separate Contractors with the Schedule. CONTRACTOR shall make any revisions to the Schedule deemed necessary to properly incorporate the work of the Separate Contractors with the Work. To the extent (a) the date of Substantial Completion is extended by such Schedule revision; (b) CONTRACTOR is required to perform its Work materially out of sequence, and in a manner which is not as efficient or cost effective as originally planned; or (c) the Scope of Work is increased, an equitable adjustment in the GMP and the Schedule shall be made in accordance with the Change Order provisions of this Agreement.

3.4.4 Use of Site. CONTRACTOR shall afford CITY and all Separate Contractors reasonable opportunity for storage of materials and equipment and performance of their work. CONTRACTOR shall also connect and coordinate its Work and operations with CITY and all Separate Contractors' operations as required by the Contract Documents. CITY shall direct the Separate Contractors to cooperate with CONTRACTOR and to avoid actions or omissions, which could interfere with or delay the activities of CONTRACTOR.

3.4.5 Deficiency in Work of Contractors. If part of CONTRACTOR's Work depends upon proper execution or results upon construction or operations by CITY or a Separate Contractor, CONTRACTOR shall, prior to proceeding with that portion of the Work, promptly report to the Separate Contractor and CITY apparent discrepancies or defects in such other construction that would render it unsuitable for proper execution and results by CONTRACTOR. CONTRACTOR and the Separate Contractor shall use good faith efforts to resolve any such discrepancies or defects or any disagreements relating thereto. Failure of CONTRACTOR to report such discrepancies or defects shall constitute acceptance by CONTRACTOR of the work of Separate Contractors as fit and proper to receive CONTRACTOR's Work (except as to those defects or discrepancies that are not apparent).

3.4.6 Claims Involving Separate Contractors. In the event that CONTRACTOR unnecessarily and unreasonably delays the work of Separate Contractors by not cooperating with them as required hereby, or by not affording them reasonable opportunity to perform their work as stated herein, CONTRACTOR shall, in such event, pay, as Cost of the Work, all reasonable direct incremental costs and expenses incurred by such Separate Contractors due to any such delays. If any Separate Contractor shall assert a claim or bring an action against CITY alleging

damage due to the fault or neglect of CONTRACTOR, CITY shall immediately notify CONTRACTOR, who shall defend such claim. If it is determined that CONTRACTOR was at fault, CONTRACTOR shall pay all costs of defense, including attorney's fees, as well as any resulting judgment or settlement, as a Cost of the Work.

3.5 Assignment of Separate Contracts. If CITY determines that it wishes to assign to CONTRACTOR one or more contracts between CITY and a Separate Contractor, it shall give CONTRACTOR written notice of such desire, including in such notice a copy of such contract for CONTRACTOR's review and approval. The Separate Contractor shall be fully qualified to perform the work under the to-be-assigned contract, shall possess the financial capability to perform its obligations under such to-be-assigned contract, and shall provide one hundred percent (100%) payment and performance bonds covering such work from sureties meeting the standards set forth in Section 1.53 hereof. Such contract shall contain provisions similar to those contained in CONTRACTOR's agreements with its Subcontractors with respect to liability, indemnification, retention, payment, labor, warranty, and other material items. Upon CONTRACTOR's approval of the assignment of such contract, which approval shall not be unreasonably withheld, delayed or conditioned, such Separate Contractor shall cease to be a Separate Contractor and shall thereafter be deemed to be a Subcontractor of CONTRACTOR, and the GMP shall be increased by Change Order in the amount of (a) such assigned contract, and (b) the additional Fee pursuant to the provisions of Section 6.5.1.

3.6 CITY's Right to Stop the Work. If CONTRACTOR persistently fails to correct Work which is not in accordance with the requirements of the Contract Documents and this Agreement or persistently fails to carry out the Work in accordance with the Contract Documents, CITY, by written order signed by CITY, may deliver a notice to CONTRACTOR setting forth that such a persistent and material failure is occurring and has occurred, and demanding that CONTRACTOR commence a cure of such persistent and material failure within twenty (20) Days and diligently pursue such cure thereafter. In the event that the cure is not commenced and pursued diligently, CITY may, by written notice to CONTRACTOR, order CONTRACTOR to stop the Work, or any portion thereof, until the use for such order has been eliminated; provided, however, that the right of CITY to stop the Work shall not give rise to a duty on the part of CITY to exercise this right for the benefit of CONTRACTOR or any other person or entity and shall not give rise to any liability of CITY to CONTRACTOR resulting from any delay (except to the extent that such order is found to be improper).

3.7 CITY's Right to Carry out the Work. If CONTRACTOR defaults or neglects to carry out the Work in accordance with the Contract Documents and fails within a seven (7) Day period after receipt of written notice from CITY to commence and diligently continue correction of such default or neglect with diligence and promptness, CITY may after such seven (7) Day period give CONTRACTOR a second written notice to correct such deficiencies within such second seven (7) Day period. If CONTRACTOR within such second seven (7) Day period after receipt of such second notice fails to commence and diligently continue to correct any deficiencies, CITY, without prejudice to other remedies CITY may have, may correct such deficiencies. In such case an appropriate Change Order shall be issued deducting from payments then or thereafter due to CONTRACTOR the cost of correcting such deficiencies, including Compensation for additional services and expenses made necessary by such default, neglect or

failure. If payments then or thereafter due to CONTRACTOR are insufficient to cover such amounts, CONTRACTOR shall pay the difference to CITY.

ARTICLE 4 TIME

4.1. Progress and Completion. Time limits stated in the Contract Documents are of the essence of this Agreement. By executing this Agreement, CONTRACTOR confirms that the Contract Time is a reasonable period of time for achieving Final Completion of the Work.

4.2 Schedule Obligations.

4.2.1 Contract Schedule and Notice To Proceed. CONTRACTOR shall provide a schedule as stated in Section 1.46. CONTRACTOR shall begin work pursuant to this Agreement and in accordance with the Schedule (as described in Exhibit F) within fifteen (15) calendar Days of the date of issuance of a Notice To Proceed by CITY, unless extended at the request made to and at the sole discretion of City. CONTRACTOR shall update said schedule to commence from the date of this Agreement, and the overall timeline shall remain consistent with the original schedule. CITY may issue the Notice To Proceed within fifteen (15) Days of full execution of this Agreement.

4.2.2 Prosecution of the Work. CONTRACTOR shall prosecute the Work so that the portion of the Work completed at any point in time shall be not less than as required by the Schedule. If the rate of progress is such that the total amount of Work and/or the degree of completion of the Project accomplished by CONTRACTOR within any time period required by the Schedule is less than the amount therein specified, CONTRACTOR shall so notify CITY. If the delay is an Unexcused Delay, CONTRACTOR shall prepare a recovery schedule for CITY's review and approval, showing how CONTRACTOR will compensate for the delays and achieve Final Completion by the date shown on the Schedule. If CONTRACTOR is unable to demonstrate how it will overcome Unexcused Delays, CONTRACTOR shall employ such extraordinary measures as are necessary to bring the Work into conformity with the Final Completion Date set forth therein, the costs of which shall be a Cost of the Work and not exceed the GMP. If the delay is an Excusable Delay, CITY shall either (a) authorize an equitable extension in the Schedule to account for such delay, and equitably adjust the GMP on account of such delay, to the extent permitted by Article 6; or (b) request that CONTRACTOR prepare a recovery schedule showing how (if possible) CONTRACTOR can achieve Substantial Completion by the date shown on the Schedule (as modified), and equitably adjust the GMP in accordance with the Change Order provisions of this Agreement on account of any extraordinary activities required of CONTRACTOR on account of such recovery schedule. Float is owned jointly by the contractor and the City and will be allocated to whomever uses it first.

4.3 Pre-construction Activities. Within thirty (30) Days after execution of this Agreement, CONTRACTOR shall submit to CITY for review a detailed schedule of pre-construction

activities, by expanding the pre-construction activities set forth on the Schedule. This pre-construction schedule shall be prepared using the CPM, and shall show in sufficient detail the starting and completion times sequences of Subcontract award activities of CONTRACTOR, and identify all interface activities of CITY.

4.4 Extensions of Time.

4.4.1 General. An extension in the scheduled date of Final Completion will only be granted in the event of Excusable Delays affecting Work activities on the critical path.

4.4.2 Excusable Delays. Subject to 4.4.1 and 4.5.2, to the extent any of the following events results in an actual delay in the Work affecting Work activities on the critical path, such shall constitute an "**Excusable Delay**" (to the extent not set forth below, a delay will be considered an "**Inexcusable Delay**").

4.4.2.1 Failure or inability of CITY to make available any or all of the Site in accordance with the requirements of the Schedule.

4.4.2.2 Failure or inability of CITY or CONTRACTOR to obtain necessary zoning changes, variances, code changes, permits or approvals from any governmental authority, or failure to obtain any street or alley vacations required for the performance of the Work, except to the extent due to the fault or neglect of CONTRACTOR.

4.4.2.3 Delays resulting solely from the acts or omissions of Separate Contractors; provided however, only to the extent Separate Contractors perform their work improperly and not in accordance with any applicable critical path schedule.

4.4.2.4 Delays resulting from Force Majeure.

4.4.2.5 Differing, unusual or concealed site conditions that could not reasonably have been anticipated by CONTRACTOR in preparing the Schedule.

4.4.2.6 Delays resulting from the existence or discovery of Hazardous Materials on the Site not brought to the site by CONTRACTOR or any Subcontractor.

4.4.2.7 Delays resulting from changes in Applicable Laws occurring after the date of execution of this Agreement.

4.4.2.8 Delays occurring solely due to the acts or omissions of CITY and those within the control of CITY, including, but not limited to, Separate Contractors.

4.4.2.9 Delays resulting from weather conditions, which shall be determined as follows: Should CONTRACTOR prepare to begin work at the regular starting time of any working day on which inclement weather, or the conditions resulting from the weather, prevents the Work from beginning at the usual starting time and the crew is dismissed as a result thereof and CONTRACTOR does not proceed with at least 75% of the normal labor and equipment force engaged in the current operations for at least 60% of the total daily time being spent,

CONTRACTOR will not be charged for a working day, even if the conditions change during the course of the day. At the start of such days, CONTRACTOR shall notify CITY if CONTRACTOR believes that inclement weather or conditions resulting from the weather exist. A non-working day determination of such conditions shall be made by CITY, who will immediately notify CONTRACTOR.

4.4.2.10 Delays resulting from unproductive work days, which shall be determined as follows: When CONTRACTOR is prevented from working on current operations due to site conditions, CITY action, or force majeure for at least 60% of the total daily time on the controlling operations. Controlling operations are determined by the critical path method schedule described in the applicable CITY construction standards. The critical path schedule used in this determination shall be no more than thirty (30) days old. CONTRACTOR shall notify CITY if CONTRACTOR believes an unproductive work day exists upon discovery of such condition. A non-working day determination of such conditions shall be made by CITY, who will immediately notify CONTRACTOR.

4.4.3 Requirements for Schedule Amendment due to Excusable Delays. In order to obtain an extension of time due to an Excusable Delay, CONTRACTOR shall comply with the following requirements:

4.4.3.1 CONTRACTOR shall notify CITY of the Excusable Delay as soon as practicable, but in no event more than four (4) Business Days after CONTRACTOR becomes aware of the occurrence of the Excusable Delay. Such notice shall describe the Excusable Delay and shall state the approximate number of Days CONTRACTOR expects to be delayed. After the cessation of the Excusable Delay, CONTRACTOR shall notify CITY of the number of Days CONTRACTOR believes that its activities were in fact delayed by the Excusable Delay. In the event that the delay arises as a result of a Change Order request by CITY, the request for an extension of time contained in the resulting Change Order proposal shall be deemed sufficient for purposes of this subsection.

4.4.3.2 CONTRACTOR shall demonstrate to the satisfaction of CITY that the Excusable Delay in fact delayed the critical path for performance of the Work (by use of CPM analysis). Any delay that impacts the CPM will be presented to the Project Manager at the monthly meeting, and prior to completion of each activity.

4.4.4 Decision by CITY. Within thirty (30) Days after cessation of an event giving rise to either an Excusable Delay or Inexcusable Delay, the parties will use good faith efforts to agree on the extent to which the Work has been delayed and whether the delay is an Excusable Delay or an Inexcusable Delay. In the absence of agreement between the parties as to the then current status of Excusable Delays and Inexcusable Delays, CITY will provide CONTRACTOR with written notice of CITY's determination of the respective number of Days of Excusable Delay and/or Unexcusable Delay within ten (10) Days after receipt by CITY of CONTRACTOR's written request for such determination. The issuance by CITY of such a determination shall not, however, be deemed a concurrence by CONTRACTOR of the matters set forth therein, and CONTRACTOR may invoke the dispute resolution procedures with respect to such determination. Pending completion of dispute resolution procedures, CONTRACTOR may take such acceleration or other measures required on account of CITY's determination of

Inexcusable Delay, and if completion of the dispute resolution procedures results in CITY's determination being changed to Excusable Delay, the costs associated with such measures shall be paid by CITY as an increase to the GMP in accordance with the Change Order provisions of this Agreement.

4.5 Adjustment in GMP on Account of Extensions of Time.

4.5.1 Certain Excusable Delays. Section 4.5 governs the extent to which CONTRACTOR is entitled to an extension of time due to Excusable Delays. Provisions governing the payment of additional compensation on account of such Excusable Delays, (if any) are set forth in Article 6.

4.5.2 Concurrent Delays. To the extent CONTRACTOR is entitled to an extension of time due to an Excusable Delay, but the performance of the Work would have been suspended, delayed or interrupted by the fault or neglect of CONTRACTOR, any subcontractor and/or by an Inexcusable Delay, CONTRACTOR shall not be entitled to any additional costs for the period of such concurrency.

4.6 Liquidated Damages.

4.6.1 General. CONTRACTOR and CITY acknowledge that in the event that CONTRACTOR fails to achieve Final Completion of the Project by the date established, CITY will incur substantial damages that shall be incapable of accurate measurement. Nonetheless, the parties acknowledge that on the date of this Agreement, the amount of liquidated damages set forth below represents a good faith estimate as to the actual potential damages that CITY would incur as a result of late Completion of the Project. Such liquidated damages shall be in-lieu of actual damages resulting from late completion. The amount of the liquidated damages calculated hereunder does not include any penalty.

4.6.2 Amount of Liquidated Damages. If CONTRACTOR fails to achieve Final Completion of the Work on or before the Notice of Completion date, as adjusted for Excusable Delays, CONTRACTOR shall pay to CITY liquidated damages in the amount of \$500.00 (five hundred dollars) per Day for each calendar day the date of Final Completion is unexcusably delayed. Payment of liquidated damages shall be made contemporaneously with CITY's required payment to CONTRACTOR, and such payments may be offset against each other.

ARTICLE 5 PAYMENT AND COMPLETION

5.1 Guaranteed Maximum Price ("GMP") and GMP Shared Savings. CITY shall pay for CONTRACTOR's performance under this Agreement the Cost of the Work and Fee (as described in Exhibit A hereto); provided, however, that the sum of the Cost of the Work and the Fee shall not exceed the GMP, as adjusted by Change Order/Directive in accordance with the Contract Documents. CONTRACTOR bears the risk of its increased costs due to market price increases (including escalating costs for materials).

5.1.1 Shared Savings. CONTRACTOR shall be compensated for actual work completed based on the Cost of Work and Fee up to the amount of the GMP. If CONTRACTOR's actual total Cost of the Work and Fee is less than the GMP, upon Final Completion, the CONTRACTOR shall be entitled to receive forty percent (40%) of the GMP Savings. "GMP" Savings shall mean the positive difference, if any, when the actual Total Cost of the Work and Fee is subtracted from the GMP; provided, however, that unused contingency monies, if any, shall not be subject to shared savings.

5.2 Schedule of Values. Before the first Application for Payment, CONTRACTOR shall submit to CITY, and CITY shall approve, a schedule of values, setting forth the various portions of the Work, and the portions of the GMP allocated to each portion. This schedule of values shall be used as a basis for payment.

5.3 Applications for Payment. CONTRACTOR shall deliver to CITY not more than once each month an Application for Payment covering the Cost of Work and Fee applicable to the Work performed during the immediately preceding month. With each Application for Payment CONTRACTOR shall submit such evidence as may be necessary to demonstrate costs incurred on account of Cost of the Work during such month and the percentage of completion of each category of Work. CITY may reject requests for payment, or portions thereof, for Work, or portions thereof, not performed or completed.

5.4 Amount of Progress Payments. CITY shall pay CONTRACTOR the actual Cost of the Work and Fee, if any, through the period covered by the Application for Payment, less Retention as set forth in Section 5.5 below, provided that the aggregate payment amount before retention will not exceed the percentage of completion of the Work multiplied by the GMP (excluding items of the GMP not subject to retention). CITY may additionally withhold from progress payments such amounts pursuant to stop payment notice claims as required by law and CITY administrative regulation 4.01.

5.5 Retention; Escrow Agreement; Final Payment. Five percent (5%) Retention shall be withheld from each progress payment until the expiration of thirty-five (35) days following the recordation of the notice of completion; provided however, City shall continue to retain such amount as required by law and/or CITY administrative regulation 4.01. CONTRACTOR may elect to establish an escrow account for securities in-lieu of the five percent (5%) Retention in a form of escrow agreement compliant with law and subject to approval by the City Attorney (form of escrow agreement is attached as Exhibit D). Release of Retention monies shall constitute the Final Payment.

5.6 Early Release of Subcontractor Retention. [reserved]

5.7 Payment for On-Site and Off-Site Stored Materials. [reserved]

5.8 Title to Construction Work. CONTRACTOR warrants that title to all Construction Work covered by an Application for Payment shall pass to CITY no later than the time of payment. CONTRACTOR further warrants that upon submittal of an Application for Payment,

all Construction Work for which Applications for Payment have been previously issued and payments received from CITY shall, to the best of CONTRACTOR's knowledge, information and belief, be free and clear of liens, claims, security interests or encumbrances in favor of CONTRACTOR, Subcontractors, material suppliers, or other persons or entities making a claim by reason of having provided labor, materials or equipment relating to the Construction Work.

5.9 Withholding of Payment. CITY may withhold payment on account of an Application for Payment if required or authorized by any Applicable Law, or to the extent necessary to protect CITY from loss because of:

5.9.1 defective Work not remedied;

5.9.2 third party claims filed or reasonable evidence indicating probable filing of such claims;

5.9.3 failure of CONTRACTOR to make payments of undisputed amounts to Subcontractors for labor, materials or equipment;

5.9.4 damage to CITY or a Separate Contractor caused by the fault or neglect of CONTRACTOR to the extent not reimbursed by insurance; or

5.9.5 reasonable evidence that the Work will not be Substantially Completed within the Contract Time due to Inexcusable Delay, and that the unpaid balance of the GMP would not be adequate to cover liquidated damages for the anticipated Inexcusable Delay.

5.10 Failure of Payment; Interest. In accordance with Public Contract Code §20104.50, CITY shall pay CONTRACTOR interest on any progress payment, which is made by CITY more than thirty (30) days after CITY receives an undisputed and properly submitted written payment request. Said interest shall be equal to the rate set forth in Code of Civil Procedure §685.010(a), and shall begin to accrue upon the expiration of said thirty (30) day period. Any written request for a progress payment which CITY determines to be disputed, improper or not suitable for payment for any reason shall be returned to CONTRACTOR within seven (7) days after receipt by CITY, along with a written statement of the reason or reasons why such request is disputed, improper or not suitable for payment.

5.11 Occupancy by CITY Prior to Acceptance. CITY reserves the right to Beneficial Occupancy and without charge by CONTRACTOR. In those areas of the Work which are completed, CITY may store materials, equipment, and supplies, and may perform partial operation.

5.12 Substantial Completion. When CONTRACTOR considers the entire Work complete and ready for its intended use, CONTRACTOR shall certify in writing to CITY that the entire Work is substantially complete by providing CITY with a Certificate of Substantial Completion. Within a reasonable time thereafter, CITY and CONTRACTOR shall make an inspection of the Work to determine the status of completion. If CITY does not consider the Work substantially complete, CITY will notify CONTRACTOR in writing giving reasons therefor. If CITY

considers the Work substantially complete, CITY will accept a corresponding partial Certificate of Substantial Completion. There shall be attached to the Certificate a Punch List of items to be completed or corrected before Final Acceptance and Final Payment.

5.13 Final Completion. When the Work is fully completed, CONTRACTOR shall provide CITY with a Certificate of Final Completion and shall request final inspection in writing. Additionally, CONTRACTOR shall provide legally effective releases or waivers satisfactory to CITY of all lien rights arising out of or liens filed in connection with the Work. Within ten (10) calendar days of receipt of such completed request form, CITY shall make final inspection. If following final inspection CITY determines that the Work (including all Punch List items) has been fully completed, CITY will process a Notice of Completion. If CITY determines that the Work is not complete after receipt of certification from CONTRACTOR, CONTRACTOR shall be notified in writing of deficiencies. After the deficiencies have been corrected, the procedure for final inspection as set forth above shall again be initiated by CONTRACTOR. In the event CITY determines the Work is fully completed, CITY shall initiate process of attaining a notice of completion.

5.13.1 Waiver of Claims at Final Payment. Acceptance of final payment by CONTRACTOR shall constitute a waiver of all claims by CONTRACTOR, except those previously made in writing and identified as unsettled at the time of final payment.

5.14 Construction Allowance Items. [reserved]

5.15 Superintendent. CONTRACTOR shall employ a competent superintendent and necessary assistants who shall be in attendance at the Project site during performance of the Construction Work. The superintendent shall represent CONTRACTOR, and communications given to the superintendent shall be as binding as if given to CONTRACTOR.

5.16 Documents and Samples at the Site. CONTRACTOR shall maintain at the site for CITY one record copy of the drawings, specifications, addenda, Change Order and other Modifications, in good order and marked currently to record changes and selections made during construction, and in addition approved Shop Drawings, Product Data, Samples and similar required submittals. CONTRACTOR shall also prepare one reproducible set of as-built drawings. These shall be provided to CITY upon completion of the Work.

5.17 Contingency. [reserved]

ARTICLE 6 CHANGES IN THE WORK; CLAIMS

6.1 Changes. Changes in the Work shall be performed under applicable provisions of the Contract Documents. If unit prices are stated in the Contract Documents or subsequently agreed upon, and if quantities originally contemplated are so changed in a proposed Change Order or Change Directive that application of such unit prices to quantities of Work proposed will cause substantial inequity to CITY or CONTRACTOR, the applicable unit prices for such change

order/directive shall be equitably adjusted. No GMP adjustment on account of a Change Order shall include CONTRACTOR's or Subcontractor's profit, Fee, home office overhead or a formula allocation of indirect costs unless otherwise specifically allowed hereunder.

6.2 Change Directives. The following procedures shall apply with respect to Change Directives:

6.2.1 Upon receipt of a Change Directive signed by CITY, CONTRACTOR shall promptly proceed with the change in the Work involved and advise CITY of CONTRACTOR's agreement or disagreement with the method, if any, provided in the Change Directive for determining the proposed adjustment in the GMP or the Schedule. If CONTRACTOR receives a written communication signed by CITY which CONTRACTOR believes is a Change Directive but is not so identified, it shall not proceed with the change in the Work until it receives from CITY a written confirmation that such communication is in fact a Change Directive.

6.2.2 A Change Directive signed by CONTRACTOR indicates the agreement of CONTRACTOR with the contents thereof, and shall convert the Change Directive to a Change Order.

6.2.3 If CONTRACTOR does not respond promptly or disagrees with the method for adjustment in the GMP or Schedule, the method and adjustment shall be determined as provided in Sections 6.5 or 6.10 below, as applicable. In such case, CONTRACTOR shall keep and present, in such form as CITY may request, an itemized accounting, together with appropriate supporting data.

6.2.4 Pending final determination of cost to CITY, amounts not in dispute shall be included in Applications for Payment. The amount of credit to be allowed by CONTRACTOR to CITY for a deletion or change which results in a net decrease in the GMP shall be actual net cost. When both additions and credits covering related Work or substitutions are involved in a change, the allowance for Fee shall be figured on the basis of net increase, if any, with respect to that change.

6.2.5 If CITY and CONTRACTOR do not agree with the adjustment in the Schedule or the GMP, such disagreement shall be submitted for dispute resolution in accordance with the provisions of this Contract.

6.3 Change Proposals. If CITY requests CONTRACTOR to submit a Change Proposal which would entitle CONTRACTOR to an increase in the GMP for costs of preparation of such Change Proposal pursuant to the provisions of this Section 6.3, CONTRACTOR shall first estimate the costs of preparing such Change Proposal and inform CITY in writing of such costs. CITY shall then direct CONTRACTOR either to proceed with the Change Proposal or cancel the Change Proposal. If CITY directs CONTRACTOR to proceed with the Change Proposal and then elects not to proceed with the Change Order contemplated therein, a Change Order shall be issued to reimburse CONTRACTOR for costs reasonably incurred by CONTRACTOR on account of such Change Proposal, but only to the extent the Change Order contemplated by such Change Proposal involves a material change to the scope of the Work requiring modification to

one or more systems which have been designed and approved in accordance with the standards set forth in the technical specifications. To the extent the preparation of such Change Proposal impacts the Schedule (e.g., other Work is suspended pending a decision on such Change Proposal or the Design Work is delayed due to the preparation of the Change Proposal), an equitable adjustment in the Schedule shall be made.

6.4 Claims. CONTRACTOR shall submit any claims for additional compensation to CITY in writing. The claim shall set forth the reason(s) that CONTRACTOR believes additional compensation will or may be due, the nature of the costs involved, and insofar as possible, the amount of the potential claim. The notice must be given to the Project Manager prior to the time that CONTRACTOR shall have performed the work giving rise to the potential work for additional compensation, if based on an act or failure to act by CITY, or in all other cases within fifteen (15) calendar days after happening of the event, thing or occurrence giving rise to the potential claim. Any and all Claims not presented as required herein shall be waived.

6.5 Change Orders Increasing or Decreasing Scope.

6.5.1 Increased Scope. With respect to Change Orders which increase the Scope of Work described on Exhibit F, are not due to the errors or omissions of CONTRACTOR and are not attributable to Excusable Delays or the contingencies set forth in Section 6.6 below, the GMP shall be increased by the following "Scope Change Costs":

6.5.1.1 Construction Work and Mark Ups.

6.5.1.1.1 The estimated increase in the Cost of the Work attributable to the Change Order and which would not have been incurred but for the Change Order and/or Work Directive. In addition, CONTRACTOR may add a markup of up to fifteen percent, 15%, to the increase in the Cost of the Work due to the Change Order. This markup shall constitute full compensation for all delay costs, overhead costs and profit. The GMP shall be revised accordingly.

6.5.1.1.2 When Change Order work is performed by a Subcontractor(s), each Subcontractor may add a markup of up to ten percent (10%), to their direct costs for labor, materials and equipment used in performing the Change Order work. The GMP shall be revised accordingly.

6.5.2 Decreased Scope. With respect to Change Orders, which decrease the Scope of Work described on Exhibit F, the GMP shall be decreased by the Cost of Work attributable to such Change Order and/or Work Directive. Furthermore, if the Change Order deletes a part of the Scope of Work, CONTRACTOR shall be entitled to retain a value of five percent (5%) of the full value of the reduction in Cost of Work attributable only to the portion of the Scope of Work deleted from the Scope of Work. The GMP shall be revised accordingly.

6.6 Change Orders on Account of Contingencies. With respect to Change Orders which are attributable to the following contingencies, the GMP shall be adjusted (increased or decreased) by the following "**Contingency Costs**," consisting of the following:

6.6.1 With respect to new or increased taxes arising after the date of this Agreement (other than taxes assessed based on the income of CONTRACTOR), the Change Order shall consist of the incremental amount of such new or increased taxes only. With respect to reductions in taxes arising after the date of this Agreement (other than taxes assessed based on the income of CONTRACTOR), the Change Order shall consist of the incremental amount of such reduced taxes only.

6.6.2 With respect to increases or decreases in fees for permits or other governmental certificates or instruments arising after the date of this Agreement, the Change Order shall consist of the incremental amount of such increases or decreases. To the extent this Agreement states that a permit or certificate is not required and CONTRACTOR is later required to procure such permit or certificate, all out-of-pocket costs reasonably associated therewith shall be included in the Change Order.

6.7 Change Orders on Account of Excusable Delay. With respect to Change Orders, which are attributable to Excusable Delays, and subject to the exceptions set forth in Section 6.7.3 below, the GMP shall be increased by the following "Delay Costs":

6.7.1 Construction Work.

6.7.1.1 Increased allowable labor costs resulting from wage increases paid due to the delay;

6.7.1.2 Premiums for overtime and extra shifts incurred in accelerating the Work, but only if acceleration is required in advance by CITY;

6.7.1.3 Proven increased material costs;

6.7.1.4 Additional general conditions costs which would not have been incurred but for the delay (itemized, and not based on a formula allocation);

6.7.1.5 Demobilization and remobilization costs; and

6.7.1.6 Additional items of Cost of the Work attributable to the Excusable Delay and which would not have been incurred but for the Excusable Delay.

6.7.2 Intentionally left blank.

6.7.3 Exceptions. The following exceptions to the provisions of Section 6.7.1 above shall apply:

6.7.3.1 With respect to the Excusable Delay described in Section 4.4.2.1, the cost described in Section 6.7.1 shall not be compensable delay costs if such Excusable Delay occurs prior to the commencement of the Construction Work.

6.7.3.2 With respect to the Excusable Delay described in Section 4.4.2.2, the cost described in Section 6.7.1 shall not be compensable delay costs if such Excusable Delay occurs prior to the commencement of the Construction Work.

6.7.3.3 With respect to the Excusable Delay described in Section 4.4.2.4, costs incurred in connection with such delay are chargeable against the Cost of the Work but shall not increase the GMP.

6.7.3.4 With respect to the Excusable Delay described in Section 4.4.2.5, in addition to the compensation provided in Section 6.7.1, CONTRACTOR shall be entitled to the additional costs set forth in Section 6.10.

6.7.3.5 With respect to the Excusable Delay described in Section 4.4.2.7, additional compensation shall only be paid if the change in Applicable Law is not a change in law of general application (e.g., CAL/OSHA), but is a change in law specifically affecting the Project.

6.8 Force Majeure. There shall be no additional compensation to CONTRACTOR on account of Force Majeure.

6.9 Intentionally left blank.

6.10 Change Orders on Account of Differing Site Conditions. If CONTRACTOR encounters conditions described in Section 4.4 which constitute Excusable Delay, in addition to the increase in the GMP on account of delay costs incurred by CONTRACTOR (as described in Section 6.7.1), the GMP shall also be increased by the additional Cost of the Work attributable to such conditions which would not have been incurred but for such conditions.

6.11 Time Extensions on Account of Change Orders. CONTRACTOR shall be entitled to a time extension in connection with any Change Order to the extent its time of performance is extended due to such Change Order. CONTRACTOR shall present to CITY a CPM analysis showing how the Change Order affects the critical path of the Work.

ARTICLE 7 CORRECTION OF WORK

7.1 Correction of Work Prior to Completion. Prior to the date of Final Completion, CONTRACTOR shall correct Work which (a) CITY reasonably rejects as being defective or nonconforming to the requirements of the Contract Documents in a written notice delivered to CONTRACTOR or (b) CONTRACTOR recognizes is defective or nonconforming to the Contract Documents. If other portions of the Work are adversely affected by or are damaged by such defective Work, CONTRACTOR shall also correct, repair or replace such affected or damaged Work, as well as any other property of CITY or others damaged by such defective or nonconforming Work. Prior to the date of Final Completion, the cost of correcting any damaged or defective work shall be paid as a Cost of the Work.

7.2 Correction of Work After Completion. For defects identified by CITY and for which CITY has notified CONTRACTOR within a period of twelve (12) months after the date of Final Completion, or within such longer period as may be provided by special warranties contained in the Contract Documents, CONTRACTOR shall re-execute, correct, repair or replace all Work found to be defective or nonconforming to the Contract Documents (whether arising from a design or construction defect, error, omission or deficiency). If other portions of the Work are adversely affected by or damaged by such defective Work, CONTRACTOR shall also correct, repair or replace such affected or damaged Work, as well as any other property of CITY or others damaged by such defective or nonconforming Work.

7.3 Acceptance of Nonconforming Work. If CITY prefers to accept Work, which is not in accordance with the requirements of the Contract Documents, CITY may do so instead of requiring its removal and correction, in which case the GMP will be reduced as appropriate and equitable. Such adjustment shall be effected whether or not final payment has been made.

7.4 No Effect on Limitations. Nothing contained in this Article shall be construed to establish a period of limitation with respect to other obligations, which CONTRACTOR may have under the Contract Documents.

ARTICLE 8 SUBCONTRACTORS

8.1 Subcontracts

8.1.1 Incorporation of Contract Documents. CONTRACTOR may enter into Subcontracts with various Subcontractors for portions of the Work. The Subcontracts shall require each Subcontractor, to the extent of the Work to be performed by such Subcontractor, to assume towards CONTRACTOR all the obligations and responsibilities which CONTRACTOR assumes towards CITY. All Subcontracts shall incorporate the terms of this Agreement and the Contract Documents to the extent applicable to the Work to be performed by the Subcontractor.

8.1.2 Approval of Subcontractors. Those portions of the Construction Work that the CONTRACTOR does not intend to perform with CONTRACTOR's own personnel shall be performed under Subcontracts. A proposed list of Subcontractors shall be submitted to CITY for approval. Proposed Subcontractors will be deemed accepted unless CITY objects in writing within five (5) days after submission by CONTRACTOR.

ARTICLE 9 INSURANCE AND BONDS; INDEMNIFICATION

9.1 Insurance to be provided by CONTRACTOR:

A. Evidence of Coverage. CONTRACTOR shall, at all times, maintain in full force and effect at a minimum the insurance required by this section; and CONTRACTOR shall not allow any subcontractor to commence Work until similar insurance required of the subcontractor has been obtained and filed. An original Certificate of Insurance, and copies of all required endorsements, all in a form approved by the Risk Manager, evidencing all required coverage or policies shall be filed after the award of the bid and prior to approval of the Contract by the City Council. CONTRACTOR shall provide ten (10) Days prior written notice to CITY of any reduction of coverage limits or cancellation of the coverage or policies shall be given to the City of Roseville as Certificate holder.

B. Qualifying Insurers. With the exception of the State Compensation Insurance Fund, all required insurance policies shall be issued by companies licensed to do business in the State of California and who hold a current policy holders alphabetic and financial size category rating of not less than AVII according to the most recent issue of Best's Insurance Reports.

C. Insurance Required. Commercial General Liability, automobile liability, and worker's compensation insurance shall be maintained as follows:

- | | | |
|----|------------------------------------|-----------------------------|
| 1. | Commercial General Liability | \$2,000,000 each occurrence |
| | Minor Construction Project | \$4,000,000 aggregate |
| | (Projects under \$1,000,000) | |
| | | Personal Injury: |
| | | \$2,000,000 each occurrence |
| | | \$4,000,000 aggregate |
| | Commercial General Liability for | \$5,000,000 each occurrence |
| | Major Construction Projects | \$10,000,000 aggregate |
| | (Projects over \$1,000,000) | Personal Injury: |
| | | \$5,000,000 each occurrence |
| | | \$10,000,000 aggregate |
| 2. | Professional Liability (errors and | \$2,000,000 per claim |
| | omissions) | \$4,000,000 aggregate |

The Commercial General Liability policy shall include coverage or endorsements for:

- a. Completed operations.
- b. Losses related to independent contractors, products and equipment.
- c. Explosion, collapse and underground hazards.

The Commercial General Liability Insurance shall include the following, copies of which shall be provided:

- a. Inclusion of the City of Roseville, and its officers, agents, employees and volunteer, as additional insured (except for workers' compensation as respects services or operations under the Contract. The additional insured endorsement for

the general liability policy shall be at least as broad as the Insurance Services Office ("ISO") CG 20 38 04 13 or an equivalent, blanket endorsement or section of the policy. Endorsements must include coverage for on-going and completed operations. Endorsements shall cover the City of Roseville, its officers, agents, employees, and volunteers.

- b. Cross liability and severability of interest clauses providing that the insurance applies separately to each insured except with respect to the limits of liability.
- c. Stipulation that the insurance is primary and noncontributory, as evidenced by a separate endorsement (CG 20 01 04 13 or an equivalent) or section of the policy, and that neither CITY nor its insurers will be called upon to contribute to a loss.
- d. Such insurance shall specifically cover the contractual liability of the CONTRACTOR.
- e. Any available insurance proceeds in excess of the specified minimum insurance coverage requirements and limits shall be available to the additional insureds. Furthermore, the requirements for coverage and limits shall be: (1) the minimum coverage and limits specified in this Agreement; or (2) the full coverage and maximum limits of any insurance proceeds available to the named insureds, whichever is greater.
- f. Waiver of subrogation endorsement.
- g. CONTRACTOR shall furnish a certificate for the period covered.

SPECIAL NOTICE - CLAIMS MADE COVERAGE:

Liability insurance coverage may not be written on a "claims made" basis. The Certificate of Insurance must clearly provide that the coverage is on an "occurrence" basis.

2. Comprehensive Automobile Liability for bodily injury (including death) and property damage which provides total limits of not less than One Million Dollars (\$1,000,000) combined single limits per accident, applicable to all owned, non-owned, and hired vehicles.

3. Statutory Workers' Compensation and Employer's Liability Insurance, including a waiver of subrogation endorsement and a Broad Form "All-States" Endorsement for all employees engaged in services or operations under the Contract. The employer's liability insurance shall provide limits of not less than One Million Dollars (\$1,000,000) per occurrence. Both the worker's compensation and employer's liability policies shall contain the Insurer's waiver of subrogation in favor of CITY, its officers, agents, employees, and volunteers.

4. Builder's Risk/Course of Construction Insurance: CONTRACTOR shall be responsible for all loss, damage or destruction whatsoever to the Work called for by this Contract until the approval of a Notice of Completion. CONTRACTOR shall secure "All Risk" type of builder's Risk Insurance of the type covering one hundred percent (100%) of the value of the Work performed under this Contract (the value is presumed to be the Contract amount unless otherwise stated in Supplemental Conditions) and all materials, equipment, or other items to be incorporated therein while the same are located at the construction site, a bonded warehouse, or its place of manufacture. At any time, the policy shall cover the value of the Work completed. The policy shall cover hazards including the losses due to fire, explosion, hail, rain, lightning,

flood (separate insurance as needed), vandalism, malicious mischief, wind, collapse, aircraft, and smoke.

The policies providing such insurance shall name CITY as a loss payee as its respective interests may appear, and certified copies of such policies shall be filed with CITY. The maximum deductible allowable under the Builder's All Risk policy shall be five percent (5%) of the Contract amount.

Builder's Risk Insurance is not required for coverage of losses in excess of five percent (5%) of the Contract amount for damages resulting from earthquake in excess of a magnitude of 3.5 on the Richter scale, or tidal waves. Coverage in the amount of five percent (5%) of the Contract amount for such losses is required.

D. Other Insurance Provisions.

1. The requirements of the Contract Conditions as to types and limits of insurance coverage to be maintained by CONTRACTOR, and any approval of insurance by CITY, are not intended to, and shall not in any manner limit or qualify the liabilities and obligations otherwise assumed by CONTRACTOR pursuant to the Contract, including, but not limited to, the provisions concerning indemnification, nor preclude CITY from taking any other action available to it under any other provision of the Contract or law.

2. CITY acknowledges that some insurance requirements contained in the Contract Conditions may be fulfilled by self-insurance on the part of CONTRACTOR. However, this shall not in any way limit liabilities assumed by CONTRACTOR under the Contract. Any self-insurance must be approved in writing by CITY, in its sole discretion and shall not reduce the limits of liability. Any deductibles or self-insured retentions ("SIR") must be declared on the certificate of insurance and approved by CITY in writing. Policies containing any SIR provision shall provide or be endorsed to provide that the SIR may be satisfied by either the named insured or CITY. CITY reserves the right to obtain a full certified copy of any insurance policy and endorsements. The failure to exercise this right shall not constitute a waiver of such right.

3. CONTRACTOR agrees to include in its contracts with all subcontractors the same requirements and provisions of this Contract, including the indemnity and insurance requirements, to the extent they apply to the scope of the subcontractor's work. Furthermore, CONTRACTOR shall require its subcontractors to agree to be bound to CONTRACTOR and CITY in the same manner and to the same extent as CONTRACTOR is bound to CITY under this Contract. Additionally, CONTRACTOR shall obligate its subcontractors to comply with these same provisions with respect to any tertiary subcontractor, regardless of tier. A copy of CITY's indemnity and insurance provisions will be furnished to the subcontractor or tertiary subcontractor upon request. Alternatively, CONTRACTOR may insure subcontractor(s) under its own policy.

4. CITY, its officers, agents, employees and volunteers are to be covered as insureds with respect to liability arising out of automobiles owned, leased, hired or borrowed by or on behalf of CONTRACTOR; and with respect to liability arising out of work or operations

performed by or on behalf of CONTRACTOR including materials, parts or equipment furnished in connection with such work or operations. Coverage shall not extend to any indemnity coverage for the active negligence of the additional insured in any case where an agreement to indemnify the additional insured would be invalid under California Insurance Code Section 11580.04. In addition, the insurance policy may not contain language which prohibits additional insureds or other insurers from satisfying the self-insured retention or deductible.

5. The limits of insurance required in this Contract may be satisfied by a combination of primary and excess insurance. Any excess insurance shall contain or be endorsed to contain a provision that such coverage shall also apply on a primary and noncontributory basis for the benefit of CITY (if agreed to in a written contract) before the CITY's own insurance shall be called upon to protect it as a named insured.

6. Unless provided by CONTRACTOR, CONTRACTOR shall require its Architect/Engineer to provide professional liability (errors and omissions) insurance (certificate and additional insured endorsement).

7. CITY RESERVES THE RIGHT TO WITHHOLD ANY PROGRESS PAYMENTS TO CONTRACTOR IN THE EVENT OF NONCOMPLIANCE WITH ANY INSURANCE REQUIREMENTS.

9.2 Insurance to be provided by CITY. [not applicable]

9.3 Payment, Performance and Warranty Bonds. CONTRACTOR shall furnish and deliver to CITY Performance, Labor & Materials, and Warranty Bonds issued by a surety prior to, and as a condition precedent to, commencement of the Construction Work on the Site; provided, however, the Warranty Bond shall be waived if such bond is not required pursuant to CITY's request for proposals for the Project. The Payment and Performance Bonds shall be in a penal sum equal to one hundred percent (100%) of the GMP, and the Warranty Bond shall be in the penal sum equal to ten percent (10%) of the GMP. All bonds shall be in the form as set forth in Exhibit E hereto. All premiums for the Performance, Labor & Materials, and Warranty Bonds shall be a Cost of the Work. CITY shall have the right to withhold any payment(s) under this Agreement until CONTRACTOR has fully complied with this sub-section.

9.4 Indemnification. To the fullest extent allowed by law, CONTRACTOR shall defend, indemnify, and hold harmless, CITY, its officers, employees, agents, and volunteers, and each and every one of them, from and against all actions, damages, claims, losses, expenses or other liabilities of every type and description, including reasonable attorney fees, to which they may be subjected or put, by reason of, or resulting from, the performance of the Work, whether upon or off the Work, including the loss of use thereof, that is caused in whole or in part by willful or reckless misconduct and/or any negligent or wrongful act or omission of CONTRACTOR, any Subcontractor, and anyone directly or indirectly employed by any of them or anyone for whose acts any of them may be liable, whether or not it is caused in part by a party indemnified hereunder, except for such claims arising from the sole or active negligence of CITY. The parties intend that this provision shall be broadly construed.

CONTRACTOR's responsibility for such defense and indemnity obligations shall survive the termination or completion of this Agreement for the full period of time allowed by law. The defense and indemnity obligations of this Agreement are undertaken in addition to, and shall not in any way be limited by, the insurance obligations contained in this Agreement.

ARTICLE 10 PROTECTION OF PERSONS AND PROPERTY

10.1 Safety Precautions and Programs.

10.1.1 Site Safety. CONTRACTOR shall be responsible for initiating, maintaining and providing supervision of safety precautions and programs in connection with the Work, and shall also comply with any and all insurance carrier-mandated safety requirements and programs.

10.1.2 Safety Notices. In connection with the performance of the Work, CONTRACTOR shall provide notices and comply with all Applicable Laws bearing on the safety of persons and property and their protection from damage, injury or loss.

10.2 Safety of Persons and Property.

It is the intent of the parties that CITY is not an exposing, creating, controlling, or correcting employer under California Labor Code Section 6400. In accordance with generally accepted fabrication and construction practices and all applicable Laws and Standards and Codes, CONTRACTOR shall have the authority and be solely and completely responsible for the safety of all property utilized and all persons performing under this Agreement. Moreover, the CONTRACTOR shall be the controlling employer and has the authority and responsibility to enforce safety for all fabrication, construction work, and Work performed under this Agreement. The services of CITY's contract administrator, if any, in conducting a review of CONTRACTOR's performance under this Agreement is not intended to include a review of the adequacy of CONTRACTOR's work methods, equipment or safety measures. If CITY and/or its contract administrator observes a safety violation related to the CONTRACTOR's performance under this Agreement, then CITY and/or its contract administrator will report the violation to the CONTRACTOR who is then responsible for assuring the violation is abated.

CONTRACTOR is hereby informed that work on this Project could be hazardous. CONTRACTOR shall carefully instruct all personnel performing under this Agreement in potentially hazardous work areas as to potential dangers and shall provide such necessary safety equipment and instructions as are necessary to prevent injury to personnel and damage to property.

All Equipment, Work and materials provided under this Agreement shall be in strict accordance with all applicable Laws and Standards and Codes, and attention is drawn to the requirements of CAL/OSHA.

CONTRACTOR shall perform under this Agreement so as not to expose personnel to, or to discharge into the atmosphere from any materials brought to the Site by CONTRACTOR,

smoke, dust, asbestos, toxic chemicals or other air contaminants in violation of applicable Laws and Standards and Codes.

10.2.1 Reasonable Precautions. CONTRACTOR shall take all precautions and implement all safety measures and requirements imposed by any Applicable Law. Without limiting the generality of the foregoing, CONTRACTOR shall take necessary precautions for the safety of, and shall provide necessary protection to prevent damage, injury or loss to:

10.2.1.1 Employees on the Work and other persons who may be affected thereby;

10.2.1.2 The Work and materials and equipment to be incorporated therein, whether in storage on or off the Site under care, custody or control of CONTRACTOR; and

10.2.1.3 Other property at the Site or adjacent thereto, such as trees, shrubs, lawns, walks, pavements, roadways, structures and utilities not designated for removal, relocation or replacement in the course of the Construction Work.

10.2.2 Safeguards. CONTRACTOR shall erect and maintain, as required by existing conditions and performance of the Work, reasonable safeguards for safety and protection, including posting danger signs and other warnings against hazards, promulgating safety regulations and notifying CITY and users of adjacent sites and utilities, and shall comply fully with the requirements of CAL/OSHA.

10.2.3 Use of Explosives. Use of explosives is prohibited, unless approved in advance in writing by CITY. CITY may impose reasonable conditions on the use of explosives.

10.2.4 Remedy of Damage. CONTRACTOR shall promptly remedy damage and loss to property referred to in Sections 10.2.1.2 and 10.2.1.3 caused in whole or in part by CONTRACTOR, or anyone employed by or in control of CONTRACTOR, or any Subcontractor. All costs incurred by CONTRACTOR in connection with its obligations under this Section shall be cost of the Work, but shall not increase the GMP.

10.2.5 Designation of Safety Coordinator. [reserved]

10.2.6 Loads. CONTRACTOR shall not load or permit any part of the Construction Work or the Site to be loaded so as to endanger its safety.

10.3 Security. CONTRACTOR shall take any and all precautions that may be reasonably necessary to render all portions of the Work, the Site and any adjacent areas affected by the Work secure in all material respects, to decrease the likelihood of accidents, and to avoid vandalism and other contingencies which are liable to delay the Work or give rise to claims or liabilities. CONTRACTOR shall furnish and install all necessary facilities to provide safe means of access to all points where Work is being performed. CONTRACTOR shall take all precautions and measures as may be reasonably necessary to secure the Project at all hours,

including evenings, holidays and non-work hours. Such precautions may include provision of security guards.

10.4 Damage to Property at the Site. CONTRACTOR shall be responsible for any and all damage or loss to property at the Site, except to the extent caused by the acts or omissions of CITY or its representatives, agents or employees. If such damage or loss is caused by CONTRACTOR, payment of such costs as Cost of the Work shall be limited by the provisions of Section 2.20.5 hereof.

10.5 Damage to Property of Others. CONTRACTOR shall avoid damage, as a result of CONTRACTOR's operations, to existing sidewalks, curbs, streets, alleys, pavements, utilities, adjacent property, the work of Separate Contractors and the property of CITY. CONTRACTOR shall repair any such damage caused by the operations of CONTRACTOR.

10.6 Failure of CONTRACTOR to Repair Damage. If CONTRACTOR fails to commence the repair of damage to property as set forth in this Article, and/or diligently pursue such repair, then CITY, after ten (10) Days prior written notice to CONTRACTOR (provided CONTRACTOR has not commenced such repair during such ten (10) Day period), may elect to repair such damages with its own forces and to deduct from payments due or to become due to CONTRACTOR amounts paid or incurred by CITY in correcting such damage.

10.7 Emergencies. In an emergency affecting the safety of persons or property, CONTRACTOR shall act, at CONTRACTOR's discretion, to prevent threatened damage, injury or loss. Additional costs or extensions of time caused by CONTRACTOR on account of an emergency not caused by the fault or neglect of CONTRACTOR shall be determined as provided in Section 6.2 hereof.

ARTICLE 11 DISPUTES

11.1 Disputes between CITY and CONTRACTOR. In the event of any dispute arising between CITY and CONTRACTOR regarding any part of the Contract or the Contract Documents, or the Parties' obligations or performance thereunder, and subject to any claims presentation requirements set forth in the Contract Documents, either Party may institute the dispute resolution procedures set forth herein. The Parties shall continue performance of their respective obligation hereunder notwithstanding the existence of a dispute.

11.2 Dispute Resolution Procedures. CONTRACTOR must submit all claims as defined in and in accordance with the claim resolution process set forth in Section 9204 of the Public Contract Code. Each such claim must be sent to CITY by registered mail or certified mail with return receipt requested and must contain reasonable documentation to support the claim. All claims must be received prior to acceptance of the Work and will be handled in accordance with the procedures set forth in Section 9204 of the Public Contract Code.

ARTICLE 12

EVENTS OF DEFAULT AND REMEDIES; TERMINATION

12.1 CONTRACTOR Events of Default. The following shall be considered "CONTRACTOR Events of Default":

12.1.1 If CONTRACTOR fails or neglects to carry out the Work in accordance with the provisions of the Contract Documents, and fails, after seven (7) Days notice from CITY, to commence a cure to correct such failure or neglect and thereafter diligently pursue such cure to completion;

12.1.2 If CONTRACTOR materially breaches this Agreement and fails, after seven (7) Days notice from CITY, to commence a cure to correct such breach and thereafter diligently pursue such cure to completion (such breach to include, but not be limited to, failure to make payment to Subcontractors for materials or labor in accordance with the respective agreements between CONTRACTOR and the Subcontractors or violation of Applicable Laws);

12.1.3 If a custodian, trustee or receiver is appointed for CONTRACTOR, or if CONTRACTOR becomes insolvent or bankrupt, is generally not paying its debts as they become due or makes an assignment for the benefit of creditors, or CONTRACTOR causes or suffers an order for relief to be entered with respect to it under applicable bankruptcy law or applies for or consents to the appointment of a custodian, trustee or receiver for CONTRACTOR, or bankruptcy, reorganization, arrangement or insolvency proceedings, or other proceedings for relief under any bankruptcy or similar law or laws for the relief of debtors, are instituted by or against CONTRACTOR, and in any of the foregoing cases such action is not discharged or terminated within sixty (60) Days of its institution.

12.2 Remedies of CITY upon a CONTRACTOR Event of Default.

12.2.1 Termination of Contract. Upon the occurrence of a CONTRACTOR Event of Default, CITY shall have the right to terminate this Contract upon an additional seven (7) Days written notice to CONTRACTOR, provided that CONTRACTOR has not commenced a cure within such seven (7) Day period. Without prejudice to any other rights or remedies of CITY, CITY may:

12.2.1.1 Take possession of the Site and of all materials, equipment, tools and construction equipment thereon owned by CONTRACTOR;

12.2.1.2 Accept assignment of Subcontracts; and

12.2.1.3 Finish the Work by whatever reasonable method CITY may deem expedient.

12.2.1.4 When CITY terminates the Contract as aforesaid, CONTRACTOR shall not be entitled to receive further payment until the Work is finished. If the unpaid balance of the GMP exceeds costs incurred in finishing the Work, such excess shall be paid to

CONTRACTOR, up to the amount due CONTRACTOR for work performed prior to termination. If such costs exceed the unpaid balance of the GMP, CONTRACTOR shall pay the difference to CITY.

12.2.2 Recourse to Payment and Performance Bonds. Upon the occurrence of a CONTRACTOR Event of Default and termination of this Contract by CITY, CITY may call upon the Surety to perform its/their obligations under the Payment and Performance Bonds, if applicable.

12.3 Remedies not Exclusive. Except as otherwise provided in this Agreement, no remedy hereunder is intended to be exclusive of any other remedy, but each and every such remedy shall be cumulative and shall be in addition to any other available legal or equitable remedy, existing now or hereafter. No delay or omission to exercise any right or power accruing shall impair any such right or power nor shall it be construed to be a waiver of any Event of Default or acquiescence therein, and every such right and power may be exercised from time to time as often as may be deemed expedient.

12.4 Termination or Suspension for Convenience.

12.4.1 Termination for Convenience. CITY may, without cause, terminate this Contract, or any portion of Work to be performed hereunder at any time by a notice in writing from CITY to CONTRACTOR for CITY's convenience. In such case, CITY shall pay to CONTRACTOR all funds due CONTRACTOR for work performed up to the date of termination, plus all demobilization and close-out costs, including, but not limited to, any amounts payable to Subcontractors for early termination, plus reasonable overhead and profit on Work performed. All funds due hereunder, including unpaid Retention, shall be released within thirty (30) Days of termination of the Contract for convenience, subject to any withholding required or authorized by any Applicable Law. In no event shall such amounts owed to CONTRACTOR exceed the GMP.

12.4.2 Suspension for Convenience. CITY may, without cause, order CONTRACTOR in writing to suspend, delay or interrupt the Work in whole or in part for such period of time as CITY may determine. An adjustment shall be made for increases in the cost of performance of the Work, including Fee on the increased cost of performance, caused by the suspension, delay or interruption, in accordance with the Change Order provisions of this Contract. No adjustment shall be made to the extent (1) the performance is, was or would have been so suspended, delayed or interrupted by another cause for which CONTRACTOR is responsible or (2) that an equitable adjustment to the GMP and/or Schedule is made or denied under another provision of this Contract. Adjustments made in the cost of performance may have a mutually agreed fixed or percentage Fee.

ARTICLE 13 MISCELLANEOUS PROVISIONS

13.1 Governing Law. This Contract shall be construed with and governed by the laws of the State of California.

13.2 Successors and Assigns. CITY and CONTRACTOR respectively bind themselves, their partners, shareholders, successors, assigns and legal representatives to the other Party hereto and to shareholders, successors, assigns and legal representatives of such other Party in respect to covenants, agreements and obligations contained in the Contract Documents. Neither Party shall assign the Contract without the prior written consent of the other.

13.3 Notice. Any notices to Parties required by this Agreement shall be delivered or mailed, U.S. first class, postage prepaid, addressed as follows:

If to CITY:

Jeremy Snyder

City of Roseville

1800 Booth Rd.

Roseville CA 95747

If to CONTRACTOR:

Greg Cederstrom

Syblon Reid

1130 Sibley Street

Folsom CA 95630

Address for Notice may be changed by Notice to the other Party.

13.4 Prevailing Wages. For purposes of this Agreement, CONTRACTOR and its Subcontractors shall comply with all applicable prevailing wage laws, e.g., but not limited to, California Labor Code Sections 1770 et seq. In accordance with said Section 1775, CONTRACTOR shall forfeit as a penalty to CITY Two Hundred Dollars (\$200) for each calendar Day or portion thereof for each worker paid less than the prevailing rates for such work or craft in which such worker is employed for any work done on-Site under the Agreement by CONTRACTOR or by any Subcontractor in violation of the provisions of the Labor Code and in particular, Labor Code Sections 1770 to 1780, inclusive. In addition to said penalty and pursuant to said Section 1775, the difference between such stipulated prevailing wage rates and the amount paid to each worker for each calendar Day or portion thereof for which each worker was paid less than the stipulated prevailing wage shall be paid to each worker by CONTRACTOR or the applicable Subcontractor.

Pursuant to the provisions of California Labor Code Section 1773, the Department of Industrial Relations has identified the source, stated below, of the General Prevailing Rate of Wages applicable to the work to be done, for straight time, overtime, and holiday work. The holiday wage rate listed shall be applicable to all holidays recognized in the collective bargaining agreement of the particular craft, classification or type of worker concerned. These wage rates may be obtained from the State Department of Industrial Relations and/or the following website address: <http://www.dir.ca.gov/dlsr/DPreWageDetermination.htm>, which is a part of this Agreement.

Pursuant to Labor Code Section 1773.2, the General Prevailing Wage Rates set forth above by the Department of Industrial Relations, which form a part of this Agreement, shall be posted by CONTRACTOR at a prominent place at the Site.

13.5 Modifications. No Modifications or Change Orders shall be valid unless in writing and signed by CITY and CONTRACTOR.

13.6 Interpretation. Any and all headings of this Agreement are for convenience of reference only and do not modify, define or limit the provisions thereof. Words of any gender shall be deemed and construed to include correlative words of the other gender. Words importing the singular number shall include the plural number and vice versa, unless the context shall otherwise be deemed to include all supplements and/or amendments to any such exhibits or documents entered into in accordance with the terms hereof and thereof. All references to any person or entity shall be deemed to include any person or entity succeeding to the rights, duties and obligations of such person or entity in accordance with the terms of this Agreement. Where reference is made in this Agreement to another Contract Document, the reference refers to that provision as amended or supplemented by the other provisions of the Contract Documents. In the event of any conflict between or among the Contract Documents, the provisions of this Agreement shall govern.

13.7 Severability. If any provision of this Agreement is held to be inoperative or unenforceable as applied in any particular case because it conflicts with any other provision hereof or any constitution, statute, ordinance, rule of law or public policy, or for any other reason, such holding shall not have the effect of rendering the provision in question inoperative or unenforceable in any other case, or of rendering any other provision herein contained inoperative or unenforceable to any extent whatever. The invalidity of any one or more phrases, sentences, clauses or sections contained in this Agreement shall not affect the remaining portions of this Agreement or any part hereof, and they shall otherwise remain in full force and effect.

13.8 Whole Agreement. This Agreement, the Exhibits hereto and the Contract Documents, specifications and Drawings shall constitute the entire agreement between the Parties, and no inducements, considerations, promises or other references shall be implied in this Agreement that are not expressly addressed herein

13.9 Accounting Records. CONTRACTOR shall keep full and detailed accounts and exercise such controls as may be necessary for proper financial management under this Agreement; the accounting and control systems shall be reasonably satisfactory to CITY. CITY and CITY's accountants shall be afforded access to CONTRACTOR's records, books, correspondence, instructions, drawings, receipts, Subcontracts, vouchers, memoranda and other data relating to this Agreement, and CONTRACTOR shall preserve these for a period of three (3) years after final payment, or for such longer period as may be required by law.

13.10 Intentionally left blank.

13.11 No Waiver. Neither the inspection by CITY or its agents, nor any order or certificate for payment of money, nor payment for, nor acceptance of the whole or any part of the work by CITY, nor any extensions of time, nor any position taken by CITY or its agents shall operate as a waiver of any provision of this Agreement or of any power herein reserved to CITY or any right

to damages herein provided, nor shall any waiver of any breach of this Agreement be held to be a waiver of any other or subsequent breach.

13.12 CONTRACTOR Shall Assume Risks. Until the Final Completion or acceptance by CITY of all Work under this Contract, the Work shall be under CONTRACTOR's responsible care and charge. CONTRACTOR shall rebuild, repair, restore and make good all injuries, damages, corrections, and repairs occasioned or rendered necessary by accidental causes of any nature, to all or any portions of the Work, except as otherwise stipulated.

13.13 General Liability of CONTRACTOR. Except as otherwise herein expressly stipulated, CONTRACTOR shall perform all the work and furnish all the labor, materials, tools power and light, and appliances, necessary or proper for performing and completing the Work herein required in the manner within the time herein specified. The mention of any specific duty or liability of CONTRACTOR shall not be construed as a limitation or restriction of any general liability or duty of CONTRACTOR and, any reference to any specific duty or liability shall be construed to be the purpose of explanation.

13.14 Attorney's Fees and Venue. If either Party commences any legal action against the other Party arising out of this Agreement or the performance thereof, the prevailing Party shall be entitled to recover its reasonable litigation expenses, including but not limited to, court costs, expert witness fees, discovery expenses, and attorney's fees. Any action arising out of this Agreement shall be brought in Placer County, California, regardless of where else venue may lie. To the extent permitted by applicable law, each Party waives any defense that it may have based on lack of *in personam* jurisdiction or *forum nonconveniens*.

13.15 Third Party Beneficiaries. There are no third party beneficiaries to this Agreement.

IN WITNESS WHEREOF, the City of Roseville, a municipal corporation, has authorized the execution of this Agreement in duplicate by its City Manager and attested to by its City Clerk under the authority of Resolution No. _____, adopted by the Council of the City of Roseville on the ____ day of _____, 20____, and CONTRACTOR has caused this Agreement to be executed.

CITY OF ROSEVILLE, a
municipal corporation:

BY: _____
DOMINICK CASEY
City Manager

Syblon Reid, a CA General
Partnership :

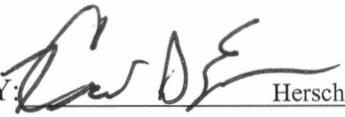
BY: _____
Gregory B. Cederstrom

its: President, Syblon Reid Construction Inc., Partner

ATTEST:

BY: _____
CARMEN AVALOS
City Clerk

and

BY:  _____
Herschell Epperson
Chief Financial Officer,
its: Syblon Reid Construction, Inc., Partner

APPROVED AS TO FORM:

BY: _____
MICHELLE SHEIDENBERGER
City Attorney

APPROVED AS TO SUBSTANCE:

By:  _____
RICHARD D. PLECKER
Environmental Utilities Director

ORDINANCE NO. 6699

ORDINANCE OF THE COUNCIL OF THE CITY OF ROSEVILLE
AUTHORIZING CERTAIN AMENDMENTS TO THE FISCAL YEAR 2023-24
BUDGET AND DECLARING THIS ORDINANCE TO BE IMMEDIATELY
EFFECTIVE AS AN APPROPRIATION MEASURE

THE CITY OF ROSEVILLE ORDAINS:

SECTION 1. The City of Roseville Annual Budget, Fiscal Year 2023-24, is hereby amended as listed on the attached budget adjustment for the Pleasant Grove Wastewater Treatment Plant Influent Pump Station Rehabilitation project.

SECTION 2. This ordinance is hereby declared to be an appropriation measure, immediately effective pursuant to the provisions of Section 5.03 of the Charter.

SECTION 3. The City Clerk is hereby authorized and directed to post a true copy of the foregoing ordinance in each of three (3) conspicuous locations in the City and she shall immediately after such posting enter in the ordinance book, under the record of the ordinance, a certificate under her hand stating the time and place of such publication by posting.

PASSED AND ADOPTED by the Council of the City of Roseville, this _____
day of _____, 2023, by the following vote on roll call:

AYES COUNCILMEMBERS:

NOES COUNCILMEMBERS:

ABSENT COUNCILMEMBERS:

MAYOR

ATTEST:

City Clerk



REQUEST FOR BUDGET ADJUSTMENT

REQUESTER NAME & TITLE: Jeremy Snyder, Preventative Maintenance Supervisor FISCAL YEAR: 2023-24
 PREPARER NAME & TITLE: Archana Wagley, Senior EU Business Analyst COUNCIL DATE (if applicable): 8/16/2023
 DEPARTMENT/DIVISION: EU/Wastewater ORDINANCE: _____

EXPENDITURES/EXPENSES/TRANSFERS OUT

ACCOUNT STRING				BUDGET (\$)	DESCRIPTION
Fund	Account	Center	Project	Adjustment	
6231	6587	84001	500060	2,478,200	Increase capital outlay budget for project 500060
TOTAL				2,478,200	

REVENUES/TRANSFERS IN

ACCOUNT STRING				BUDGET (\$)	DESCRIPTION
Fund	Account	Center	Project	Adjustment	
TOTAL				-	

NET ADJUSTMENT	2,478,200
----------------	-----------

FUND BALANCE

ACCOUNT STRING				BUDGET (\$)	DESCRIPTION
Fund	Account	Center	Project	Adjustment	
6231				(2,478,200)	Decrease available resources in the Wastewater Regional Rehabilitation Fund
TOTAL				(2,478,200)	

Justification for Budget Adjustment:

The Pleasant Grove Wastewater Treatment Plant Influent Pump Station Rehabilitation Project (#500060) requires an additional \$2,478,200 from the available resources in the Wastewater Regional Rehabilitation Fund (6231) to complete the remaining work: the installation, testing, communications/networking, programming and SCADA integration, and engineering of multiple variable frequency drives (VFDs) and submersible influent pump replacements. This request will bring the project's total lifetime budget to \$4,012,200.

REQUIRED APPROVALS:			
REQUESTING DEPARTMENT HEAD / DESIGNEE		7/24/23 DATE	
CHIEF FINANCIAL OFFICER / DESIGNEE		BUDGET MANAGER / DESIGNEE	
POSTED BY		CITY MANAGER / DESIGNEE	
BUDGET DEPARTMENT USE ONLY:			

Revised: June 24, 2019



Pleasant Grove Wastewater Treatment Plant Influent Pump Station Rehabilitation

Response to City of Roseville
RFP 08-114

SYBLON REID PROPOSAL
NEGOTIATED
RESUBMITTAL PER
MEETING ON
JUNE 7, 2023

prepared by:

SYBLON REID

General Engineering Contractors

Providing Solutions to Difficult Projects

06.28.2023

Table of Contents

Section	Page
Cover Letter	1
TAB A: Firm's Qualifications.....	3
Design	5
Construction.....	7
Preconstruction Activities	7
Construction Activities.....	7
Post-Construction.....	7
TAB B: Experience and References	9
Syblon Reid	9
Water Works Project Experience	10
Frisch Engineering Project Experience	12
San Joaquin Electric Project Experience	17
TAB C: Qualifications of Team.....	18
TAB D: Project Understanding.....	22
Project Introduction.....	22
Summary of Desired Improvements	23
Summary of Construction Process and Challenges.....	24
Main Switchboard	27
Feeder Power Wire and Conduit	27
Motor Lead Power Wire and Conduit.....	28
Pump Submersible Cable Entry to Termination Panel	29
Variable Frequency Drives (VFDs)	29
Flygt Pump Mini-CAS Modules	30
Instrumentation	30
Control Panels.....	30
Design and Construction Phase Services:.....	31
Step 1 – Site Visit and Initial Kickoff Meeting	32
Step 2 – Detailed Planning Workshop.....	32
Step 3 – Facility Planning and Alternatives Development.....	33
Step 4 – Conceptual (40%) Design Technical Memorandum.....	33
Step 5 – Final Engineering Design / As-Built Record Drawings	33
CONSTRUCTION PHASE ENGINEERING SERVICES.....	35

Design Assumptions	36
Electrical Design	36
System Integration	37
Electrical Testing and Start-up	37
Civil, Mechanical, and Structural Inspection and Construction Management	37
Potential Operational Modifications	37
Pump Control Setpoints	37
Pump Rotation and Wet Well Pump Down	38
TAB E: Approach to the Project’s Scope of Work/Special Project Considerations	39
Design alternatives	39
Safety Considerations	39
Permit Required Confined Space	39
Working at Heights	39
Lockout/Tagout	40
Schedule Considerations	40
Construction Sequence	40
Phase 1 & 2 – Wet Wells 1 & 2	41
Phase 3 - Side Stream Bypass	42
Preliminary Project Schedule	43
TAB F: Cost Proposal	44
TAB G: Required Statements/Documents	47
Required Statements	47
TAB H: Exceptions	48
TAB I: Competency of Proposers	49
Attachments	50
Attachment A – Proof of Registration with California Secretary of State	50
Attachment B – Proposer’s Certification	51
Attachment C – Non-Collusion Declaration	52
Attachment D – Design-Build Construction Sample Contract	53
Attachment E – Contractor and Subcontractor List	54
Appendices	55
Appendix A – Résumés	55
Appendix B – Variable Frequency Drive (VFD) Cut Sheets	56
Appendix C – Pump Cut Sheets	57

Cover Letter

May 4, 2023

Office of the City Clerk
311 Vernon Street
Roseville CA 95678

RE: Request for Proposals
08-114
Pleasant Grove Wastewater Treatment Plant Influent Pump Station Rehabilitation

Review team,

Syblon Reid appreciates the opportunity to provide our proposal for the Pleasant Grove Wastewater Treatment Influent Pump Station Rehabilitation project. Our response includes the information requested in the RFP to address your evaluation criteria.

We believe that open communication is required for the project to successfully meet schedule, budget and operational requirements and perform the work related to critical infrastructure in a safe and effective manner. We look forward to the opportunity to work with the City of Roseville utilizing the Design Build contracting vehicle which will allow our team to work from the same side of the table to meet your needs.

For the design of the Influent pump station rehabilitation, Syblon Reid has selected a team that is very familiar with the City of Roseville and the Pleasant Grove Wastewater Treatment facility. This team includes **Water Works Engineers** as our lead civil/mechanical designer and **Frisch Engineering** as the lead electrical design engineer. Both firms are leaders in engineering services related to the design of water and wastewater facilities. Our design teams have small-firm responsiveness with big-firm capabilities. This project will be led by design teams with local resources located in Roseville and Folsom that have extensive experience with the City of Roseville, the Pleasant Grove wastewater treatment facility, and the influent pump station that the RFP is requesting be rehabilitated.

Syblon Reid is also pleased to be working with **San Joaquin Electric** as our electrical subcontractor. We have worked with San Joaquin Electric on numerous water and wastewater projects and rely on their experience and capability to support construction for challenging electrical scopes of work.

The cultures of Syblon Reid, Waterwork Engineers, Frisch Engineering, and San Joaquin Electric are aligned to meet the needs of our clients and allow our projects to evaluate alternatives, providing cost effective and functional solutions for our owners.

As you review our response and the appendixes of the proposal, we hope we have conveyed our confidence in our ability to provide superior services. We are looking forward to combining our team with your team to make this project a success.

Sincerely,



Greg Cederstrom
President
Syblon Reid



Licenses

CA #758610 ❖ NV #0050713 ❖ OR #193478 ❖ WA #SYBLOR*867QC ❖ AZ #327370
ID Gen #RCE-32748 ❖ ID PW #030704 ❖ UT #9203299-5501 ❖ MT #241159



Formalities

Submitting Firm:

Syblon Reid
1130 Sibley Street
Folsom CA 95630

Please contact Scott Goodall with any questions related to this proposal:

Scott Goodall, PE
Senior Manager
Scottg@srco.com
(916) 351-0457 – Main Office
(916) 351-1674 – Fax Number
(916) 365-5404 - Mobile

Syblon Reid will perform the services and adhere to the requirements described in this RFP including addenda:

Addenda One dated April 4, 2023
Addenda Two dated April 20, 2023
June 7th, 2023 Scope Clarification meeting with City



Licenses

CA #758610 ❖ NV #0050713 ❖ OR #193478 ❖ WA #SYBLOR*867QC ❖ AZ #327370
ID Gen #RCE-32748 ❖ ID PW #030704 ❖ UT #9203299-5501 ❖ MT #241159



TAB A: Firm's Qualifications

Syblon Reid is accustomed to successfully performing work on projects of a similar scope, magnitude, and complexity to the Pleasant Grove Wastewater Treatment Plant Influent Pump Station Rehabilitation project. We readily accept projects with unique and significant challenges that others are apprehensive about and take pride in our ability to evaluate difficult situations, or projects, and use our resources to develop solutions that are safe, efficient, environmentally sound, and economical. It is our commitment to embrace the owner's problems as if they were our own. The long-term success of our company depends on our reputation and ability to satisfy our clients.



Syblon Reid is a General Contractor (GC) located in Folsom, CA. The company was founded by Ray Syblon and John Reid in 1955 and emphasizes quality work at competitive prices. Throughout the years Syblon Reid has grown steadily to meet the

engineering construction needs of the western states. Today, Syblon Reid is a recognized leader in difficult engineering construction projects requiring a high level of skill in problem solving and risk management, with special emphasis on water resource and wastewater projects.

As the Design Builder Syblon Reid has selected to team with **Waterworks Engineers, Frisch Engineering** and **San Joaquin Electric** for the influent pump station rehabilitation. Our organizations have similar cultures as relationship-based businesses with a long industry tenure. These traditional values support our team centered approach to project success.

Our Design Build Team has extensive experience in the design and construction of pump stations and electrical facilities in water and wastewater treatment plans.

Syblon Reid takes pride in our ability to self-perform earthwork, concrete, and mechanical work. This hands-on support of the work allows us to maintain our commitments to schedule and quality. We have a strong pool of union skilled craftsmen, subcontractors and design consultants that provide excellent services to support our mission.



The **Water Works** Team has extensive experience, history and familiarity with the City of Roseville's water and wastewater treatment, water distribution, and sewer collection systems. The strength of the Water Works Team is that we can do it all: treatment process design, pipeline design, pumping stations, hydraulic modeling, small "fix-it" projects, and even the City's largest projects. We believe our *attentive, focused, high-quality, and cost-sensitive* approach to providing these services fits very well with the City's.

Design Build Team Culture

- *Our Team is Water/wastewater focused. If it handles, treats, or conveys water/wastewater our team can meet your needs.*
- *Collaboration Inspires our relationship-based work philosophy.*
- *Core values of integrity, commitment, accountability, unity and stewardship drive our teams.*

Water Works Engineers has executed several successful key projects for the City over the past several years including condition assessment and design of miscellaneous repair work at the Dry Creek and Pleasant Grove (PG) WWTPs, the PG Grit Channel Rehabilitation Project, the PG inlet trunk line and influent pump station building odor control and operations assessment, Building Secondary Clarifier Replacement Project, the West Side Tank and Pump Station, 2020 Urban Water Management Plan, and miscellaneous collection system design and construction engineering support, as well as construction inspection and construction management for the Shadowbrook Lift Station and sewer FM crossings of Dry Creek and are currently serving as the City's owners representative for design-build of the City's West Side Water Operations Crew Building . *We enjoy working*

interactively with City Staff during the project scoping phase to understand the City's budget and technical needs for projects to ensure that we provide the most targeted and cost-effective services possible. At Water Works, we take great pride in keeping our projects on schedule and our performance on past projects with the City can attest to this commitment.

It was clear to all that Water Works was not hired to simply check a box, and the entire group was very pleased with the outcome. The City of Roseville appreciates your ongoing professionalism and stellar attention to detail. Each time we get assistance from you on any project we never have to worry about stones left unturned. – **Bobby Alvarez, City of Roseville (2020)**



Frisch Electrical Engineering is committed to providing the highest level of quality and performance to assure each project's success from concept to completion. They provide Electrical Engineering, Construction Management, Programming Services and are continuously evolving with technological improvements to provide systems with the latest features.

Frisch Engineering was founded in 2001 and has been dedicated to water/wastewater/power industries ever since. Their staff has a combined 130 years of experience, which averages 20+ years per staff member.

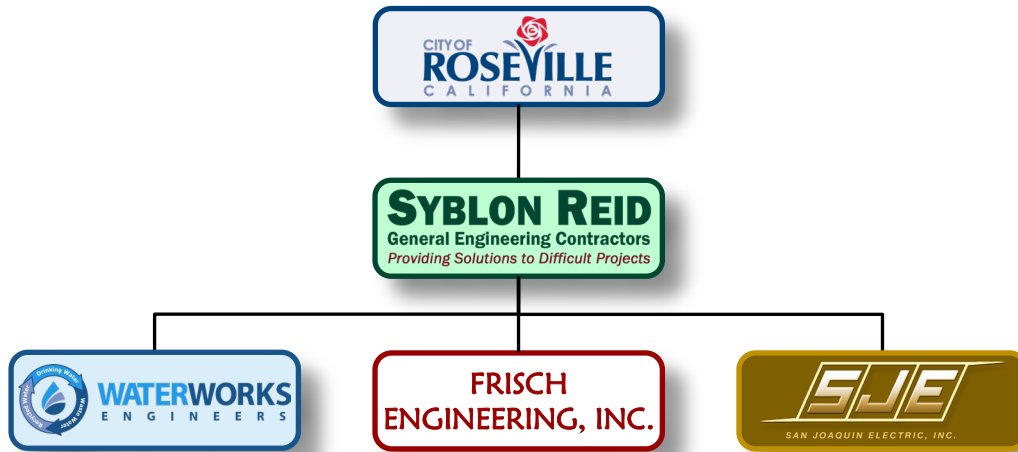
Typical projects are treatment plants, power plants, hydro-electric facilities, sub-stations, pump stations, reservoirs, wells, and sewage lift stations, and telemetry systems. They are proficient in power distribution, protective relaying, hardware controls, PLCs, SCADA, programming, and instrumentation. They are very experienced in automated controls, power coordination, arc-flash safety, and communications since they are used in most projects. Most systems require radio, telephone, and/or LAN/WAN for communications to SCADA. With over 700 projects completed, they are presently working as consultants on many projects and as Engineers and Construction Partners in Design/Build projects.



San Joaquin Electric, Inc. has been a leader in commercial and industrial electrical contracting since 1980. We work in partnership with sophisticated customers throughout Northern and Central California, including many Fortune 500 companies. We apply the highest levels of quality, safety and technical expertise to meet our client's individual needs.

San Joaquin Electric's clients include defense contractors, refineries, utility companies and governmental entities, to name a few. The scope of our work includes wastewater treatment plants, water treatment plants,

food processing plants, distilleries, wineries, refineries, bottling centers, warehouses, hospitals and compost facilities, among others. We apply the expertise and attention to detail required in our large, multi-million dollar jobs to every job we do, whatever the size.



Design

Our approach for completing the design work for the Influent Pump Station Rehabilitation is a five-step process, including:

Step 1 – Site Visit and Initial Kickoff Meeting with the City and other project stakeholders. It's all too easy to let the scope of a project run away during design and fail to meet the operational and budget objectives. We have learned over the years that it is easier to look ahead and control costs than to look over our shoulders at what should have been done. To that end, the initial kickoff meeting should focus on three topics: 1) the specific objectives of the upgrades; 2) the construction budget; and 3) the project management plan. The kickoff meeting will be immediately followed by any necessary site assessments and a detailed review of the design criteria before proceeding to the next phase of the design. During the Kick-off Meeting our team will present design and equipment details for the Schneider VFD's and Flygt Pumps. A key objective of this meeting is to obtain approval from the City to release our team to procure the VFDs and Pumps. This release is a requirement to meet the project schedule and budget.

Step 2 – Detailed planning workshop Our team will facilitate a planning workshop with the City and other key project stakeholders to discuss 1) the specific objectives of the improvements, 2) design criteria, 3) overall layouts of each facility, 4) maintenance of plant operations requirements, 5) materials of construction, 6) applicable codes, 7) permitting requirements and implications, 8) drawing and specification formats, 9) operational and maintenance requirements, and 10) security. It is expected that a full day meeting will be needed to sufficiently discuss these topics. We think it is important to mention here that we find it vital to have the local operations and maintenance personnel and active stakeholders involved in this workshop. We have found that local knowledge of the facilities help provide a viable, long-term solution.

The level of design detail at this phase will be 10% and consist of mark-ups of existing PGWWTP PDF drawings and a general discussion of construction phasing/equipment/material types. This will include review of plant drawings with City staff to confirm wet well shut down alternatives, in particular the return water wet well and associated flow streams.

Step 3 – Facility Planning and Alternatives Development. Syblon Reid, Water Works, Frisch Engineering, and San Joaquin Electric will use the information gathered in steps 1 and 2 to identify and refine alternative approaches to address the project needs – both from an engineering and constructability viewpoint. We find this to be an important task to narrow down the potential options that not only address costs and schedule, but also long-term maintenance and environmental/cultural considerations. Our team will schedule and facilitate a workshop with the City to review each of the preliminary alternatives. The workshop will include a high-level scope of each alternative including discussions around the design and construction schedules as well as the relative costs for each. The ultimate goal for this workshop is to agree which of the proposed alternatives appears viable and should be taken forward to final design. The level of design detail at this phase will be 10% and consist of mark-ups of existing PGWWTP PDF drawings and construction phasing figures and equipment/material of construction lists.

Step 4 – Conceptual (40%) Design Technical Memorandum. A Conceptual Design Technical Memo will be prepared that memorializes the key elements of the design as presented and discussed in the Facility Planning and Alternatives Development Workshop. The Technical Memorandum will document the assumptions, decisions, criteria and conceptual design of the planned improvements at both wet wells/diversions and associated electrical improvements. The memo will also incorporate preliminary site plans and interface with existing facilities. The level of design detail at this phase will be 40% and consist of updated mark-ups of existing PGWWTP PDF drawings with equipment and material of construction notes added, new construction details in CADD where deemed necessary to communicate design intent, construction phasing / sequence figures, outline of technical specifications necessary to communicate final design to and a list of additional equipment for which our team is requesting pre-purchase release by the City. Throughout this step, our team will compare the design to the proposed scope of work and fixed contract price. Our team will identify design changes requested by the City that differ from our proposed scope of work and quantify their impact to determine if these can be constructed within the fixed price or require a modification to the fixed price contract amount. Once finalized, this document shall be used as the basis of final engineering design and an updated schedule of values detailing the components that make up the fixed price shall be submitted.

Step 5 – Final Engineering Design / As-Built Record Drawings. Upon City approval of the Conceptual Design Technical Memorandum, the final engineering design will proceed to Construction Drawings in CADD format and production of any Technical Specifications necessary to communicate final design intent. The Construction Drawings and Technical Specifications will be submitted for review and comment by the City. Our team will facilitate a design review workshop with City staff to discuss and receive feedback on the design. As the design progresses, Syblon Reid's Team will continue to identify, obtain City approval and maintain a comprehensive list of long lead materials, develop necessary permit packages and update construction costs and schedules. Quality control will be completed throughout the project. As material procurement, mobilization and then construction proceeds based on the City

approved Construction Drawings and Technical Specifications, our team will document actual field conditions, identify and obtain City approval of changes necessary to accommodate these field conditions, and produce Record Drawings in CADD documenting the final installed conditions.

Note: This approach is different than the RFP's required 30/60/90/100% design deliverable requirements. Our team feels this approach provides the City a more cost-effective way to deliver high quality improvements that include City input, while staying in compliance with project schedule and budget.

We are confident that the overall approach outlined above will be successful for the planning and design of these facilities. We believe that this process, along with frequent communication with the Owner, produces a design that is thorough, efficient, and properly addresses the project needs.

Construction

Using a design build delivery method is advantageous and allows construction to begin prior to completion of the final design packages. We envision the activities would include:

Preconstruction Activities

- ❖ Procurement of long lead items specifically
 - VFD Gear
 - Flow Meters
 - Pumps
 - Stainless Steel Piping
- ❖ Construction survey layout
- ❖ Site identification of staging areas and access

Construction Activities

Once the drawings are completed to 100% level and the final baseline schedule has been submitted and approved, the remaining construction activities will begin. We would envision at least the following:

- ❖ Demolition
- ❖ Facility modifications (civil, mechanical, electrical) Phased per our construction schedule
- ❖ VFD, Electrical, and similar Installations
- ❖ Testing and commissioning

Post-Construction

After substantial completion of the project, the following activities will be completed before project closeout:

- ❖ Demobilization of temporary facilities
- ❖ Monitoring

- ❖ Preparation of a post-construction summary report
- ❖ As-built drawings

Our role as an advocate for robust design and long-term performance considerations does not change using alternative project delivery. Working closely with both the owner and the design build team allows us to further *scrutinize and elevate our design approach* for each project. Through collaboration with the Design Build team, we can refine design details to provide the most cost-effective implementation of high-quality design and engineering concepts. Continuous contractor feedback, combined with ongoing coordination with owner needs, not only leads to effective alternative delivery projects, but also improves our work on traditional design/bid/build projects.

TAB B: Experience and References

Syblon Reid has historically taken on all types of treatment plant projects since 1955. These projects have included water, wastewater, groundwater and mining tailings treatment facilities. Our design team and electrical subcontractor have each provided services to the City of Roseville within the last 5 years and we are including project experience and references for each of our team members for your evaluation.

Syblon Reid

Napa Sanitation District- Headworks Equipment Replacement Project - 2019

Supply and Installation of new Grit washer, perforated plate screens, sluice and washer compactor. Demo of old equipment and installation of new equipment performed during outages of headworks channels. Completed all critical outage installation's ahead of schedule.

Final contract value \$2,325,000

NapaSan Technical Services Director – Andrew Dameron, (707) 258-6000

PSOMAS Construction Manager– Gerrit Post – (925) 766-2099

CalTrans I-5 Roadway Improvements – 2020

Syblon Reid was a subcontractor to NorCal Paving, A JV between Granite and Teichert, for the retrofitting of 5 storm water pump station along I-5. New Flygt submersible pumps and associated piping were installed ranging in size from 8" to 18" along with new VFD's, HMI and an integrated SCADA system.

Final Contract Value - \$2,948,846

CalTrans Structure Rep – Luis Guzman (916) 799-3376

NorCal Paving/Granite Project Manager – Josh Pulver – (916)855-4471

United States Army Corp of Engineers – Reach D Pumping Plant Modifications

Shoring, cofferdam installation, and dewatering to allow demolition of an existing drainage pump station. Construction of a new cast in place pump wet well, screenings channel, and drive over deck. Installation of new self-cleaning, travel screens and large, medium voltage, mixed flow pumps. Construction of a new electrical building to house new medium voltage motor control centers and control equipment including PLC cabinet, SCADA, local control panels, HVAC and related ancillary equipment.

Current contract value - \$ 8,882,803

Contracting Officer Representative, Richard Donnelly – (916) 704-4852USACE Quality Assurance Representative, Vu Cao – (916) 969-6313

Water Works Project Experience



EXPERIENCE SUMMARY

Water Works Engineers' Alternative Project Delivery/Design-Build Experience Summary			
Project Name	Value	Brief Description	Contractor
Design-Build Projects			
Sharon Heights Recycled Water Facility West Bay Sanitary District, Atherton, CA	\$20M	Design-Build of Influent Pump Station, 2 miles of force main and 0.5-MGD MBR/UV Recycled Water Facility to serve Sharon Heights Golf and Country Club golf course with irrigation water as well as provide truck fill water to West Bay Sanitary District and future service to Caltrans	Anderson Pacific Engineering Construction Santa Clara, CA
Nogales Int'l WWTP Upgrade Design Build Institute of America Merit Award 2010	\$56M	Conversion of the 14.74-mgd Nogales International Wastewater Treatment Plant from an aerated lagoon facility to an activated sludge plant. The activated sludge facilities included three parallel trains of concrete aeration basins followed by three 115-foot diameter secondary clarifiers	PCL Civil Constructors Tempe, AZ
City of Folsom WTP Solids Dewatering Facility	\$4M	Rehabilitation of the existing flocculation/sedimentation basins to serve as filter backwash/actiflo blowdown treatment systems. Conveyance of collected solids to a new solids dewatering facility. Installation of a new solids dewatering facility. Homogenization Tanks with chopper pump-mixing FKC screwpress dewatering system Roll-off container storage for 20-25% cake prior to landfill	Auburn Constructors Sacramento, CA
Lake Cachuma Emergency Pump Station	\$3M	COMB is responsible for diversion of water to the South Coast that includes Carpinteria, Santa Barbara, Goleta and Montecito. New emergency pump station will convey water from a floating platform to the existing inlet tower at Lake Cachuma.	Cushman Contracting Corporation Goleta, CA
North Torrance Wellfield Phase 3 Project City of Torrance, CA	\$17M	Design-Build of three 3000-gpm wells, a 3MG post-tensioned concrete water storage tank (half buried) a 9000-gpm booster pump station and connecting pipelines.	Pacific Hydrotech Corporation Perris, CA
Robert A. Weese WTP Chemical Facilities Upgrades City of Oceanside, CA	\$3M	Project for City of Oceanside to provide 7 new chemical storage and feed systems, including chemical delivery station, tanks, covered secondary containment, feed pumps, and piping for 25-mgd facility.	Pacific Hydrotech, Perris, CA
Eagle Lake Sewage Treatment Ponds	\$0.5M	Expansion and lining of treatment and evaporation ponds for the Dorst Campground wastewater treatment system in the Lassen National Forest.	Erick Ammon Contracting Anderson, CA
Los Vaqueros Energy Recovery Project ASCE San Francisco Outstanding Sustainable Technology Project of the Year 2012	\$5.5M	New 1.0 MW low-head hydro turbine on a raw water transmission pipeline owned and operated by Contra Costa Water District. The turbine facility operates in parallel with an existing pressure reducing station used to burn excess head when transferring water from the Los Vaqueros reservoir into the Contra Costa canal.	C.W. Roen Construction Richmond, CA

**City of Roseville
Pleasant Grove Wastewater Treatment Plant
Influent Pump Station Rehabilitation**

SYBLON REID
General Engineering Contractors

Providing Solutions to Difficult Projects

SYBLON REID Proposal – Negotiated Resubmittal Per meeting on June 7, 2023



EXPERIENCE SUMMARY

Project Name	Value	Brief Description	Contractor
CM @ Risk / Design-Assist / Job Order Contracting			
West Side Tank and Pump Station City of Roseville, CA	\$20M	Two 6-MG Prestressed Concrete water storage tanks set 8-10 ft below grade, 11,400-gpm booster pump station in a CMU building with sodium hypochlorite storage and feed and a 1-MW backup generator, also included CM for design-build of Water Operations Crew Building	Auburn Constructors Sacramento, CA
Dry Creek Wastewater Treatment Plant Secondary Clarifier Rehabilitation City of Roseville	\$4M	Rehabilitation of Dry Creek's four 85-ft diameter secondary clarifiers, four associated RAS Pump Stations, and the plant's Hot Water Loop piping and booster pump	Auburn Constructors Sacramento, CA
Job Order Contracting at the 91st Avenue WWTP City of Phoenix, AZ	\$4M	Evaluation and upgrade of various process units at the 230-mgd 91st avenue WWTP, including primary sedimentation basins, scum removal systems, addition of TSS analyzers	PCL Civil Constructors Tempe, AZ
Lower Cavanaugh Water Intake Pump Station Upgrade	\$1M	Replacement of a 7-mgd intake pumps station for the San Jose Water Company's (SJWC) Lower Cavanaugh Pump Station.	Lewis and Tibbitts, San Jose, CA
Hawthorne WTP Upgrade for the California Water Service Company	\$2M	Evaluation and upgrade of 3-mgd groundwater treatment for removal of methane, sulfide, TOC, organic color, manganese and ammonia.	Cusac Construction Garden Grove, CA



Providing Solutions to Difficult Projects



Frisch Engineering Project Experience

Frisch Engineering, Inc. Project References

Sacramento Arden Booster Pump Station

2018



The project is an indoor inline booster pump station that will boost pressure into the Cal-Am service area when pressures are low. The pump station utilizes VFDs pump to control the pressure. The project included a control panel for Cal-Am as well as one for City of Sacramento so that the water could be metered and controlled by both parties.

Reference: Lacy Carothers, Project Engineer,
California American Water,
Lacy.carothers@amwater.com, 916-568-4215

Sacramento County Department of Water Resources Drain D05 Pump Station Rehabilitation

October 2016

The County was interested in rehabilitating the existing 2300 volt pump station. More horsepower was desired as this station has not been able to keep up with flows in past years.

The power for this station is delivered via 7.5 MVA utility transformers that make 4.16kv for the neighboring sewage lift station. This project installed a new service entrance for the 4.16kv power at 900Amps. Dual feeders with bus-tie were designed. This included outdoor automated switchgear, motor controls for new 700hp pumps, and transformers for low voltage equipment.



Two of the existing motors were re-wound for the 4160 vac and kept at 400hp. The other 4 motors and pumps were upgraded to 700hp. We designed the switchgear, substation, transformers, medium voltage soft start MCC, low voltage MCC, and control systems.

We provided the coordination and settings for all of the circuit protection from feeder source to smallest load.

Reference: Dave Bolen, Sac County DWR, Project Manager, 916-874-8645,
bolend@saccounty.net

**Bureau of Reclamation RD784, Pump Station #2, 3, 2002 ~2016
6, and 10**



These storm water pumps station utilize four vertical 150 ~ 300 Hp pumps to pump from a drainage sump to the Feather River. The stations operate on level utilizing an ultra sonic level transmitter with conductance probe back-up. The pumps are controlled by an Allen Bradley SLC 5/05 with operator interface and radio communication to SCADA System. Frisch Engineering designed each pump station and the SCADA system that ties them together. We performed programming services for

the pump station PLCs and SCADA system.

The electrical systems vary some but have included a 2000 Amp, 480 volt utility metering, outdoor motor control center with soft start motor controls. Parallel 600 KW diesel generators are controlled by the PLC to start depending on pump demand. If one pump is required, then one generator starts. If two or more pumps are required, then both generators start and sync. The PLC monitors the generation system to enable the pumps to start when the generator power systems are ready.



Reference: Patrick Meagher, Field Superintendent, Reclamation District 784,
patrick@rd784.org, 530-742-0520

Reference: Sean Minard, Civil Design Engineer, MHM Engineering, sminard@mhminc.com, 530-742-6485

**Cachuma Operations and Management Board (COMB) October
Emergency Floating Pump Station Project
Construction Cost \$3M**

The project was to design a floating pump station that could pump water uphill to the plant intake in the event that the lake level dropped below the intake tower gate.

We designed and furnished the main power distribution system which included a 1200A service, automatic transfer switch, and 3 500A ground fault distribution breakers. The cabling is submersible and extends for 1000 feet into the lake.

The barge had PLC control panels and distribution systems that allowed for automatic fail-over of one or two of the three underwater feeder cables. If a breaker tripped, the station would automatically transfer power to the remaining cables and continue to operate. The pump station barge included 7 pumps that each had VFD control. Three PLC control panels were furnished for the Utility/Generator, Barge, and Intake. They all communicated on 5.8GHZ radios and Ethernet operation. We installed a Verizon modem so that we can receive alarms and can controls and maintain the station remotely..



Frisch Engineering performed electrical design, furnished electrical power and control panels, PLC programming, operator interface programming, SCADA programming, startup and commissioning.

The pump station has been in continuous operation since October 2014. We are providing service and warranty support on an ongoing basis.

Reference: Lee Cushman, Project Manager, Contractor, 805-964-8661,
Lee@cushmancontracting.com,

Reference: Sami Kader, Waterworks Engineers, 520 243 2113,
Skader@wwengineers.com

**Sacramento Suburban, Verner Avenue Well
Construction Cost \$2M**

2009

The well is designed to use a 200 HP, 480 volt vertical well motor. The motor is operated in variable speed and included a hydro/surge tank. The station included hypochlorite feed systems, HVAC, outdoor lighting and other miscellaneous systems. Tesco Controls provided the PLC and control system on the project per SSWD standards.



Instrumentation systems were included for well flow, well level, chemical tank level, chlorine analyzer, and indoor temperature. The HVAC controls were controlled by the PLC in order to maintain temperature to the requirements of the VFD.



Reference: John Valdes, Sacramento Suburban Water District, Project Manager, jvaldes@sswd.org, 916-972-7171

Reference: John Fawcett, Luhdorff and Scalmanini Engineers, Civil Engineer, jfawcett@lsce.com, 530-661-0109

Other SSWD projects

SSWD Eden Root Well #32A Rehabilitation	2006
Sac Suburban Eden Root CS	2008
Sac Suburban Wells CL2 Retrofits	2016
SSWD El Prado Well	2016
SSWD Palm Well	2019
SSWD Well 4B Rehabilitation	2019
SSWD Well 41, 52, and N8	2021

**Sacramento Suburban, Palm Well
Construction Cost \$2M**

2019

The well is designed to use a 100 HP, 480 volt submersible well motor. The electrical equipment was located outdoors under a shade cover and included a environmentally cooled VFD. The motor is operated in variable speed and included a 3 cell pressure filter. The station included hypochlorite feed systems, outdoor lighting and other miscellaneous systems. Tesco Controls provided the PLC and control system on the project per SSWD standards. Instrumentation systems were included for well flow, waste flow, well level, chemical tank level, chlorine analyzer.



Reference:
David Espinosa,
Sacramento
Suburban
Water District, Project Manager, despinoza@sswd.org,
916-972-7171

Reference: Justin Shobe, Luhdorff and Scalmanini
Engineers, Civil Engineer, jshobe@lsce.com 530-661-



0109

San Joaquin Electric Project Experience

Completed & On Going Projects:

NAME	LOCATION	DURATION	CONTRACT VALUE
David Woodland Water Supply	Woodland, CA	2 Years	\$12,021,176.00
Woodland Davis Intake Fish Screen	Woodland, CA	2 Years	\$8,172,601.00
Carson City WRRF	Carson City, NV	2 Years	\$5,941,863.00
Sacramento River WWTP	Sacramento, CA	3 Years	\$18,893,356.00
Lathrop CTF	Lathrop, CA	1.5 Years	\$2,939,176.00
Sac Regional FEQ	Elk Grove, CA	On Going	\$7,839,504.00
Sac Regional NST	Elk Grove, CA	3 Years	\$10,766,764.00
Sac Regional BNR	Elk Grove, CA	5 Years	\$65,662,474.00
Pleasant Grove Energy Recovery	Pleasant Grove, CA	On Going	\$3,328,086.00
Pleasant Grove Expansion Project	Pleasant Grove, CA	On Going	\$11,465,352.00
San Jose Headworks	San Jose, CA	On Going	\$14,539,295.00
American Valley WWTP	Quincy, CA	On Going	\$3,601,988.00
SRWA Water Treatment Plant	Hughson, CA	On Going	\$15,596,247.00
Railyards Sump 163	Sacramento, CA	On Going	\$8,433,032.00
West Lake Tahoe Water Treatment Plant	Tahoe, CA	On Going	\$2,888,568.00
Tahoe Reno Industrial Center Reservoir Pump Facility	Sparks, NV	On Going	\$2,986,964.00
Lytton Rancheria WTP	Windsor, CA	On Going	\$1,889,284.00
Lytton Rancheria WWTP	Windsor, CA	On Going	\$3,817,580.00

TAB C: Qualifications of Team

The Syblon Reid Design Build Team for the City of Roseville Pleasant Grove Wastewater Treatment Plant Influent pump station rehabilitation project has been selected to demonstrate our commitment to overall project success. The experience and performance of the team members is well qualified to perform all functions required by the RFP. Our Project Manager and Project Executive have experience with the major elements of the work requested on the Influent pump station upgrade. Our supporting engineering and electrical subcontractor partners have extensive experience in with the Pleasant Grove Wastewater Treatment facility and will be a complement to our construction experience.

Syblon Reid will be supporting this project with **Scott Goodall, PE** as the project executive. Mr. Goodall has worked for over 30 years in the heavy civil / mechanical construction industry and has been contributing at Syblon Reid for over 20 years in all aspects of project management and company operations. The most notably similar project he performed was the El Dorado Irrigation District 26MGD expansion of the El Dorado Hill Water Treatment plant which required the installation of 2 submersible pumps in Folsom Lake as part of the upgrade utilizing barges and divers and installing HDPE piping into the lake.

Syblon Reid's Project Manager, **Ryan Fox**, is responsible for carrying out the activities required to deliver the project deliverables on a day-to-day basis by the successful execution of a realistic plan to ensure that the required standards of safety and quality construction will be met. Mr. Fox has provided his skills to diverse projects that have included working from barges, diving, sitework and mechanical pump station, treatment and underground that will be a great asset for the project team.

Mr. Fox and **Mr. Goodall** have worked hand in hand on many projects together over their tenure with Syblon Reid including the Napa Headworks project, and the Interstate-5 improvements upgrading 5 stormwater pump stations. This level of experience will allow for contribution to the design and operation of the project to provide a system that addresses the project goals.

The Syblon Reid Design team – **Water Works Engineers / Frisch Engineering** relationship has spanned over a decade supporting each other on projects in water and wastewater design. Water Works Engineers has a deep bench of skilled engineering, design, and investigation staff. Both are well prepared to handle design-build projects as the engineer of record, bringing effective local resources and relationships to support this pursuit.

The Design Manager for Water Works Engineers is **Mike Fisher, PE**. Mr. Fisher has over 27 years of experience in managing all phases of planning, design, and construction management for new and existing wet utility infrastructure. He has extensive experience in hydraulic analysis and condition/capacity assessments in

Providing an experienced team:

- *That has worked together for over a decade.*
 - *Project leadership that has completed similar wastewater treatment plant projects.*
 - *Project Manager with leadership and with extensive mechanical experience.*
-



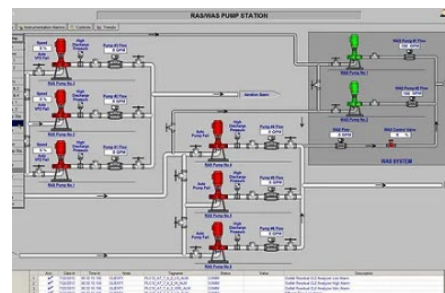
preparation of rehabilitation and replacement recommendations for wet utility infrastructure. Mr. Fisher specializes in management of complex projects requiring coordination of multi-discipline design teams. His “hands-on” approach to design, attention to detail, and exceptional communication skills are what make his projects successful. Mike led the development of Water Works “risk” based infrastructure failure analysis protocol and has utilized that protocol in the preparation of prioritized, time-phased, capital improvement plans for numerous existing water and sewer systems.

The Water Works Design team will also be supported by technical leads based out of the Roseville office. This team includes **Joe Ziemann, PE** and **Jon Roy PE** to provide their extensive knowledge with the facility and engineering skills for a collaborative design solution.

Mr. Ziemann is a water and wastewater treatment process design and consulting engineer with 17 years of experience in the water, wastewater, and recycled water industry. He has worked as a project engineer and project manager on projects ranging from plan and specification preparation for new utility infrastructure to master planning and utility asset rehabilitation analysis and design. Mr. Ziemann’s experience also includes operations and maintenance planning and protocol development, as well as graphical information systems (GIS) analysis, which have allowed him to develop a broad perspective of how individual projects fit in to the larger picture of a municipality’s overall utility scheme and future objectives.

Mr. Roy is a Civil Engineer with over 7 years of experience in water infrastructure constructability, construction management, and design. Mr. Roy specializes in design and construction of yard and process pipe, and mechanical systems. Mr. Roy has extensive experience in existing process infrastructure rehabilitation and modification in both water and wastewater.

Our electrical design team will be led by **Frisch Engineering**. Since 2001, Frisch Electrical Engineering Inc. is a full service electrical and instrumentation engineering company. They are capable of providing turn-key solutions by designing and managing the project from start to finish. Frisch Engineering is presently working as Consultants in many projects and as Engineers and Construction Partners in Design/Build projects in Northern California.



The Electrical Design Manager will be **Thomas Frisch, PE**. Mr. Frisch has worked in the water/wastewater/power/landfill industry since 1991 and has developed skills in power, controls, instrumentation and communications. As a Consultant, he has designed over 250 water and wastewater projects ranging from small pump stations to large scale treatment plants. Consequently, he has a high degree of product knowledge that enables him to minimize design exposure to unproven materials or practices. He knows the challenges that Contractors face in taking plans to construction and knows when to assist on behalf on the Owner. His designs include complex PLC motor controls for booster pump stations, lift stations and motor operated valves and SCADA telemetry between pump stations and tanks.

For the electrical design Mr. Frisch will be supported by **Michael Frisch, PE** and **Martin Yarbrough** to contribute to the project evaluation integration and commissioning of the Influent Pump Station Rehabilitation.

Michael Frisch, PE has worked in the water/wastewater industry since 1994 and is familiar with most processes used in this industry. His experience is well rounded as he has worked as a Consultant and a Contractor. He is capable of providing information and expertise to the Owner and assist the Contractor with suggestions that can expedite the project without compromising contractual requirements. His experiences have provided knowledge in all areas in the water/wastewater industry. This experience has provided him the expertise to assist clients with product selection, application, implementation, and process control. He is diverse in PLC and SCADA automation that include motor and process control with instrumentation. His experience with telemetry application and testing has proven invaluable.

Martin Yarbrough Mr. Martin Yarbrough has worked in the water/wastewater industry since 1995 and offers an excellent combination of manufacturing, project management and electrical engineering experience. His past experience as a systems integrator provides a solid basis and broad understanding required to be a successful Electrical Consultant. He has a proven ability to diagnose customer requests, translate them to action and deliver with the highest customer satisfaction.

This project is electrical intensive, and we were pleased to team with **San Joaquin Electric** to pursue this project. Syblon Reid has worked with SJE on numerous projects for over a decade in the water and wastewater industry. San Joaquin will carry the required C-10 license to support the installation of the electrical rehabilitation work. **Wade Johnson** will lead the San Joaquin Electric team to provide electrical procurement and construction of the project.

Mr. Johnson has over 30 years of experience in the electrical industry, which has given him many insights into the electrical construction field. This includes water and wastewater projects, Industrial projects, Commercial, food processing, agricultural, automation, PLC control systems, Scada systems, process instrumentation, pneumatics, petrol chemical, refinery's, Industrial lighting systems, lighting controls, fiber optics, security systems and Electrical estimation.

San Joaquin Electric will be led in the field by **Fred Lozo**. **Mr. Lozo** has over 30 years of field & office experience in the electrical trade. Expert knowledge of electrical systems, electronics, field instrumentation, AC/DC systems, and communication systems. Skilled at project planning, documentation control, and adjusting project priorities to meet milestones and customer's needs. He has also been involved at the Pleasant Grove Wastewater Treatment Facility for numerous projects including the recent expansion, energy recovery and UV upgrade.

Although the Project Manager, our primary electrical team member and the Design Managers have different responsibilities and lines of authority, they will work as a team to ensure all work is in full compliance with the contract documents, the associated procedures and applicable codes. All personnel will have the required qualifications for their tasks.

The Project Manager, Ryan Fox, and his supporting subcontractor engineers will have a vital role not only in the initial design and procurement period of the project work, but also during construction and post construction.



working with the City of Roseville to provide a modern reliable Influent Wastewater Pump Station project.

The Syblon Reid Team has the flexibility, depth and back up personnel to support the team or replace team members in the event circumstances or events beyond our control require that a specific member be added to the team. The size of Syblon Reid, San Joaquin Electric, Water Works Engineering and Frisch Engineering allow us to provide custom services to our clients with the redundancy in resources to address project specific requirements. However, the team as shown on the Organization Chart on the following page are currently available and excited at the prospect of being the selected contractor for this Project.

Our goals are simple: partner with the owner and engineer, work collaboratively on the same side of the table, build trust, and aim for “no surprises” when the project goes to construction. Since our inception, we have been called to collaborate on projects as early as the feasibility phase, alternatives analysis, conceptual design phases, and permitting, through final design, scheduling, costing, construction, and commissioning. Our experience, coupled with our extensive construction management expertise and ability to self-perform the majority on the work on water resource projects, provides our clients with a demonstrated assurance of project success.

TAB D: Project Understanding

Project Introduction

Pleasant Grove Wastewater Treatment Plant (PGWWTP) services portions of the City of Roseville, Rocklin, and Placer County. As of 2022 PGWWTP receives and treats an average dry weather flow (ADWF) of 8.0 MGD, which is growing over time as additional homes continue to be constructed in West Roseville. With the new PGWWTP expansion project the plant capacity is increasing from 9.5 MGD to 12.0 MGD.

The treatment process provides for beneficial reuse of the wastewater by treating disinfected tertiary recycled water standards and distributing it across west Roseville. Additionally, the plant harvests methane gas generated in the digesters which is then used for powering the City’s solid waste fleets and generating electricity via cogeneration. Not only is the plant valuable to the City because of its treatment of wastewater for regulatory compliance, but also its less obvious ability to provide the City with two beneficial resources.

The influent pump station (IPS) is the gateway to the plant which conveys all of the raw wastewater to the beginning of the treatment process. The IPS also receives various plant waste streams which are reintroduced to the treatment process through the sidestream wet well. It is understood that the plant cannot function without the IPS operating in some capacity and that modifications to the IPS must be done in a well-planned and thoroughly executed manner to ensure that there are no interruptions to the treatment of wastewater. An overview of the IPS is shown below in Figure 1:

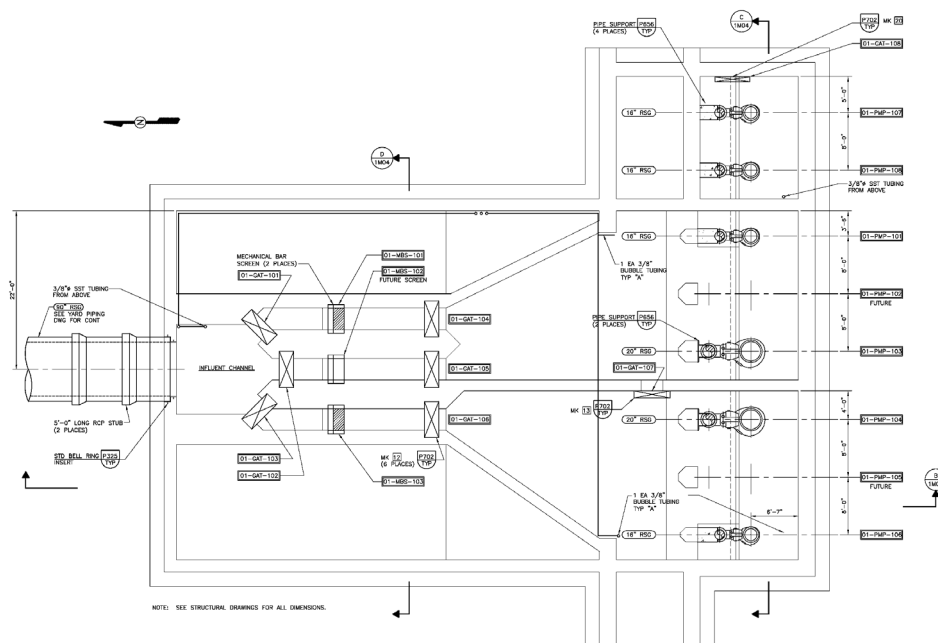


Figure 1 – IPS Plan View

The IPS at PGWWTP includes two identical parallel influent wet wells, each originally containing one “big” KSB pump (~21 MGD) and one “small” KSB pump (~9 MGD). Each of these wet wells included a location between

the “big and “small” pumps for “future” pumps to meet buildout capacity of WWTP. In addition, the IPS includes a side stream wet well, which serves the purpose of recycling about 15% of the treatment flow back through the treatment plant. The side stream wet well originally contained two “smaller” KSB pumps, with ~5 MGD capacity per pump. A summary of the original pumps and the associated design criteria are provided below:

Table 1 – Influent Pumps Design Criteria

Tag – Original Pumps	Description	Model	Power	Speed	Design Operating Point
PMP-101 / PMP-106	Small	KSB KRTK350	143 HP	1170 RPM	6,250 gpm@ 70 ft
PMP-103 / PMP-104	Big	KSB KRTK500	315 HP	875 RPM	14,600 gpm@ 63 ft
PMP-102 / PMP-105	Future Pumps	Future Buildout Capacity of WWTP			
PMP-107 / PMP-108	Side Stream	KSB KRTK250	80 HP	1170 RPM	3,540 gpm@ 63 ft

All of these originally installed KSB pumps require full submergence of the motor to prevent overheating. When the wet well level setpoint (SP) historically was reduced to a value lower than 9 ft, the cycling of water level exposed the pump motors to a fat, oil, and grease (FOG) layer at the water surface. This FOG layer builds up on the exterior of the motors and inhibits self-cooling, eventually causing over temperature shutdowns of the pump system. To avoid this issue, the City had maintained the SP as high as 11 ft for extended durations. In addition, the IPS flow rate had typically been kept lower than 9 MGD with the intent of minimizing the frequency of energizing a second UV channel. The combination of operating the IPS at flow rates less than 9 MGD and level setpoints >9 ft resulted in storage of peak diurnal flows and surcharging of the collection system upstream of the IPS. This immobilizes solids including grit and rags in the upstream interceptor promoting odorous gas production and associated customer complaints, as well as the potential for operation and maintenance issues related to extreme buildup of solids in this major interceptor.

In addition to the operational constraints presented by the original IPS pumps, they are installed with guide cable systems instead of the more robust guide rail system, which has become a standard in most recent City installations. The cable systems have proven to be troublesome over time for maintenance and operation, in some cases even shearing and getting sucked up into the pumps causing damage.

Summary of Desired Improvements

Because of these issues, it is our understanding that the City intends to rehabilitate the pump station to provide better operational flexibility and longevity. By installing pumps which have internal closed loop cooling systems that are capable of being run in unsubmerged conditions, the IPS can be operated at lower levels. This would allow for improvements to the current operating scheme such as running self-cleaning pump-down cycles of the wet wells to prevent persistent FOG layer buildup and allow for more regular mobilization of solids to the IPS rather than deposition and decomposition in the trunk sewer.

In the last two years City staff have replaced PMP 101 and PMP 108 with Flygt models, with closed loop internal cooling, with the following design criteria:

Table 2 - City Replaced Pump Criteria

Tag – Replacement Pumps	Description	Model	Power	Speed	Actual Operation
PMP-101 Replacement	Small	FLYGT NP3356	150 HP	1185 RPM	7,100 gpm @ 60 ft
PMP-108 Replacement	Side Stream	FLYGT NP3301	85 HP	1185 RPM	3,767 gpm @ 67 ft

It is understood that the City would like to use these pump selections and procure 3 new Flygt NP3356 150 hp pumps (identical to the one already in use) for the wet wells which results in a firm pumping capacity of 30 MGD. The sidestream will get 1 new Flygt NP3301 85 hp pump to match the existing pump already in service. The existing PMP 101 and 108 will be reinstalled on new bases with new pipe, mag meters and guide rails. We have not included costs to retrofit the existing two pumps to be able to mate up to the new Flygt discharge elbows. The existing spare pump slots 102 and 105 will remain for future buildout capacity.

With these pump replacements the following associated infrastructure will be replaced and improved for all 6 wet well pump slots (including the spares), and the (2) sidestream pump slots:

- ❖ New Flygt 316 stainless steel pump guiderails
- ❖ New pump discharge elbows
- ❖ New 16" - 316 stainless steel discharge piping
- ❖ Flanged spool pieces in lieu of flowmeters for the spare pump slots
- ❖ New pipe supports
- ❖ Modified concrete pump pads for new discharge elbows to ensure the cantilever of the pump suction for optimal performance

The following improvements only apply to the pumps which are being installed as part of the project, and will not be done for the (2) spare pump slots:

- ❖ New Eaton VFDs
- ❖ New 16" magnetic flowmeters
- ❖ New Flygt BU811 modules to be installed in the City's existing Flight MAS Protection Panel
- ❖ New ethernet communications for all new devices and equipment to facilitate Modbus TCP communication

Summary of Construction Process and Challenges

To ensure operation of one half of the IPS at all times, the VFD and pump replacements will be done in phases.

Currently the most reliable pump in the wet well is PMP 101, which was replaced in 2020 with a 150 hp Flygt. Therefore, the western section of the wet well should be rehabilitated first while leaving PMP 101 in operation, which is illustrated as Phase 1 in Figure 2. Following completion of the western section, the eastern side would be isolated and rehabbed as Phase 2.

To isolate the wet wells, the manual 01-GAT-107 will need to be closed in conjunction with the automated gates associated with each phase as shown in Figure 2. During the site walk and subsequent responses to RFP questions, the City indicated that this valve is operational, has been recently exercised, and seal sufficiently to provide a safe working area inside the wet well.

We have proactively developed an alternative to continue to provide a safe working area should leakage around GAT 107 be discovered during construction. A custom temporary plate could be supplied and installed over the gate with a gasket to create a leak proof seal. This plate could be manufactured out of HDPE with bolt holes which would be used to secure it to the wall with new stainless steel adhesive anchors. The plate would come with a built-in lifting hook that would facilitate easy installation and removal. This has not been included in our current pricing but may be an appropriate allowance to add to the project as a proactive measure for this potential condition.

The anchors for the plate would be installed at the beginning of Phase 1 inside of the western section of the wet well. The plate would remain installed throughout the completion of Phase 2. After completion of Phase 2, the western portion of the wet well would be isolated and drained again to allow for the plate to be removed. The anchors could be left in place for future City utilization of the HDPE isolation plate.

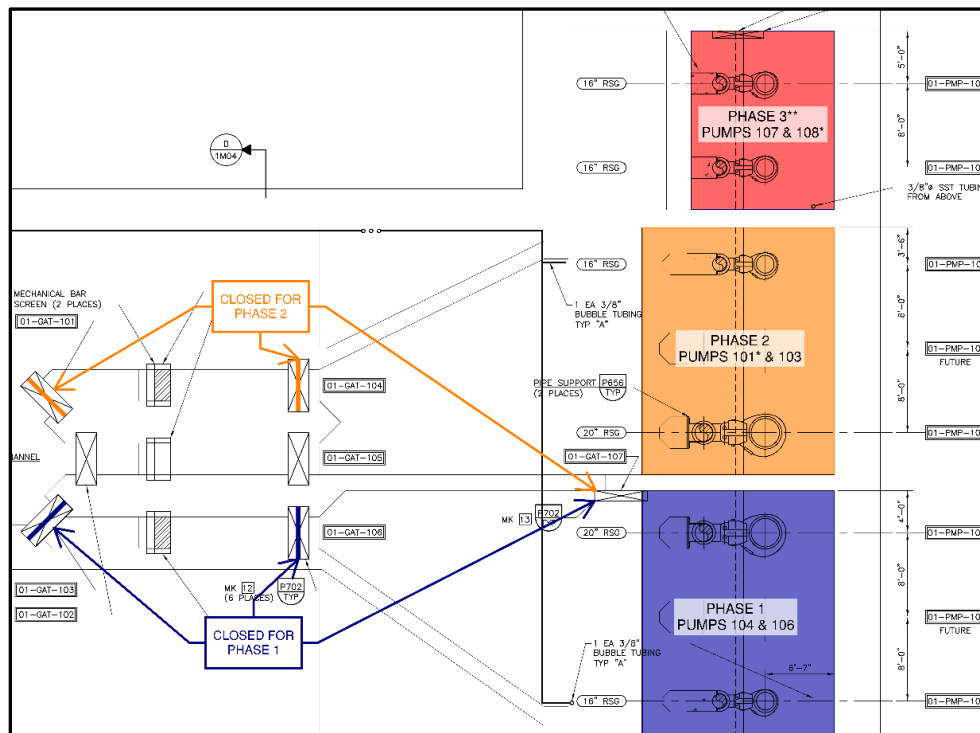


Figure 2 – Anticipated Construction Phasing

The construction of the project must be executed during the dry weather flow months of the summer to ensure that the influent flow can be safely managed by one wet well section. To guarantee this construction timeline, execution of the design and procurement phases shown in our schedule are of the utmost importance. It is anticipated that the lead times for the VFD's will drive the schedule, and to help mitigate this impact we will fully design and specify the VFDs to allow release at the 30% design phase.

Isolation of the sidestream wet well to allow for replacement of the sidestream pumps presents a challenge. The work time required to install the new sidestream pump bases, piping, and pipe supports is less than 2 weeks, and so our team is assuming that the contributing process lines to that wet well can be managed as described below:

- ❖ 42" STD – storm drain: perform work during dry weather, no storm drain flows
- ❖ 10" FD – floor drains: temporarily cover floor drains contributing to this line or locate a maintenance hole on the main 10" FD line and bypass flow from there to the raw water influent wet well
- ❖ 6" ED – equipment drains: temporarily divert flows to raw water influent wet well
- ❖ 24" CEN – centrate: temporarily cease operation of dewatering process or temporarily divert centrate flows to emergency storage basin
- ❖ 18" RFW – filter reject water: divert flows using existing valving and overflow of this piping system to emergency storage basin
- ❖ 20" SS – sanitary sewer: locate maintenance hole upstream of sidestream wet well and bypass flows to emergency retention basin.

The Filter Reject Water, as we understand it, is the major flow contributor to the sidestream wet well, and typically constitutes approximately 10% of plant flow from filter backwash operation. According to our knowledge of the plant, the FRW piping system has a built-in diversion that allows for this flow to be routed to the Emergency Storage Basin during installation of the pump and piping components for the new sidestream pumps. We have assumed that flows that cannot be diverted to the Emergency Storage Basin can be diverted into one of the active wet wells via a fabricated header core drilled through the recycle wet well wall, the cost for which we have included in our pricing.

Main Switchboard

The switchboard that provides power to the influent pump station and sidestream pumps is Switchgear 2 and includes individual circuit breakers for the pumps 103, 104, 107 and 108 pump motors. The influent pumps 101 and 106 motors are powered from MCC-HW1.



In each case, the pump motors are getting smaller in horsepower. We considered our options for the Eaton DS Magnum Circuit breakers such as replacing the trip units and lower trip points. Currently, the circuit breakers are large enough with sufficient trip settings to support the new loads. If we consider the circuit breaker's job is to protect the feeder wiring only, we can let the new VFD protect the downstream wiring and motor. By leaving the wire fully rated to the circuit breaker, we do not need to revise the circuit breaker trip units, or even change breaker settings, or do anything else to the breaker. Therefore, no revisions to the circuit breakers are needed in our strategy.

However, we can lower the trip setpoints to lower levels on the trip unit as long as the wire remains fully rated to the maximum value on the trip unit. This would provide additional protection to the oversized wire and to back up the circuit breaker on the VFD. Combined will provide an additional level of fortification to the system.

Feeder Power Wire and Conduit

The wire from the circuit breakers that feed 103, 104, 107 and 108 VFDs are directly fed from the switchgear and are approximately 250 ft long. There are 2- 200A circuits, and 2- 600A circuits fed from the switchgear 2 electrical building to the influent pump station building. The 200A circuits comprise of 1- 3" conduit each with ~#250 conductors. The 600A circuits comprise of 3- 3" conduits with #250 conductors. Given the length of these circuits, replacing them would be expensive. **At the request of the city, we have included a price to replace the circuit breaker trip units and the oversized conductors to pumps 103 and 104 with smaller conductors that meet the requirements of the new pumps.**

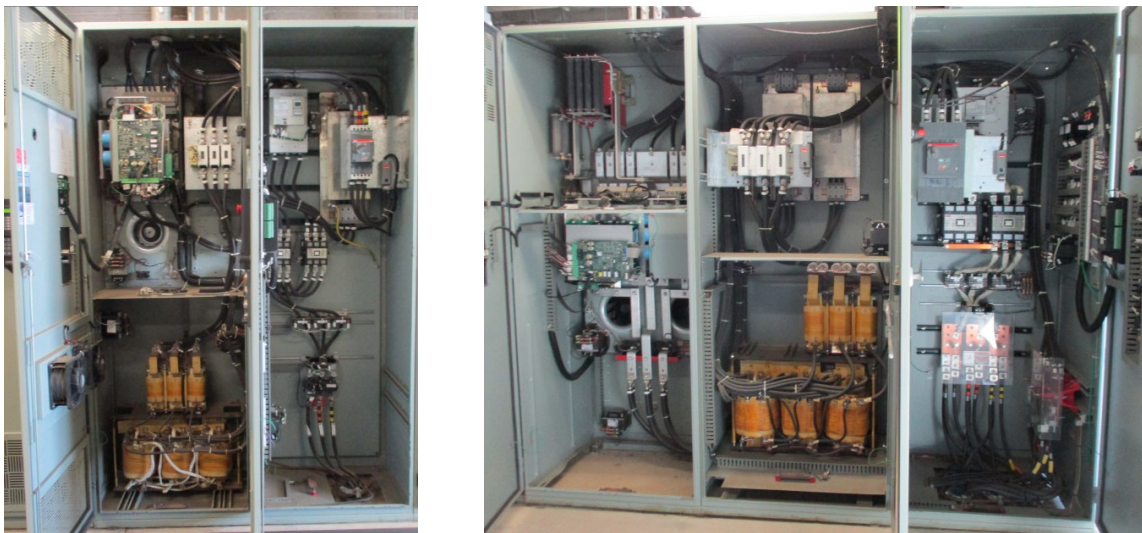
The wire from the circuit breakers that feed the 101 and 107 VFDs are directly from the MCC-HW1 and are

SYBLON REID Proposal – Negotiated Resubmittal Per meeting on June 7, 2023

approximately 80 ft long. There are 2- 300A circuits fed from the MCC-HW1 within the electrical building to the VFDs on the other side of room. The 300A circuits extend through the wire trough ~#350 conductors. Given the length of these circuits, replacing them would be expensive as well.

Our proposed strategy includes the re-use of these conductors. The conductors are less than 20 years old and have not been subject to any abuse. They appear to be in pristine condition. We will take great care to maintain these cables during the VFD replacement such that they can be reused. Five-hundred-volt meggar testing (before and after) will show and confirm the conductor insulation health before demolition and after installation of the new VFD. We have obtained proposals for the VFDs that will facilitate the re-use of these conductors and save the associated costs to the project. The VFDs will include termination locations that will coordinate with existing termination locations and lengths of cable available. **At the request of the city, we have included a price to replace the circuit breaker trip units and the oversized conductors to pumps 103 and 104 with smaller conductors that meet the requirements of the new pumps.**

Motor Lead Power Wire and Conduit



The wire from the VFDs to the motor terminal boxes are also oversized for the new motors and in particularly good condition. Our proposed strategy will re-use these conduits, conductors, and terminal boxes. No changes are required to these wires or conduits. The VFDs have been coordinated to cover the existing conduits and provide connection at the same elevation and location as the existing wiring. The wiring will be meggar tested (before and after) to show and confirm the conductor's health before and after construction. Given the exceedingly inflated cost of copper wiring, this will save costs to the project.

Due to their poor condition, the motor terminal boxes for pumps 103 and 104 will be replaced. All other terminal boxes will be reused. New terminal blocks will be installed with all of the new pumps, specifically 101, 103, 104, 106, 107 and 108.

Pump Submersible Cable Entry to Termination Panel

We have reviewed the cable transition from the termination boxes to the wet well and route to the submersible pump. It appears that the pump cables are suffering from UV exposure from direct sunlight and in the wet well from abrasion at the vertical transition as the cables descend to the pumps. Our solution to the sunlight exposure will be to cover the exposed cables with a sheet stainless steel cover. We will design, build, and install a cable ramp to provide the pump cables relief from chafing when swaying in the wet well.



Variable Frequency Drives (VFDs)

The VFDs will be floor standing, and include any adjacent sections needed to cover the existing conduit stub-ups and make it possible to re-use the wiring. The VFD controls will make it possible to use Ethernet Modbus-TCP to communicate with the drives and control them. Circuit breakers will be provided on each VFD cabinet so that the protection for the VFD is provided by the manufacturer. The Feeder circuits from the Switchgear 2 or MCC-HW1 will be downsized at this circuit breaker for the VFDs.

We have obtained options for the VFDs and have provided three alternatives for the City to choose from: All options will work within the project as quoted. The base cost in this proposal incorporates the Eaton cost and schedule. Alternate selections will impact the schedule and project pricing as noted. See appendix for additional information on the VFD options.

- **ABB – Highest cost, Active Front End Drive for all units. Perceived to be the highest quality drive with the best technology on the market. Impact to the schedule – longer than Eaton by 4 to 8 weeks. Cost impact of +\$51,000.**

SYBLON REID Proposal – Negotiated Resubmittal Per meeting on June 7, 2023

- Eaton – Medium cost, 200HP 18 pulse style VFD. This is a technology that will be eliminated in the future in lieu of active front end harmonic attenuation but is currently the only low harmonic product from Eaton. These are the VFDs requested in the RFP. Cost and schedule for these drives are in proposal base bid.
- Schneider – Lowest Cost. Schneider proposed a low harmonic Active Front End (AFE) drive in 150HP for all horsepower's. Schneider has the best chance of seamless integration with the PLC communications. Impact to schedule – Less than Eaton by 2 to 8 weeks. Cost impact of -\$22,000.

At the June 7th meeting it was decided to move forward with the Schneider VFD, this price is included in tab F cost proposal.

Flygt Pump Mini-CAS Modules

Our proposal includes the furnish and installation of the Flygt protective relay modules. They will be installed into the existing Flygt relay panel as planned by the City. These modules output will be wired directly to the VFDs as an enable to operate. The "GO" output of the relays is made for this purpose.



Instrumentation

Our proposal includes the furnish and installation of the new 16" Endress and Hauser magnetic flowmeters on the new riser pipes. The flowmeters will be connected to the existing circuits for power and controls. We will provide new sunshades on the wall mounted transmitter panels. The flowmeter flanges will be stainless steel and compatible in material with the riser pipes and include grounding rings.

Control Panels

The existing control panels will be modified on site for interface to the new pumps and VFDs. The PLC control panel will receive a new ethernet switch and connection to the control panel power supplies. The Flygt panel will receive the new Flygt BU811 modules and connected to the adjacent units and the main 801 control module

Design and Construction Phase Services:

Syblon Reid's team will complete preliminary and final design of the proposed improvements in a step wise manner to promote efficient expenditure of design resources, while obtaining consistent feedback and input from City staff to promote high quality construction improvements in compliance with immediate and future City management, operations and maintenance needs. At each step in the design, our team will prepare the necessary construction plans, typical details, specifications, and cost estimates for the project, based on the design criteria and recommendations developed throughout the design process. The preparation of design documents will be completed in five submittals:

1. Site Visit and Initial Kickoff Meeting
2. Detailed Planning Workshop (10% Design)
3. Facility Planning and Alternatives Development (30% Design)
4. Conceptual Design Technical Memorandum (50% Design)
5. Final Engineering Design and Record Drawings (100% Design / As-Built)

Prior to each submittal, the work product will be reviewed through our team's QA/QC process and, upon submittal to the City, will have been reviewed and revised in accordance with our QA/QC procedures. The Conceptual Design Technical Memorandum and Final Engineering Design submittal(s) will be presented to the City in a Design Submittal Review Workshop, where our team will review the contents of the submittal to familiarize the group with the information being submitted and the design thought process behind the work and obtain feedback from City staff. Following the Design Submittal Review Workshop, the City will have a 2-week review period to provide any additional comments which were not brought forward in the Workshop.

To promote the most cost effective and timely execution of the design-build construction delivery process, our team will work with the City throughout the design process to identify equipment and materials that require procurement in advance of 100% design. We will provide sufficient technical details of these items to obtain City approval for procurement.

In addition to identification of equipment for early procurement release, our team will utilize existing treatment plant PDF and CADD drawings (provided by the City) as the base mapping for our design, thus allowing us to reduce design efforts, while maintaining high-quality design deliverables that provides the City the information necessary to operate and maintain their facilities now and in the future.

For example, we can modify existing electrical drawing with the new motor sizes and changes required for this project. Doing this, will keep the drawings in good order and keep all information in one place. Therefore, the one lines and plans can be modified and reused for this purpose. The VFD drawings will be new and added as an update or replacement drawing to the existing drawings. Modifications to the PLC control panel will be completed against the existing drawings for the PLC. Existing I/O for the VFDs will be re-used as needed with no additional I/O needed. Most existing I/O will be transferred to Ethernet communications so much of the I/O will be turned into spares.

Many of the proposed Civil/Mechanical/Structural improvements can be depicted on the existing drawing layout, while also providing design details to match the proposed and eventually installed design.

The following summarizes the content and deliverables during each design step. Each step includes civil, mechanical, structural and electrical and controls design analysis to provide the level of detail necessary to promote City understanding and buy-in on the design and complete design in a cost effective and quality manner.

Step 1 – Site Visit and Initial Kickoff Meeting

The initial kickoff meeting design effort will focus on any necessary site assessments and a confirmation of the design criteria before proceeding to the next phase of the design. During the Kick-off Meeting our team will present design and equipment details for the Schneider VFD's and Flygt Pumps. A key objective of this meeting is to obtain approval from the City to release our team to procure the VFDs and Pumps. This release is a requirement to meet the project schedule and budget.

Deliverables

- Agenda / Meeting Notes (PDF)
- Schneider VFD Submittal (PDF)
- Flygt Pump Submittal (PDF)

Step 2 – Detailed Planning Workshop

The detailed planning workshop design effort will focus on the following:

- 1) the specific objectives of the improvements,
- 2) design criteria,
- 3) overall layouts of each facility,
- 4) maintenance of plant operations requirements,
- 5) materials of construction,
- 6) applicable codes,
- 7) permitting requirements and implications,
- 8) drawing and specification formats,
- 9) operational and maintenance requirements, and
- 10) security.

This may require up to a full day meeting with City staff to discuss these topics and obtain necessary operational and maintenance input. City operations and maintenance personnel and active stakeholders should participate in the workshop. The level of design detail at this phase will be 10% and consist of mark-ups of existing PGWWTP PDF drawings and a general discussion of construction phasing/equipment/material types. This will include review of plant drawings with City staff to confirm wet well shut down alternatives, in particular the return water wet well and associate flow streams.

Deliverables

- Agenda / Meeting Notes (PDF)
- Presentation Materials / Mark-ups of Existing PGWWTP PDF Drawings (PDF)

Step 3 – Facility Planning and Alternatives Development.

The Facility Planning and Alternatives Development design effort will focus on refining alternative approaches developed in steps 1 & 2 to address the project needs – both from an engineering and constructability viewpoint. The objective of the meeting is to discuss, narrow and then select the preferred options that not only address costs and schedule, but also long-term maintenance considerations. Our team will facilitate the workshop to include a high-level scope of each alternative including discussions around the design and construction schedules as well as the relative costs for each. The ultimate goal for this workshop is to select the design alternatives that will be taken forward into final design. The level of design detail at this phase will be 30% and consist of mark-ups of existing PGWWTP PDF drawings and construction phasing figures and equipment/material of construction lists.

Deliverables

- Agenda / Meeting Notes (PDF)
- Mark-ups of Existing PGWWTP PDF Drawings (PDF)
- Construction Phasing Figures (PDF)
- Equipment / Material Lists (PDF)

Step 4 – Conceptual (40%) Design Technical Memorandum

The Conceptual Design Technical Memo design effort will focus on memorializes the key elements of the design as presented and discussed in the Facility Planning and Alternatives Development Workshop. The Technical Memorandum will document design decisions, criteria and conceptual design of the planned improvements at both wet wells/diversions and associated electrical improvements. The memo will also incorporate preliminary site plans and interface with existing facilities. The level of design detail at this phase will be 40%.

Deliverables

- Conceptual Design Technical Memorandum (PDF)
- PGWWTP PDF drawings with equipment and material of construction notes added (PDF)
- Construction details, where deemed necessary to communicate design intent (PDF/CADD)
- Outline of Technical Specifications (PDF)
- List of Equipment for Procurement Release (PDF)
- Cost Estimate / Schedule of Values, with identification of any changes resultant for additional scope requested by City during design development process (PDF)

Step 5 – Final Engineering Design / As-Built Record Drawings

Our team will complete final design using the City approved Conceptual Design Technical Memorandum. Design will consist of Construction Drawings in CADD format and production of any Technical Specifications necessary to communicate final design intent. The Construction Drawings will be develop as revisions/updates to existing digital drawings, where deemed appropriate by Engineer, and new CADD drawings, where existing background insufficient. The Construction Drawings and Technical Specifications

with be submitted for review and comment by the City. Our team will facilitate a design review workshop with City staff to discuss and receive feedback on the design. Upon receipt and incorporation for comments from City, our team will produce drawings and technical specifications stamped and signed by a Professional Engineer licensed in the State of California. These documents shall be the basis of design by which construction commences.

The following is a list of anticipated Construction Drawings:

Civil/Mechanical/Structural

- 1) Cover
- 2) General notes and abbreviations
- 3) Structural notes
- 4) Demo Plan and Section
- 5) Structural/Mechanical Plan
- 6) Structural/Mechanical Sections/Details
- 7) Standard Details

Electrical

- 8) Electrical and instrumentation symbols and abbreviations.
- 9) Process and instrumentation diagrams (P&IDs)
- 10) Single line diagram of power distribution with load calculations.
- 11) Elevation layout drawing:
 - a. VFDs
 - b. Flygt interlock panel
- 12) Wiring diagrams.
 - a. PLC Control Panel revisions
 - b. VFD Motor Control Wiring Diagrams.
- 13) Plan drawings:
 - a. Building Power and Control Plan
 - b. Site Electrical Plans
- 14) Detail drawings:
 - a. Pad mounted electrical equipment.
 - b. Instrumentation (flowmeters, etc.)
 - c. Pump motor cabling connection.
- 15) Electrical schedules:
 - a. Conduit & wire
 - b. Instrumentation

The following is a list of anticipated Technical Specifications:

Civil/Mechanical/Structural

- 1) Stainless Steel Pipe
- 2) Cast-in-Place Concrete
- 3) Anchor Bolts

- 4) Pipe supports / Misc. Metals
- 5) Bypass plan for Sidestream Wet Well (if needed after discussion with City staff regarding by-pass alternatives and confirmed need based on mutually acceptable approach)

Electrical

- 6) General Electrical Materials
- 7) Conduit and Boxes
- 8) Low Voltage Wire
- 9) Grounding
- 10) Factory and Field testing.
- 11) Electrical System Analysis
- 12) Control Panel Components
- 13) Instrumentation (flowmeters, etc)

As the design progresses from Step 4 to Step 5, Syblon Reid's Team will continue to identify, obtain City approval and maintain a comprehensive list of long lead materials, develop necessary permit packages and update construction costs and schedules. Quality control will be completed throughout the project.

As material procurement, mobilization and then construction proceeds based on the City approved Construction Drawings and Technical Specifications, our team will document actual field conditions, identify and obtain City approval of changes necessary to accommodate these field conditions, and produce Record Drawings in CADD documenting the final installed conditions.

CONSTRUCTION PHASE ENGINEERING SERVICES

Syblon Reid's design team will provide engineering services during materials procurement and construction period to review, observe and confirm construction of the project improvements in accordance with the design intent and CONTRACTOR and City input. ENGINEER will review supplier submittals for conformance with design specifications and work interactively with and respond promptly to field requests from CONTRACTOR and City for additional information and clarifications. We will remotely attend weekly construction meetings and provide limited, periodic site inspections (qty 10) to review completed, current and upcoming work.

- 1) Engineering Services During Materials Procurement and Construction
 - a) Contractor / Supplier Submittal Reviews
 - i) General Equipment / Electrical Materials
 - ii) Concrete Mix Design, Grout, Joint Sealants
 - iii) Anchors, Inserts and Dowels
 - iv) Painting / Concrete Coatings
 - v) Pipe / Piping Specialties
 - vi) Pumps / Motors
 - vii) Motor Control VFDs
 - viii) Instrumentation
 - ix) Interconnection diagrams
 - x) Testing Submittals

SYBLON REID Proposal – Negotiated Resubmittal Per meeting on June 7, 2023

- xi) O&M Submittal Review
- b) RFI review, documentation and tracking
- c) Production Record Drawings based on site inspections and mark-ups provided by field staff

2) Construction Observation (Assumes 100-day Construction)

- a) Attend Pre-construction Conference
- b) Attend Weekly Construction Meeting
- c) Provide limited (10 days) periodic construction inspection to observe and document construction progress
- d) Provide structural inspection (anchors)
- e) Provide electrical inspection of underground conduit prior to backfill, wire installation and termination prior to start-up
- f) Final Inspection

Design Assumptions

- No survey is included.
- No geotechnical services are included.
- No environmental services are included.
- We have assumed one design bid package, one project for construction, and a design period not to exceed 6 months. If the project is broken up into additional bid packages or design duration is exceeded for any reason, additional charges may apply.
- Drawings and specifications can be completed by using our standards and templates created in PDF, AutoCAD and MS Word using CSI format.
- Water Works Engineers and Frisch Engineering has not included separate security systems (other than RTU intrusion monitoring) or video surveillance or automated access control systems.
- Drawings furnished to Water Works Engineers and Frisch Engineering from the existing plans, O&M manuals and designs are accurate. Inaccuracies may cause additional time and effort in sorting it out during design.
-
- This quotation does not include cost for construction changes differing from the improvements described herein, regardless of initiating source.
- Electronic files (ACAD) for the siteplan, mechanical and building plan will be based on existing City provided drawings and will be provided for our use as background files.

Electrical Design

Existing drawings can be modified for the new motor sizes and changes required for this project. Doing this will keep the drawings in good order and keep all information in one place. Therefore, the one lines and plans can be modified and reused for this purpose. The VFD drawings will be new and added as an update or replacement drawing to the existing drawings.

~~Modifications to the PLC control panel will be completed against the existing drawings for the PLC. Existing I/O for the VFDs will be re-used as needed with no additional I/O needed. Most existing I/O will be transferred to Ethernet communications so much of the I/O will be turned into spares.~~

System Integration

~~Selection of instrumentation, control panel components, and details of VFD procurement will be documented in submittals for review by the City. Drawings will be prepared for the VFD elevations and wiring diagrams. City standards will be incorporated into the submittals and manufacturing of the VFDs.~~

Electrical Testing and Start-up

~~We will generate a test booklet that will contain test forms for the circuit breakers, wire, VFDs, controls, flowmeters, and motors. Each system will be tested with forms completed and submitted to the City for review and record. System testing will be performed with the SCADA and PLC application programmer to confirm end-to-end testing and operation.~~

Civil, Mechanical, and Structural Inspection and Construction Management

~~Our team will provide engineering services during materials procurement and construction period to review, observe and confirm construction of the project improvements in accordance with the design intent and City input. We will review supplier submittals for conformance with design specifications and work interactively with and respond promptly to field requests from our team and City for additional information and clarifications. We will facilitate weekly construction meetings to review completed, current and upcoming work. Our team will proactively identify potential constraints to construction and develop mitigation to those constraints so as to maintain schedule and budget compliance.~~

Potential Operational Modifications

The following are potential operational enhancements that could be added to the project after discussion and refinement with WWTP operations staff. All of these potential enhancements would be vetted thoroughly with City process, operations, and maintenance staff in an interactive workshop and implemented based on their input and approval.

Pump Control Setpoints

Water Works identified a potential operational benefit of changing from wet well level setpoint operation only, to flow rate setpoint operation with trim based on level. We recommend at least 2 different flow setpoints (i.e., “low” and “high”) with different time-of-day application. For example, as discussed further below, to obtain an ADFW of 8.0 MGD, the IPS could be operated at 9.5 MGD for 12 hours and 6.5 MGD for 12 hours, with the goal of reducing the bar screen level by 9AM to 2.0-2.5 feet each day. If the level ever gets below 2.0 feet, then the “low” flow rate setpoint would automatically be trimmed down. If the level does not reach 2.5 feet or lower, then the “low” flow rate setpoint would automatically be trimmed up. If the level reaches above another “high” setpoint value, the “high” flow rate value would be automatically trimmed up. There are many finer points to this programming strategy that would be developed and could be adjusted, this is just a general description of

the concept. Relatively constant flows through the plant could help limit operational impacts to treatment processes and equipment and promote mobilization of solids in the trunk line into the plant and limit potential for blockages and odor associated with deposition of these solids.

As a backup, if the wet well level reaches a “high high” setpoint, flow control could be removed and level control implemented to maintain a wet weather high level setpoint in the wet well, until flow reduces back to typical levels at which time flow control could be re-established.

Pump Rotation and Wet Well Pump Down

With 4 identical pumps, automatic pump rotation is recommended so that pump operating hours remain relatively even and both wet wells are utilized to prevent FOG accumulation and solids deposition. Water Works would recommend the following operating strategy:

- ❖ Operate 1 wet well at a time, and switch operation every ~24 hours (adjustable setpoint)
- ❖ Normally keep the dividing wall between the wet wells closed, only open the dividing wall at higher flows or when both of the bar screens are required.
- ❖ Only keep the inlet gate to the wet well that is in operation open, leave other closed.
- ❖ After 24 hours, close the inlet gate to the operating wet well and switch operation to the other wet well, opening the gate to the other wet well.
- ❖ Continue operating the pump in the wet well that just went out of operation until the level in the wet well is dropped down to the minimum submergence of the pump, to remove and minimize the FOG layer and then shut off the pump.
- ❖ When a wet well goes back into operation, rotate the lead pump.

TAB E: Approach to the Project's Scope of Work/Special Project Considerations

Design alternatives

The procurement of the Variable Frequency Drives (VFD's) is the critical item of the schedule. In Tab D Project Understanding, we have outlined 3 options for VFD's and have provided value engineering alternatives in the cost proposal for evaluation by the City of Roseville. Our team upon selection would set up a meeting with the City as soon as possible to settle on a manufacturer of the VFD and begin the procurement process. The design of the project will then be based on the selected VFD. We believe this decision could be expedited and have included cut sheets from each manufacturer's VFD in appendix B or our response for the City of Roseville's consideration.

Our preliminary evaluation of the design leads us to believe the conductors, conduit, and terminal boxes can be reused and not need to be replaced. Our proposed strategy will re-use these conduits, conductors, and terminal boxes. No changes are required to these wires or conduits. The VFDs have been coordinated to cover the existing conduits and provide connection at the same elevation and location as the existing wiring. The wiring will be meggar tested (before and after) to show and confirm the conductor's health before and after construction. Our Team believes that this will provide a costs savings to the City of Roseville.

Safety Considerations

The design build team assembled by Syblon Reid has a focus on safety for every project and task. As the design process progresses, we will evaluate opportunities to address safety during construction and for future operations by the City of Roseville's staff. We have highlighted some key safety concerns that we identified that may add additional costs but are warranted to provide a safe working environment for our team.

Permit Required Confined Space

While working in spaces classified as permit required confined spaces SRC will utilize our in-house personal trained for confined space rescue. We will have a **three-man rescue crew** and enclosed trailer loaded with rescue gear onsite supporting the work inside the permit required confined space. The rescue crew will monitor the crew actively working in the wet wells and control access to the wet well. Ventilation systems will be set up to provide positive air flow and the levels of O₂, CO, LEL and H₂S will be monitored continuously.

Working at Heights

The wet wells are over 40 feet deep and have limited access so much of our work in removing and installing the pipe will be done utilizing fall protection equipment. Our crews have **competent person fall protection training** as well as **competent person training for scaffolding erection**. Localized scaffold systems will be installed to access the pipe and support for removal and installation. Due to the limited space and configuration of the wet wells the scaffold will need to be reconfigured though out the project to allow for removal and installation of the pipe. Having trained personnel in house capable of scaffold erection and inspection eliminates our reliance on a subcontractor to modify staging of the scaffold and provides a more flexibility to our schedule.

Lockout/Tagout

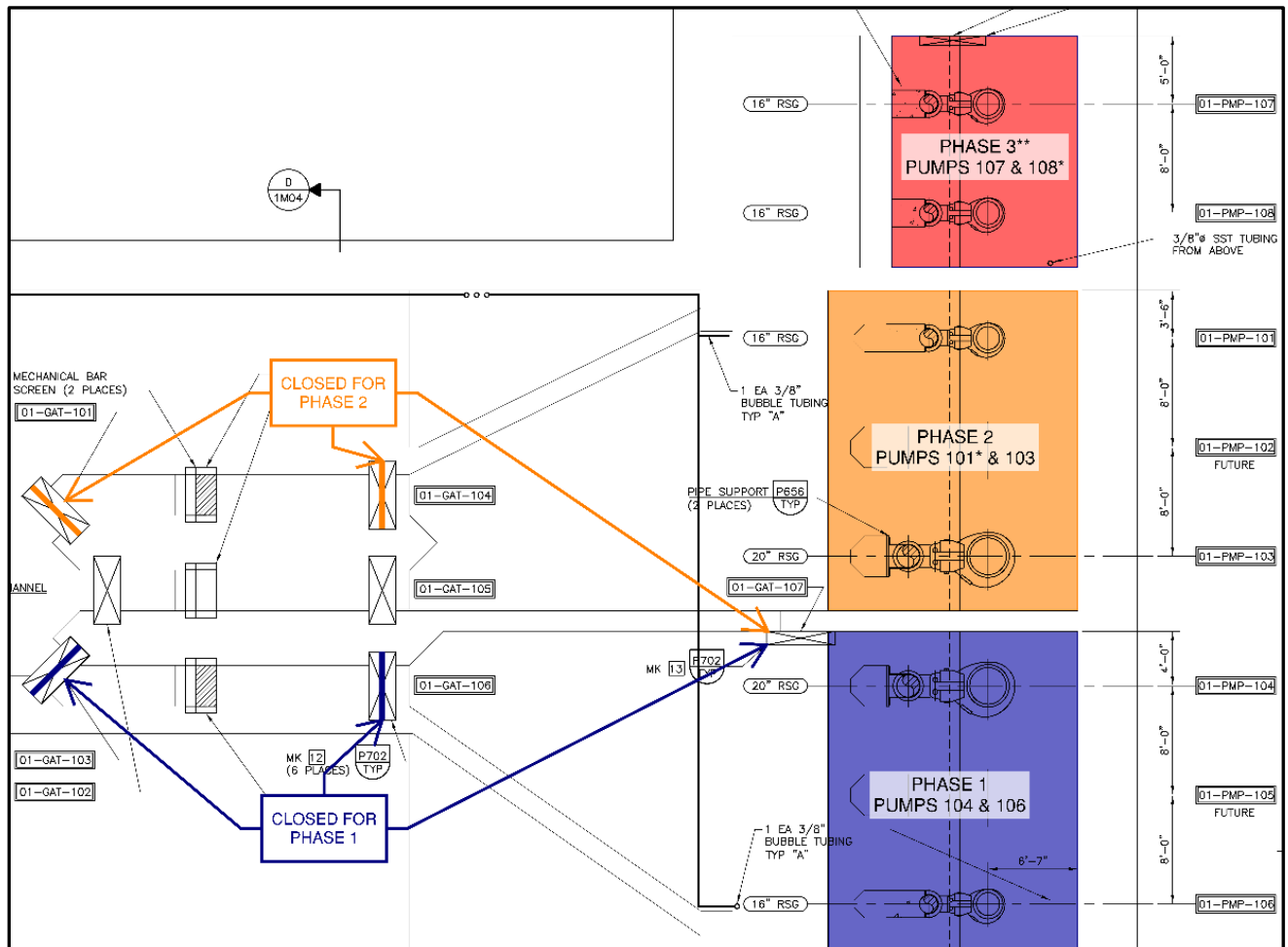
At the start of each phase of construction Syblon Reid along with San Joaquin Electric will lock out the breakers of the equipment to be replaced and safe off and disconnect the pumps and existing VFD's along with any potential valves and other identified sources of energy. The replacement of the VFD's and electrical equipment will happen in parallel with the phased mechanical work related to each wet well.

Schedule Considerations

Please see our CPM schedule included in this section. The critical path is running through the VFD approval and procurement activities. Lead times for electrical equipment have been extremely volatile and are subject to change due to supply chain impacts. Our current schedule is based on the conservative lead times provided to us by Eaton and has us completing the Phase 3 work in mid-October of 2024, before the start of the historical rainy season and higher operational flows. If our schedule is impacted by any issues, we may need to push one of the phases into the spring of 2025. There will be no cost impact due to the delay as long as we can complete this work prior to the scheduled labor rate increase on June 30th, 2025.

Construction Sequence

The Influent Pump Station is the gateway to the Pleasant Grove wastewater treatment plant. The plant cannot function without the IPS operating and the rehabilitation of the wet wells must be phased in a manner that does not affect plant operations and must be performed during the dry season months.



Phase 1 & 2 – Wet Well 1 & 2

Phase 1 & 2 – Wet Wells 1 & 2

The scope of work in Phases 1 and 2 will be identical for each wet well. Each phase will include replacing the existing pumps with new Flygt NP3356 150 HP pumps and installation of a new discharge elbow for a future pump not included in the scope of this project. New runs of 16" 316 SS discharge pipe will be installed from each pump base up to the effluent process channel. In conjunction with the mechanical rehabilitation of the wet well's electrical upgrades will be performed that will include new Variable Frequency Drives, Mini CAS modules and flow meters.

With the assistance of the plant staff, we will install the channel one stop logs and close and lock the slide gate between the wet wells. We then install a submersible pump to transfer the remaining effluent into the adjacent well. We will access the wet well from the access hatches located in the deck at elevation 79, from here we will wash down the work area.

After the wet well has been cleaned and disinfected and the pumps removed, scaffolding will be installed to provide access to remove the existing pipe and brackets. Once the existing pump bases have been removed the concrete at the bottom of the wet well will be modified to accommodate the 3 new Flygt submersible pumps bases. The new pump bases, reducers, 16" Schedule 10 316 SS pipe with flanged connections, and new stainless steel vertical pipe supports can be installed in the wet well. Just above the outside the wet well, new 16" mag flow meters will be installed on the pipe for the two new pumps, the third future pipe run will have a spool the same length as the mag flow meter installed for the future installation of that pump and meter. Our fabrication will include an RFCA on one side of the pipe at each mag meter location to allow for future replacement or maintenance. Once all new installation has been completed inside the wet well the existing T-Lok liner will be repaired and tested.

Additional work at the effluent channel will need to be performed. The effluent channel aluminum cover plates on DWG. 2Mo1 will need to be replaced where the existing 20" discharge pipe penetration is located to accommodate the new 16" pipe. The handrail at the two new future pipe locations will also need to be modified and new concrete supports identical to the existing ones installed at the effluent channel.

After the installation of the mechanical and electrical work has been completed, we will then perform our quality control and commissioning phase. Each phase will have its own testing plan and start up procedure to confirm operation of the VFD's and pumps at various set points to confirm compliance with design parameters.

Phase 3 - Side Stream Bypass

We will be providing two new bases, piping and flow meters for the side stream bypass. We will be supplying one new 85 HP Flygt Submersible pump and reinstalling the current Flygt side stream pump onto the newly installed base. The Elbow for this pump has a 10" discharge, we will be installing a 10"x16" eccentric reducer and running 16" discharge pipe up the wet well to the effluent channel.

As discussed in the project understanding, diverting the flows of the 6 incoming lines to the side stream wet well may present a challenge. If some of the solutions presented in section D that would allow bypassing of the side stream wet well are not viable due to operations requirements, we propose tying into the inlet pipes and rerouting the flows into the main wet wells by coring through the wall between the side stream and main wet well. To limit damage to rebar we will select the smallest viable holes size and scan the wall for reinforcing. After installation of the new side stream pumps is complete this cored hole could be filled with a mechanical plug to allow for future use or grouted back.

Once the incoming flows have been mitigated the replacement of the pumps and piping will be similar to the work completed in phase 1 and 2. Access into the side stream wet well is more difficult as there is no access hatch at elevation 79 as with wet wells 1 & 2 to enter the wet well and we will utilize rope certified personnel to access the wet well and install access scaffold to clean disinfect and install the structural and mechanical improvements.

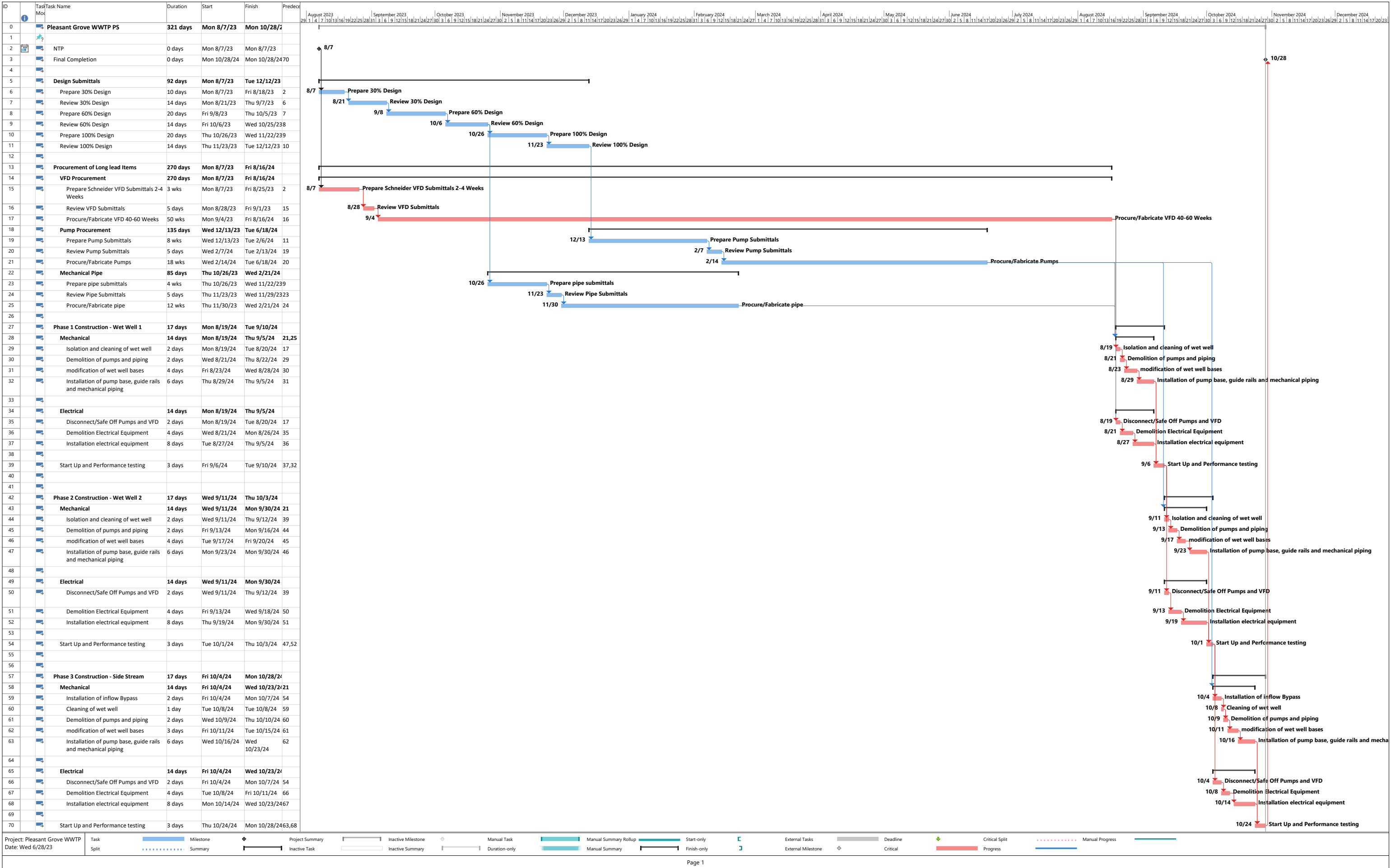
Since we are not changing the pipe size, we will not need to modify the aluminum cover plates on the effluent channel or handrail.

SYBLON REID Proposal – Negotiated Resubmittal Per meeting on June 7, 2023

After the installation of the mechanical and electrical work has been completed, we will then perform our quality control and commissioning phase. Each phase will have its own testing plan and start up procedure to confirm operation of the VFD's and pumps at various set points to confirm compliance with design parameters.

Preliminary Project Schedule

Please refer to our critical path schedule on the next page, revised with anticipated NPT of August 7th per the June 7th meeting and updated VFD lead times from Schneider.



SYBLON REID Proposal – Negotiated Resubmittal Per meeting on June 7, 2023

TAB F: Cost Proposal

Mechanical and Electrical Design	\$550,000
Procurement of Pumps, Pipe, VFD & Flow Meter	\$2,140,000
Phase 1 – Wet well 1	\$177,000
Phase 2 – Wet Well 2	\$177,000
Phase 3	\$142,000
Electrical Demo and Installation	\$770,000
Start up and Commissioning.....	\$59,000
Total base bid	\$4,015,000

Cost Adjustments Per Meeting on June 6th 2023

Schneider VFD	-\$ (22,000)
Remove 1 Flygt NP3356 and 1 NP3301 pump	-\$ (237,000)
Replace Conductors for pumps 103 and 104	\$87,600
Replace Terminal blocks for pumps 101, 106, 107 & 108. Replace SS Terminal boxes, grounding lugs and terminal blocks for pumps 103 & 104.....	\$29,600
Engineering Efficiencies	-\$ (61,000)
Total of Adjustments per June 6th meeting	-\$ (202,800)
Total Revised base bid	\$3,812,200

**City of Roseville
Pleasant Grove Wastewater Treatment Plant
Influent Pump Station Rehabilitation**

SYBLON REID
General Engineering Contractors

Providing Solutions to Difficult Projects

SYBLON REID Proposal – Negotiated Resubmittal Per meeting on June 7, 2023

Scope of Engineering Design and Construction Phase Services for the
City of Roseville Pleasant Grove Wastewater Treatment Plant
Influent Pump Station (IPS) Rehabilitation



DETAILED HOUR ESTIMATE

PROJECT TASKS		Labor				
City of Roseville PGWWTP IPS Improvements 		Project Manager	Senior Project Engineer	Project Engineer	Staff Engineer	CADD Tech 2
	Classification	E5	E4	E3	E1	T2
1.0	Step 1 – Site Visit/Initial Kickoff, PM, Team Coord & Mtgs					
1.1	Project Management	40				
1.2	QA/QC		40			
2.0	Step 2 – Detailed Planning Workshop (10% Design)					
2.1	Workshop Preparation & Attendance	8	8	16	8	
3.0	Step 3 – Facility Planning and Alternatives Development (30% Design)					
3.1	Civil/Mechanical/Structural	2	6	16	40	40
3.2	Electrical		4			
4.0	Step 4 – Conceptual Design Technical Memorandum (50% Design)					
4.1	Civil/Mechanical/Structural	7	11	24	56	52
4.2	Electrical		12			
5.1	Step 5 – Final Engineering Design (100% Design)					
5.1.1	Mechanical Drawings	7	7	48	100	100
5.1.2	Structural Drawings				4	4
5.1.3	Electrical Drawings		4			
5.1.4	Maintenance of Plant Ops		28	28		
5.1.5	Technical Specs / Equipment	4	32	40		
5.2	Step 5 - Construction Phase / Record Drawings					
5.2.1	Submittal Reviews	2	4	20	20	
5.2.2	RFIs	4	8	24	24	
5.2.3	Meetings, Startup, Closeout	8	16	40	32	
5.2.4	On-Site Inspection (qty 10)			40	40	
5.2.5	Record Drawings / As Built	4	8	40	40	24
PROJECT TOTAL		86	188	336	364	220

**City of Roseville
Pleasant Grove Wastewater Treatment Plant
Influent Pump Station Rehabilitation**

SYBLON REID
General Engineering Contractors

Providing Solutions to Difficult Projects

SYBLON REID Proposal – Negotiated Resubmittal Per meeting on June 7, 2023

Scope of Engineering Design and Construction Phase Services for the
City of Roseville Pleasant Grove Wastewater Treatment Plant
Influent Pump Station (IPS) Rehabilitation



FRISCH ENGINEERING, INC.

Consulting Electrical Engineers and Programmers
13405 Folsom Blvd., Unit 600
Folsom, CA 95630

dba Frisch Electric

Electrical Contractor
C-10 Lic #1025671
Phone:

(916) 353-1025

PROFESSIONAL ENGINEERING SERVICES COST ESTIMATE

JOB TITLE: Roseville Pleasant Grove WWTP Influent Pump Station
CLIENT: Mike Fisher <mikef@wwengineers.com>
DATE: 5/3/2023

Design Services		Electrical Engineering Discipline				
Task	Description	Principal Engineer	Senior Engineer	Senior Designer	Junior Designer	Associate Designer
1	Meetings and conferences	8	12	8	0	0
	Travel Expense and Per Diem					
1	60% Design PS&E	28	28	50	89	23
1	90% Design PS&E	12	23	25	45	12
1	100% Design PS&E	5	6	9	15	4
Subtotal Hours		53	69	92	149	39
						402

Construction Services		Electrical Engineering Discipline				
Task	Description	Principal Engineer	Senior Engineer	Senior Designer	Junior Designer	Associate Designer
2A	Meetings and PM	3 each	12	3	12	0
2B	Respond to RFIs	8 each	4	8	32	8
2C	Change Order Documents	0 each	0	0	0	0
2D	Submittal Reviews	10 each	5	13	50	0
2E	Factory Testing	0 days	0	0	0	0
2F	Site Visit	0 visits	0	0	0	0
2G	Witness Testing	12 days	10	24	96	0
2H	Inspection and Punchlist	0 revs	0	0	0	0
2I	As Built Drawings	1	0	4	6	0
2J	Coordination study	0	0	0	0	0
	Travel Expense and Per Diem					
Subtotal Hours		32	48	194	14	0
						288

Individual tasks cost are approximate and some cost shifting between tasks or disciplines may be necessary



TAB G: Required Statements/Documents

Required Statements

Syblon Reid as the Contractor shall comply with the following requirements of the contract and specifically acknowledge the required statements below:

5.0 The Contractor shall assure that the designated project team, including sub-consultants or sub-contractors (if any), is used for this project. Departure or reassignment of, or substitution for, any member of the designated project team, sub-consultant(s) or sub-contractor(s) shall not be made without the prior written approval of the City.

10.4 Conflict of Interest. The Contractor shall warrant that no official or employee of the City has an interest, has been employed or retained to solicit or aid in the procuring of the resulting contract, nor that any such person will be employed in the performance of such contract without immediate divulgence of such fact to the City. Contractors submitting a proposal in response to this RFP must disclose any actual, apparent, direct, indirect, or potential conflicts of interest that may exist with respect to the Contractor or the Contractor's management or employees relative to the services to be provided to the City. Conflict of interest issues may require consultation with legal counsel. If a Contractor has no conflicts of interest, a statement to that effect must be included in the proposal. Violation of this section shall be a material breach of the contract entitling the City to any and all remedies by law or in equity.

10.7 Indemnification & Insurance Requirements. The City's standard indemnification and insurance requirements are provided in the sample contract, included in **Attachment D**. All costs of complying with the insurance requirements shall be as included in your pricing. The selected Contractor shall provide complete and valid insurance certificates within ten (10) days of the City's written request. Failure to provide the documents within the time stated may result in rejection of the Contractor's proposal. If a proposer takes exception to the indemnification and insurance requirements, then the nature and scope of the proposed exceptions may negatively affect the evaluation of that proposer's submittal and the City's determination of whether it is possible to successfully negotiate a contract with that firm. Submitting exceptions are at the proposer's own risk.

10.23 Proprietary Information. Proposers submitting a proposal in response to this RFP must provide a statement that nothing contained in the submitted proposal will be proprietary. However, if a proposer desires to claim a privilege against public disclosure for a trade secret or other proprietary information, such information must be submitted with the proposal in a separate envelope marked "confidential." The City Attorney's Office will determine if the information is in fact proprietary, based on state and federal law. Note that under California law, a price proposal to a public agency is not a trade secret. The Contractor shall defend, indemnify and hold harmless the City regarding any claim by any third party for the public disclosure of the "confidential" portion of the proposal.

Required attachments A-E are included at the end of this document.

TAB H: Exceptions

Syblon Reid has reviewed the proposed Design Build Construction agreement (Attachment D) attached. We would like to discuss the following sections to clarify the contract:

Section 4.2.2 – Revise this section to provide that float is owned jointly by the Contractor and City and will be allocated to whomever uses it first.

Section 6.5.1.1 – The mark-ups seem low. Would the City of Roseville allow providing a graduated markup structure depending on magnitude of the change? In addition, the phrase “subject to the discretion of the Project Manager” should be deleted from this section.

TAB I: Competency of Proposers

Syblon Reid has the necessary facilities, ability, experience, and financial resources to provide the services specified herein in a satisfactory and timely manner. Please find our banking and credit references

We have no pending bankruptcies, liens, stop payment notices, judgements, lawsuits, arbitration, mediations, foreclosures, and any similar actions filed or resolved in the past seven (7) years except for the following:

Attachments

Attachment A – Proof of Registration with California Secretary of State





Secretary of State

Certificate of Status

I, SHIRLEY N. WEBER, PH.D., California Secretary of State, hereby certify:

Entity Name:	SYBLON-REID CO.
Entity No.:	1250449
Registration Date:	06/29/1984
Entity Type:	Stock Corporation - CA - General
Formed In:	CALIFORNIA
Status:	Active

The above referenced entity is active on the Secretary of State's records and is authorized to exercise all its powers, rights and privileges in California.

This certificate relates to the status of the entity on the Secretary of State's records as of the date of this certificate and does not reflect documents that are pending review or other events that may impact status.

No information is available from this office regarding the financial condition, status of licenses, if any, business activities or practices of the entity.



IN WITNESS WHEREOF, I execute this certificate and affix the Great Seal of the State of California this day of May 03, 2023.

SHIRLEY N. WEBER, PH.D.
Secretary of State

Certificate No.: 105414730

To verify the issuance of this Certificate, use the Certificate No. above with the Secretary of State Certification Verification Search available at bizfileOnline.sos.ca.gov.



Secretary of State Certificate of Status

I, SHIRLEY N. WEBER, PH.D., California Secretary of State, hereby certify:

Entity Name:	SYBLON REID CONSTRUCTION, INC.
Entity No.:	2083208
Registration Date:	03/23/1998
Entity Type:	Stock Corporation - CA - General
Formed In:	CALIFORNIA
Status:	Active

The above referenced entity is active on the Secretary of State's records and is authorized to exercise all its powers, rights and privileges in California.

This certificate relates to the status of the entity on the Secretary of State's records as of the date of this certificate and does not reflect documents that are pending review or other events that may impact status.

No information is available from this office regarding the financial condition, status of licenses, if any, business activities or practices of the entity.



IN WITNESS WHEREOF, I execute this certificate and affix the Great Seal of the State of California this day of May 03, 2023.

SHIRLEY N. WEBER, PH.D.
Secretary of State

Certificate No.: 105413526

To verify the issuance of this Certificate, use the Certificate No. above with the Secretary of State Certification Verification Search available at bizfileOnline.sos.ca.gov.

Attachment B – Proposer’s Certification



ATTACHMENT B

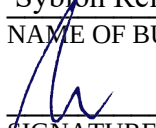
PROPOSER'S CERTIFICATION

I hereby propose to furnish the goods or services specified in the Request for Proposals ("RFP"). I agree that my proposal will remain firm for a period of up to ninety (90) days in order to allow the City of Roseville ("City") adequate time to evaluate the qualifications submitted.

I have carefully examined the Request for Proposals and any other documents accompanying or made a part of this RFP. The information contained in this proposal is true and correct to the best of my knowledge and is signed under penalty of perjury under the laws of the State of California. I further certify that I am duly authorized to submit this proposal on behalf of the firm as its authorized agent and that the firm is ready, willing and able to perform if awarded the contract.

I further certify that this proposal is made without prior understanding, agreement, connection, discussion, or conspiracy with any other person, firm or corporation submitting a proposal for the same product or service; that this proposal is fair and made without outside control, collusion, fraud or illegal action; that no officer, employee or agent of the City or any other proposer is financially interested in said proposal; that no undue influence or pressure was used against or in concert with any officer, employee or agent of the City in connection with the award or terms of the contract that will be executed as a result of this RFP; and that the undersigned executed this Proposer's Certification with full knowledge and understanding of the matters therein contained and was duly authorized to do so.

Syblon Reid
NAME OF BUSINESS


SIGNATURE

Gregory B. Cederstrom President, Syblon Reid Construction Inc., Partner
NAME & TITLE, TYPED OR PRINTED

P.O. Box 100, Folsom, CA 95763
MAILING ADDRESS

916.351.0457
TELEPHONE NUMBER

gregc@srco.com
EMAIL

Type of Organization:

☐ Sole Proprietorship ☐ Corporation ☐ State of Incorporation

☒ Partnership ☐ Limited Liability Company

CERTIFICATE OF AUTHORIZATION

(If Bidder is a Partnership)

STATE OF CALIFORNIA

COUNTY OF SACRAMENTO

I HEREBY CERTIFY that at a meeting of the Partners of the Entity named SYBLON REID, a California General Partnership existing under the laws of the State of California, held on January 1, 2004, the following resolution was duly passed and adopted:

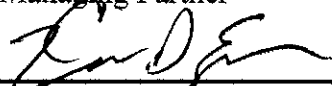
“RESOLVED, that Gregory B. Cederstrom, President of Syblon Reid Construction, Inc., Partner in the CA General Partnership of Syblon Reid be and is hereby authorized to execute the bid dated May 4, 2023 , to the City of Roseville for the “Pleasant Grove Wastewater Treatment Plant Influent Pump Station Rehabilitation “ project, RFP# 08-114 and this partnership and his execution thereof, attested by the C.F.O. of said Corporation shall be the official act and deed of this Partnership.”

I further Certify that said resolution is now in full force and effect.

IN WITNESS WHEREOF, I have hereunto set my hand this 4th day of May, 2023.

SYBLON REID CONSTRUCTION, INC.

Managing Partner



Herschell D. Epperson, C.F.O.

P.O. Box 100

Folsom, CA 95763

Partnership Address

Attachment C – Non-Collusion Declaration



ATTACHMENT C

NONCOLLUSION DECLARATION TO BE EXECUTED BY BIDDER AND SUBMITTED WITH BID

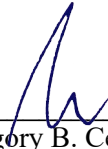
The undersigned declares:

I am the ^{President, Syblon Reid}
Construction Inc., Partner of Syblon Reid, the party making the foregoing bid.

The bid is not made in the interest of, or on behalf of, any undisclosed person, partnership, company, association, organization, or corporation. The bid is genuine and not collusive or sham. The bidder has not directly or indirectly induced or solicited any other bidder to put in a false or sham bid. The bidder has not directly or indirectly colluded, conspired, connived, or agreed with any bidder or anyone else to put in a sham bid, or to refrain from bidding. The bidder has not in any manner, directly or indirectly, sought by agreement, communication, or conference with anyone to fix the bid price of the bidder or any other bidder, or to fix any overhead, profit, or cost element of the bid price, or of that of any other bidder. All statements contained in the bid are true. The bidder has not, directly or indirectly, submitted his or her bid price or any breakdown thereof, or the contents thereof, or divulged information or data relative thereto, to any corporation, partnership, company, association, organization, bid depository, or to any member or agent thereof, to effectuate a collusive or sham bid, and has not paid, and will not pay, any person or entity for such purpose.

Any person executing this declaration on behalf of a bidder that is a corporation, partnership, joint venture, limited liability company, limited liability partnership, or any other entity, hereby represents that he or she has full power to execute, and does execute, this declaration on behalf of the bidder.

I declare under penalty of perjury under the laws of the State of California that the foregoing is true and correct and that this declaration is executed on May 4, 2023 [date], at Folsom [city],
California [state].



Gregory B. Cederstrom
(Signature of Declarant)
President, Syblon Reid Construction Inc., Partner

ATTACHMENT D

Attachment D – Design-Build Construction Sample Contract

DESIGN-BUILD CONSTRUCTION AGREEMENT
(PROJECT: _____)

This Design-Build Construction Agreement ("Agreement") is made and entered into this ____ day of _____, 20____, by and between the City of Roseville, a municipal corporation ("CITY") and _____, _____ ("CONTRACTOR").

RECITALS

WHEREAS, CITY has issued a Request for Proposals pursuant to which CITY solicited proposals from design-build contractors to construct the _____ project ("Project"); and

WHEREAS, CONTRACTOR has submitted a Proposal, dated _____ attached hereto and made a part hereof as Exhibit F, and CITY has selected CONTRACTOR to provide design and construction services as set forth in this Agreement; and

WHEREAS, CONTRACTOR is ready, willing and able to perform the aforementioned services required in accordance with the terms and conditions of this Agreement; and

NOW, THEREFORE, CITY and CONTRACTOR agree as follows:

ARTICLE 1

DEFINITIONS

1.1 "Applicable Laws" means all laws, codes, ordinances, rules and regulations of governmental authorities having jurisdiction over the Site and/or the Work.

1.2 "Application for Payment" means the document prepared by CONTRACTOR and submitted to CITY showing CONTRACTOR's entitlement to progress payments, the requirements of which are more fully described in Section 5.3 hereof.

1.3 "Architect/Engineer" means a licensed professional(s) (and/or entity(ies)) retained by CONTRACTOR, with the approval of CITY, who provides architectural, design and/or engineering services as may be required by the Work. The Architect/Engineer shall be registered in the State of California and the architect and/or engineer of record for the Work pursuant to their design responsibilities. The Architect/Engineer shall be the Architect/Engineer(s) stated in the Proposal, unless substituted by CONTRACTOR based upon CITY's written pre-approval.

1.4 "Authorized Representatives" means the Design-Build Team and those individuals appointed by CITY and CONTRACTOR from time to time in accordance with the provisions of Section 3.1.1.

1.5 "Business Day" means any day when the office of the City Clerk of the City of Roseville is open for business.

1.6 "Certificate of Substantial Completion" means a certificate prepared by CONTRACTOR in accordance with Section 5.12 and forwarded to CITY.

1.7 "Certificate of Final Completion" means a certificate prepared by CONTRACTOR and forwarded to CITY stating that the Project is finally complete and that CONTRACTOR is entitled to Final Payment in accordance with Article 5 hereof.

1.8 "Change Directive" means a written order signed by CITY directing a change in the Work. A Change Directive shall state a proposed basis for adjustment, if any, in the GMP or Schedule. CITY may order changes in the Work within the general scope of the Contract, and a Change Directive shall be used in the absence of total agreement on the terms of a Change Order.

1.9 "Change Order" means a written order signed by CONTRACTOR and CITY authorizing a change in the Work, which also may adjust the GMP and/or the Schedule, and which shall constitute a Modification. The GMP and/or Schedule may be changed only by Change Order.

1.10 "Change Proposal" means a proposal for a Change Order submitted by CONTRACTOR to CITY, either at the request of CITY, or at CONTRACTOR's own initiative.

1.11 "Construction Allowance Items" [reserved]

1.12 "Construction Documents" means the plans and specifications prepared by the Design-Build Team for the Project, approved by CITY, and incorporated into this Agreement by reference after such approval, to be used to construct the Project. The Construction Documents shall set forth in detail all items necessary to complete the construction of the Project in accordance with the Contract Documents (subject to their completion following commencement of the Construction Phase). All amendments and modifications to the Plans and Specifications must be approved by CITY prior to incorporation into this Agreement. CONTRACTOR's attention is hereby directed to the confidentiality requirements of Section 2.2.

1.13 "Construction Notice to Proceed" means the notice given by CITY to CONTRACTOR stating that the Site is available to CONTRACTOR and directing CONTRACTOR to commence construction of the Project in accordance with Section 4.2.1.

1.14 "Construction Phase" means the period beginning with the issuance of the Construction Notice to Proceed and ending on the date of Final Completion of the Project.

1.15 "Construction Work" means that portion of the Work consisting of the provision of labor, materials, equipment and services in connection with the construction of the Project as set forth in the Contract Documents.

1.16 "Contingency Costs" means those items of Cost of the Work attributable to a contingency for which CITY is responsible and which are payable by CITY to CONTRACTOR pursuant to a Change Order as provided in Article 6.

1.17 "Contract Documents" means this 1) Agreement, 2) its Exhibits, and 3) the Construction Documents, all of which, together with this Agreement, form the entire integrated agreement between CITY and CONTRACTOR. In the event of a conflict between any of these documents, this Agreement controls, followed by its Exhibits.

1.18 "Contract" or "Agreement" means this Design-Build Construction Agreement, its exhibits, and all amendments and/or modifications hereto executed by the parties.

1.19 "Contract Time" means the period of time, including authorized adjustments, allotted in the Schedule for the Final Completion of the Work.

1.20 "CONTRACTOR" means the individual or entity identified in the preamble to this Agreement.

1.21 "CONTRACTOR Event of Default" shall have the meaning set forth in Section 12.1 hereof.

1.22 "Cost of the Work" consists of those items of Work, which are paid for by CITY to CONTRACTOR, and consist of those categories of costs set forth as allowable on Exhibit A.

1.23 "CPM" means a critical path method schedule in the form of precedents, networks and time sequences.

1.24 "Day" or "Days" means calendar days.

1.25 "Delay Costs" means those items of Cost of the Work attributable to an Excusable Delay for which CITY is responsible and which are payable by CITY to CONTRACTOR pursuant to a Change Order as provided in Article 6.

1.26 "Design-Build Team" includes the following: Architect/Engineer; CONTRACTOR; and/or others as coordinated by CONTRACTOR and CITY.

1.27 "Design Development Documents" means the drawings, specifications and other documents prepared by the Design-Build Team for CITY's review and approval prior to the preparation of the Construction Documents. The Design Development Documents shall illustrate the scale and relationship of Project components, outline the nature and structural exterior and three dimensional scale of the Project and shall fix and describe in detail the configuration and character of the Project concerning all items of the Project necessary for the complete and final preparation of the Construction Documents in accordance with the requirements of the Contract Documents, including architectural and electrical systems, materials and such other elements as may be appropriate. CONTRACTOR's attention is hereby directed to the confidentiality requirements of Section 2.2.

1.28 "Design Materials" means any and all documents, shop drawings, electronic information, data, plans, drawings, sketches, illustrations, specifications, descriptions, models and other information developed, prepared, furnished, delivered or required to be delivered by CONTRACTOR to CITY under the Contract Documents or developed or prepared by CONTRACTOR specifically to discharge its duties under the Contract Documents. CONTRACTOR's attention is hereby directed to the confidentiality requirements of Section 2.2.

1.29 "Design Work" means that portion of the Work consisting of the design services required to be provided in connection with the design of the Project as set forth in the Contract Documents, which shall be performed consistent with the standards of professional care set forth herein.

1.30 "Excusable Delay" shall have the meaning set forth in Section 4.4.2 hereof.

1.31 "Fee", if applicable, means the fee payable to CONTRACTOR pursuant to this Contract and as part of the GMP, if shown on Exhibit A attached hereto.

1.32 "Final Completion" means the point at which the Work has been completed in accordance with the terms and conditions of the Contract Documents, including completion of all Punch list items.

1.33 "Force Majeure" means labor dispute (excluding labor shortage), fire, unusual delay in transportation or delivery, unavoidable casualty, flood (assuming CONTRACTOR has taken reasonable precautions), earthquake, epidemic, civil disturbance, war, freight embargo, riot, sabotage (by persons other than CONTRACTOR or Subcontractors), material shortage or any other similar act or condition, in each case only to the extent the event in question is beyond the reasonable control of and without the fault or negligence of CONTRACTOR.

1.34 "Governmental Approvals" means those CITY approvals necessary for the completion of the Project, including, but not limited to, modification of existing zoning, vacation of certain streets and/or alleys, and modifications to or variances from applicable building or zoning regulations.

1.35 "Guaranteed Maximum Price" or "GMP" means the amount set forth on Exhibit A hereto, which may be increased or decreased in accordance with the provisions of the Contract Documents.

1.36 "Hazardous Materials" means those items identified on Exhibit C hereto.

1.37 "Indemnified Parties" includes, but is not limited to, CITY, its agents, officers, employees, and volunteers.

1.38 "Liquidated Damages" means the damages payable by CONTRACTOR to CITY in the event CONTRACTOR does not achieve Final Completion of the Project by the date required on the Schedule, as adjusted, as more fully described in Section 4.6 hereof.

1.39 "Modification" means an amendment to this Agreement executed by the parties after the date hereof.

1.40 "Party" shall mean CITY or CONTRACTOR individually, and **"Parties"** shall mean CITY and CONTRACTOR collectively.

1.41 "Payment and Performance Bonds" means the payment bond and performance bond issued by an admitted Surety covering the faithful performance and completion of the Construction Work, including payment for all materials and labor furnished or supplied in connection with the Construction Work, by CONTRACTOR. Such bonds shall be in the form described in Exhibit E.

1.42 "Project" means the design and construction of the project described in the Recitals, together with all on-site infrastructure, site improvements and appurtenances to be designed, if any, constructed and installed in connection therewith, as more fully set forth and described in the Contract Documents and as required thereby or reasonably inferred therefrom.

1.43 "Project Manager" means the person assigned by the director of the CITY administering department to monitor the Project and Work.

1.44 "Punch List" means those minor items of Work to be completed after Substantial Completion and prior to Final Completion, which do not prevent the Project from being used for the purpose for which it is intended and which will not prevent beneficial occupancy or use.

1.45 "Retention" means the amount withheld from progress payments from CITY to CONTRACTOR from time to time, as more fully described in Article 5 hereof.

1.46 "Schedule" means the schedule pursuant to the Proposal and/or other Contract Documents to which CONTRACTOR has agreed to complete the Work. The Schedule shall be adjusted pursuant to the provisions of the Contract Documents. In the event the Schedule is not contained within the Proposal, then CONTRACTOR shall provide to CITY, within fifteen (15) days of issuance of a notice to proceed by CITY, with a complete milestone schedule identifying, among other things, critical paths (if any) and total calendar days until Substantial and Final Completion. In the event the Schedule is contained in the Proposal, the start of the Schedule shall be adjusted by the CONTRACTOR to reflect the date of the Notice To Proceed.

1.47 "Scheduled Date of Substantial Completion" means the date CONTRACTOR has agreed to achieve Substantial Completion of the Project in accordance with the Schedule, as adjusted.

1.48 "Scope Change Costs" means those items of Cost of the Work attributable to changes in scope of the Work and payable by CITY to CONTRACTOR pursuant to a Change Order, as provided in Article 6.

1.49 "Separate Contractors" means those individuals or entities (including, but not limited to, concessionaires) who have entered into arrangements with CITY for the provision of labor, materials or other services in connection with the Project.

1.50 "Site" is the real property on which the Project will be located.

1.51 "Subcontract" means an agreement between CONTRACTOR and another person or entity engaged to perform a portion of the Work.

1.52 "Subcontractor" means an individual or entity who has entered into an agreement with CONTRACTOR or another Subcontractor for the provision of labor, materials or other services required to be performed by CONTRACTOR under the Contract Documents.

1.53 "Substantial Completion" means the stage in the progress of the Work when the Work or a designated portion thereof is sufficiently complete in accordance with the Contract Documents so that CITY may use the Project for its intended purpose.

1.54 "Surety" means one or more issuers of the Payment and Performance Bonds, each of which shall be admitted and licensed to do business in the State of California.

1.55 "Unexcusable Delay" shall have the meaning set forth in Section 4.4.

1.56 "Work" or "Scope of Work" means the Project, inclusive of all labor, materials and services required to be performed or provided by CONTRACTOR officers, employees, agents, Subcontractors or Suppliers pursuant to the provisions of this Agreement and its Exhibits (including, the entirety of Exhibit F).

ARTICLE 2 SCOPE OF WORK / PROJECT REQUIREMENTS

2.1 Performance of Work. CONTRACTOR shall perform the Work in accordance with this Agreement. CONTRACTOR covenants and agrees that it shall be responsible for performing and completing, and for causing all Subcontractors (including Architect/Engineer) to perform and complete, the Work in accordance with the Contract Documents, standard professional and trade practices, and Applicable Laws. CONTRACTOR will retain an Architect/Engineer for design services required by the Work and the Architect/Engineer shall be the engineer of record. CONTRACTOR covenants that the Work and the materials provided thereunder shall be appropriate for the purposes stated in the Request for Proposal and Proposal. Although it is the responsibility of CONTRACTOR to conform the Work to Applicable Laws at all times, to the extent there is a change in one or more Applicable Laws after the date of execution of this Contract, and such change has the effect of increasing the cost or time of performance of the Work, such change may be the subject of a Change Order under the provisions of Article 6 hereof.

2.1.1. Noise and Night Work. CONTRACTOR shall comply with CITY's noise ordinance.

2.2 Professional Standard; Ownership of Documents.

2.2.1 Standards of Performance. The Work shall be performed by CONTRACTOR in accordance with the professional standards applicable to projects, buildings or work of complexity, quality and scope comparable to the Work and the Project. CONTRACTOR may make such additions or substitutions to personnel and responsibilities as it deems necessary or appropriate in order to carry out its responsibilities hereunder, provided such personnel shall be suitably qualified. Nothing in this Agreement shall be construed to create any contractual liability with CITY toward any Subcontractor.

2.2.2 Design Documents and Materials, and Confidentiality.

2.2.2.1 CITY shall have unlimited rights to copy and use in connection with the Project all Design Materials, including the right to use same on the Project at no additional cost to CITY, regardless of degree of completion, provided that said services performed have been fully paid for as required by the terms of this Agreement. CONTRACTOR and its Subcontractors shall keep all design documents confidential, and shall not disclose such documents except as may be required in performance of the Work or pursuant to legal process.

2.3 Local Conditions; Environmental Site Conditions.

2.3.1 Local Conditions. CONTRACTOR represents that it has taken steps reasonably necessary to ascertain the nature and location of the Work, and that it has investigated and satisfied itself as to the general and local conditions which are applicable to the Work such as (a) conditions bearing on transportation, disposal, handling and storage of materials; (b) the availability of labor, water, power and roads; (c) normal weather conditions; (d) observable physical conditions at the Site; (e) the surface conditions of the ground; and (f) the character of equipment and facilities needed prior to and during the performance of the Work. To the extent CONTRACTOR encounters subsurface or concealed conditions which differ materially from that actually known by CONTRACTOR on the date of this Agreement or from those ordinarily found to exist and generally recognized as inherent in the activities of the character provided in the Contract Documents; then CONTRACTOR shall give notice to CITY promptly before conditions are disturbed and in no event later than two (2) Days after the first observance of the conditions if a Change Order is contemplated by CONTRACTOR due to such condition. Such materially different conditions may entitle CONTRACTOR to an equitable adjustment in the GMP and/or Schedule pursuant to the Change Order provisions of this Agreement.

2.3.2 Hazardous Materials. The Parties' agreement as to the handling of Hazardous Materials discovered at the Site (and not brought there by CONTRACTOR or any Subcontractor) is set forth in Exhibit C hereto, and the only duties and responsibilities of CONTRACTOR in connection therewith are as therein specified, notwithstanding any other provision of this Agreement.

2.4 Design Development Documents and Construction Documents.

2.4.1 General. The Design-Build Team understands that all construction documents, working drawings and specifications (“Submittals”) must be coordinated with, and approved by, CITY prior to construction. CONTRACTOR shall allow CITY a minimum of fourteen (14) days for review of Submittals and corrections made thereto. CONTRACTOR shall work with the Design-Build Team to prepare, for the approval of CITY, working drawings and specifications setting forth in detail the requirements for the construction of the Project in its entirety including the necessary bidding information. CITY’s review of the Design Development Documents and the Construction Documents shall not relieve CONTRACTOR from its responsibilities under this Agreement, or be deemed to be an approval or waiver by CITY of any deviation from, or of CONTRACTOR's failure to comply with, any provision or requirement of the Contract Documents, unless such deviation or failure has been identified as such in writing in the document submitted for approval by CONTRACTOR and approved by CITY. CONTRACTOR shall comply with all CITY construction standards as deemed applicable by the CITY. CONTRACTOR shall provide CITY with a complete, accurate, full size, and current set of as-built drawings in a hard copy acceptable to City prior to Final Completion.

2.4.2 Reliance on Approvals. CONTRACTOR shall be entitled to rely on the approvals of CITY with respect to the Design Materials. If CITY revokes, modifies or otherwise changes in a material way its approval of a given system after such system has been designed and approved, or modifies the original Scope of Work in a material manner requiring modification to one or more systems which have been designed and approved, CONTRACTOR shall be entitled to a Change Order in accordance with the provisions of Article 6 hereof, provided that prior to such approval CONTRACTOR has made CITY aware of future design decisions which may be affected by such approval. No Change Order shall be issued to the extent such modification is due to the fault or neglect of CONTRACTOR.

2.4.3 Review of Contract Documents and Field Conditions. CONTRACTOR shall take field measurements and verify field conditions and shall carefully compare such field conditions and other information known to CONTRACTOR with the Contract Documents before commencing activities. CONTRACTOR shall perform the Work in accordance with the Contract Documents and submittals approved in accordance with the procedures set forth in this Agreement.

2.5 Legal Requirements. CONTRACTOR shall comply with Applicable Laws, and shall give applicable notices pertaining thereto. Except with respect to Governmental Approvals, CONTRACTOR shall prepare and file all documents required to obtain the necessary approvals of governmental authorities having jurisdiction over the Work and/or the Project and shall secure and pay for permits and governmental fees, licenses and inspections necessary for the proper execution of the Work and completion of the Project. Notwithstanding the foregoing, CITY has informed CONTRACTOR that fees in connection with building permits, street use permits, and similar permits relating to construction will be waived and are not to be included in the GMP. If and to the extent charges in the future for such permits are imposed in the future, such charges shall be paid by CITY, or shall be the subject of a Change Order to the Contract in accordance with the Change Order provisions of this Agreement.

2.6 Services and Facilities.

2.6.1 General. CONTRACTOR shall provide everything required for the orderly progress and proper execution and completion of the Work and the Project in accordance with the requirements of the Contract Documents, whether temporary or permanent and whether or not incorporated or to be incorporated into the Work, including, but not limited to, services, labor, materials, equipment, furnishings, tools, construction equipment and machinery, utilities, transportation and other facilities and services.

2.6.2 Supervision. CONTRACTOR shall supervise and direct the Work in accordance with its best skill and attention. CONTRACTOR shall be solely responsible for and have control over construction means, methods, techniques, sequences and procedures. CONTRACTOR shall be responsible to CITY for the acts and omissions of, and whenever this Contract refers to the negligence, fault or omission of CONTRACTOR, such term shall include the negligence, fault or omission of, CONTRACTOR's employees, Subcontractors and their agents and employees, and other persons performing portions of the Work under an agreement with CONTRACTOR. CONTRACTOR shall not be relieved of obligations to perform the Work in accordance with the Contract Documents by tests, inspections or approvals required or performed by persons other than CONTRACTOR.

2.6.3 Coordination. CONTRACTOR shall coordinate construction requirements with governmental agencies, utilities, and all other parties either involved in infrastructure improvements or otherwise affected by the design and construction requirements.

2.6.3.1 Design-Build Development Coordination. CONTRACTOR understands and agrees that all Design Development Documents and time schedules prepared by Architect/Engineer must be coordinated with CONTRACTOR and CITY. CONTRACTOR shall participate and provide recommendations in the development of the drawings and other documents to fix and describe the size and character of the Project in its entirety as to structural, and electrical systems, materials and other essentials as may be necessary according to good engineering and architectural practice.

2.6.3.2 Construction Documents Coordination. [reserved]

2.6.4. Cooperation. CONTRACTOR shall cooperate with the Architect/Engineer, and CITY's financial, design and construction consultants and all other designated representatives during the design and construction of the Project.

2.6.5 Management. CONTRACTOR shall implement suitable management systems and work plans for the Project relative to Project safety, quality assurance and managing and controlling the Work.

2.6.6 Reports. CONTRACTOR shall prepare and submit to CITY monthly progress reports on the Work accomplished during the previous monthly period, which reports shall be prepared in a manner and in a format reasonably acceptable to CITY. Such reports shall be

furnished at the time of submission of each monthly Application for Payment. As part of such report, CONTRACTOR shall provide an updated Schedule, including CPM, if any, illustrating the progress that has been made, by reference to the initial CPM, and specifying whether the Work is on schedule or behind schedule and actions being taken to correct Schedule slippage. The monthly report shall also set forth CONTRACTOR's projected progress for the forthcoming month.

2.7 Warranty. CONTRACTOR warrants to CITY that any and all materials, equipment and furnishings incorporated in the Work will be of good quality and new unless otherwise required or permitted by the Contract Documents, that the Work will be free from defects not inherent in the quality required or permitted, and that the Work will conform with the requirements of the Contract Documents. Work not conforming to these requirements, including substitutions not properly approved and authorized, may be considered defective by CITY at its sole discretion.

CONTRACTOR shall warranty the Work for a period of one-year commencing upon recording of the notice of completion. If within this one-year warranty period any of the Work is found to be defective or not in accordance with the requirements of the Contract Documents, CONTRACTOR shall correct it promptly after receipt of written notice from CITY to do so. CITY shall give such notice promptly after discovery of the condition. CONTRACTOR shall bear the cost of correction.

CONTRACTOR's attention is directed to Section 9.3 below regarding Warranty Bond requirements.

2.8 Taxes. CONTRACTOR shall pay, as Cost of the Work, all existing and future applicable federal, state and local sales, consumer, use and similar taxes, whether direct or indirect, relating to, or incurred in connection with, the performance of the Work (excluding taxes based on CONTRACTOR's income). In the event CONTRACTOR is obligated to pay any new or increased taxes or duties adopted after the date hereof, the amount of such new or increased taxes shall increase the GMP pursuant to the Change Order provisions of this Contract. In the event CONTRACTOR receives the benefit of a tax exemption or tax reduction taking effect after the date hereof, the amount of such exemption or reduction shall decrease the GMP pursuant to the Change Order provisions of this Contract

2.9 Access by CITY. CONTRACTOR shall afford CITY and its authorized designees access to the Project Site at all times, subject to reasonable prior notice for access outside of normal business hours.

2.10 Use of Site. CITY shall be permitted beneficial use of the Work.

2.11 Patents, Trademarks, Copyrights. CONTRACTOR shall pay, as a Cost of the Work, all-applicable royalties and license fees on any matters arising in connection with the Work. CONTRACTOR shall defend all suits or claims for infringement of patent, trademark, and copyrights against the Indemnified Parties, and shall save the Indemnified Parties harmless from loss on account thereof for any and all matters arising in connection with the Work or the Project (such costs to be paid as Cost of the Work), except with respect to any particular design process

or the product of a particular manufacturer or manufacturers specified and required by CITY, other than pursuant to the recommendation or suggestion of CONTRACTOR or a subcontractor; provided however, if CONTRACTOR has reason to believe that the design, process or product so specified is an infringement of a patent, CONTRACTOR shall be responsible for any loss resulting unless CONTRACTOR has provided CITY with prompt written notice of CONTRACTOR's belief, and CITY has nevertheless elected to go forward with such design, process or product so specified.

2.12 Rubbish; Debris; Cleanup. During the performance of all on-site Work, CONTRACTOR shall at all times, as a Cost of the Work, keep the Site and adjacent streets, properties and sidewalks reasonably free from waste materials, debris and/or rubbish, and shall employ adequate dust control measures. If accumulation of such materials, debris, rubbish or dust constitutes a nuisance or safety hazard or is otherwise objectionable in the reasonable opinion of CITY, CONTRACTOR shall promptly remove them. Upon Substantial Completion of the Work, or any portion or component thereof, CONTRACTOR shall remove from the Site, or applicable portion thereof, all tools, construction equipment, machinery, surplus materials, waste materials and rubbish and shall leave the Site in a "broom clean" condition. If CONTRACTOR fails to clean up as provided in the Contract Documents, CITY may do so and the cost thereof shall be charged to CONTRACTOR as a Cost of the Work.

2.13 Permits, Fees and Notices. Unless otherwise provided in the Contract Documents, and subject to the provisions of Section 2.5 hereof, CONTRACTOR shall secure all permits, governmental fees, licenses and inspections necessary for the proper execution and completion of the Work. To the extent there is a change in the type or cost of any of such permits, fees, licenses or inspection occurring after execution of this Agreement, there shall be an equitable adjustment in the GMP and Schedule on account of such change in accordance with the Change Order provisions. CONTRACTOR shall comply with and give notices required by Applicable Laws.

2.14 Shop Drawings, Product Data, Samples and Other Submittals.

2.14.1 Documents and Samples at the Site. From and after commencement of the Construction Work, CONTRACTOR shall maintain at the site one record copy of the Construction Documents, and any and all amendments thereto, in good order and marked to record changes and selections made during the Construction Phase. In addition, CONTRACTOR shall maintain at the site approved shop drawings, product data, samples and similar required submittals. These shall be provided to CITY upon completion of the Work.

2.14.2 Shop Drawings, Product Data, Samples and Other Submittals.

2.14.2.1 Shop Drawings are drawings, diagrams, schedules and other data specially prepared for the Work by CONTRACTOR, a Subcontractor, manufacturer, supplier or distributor to illustrate some portion of the Work.

2.14.2.2 Product Data are illustrations, standard schedules, performance charts, instructions, brochures, diagrams and other information furnished by CONTRACTOR to illustrate materials or equipment for some portion of the Work.

2.14.2.3 Samples are physical examples, which illustrate materials, equipment or workmanship and establish standards by which the Work will be judged.

2.14.2.4 Shop Drawings, Product Data, Samples and similar submittals are not Contract Documents. The purpose of their submittal is to demonstrate for those portions of the Work for which submittals are required the way CONTRACTOR proposes to conform the construction to the Construction Documents.

2.14.2.5 Submission of items listed in section 2.14.2.4. [reserved]

2.14.3 Responsibility. CONTRACTOR shall not be relieved of responsibility for the deviations from requirements of the Contract Documents by CITY's approval of Shop Drawings, Product Data, Samples or similar submittals unless CONTRACTOR has specifically informed CITY of such deviation at the time of the submittal and CITY has given written approval to the specific deviation. CONTRACTOR shall not be relieved of responsibility for errors or omissions in Shop Drawings, Product Data, Samples or similar submittals by CITY's approval thereof.

2.15 Tests and Inspections

2.15.1 Initial Tests and Inspections. Tests, inspections and approvals of portions of the Construction Work shall be made as required by the Contract Documents, Applicable Laws or normal construction practices and/or as directed by CITY. Unless otherwise provided, CONTRACTOR shall make arrangements for such tests, inspections and approvals with an independent testing laboratory or entity acceptable to CITY, or with the appropriate public authority. The costs of such tests, inspections and approvals shall be a cost paid by CONTRACTOR. CONTRACTOR shall give CITY timely notice of when and where tests and inspections are to be made so that CITY may observe such procedures. All costs of tests, inspections or approvals imposed upon CONTRACTOR by changes in Applicable Laws occurring after execution of this Agreement shall be an increase to the GMP in accordance with the Change Order provisions herein.

2.15.2 Additional Tests and Inspections. If CITY, or any other public authority having jurisdiction, determines that portions of the Construction Work require additional testing, inspection or approval beyond that required by subsection 2.15.1, CITY will instruct CONTRACTOR to make arrangements for such additional testing, inspection or approval by an entity acceptable to CITY, and CONTRACTOR shall give timely notice to CITY of when and where tests and inspections are to be made so CITY may observe such procedures. If such additional tests and/or inspections reveal failure of the portions of the Work to comply with the requirements of the Contract Documents, the costs of such tests and required correction shall be paid as a Cost of the Work, subject to the limitations set forth in Section 2.22 hereof. If the additional tests and/or inspections show that the portions of the Work comply with the

requirements of the Contract Documents, the costs thereof shall be an increase to the GMP in accordance with the Change Order provisions of this Agreement.

2.15.3 Required Certificates. Required certificates of testing, inspection or approval shall, unless otherwise required by the Contract Documents, be secured by CONTRACTOR and promptly delivered to CITY.

2.1 5.4 Timing of Testing. Tests or inspections conducted pursuant to the Contract Documents shall be made promptly to avoid unreasonable delay in the Work.

2.16 Execution, Correlation and Intent.

2.16.1 Execution of Agreement. Execution of this Agreement by CONTRACTOR is a representation that CONTRACTOR has visited the Site, become familiar with the local conditions under which the Work is to be performed and correlated personal observations with requirements of the Contract Documents.

2.16.2 Intent of Contract Documents. The intent of the Contract Documents is to include all items necessary for the proper execution and completion of the Work by CONTRACTOR. The Contract Documents are complementary and what is required by one shall be as binding as if required by all; performance by CONTRACTOR shall be required only to the extent consistent with the Contract Documents and reasonably inferable from them as being necessary to produce the intended results.

2.16.3 Organization of Materials. Organization of the Design Materials into divisions, sections and articles, and arrangement of drawings does not necessarily control CONTRACTOR in dividing the Construction Work among Subcontractors or in establishing the extent of Construction Work performed by any trade.

2.16.4 Meaning of Words. Unless otherwise stated in this Agreement, words which have well-known technical or construction industry meanings are used in accordance with such recognized meanings.

2.17 Labor and Materials; Liens (Stop Payment Notice Claims); Indemnity. Unless otherwise provided in the Contract Documents, CONTRACTOR shall provide and pay for labor, materials, equipment, tools, construction equipment and machinery, water, heat, utilities, transportation, and other facilities and services necessary for the proper execution and completion of the Work, whether temporary or permanent and whether or not incorporated or to be incorporated in the Work. CONTRACTOR shall enforce strict discipline and good order among CONTRACTOR's employees, subcontractors, and other persons carrying out the Work. CONTRACTOR shall not permit employment of unfit persons or persons not skilled in tasks assigned to them.

CONTRACTOR shall not permit any Subcontractor, materialman, or laborer to place liens on the Project covering any portion of the Work for which CITY has made payment to CONTRACTOR. If any liens (e.g., stop payment notice claims) are imposed, CITY may

withhold payment in the amount of 125% of the claim until such time an unconditional release is provided in a form satisfactory to CITY. CONTRACTOR shall indemnify, defend, and hold harmless CITY regarding any claim or lien that proceeds to, or is the subject of litigation. CITY may withhold payment(s) pending compliance with this provision.

2.18 Cutting and Patching.

2.18.1 Cutting and Patching of the Work. CONTRACTOR shall be responsible for cutting, fitting, or patching required to complete the Work or to make its parts fit together properly.

2.18.2 Damage to Work of CITY or Separate Contractors. CONTRACTOR shall not damage or endanger a portion of the completed Work, fully or partially completed construction of CITY, or work or construction by Separate Contractor(s) by cutting, patching or otherwise altering such construction or work, or by excavation. CONTRACTOR shall not cut or otherwise alter such construction by CITY or a Separate Contractor except with written consent of CITY and of such Separate Contractor, such consent not to be unreasonably withheld.

2.19 Uncovering of Construction Work.

2.19.1 Uncovering. If a portion of the Construction Work is covered contrary to CITY's written request to observe such work prior to it being covered or contrary to requirements of the Contract Documents, it must, if directed in writing by CITY, be uncovered for CITY's observation and be replaced without change in the Schedule or GMP. The costs of such uncovering and replacement shall be Cost of the Work, subject to the limitation set forth in Section 2.22 hereof.

2.19.2 Covering of Work Requested to be Observed. If a portion of the Construction Work has been covered which CITY has not specifically requested to observe prior to it's being covered, CITY may request to see such Construction Work and it shall be uncovered by CONTRACTOR. If such Construction Work is in accordance with the Contract Documents, costs of uncovering and replacement shall, by appropriate Change Order, be charged to CITY and shall increase the GMP. An appropriate time extension shall also be given. If such Construction Work is not in accordance with the Contract Documents, CONTRACTOR shall pay such costs as Cost of the Work, unless such condition was caused by CITY or a Separate Contractor in which event CITY shall be responsible for payment of such costs by appropriate Change Order, and an appropriate time extension shall also be given.

2.20 Correction of Work.

2.20.1 Work Rejected by CITY. CONTRACTOR shall promptly correct Construction Work rejected by CITY or failing to conform to the requirements of the Contract Documents, whether observed before or after Substantial Completion and whether or not fabricated, installed or completed. CONTRACTOR shall bear the costs of correcting such rejected Construction Work, as a Cost of the Work, including additional testing and inspection and compensation for services and expenses of CITY made necessary thereby.

2.20.2 [Intentionally deleted].

2.20.3 Removal of Work. CONTRACTOR shall remove from the Site portions of the Construction Work, which are not in accordance with the requirements of the Contract Documents and are neither corrected by CONTRACTOR nor accepted by CITY. The costs incurred in removing such Work shall be a Cost of the Work, subject to the limitation set forth in Section 2.22 hereof.

2.20.4 Failure to Correct Nonconforming Work. If CONTRACTOR fails to correct nonconforming Construction Work within a reasonable time, CITY may correct it in accordance with the terms of this Agreement. If CONTRACTOR does not proceed with correction of such nonconforming Construction Work within a reasonable time fixed by written notice from CITY, CITY may remove it and store the salvageable materials or equipment at CONTRACTOR's expense. If CONTRACTOR does not pay costs of such removal and storage within ten (10) Days after written notice, CITY may, upon ten (10) additional Days written notice, sell such materials and equipment at auction or at private sale and shall account for the proceeds thereof, after deducting costs and damages that should have been borne by CONTRACTOR, including compensation for services and expenses made necessary thereby. If such proceeds of sale do not cover costs which CONTRACTOR should have borne, CONTRACTOR shall pay such excess to CITY. If such proceeds are in excess of the costs which CONTRACTOR should have borne, such excess shall be paid by CITY to CONTRACTOR. If such costs arise during the performance of the Work, such costs shall be charged against the Cost of the Work. If such costs arise after Substantial Completion, such costs shall be payable as provided in Section 5.1.

2.20.5 Damaged or Destroyed Work. CONTRACTOR shall bear the cost of correcting destroyed or damaged construction, whether completed or partially completed, of CITY or Separate Contractors caused by CONTRACTOR's correction or removal of Construction Work which is not in accordance with the requirements of the Contract Documents. If such costs arise during the performance of the Work, such costs shall be charged against the Cost of the Work. If such costs arise after Substantial Completion, such costs shall be payable as provided in Section 5.1.

2.20.6 No Limitation. Nothing contained in this section 2.20 shall be construed to establish a period of limitation with respect to other obligations which CONTRACTOR might have under the Contract Documents.

2.21 Value Engineering. CONTRACTOR shall suggest to CITY value engineering to reduce the cost of the Project, which CITY may accept at its sole discretion.

2.21.1 Subcontractors Bids. CONTRACTOR shall use its best effort to choose the highest quality of materials, equipment, component systems and types of construction for the most reasonable prices for inclusion in the Construction Documents, and make reasonable adjustments in the scope of the Project so that the total cost bid by the bidding Subcontractors will not exceed the estimate.

2.22 Acceptance of Nonconforming Work. If CITY prefers to accept Work, which is not in accordance with the requirements of the Contract Documents, CITY may do so instead of requiring its removal and correction, in which case the GMP will be reduced as appropriate and equitable. Such adjustment shall be effected whether or not final payment has been made.

2.23 Contractor Registration. No contractor or subcontractor may work on a public works project unless registered with the Department of Industrial Relations pursuant to Labor Code section 1725.5. During the performance of this Contract, CONTRACTOR and its subcontractors shall have a continuing legal obligation to maintain current registration with the Department of Industrial Relations. CONTRACTOR is hereby notified that this Project is subject to compliance monitoring and enforcement by the Department of Industrial Relations.

ARTICLE 3 CITY'S RIGHTS AND RESPONSIBILITIES

3.1. Information and Services Required of CITY.

3.1.1 CITY Designation of Authorized Representative. Both Parties shall designate, from time to time, one or more representatives authorized to act on their behalf with respect to the Project, together with the scope of his/her respective authority. CONTRACTOR shall not be entitled to rely on directions from anyone outside the scope of that person's authority as set forth in written delegations pursuant to this Agreement. Directions and decisions made by Authorized Representative(s) of CITY shall be subject to any further approval(s) required by any provisions of CITY's Charter or the Roseville Municipal Code.

3.1.2 Communication. During the term of this Contract, CITY shall communicate with Subcontractors, suppliers and others performing any part of the Work only through CONTRACTOR's Authorized Representative.

3.1.3 Governmental Approvals. CITY shall be responsible for obtaining the Governmental Approvals. Any delay in obtaining the Governmental Approvals may entitle CONTRACTOR to an equitable adjustment in the Schedule and GMP in accordance with the Change Order provisions of this Agreement, except to the extent such delay is due to the fault or neglect of CONTRACTOR.

3.2 [Intentionally deleted.]

3.3 [Intentionally deleted.]

3.4 Activities on the Site by CITY or Separate Contractors.

3.4.1 CITY's Right to Award Separate Contracts. CITY reserves the right to perform work or operations related to the Project, with CITY's own forces, and to award separate contracts to Separate Contractors in connection with other portions of the Project.

3.4.2 Integration of the Work with Separate Contractors. Following the request of CITY, CONTRACTOR shall prepare a plan in order to integrate the work performed by Separate Contractors with the performance of the Work, and shall submit such plan to CITY for approval. The plan shall be fair and reasonable for CONTRACTOR and the Separate Contractors, and CONTRACTOR shall work with the Separate Contractors to reach agreement on such plan. CONTRACTOR shall arrange the performance of the Work so that the Work and the work of the Separate Contractors are, to the extent applicable, properly integrated, jointed in an acceptable manner, and performed in the proper sequence so that any disruption or damage to the Work or to any work of Separate Contractors is avoided.

3.4.3 Coordination. CONTRACTOR shall provide for the coordination of the activities of CONTRACTOR and its Subcontractors with the activities of the Separate Contractors. CONTRACTOR shall participate with all Separate Contractors and CITY in reviewing and coordinating the schedules of the Separate Contractors with the Schedule. CONTRACTOR shall make any revisions to the Schedule deemed necessary to properly incorporate the work of the Separate Contractors with the Work. To the extent (a) the date of Substantial Completion is extended by such Schedule revision; (b) CONTRACTOR is required to perform its Work materially out of sequence, and in a manner which is not as efficient or cost effective as originally planned; or (c) the Scope of Work is increased, an equitable adjustment in the GMP and the Schedule shall be made in accordance with the Change Order provisions of this Agreement.

3.4.4 Use of Site. CONTRACTOR shall afford CITY and all Separate Contractors reasonable opportunity for storage of materials and equipment and performance of their work. CONTRACTOR shall also connect and coordinate its Work and operations with CITY and all Separate Contractors' operations as required by the Contract Documents. CITY shall direct the Separate Contractors to cooperate with CONTRACTOR and to avoid actions or omissions, which could interfere with or delay the activities of CONTRACTOR.

3.4.5 Deficiency in Work of Contractors. If part of CONTRACTOR's Work depends upon proper execution or results upon construction or operations by CITY or a Separate Contractor, CONTRACTOR shall, prior to proceeding with that portion of the Work, promptly report to the Separate Contractor and CITY apparent discrepancies or defects in such other construction that would render it unsuitable for proper execution and results by CONTRACTOR. CONTRACTOR and the Separate Contractor shall use good faith efforts to resolve any such discrepancies or defects or any disagreements relating thereto. Failure of CONTRACTOR to report such discrepancies or defects shall constitute acceptance by CONTRACTOR of the work of Separate Contractors as fit and proper to receive CONTRACTOR's Work (except as to those defects or discrepancies that are not apparent).

3.4.6 Claims Involving Separate Contractors. In the event that CONTRACTOR unnecessarily and unreasonably delays the work of Separate Contractors by not cooperating with them as required hereby, or by not affording them reasonable opportunity to perform their work as stated herein, CONTRACTOR shall, in such event, pay, as Cost of the Work, all reasonable direct incremental costs and expenses incurred by such Separate Contractors due to any such delays. If any Separate Contractor shall assert a claim or bring an action against CITY alleging

damage due to the fault or neglect of CONTRACTOR, CITY shall immediately notify CONTRACTOR, who shall defend such claim. If it is determined that CONTRACTOR was at fault, CONTRACTOR shall pay all costs of defense, including attorney's fees, as well as any resulting judgment or settlement, as a Cost of the Work.

3.5 Assignment of Separate Contracts. If CITY determines that it wishes to assign to CONTRACTOR one or more contracts between CITY and a Separate Contractor, it shall give CONTRACTOR written notice of such desire, including in such notice a copy of such contract for CONTRACTOR's review and approval. The Separate Contractor shall be fully qualified to perform the work under the to-be-assigned contract, shall possess the financial capability to perform its obligations under such to-be-assigned contract, and shall provide one hundred percent (100%) payment and performance bonds covering such work from sureties meeting the standards set forth in Section 1.53 hereof. Such contract shall contain provisions similar to those contained in CONTRACTOR's agreements with its Subcontractors with respect to liability, indemnification, retention, payment, labor, warranty, and other material items. Upon CONTRACTOR's approval of the assignment of such contract, which approval shall not be unreasonably withheld, delayed or conditioned, such Separate Contractor shall cease to be a Separate Contractor and shall thereafter be deemed to be a Subcontractor of CONTRACTOR, and the GMP shall be increased by Change Order in the amount of (a) such assigned contract, and (b) the additional Fee pursuant to the provisions of Section 6.5.1.

3.6 CITY's Right to Stop the Work. If CONTRACTOR persistently fails to correct Work which is not in accordance with the requirements of the Contract Documents and this Agreement or persistently fails to carry out the Work in accordance with the Contract Documents, CITY, by written order signed by CITY, may deliver a notice to CONTRACTOR setting forth that such a persistent and material failure is occurring and has occurred, and demanding that CONTRACTOR commence a cure of such persistent and material failure within twenty (20) Days and diligently pursue such cure thereafter. In the event that the cure is not commenced and pursued diligently, CITY may, by written notice to CONTRACTOR, order CONTRACTOR to stop the Work, or any portion thereof, until the use for such order has been eliminated; provided, however, that the right of CITY to stop the Work shall not give rise to a duty on the part of CITY to exercise this right for the benefit of CONTRACTOR or any other person or entity and shall not give rise to any liability of CITY to CONTRACTOR resulting from any delay (except to the extent that such order is found to be improper).

3.7 CITY's Right to Carry out the Work. If CONTRACTOR defaults or neglects to carry out the Work in accordance with the Contract Documents and fails within a seven (7) Day period after receipt of written notice from CITY to commence and diligently continue correction of such default or neglect with diligence and promptness, CITY may after such seven (7) Day period give CONTRACTOR a second written notice to correct such deficiencies within such second seven (7) Day period. If CONTRACTOR within such second seven (7) Day period after receipt of such second notice fails to commence and diligently continue to correct any deficiencies, CITY, without prejudice to other remedies CITY may have, may correct such deficiencies. In such case an appropriate Change Order shall be issued deducting from payments then or thereafter due to CONTRACTOR the cost of correcting such deficiencies, including Compensation for additional services and expenses made necessary by such default, neglect or

failure. If payments then or thereafter due to CONTRACTOR are insufficient to cover such amounts, CONTRACTOR shall pay the difference to CITY.

ARTICLE 4 TIME

4.1. Progress and Completion. Time limits stated in the Contract Documents are of the essence of this Agreement. By executing this Agreement, CONTRACTOR confirms that the Contract Time is a reasonable period of time for achieving Final Completion of the Work.

4.2 Schedule Obligations.

4.2.1 Contract Schedule and Notice To Proceed. CONTRACTOR shall provide a schedule as stated in Section 1.46. CONTRACTOR shall begin work pursuant to this Agreement and in accordance with the Schedule (as described in Exhibit F) within fifteen (15) calendar Days of the date of issuance of a Notice To Proceed by CITY, unless extended at the request made to and at the sole discretion of City. CONTRACTOR shall update said schedule to commence from the date of this Agreement, and the overall timeline shall remain consistent with the original schedule. CITY may issue the Notice To Proceed within fifteen (15) Days of full execution of this Agreement.

4.2.2 Prosecution of the Work. CONTRACTOR shall prosecute the Work so that the portion of the Work completed at any point in time shall be not less than as required by the Schedule. If the rate of progress is such that the total amount of Work and/or the degree of completion of the Project accomplished by CONTRACTOR within any time period required by the Schedule is less than the amount therein specified, CONTRACTOR shall so notify CITY. If the delay is an Unexcused Delay, CONTRACTOR shall prepare a recovery schedule for CITY's review and approval, showing how CONTRACTOR will compensate for the delays and achieve Final Completion by the date shown on the Schedule. If CONTRACTOR is unable to demonstrate how it will overcome Unexcused Delays, CONTRACTOR shall employ such extraordinary measures as are necessary to bring the Work into conformity with the Final Completion Date set forth therein, the costs of which shall be a Cost of the Work and not exceed the GMP. If the delay is an Excusable Delay, CITY shall either (a) authorize an equitable extension in the Schedule to account for such delay, and equitably adjust the GMP on account of such delay, to the extent permitted by Article 6; or (b) request that CONTRACTOR prepare a recovery schedule showing how (if possible) CONTRACTOR can achieve Substantial Completion by the date shown on the Schedule (as modified), and equitably adjust the GMP in accordance with the Change Order provisions of this Agreement on account of any extraordinary activities required of CONTRACTOR on account of such recovery schedule. Schedule float (total float) shall be owned by CITY. As float is an expiring resource, if the Work is delayed on the critical path due to a delay caused by the CONTRACTOR and/or Architect/Engineer, the CONTRACTOR may not use any float created by such a delay on any other path without the express written approval of CITY.

4.3 Pre-construction Activities. Within thirty (30) Days after execution of this Agreement, CONTRACTOR shall submit to CITY for review a detailed schedule of pre-construction

activities, by expanding the pre-construction activities set forth on the Schedule. This pre-construction schedule shall be prepared using the CPM, and shall show in sufficient detail the starting and completion times sequences of Subcontract award activities of CONTRACTOR, and identify all interface activities of CITY.

4.4 Extensions of Time.

4.4.1 General. An extension in the scheduled date of Final Completion will only be granted in the event of Excusable Delays affecting Work activities on the critical path.

4.4.2 Excusable Delays. Subject to 4.4.1 and 4.5.2, to the extent any of the following events results in an actual delay in the Work affecting Work activities on the critical path, such shall constitute an "**Excusable Delay**" (to the extent not set forth below, a delay will be considered an "**Inexcusable Delay**").

4.4.2.1 Failure or inability of CITY to make available any or all of the Site in accordance with the requirements of the Schedule.

4.4.2.2 Failure or inability of CITY or CONTRACTOR to obtain necessary zoning changes, variances, code changes, permits or approvals from any governmental authority, or failure to obtain any street or alley vacations required for the performance of the Work, except to the extent due to the fault or neglect of CONTRACTOR.

4.4.2.3 Delays resulting solely from the acts or omissions of Separate Contractors; provided however, only to the extent Separate Contractors perform their work improperly and not in accordance with any applicable critical path schedule.

4.4.2.4 Delays resulting from Force Majeure.

4.4.2.5 Differing, unusual or concealed site conditions that could not reasonably have been anticipated by CONTRACTOR in preparing the Schedule.

4.4.2.6 Delays resulting from the existence or discovery of Hazardous Materials on the Site not brought to the site by CONTRACTOR or any Subcontractor.

4.4.2.7 Delays resulting from changes in Applicable Laws occurring after the date of execution of this Agreement.

4.4.2.8 Delays occurring solely due to the acts or omissions of CITY and those within the control of CITY, including, but not limited to, Separate Contractors.

4.4.2.9 Delays resulting from weather conditions, which shall be determined as follows: Should CONTRACTOR prepare to begin work at the regular starting time of any working day on which inclement weather, or the conditions resulting from the weather, prevents the Work from beginning at the usual starting time and the crew is dismissed as a result thereof and CONTRACTOR does not proceed with at least 75% of the normal labor and equipment force engaged in the current operations for at least 60% of the total daily time being spent,

CONTRACTOR will not be charged for a working day, even if the conditions change during the course of the day. At the start of such days, CONTRACTOR shall notify CITY if CONTRACTOR believes that inclement weather or conditions resulting from the weather exist. A non-working day determination of such conditions shall be made by CITY, who will immediately notify CONTRACTOR.

4.4.2.10 Delays resulting from unproductive work days, which shall be determined as follows: When CONTRACTOR is prevented from working on current operations due to site conditions, CITY action, or force majeure for at least 60% of the total daily time on the controlling operations. Controlling operations are determined by the critical path method schedule described in the applicable CITY construction standards. The critical path schedule used in this determination shall be no more than thirty (30) days old. CONTRACTOR shall notify CITY if CONTRACTOR believes an unproductive work day exists upon discovery of such condition. A non-working day determination of such conditions shall be made by CITY, who will immediately notify CONTRACTOR.

4.4.3 Requirements for Schedule Amendment due to Excusable Delays. In order to obtain an extension of time due to an Excusable Delay, CONTRACTOR shall comply with the following requirements:

4.4.3.1 CONTRACTOR shall notify CITY of the Excusable Delay as soon as practicable, but in no event more than four (4) Business Days after CONTRACTOR becomes aware of the occurrence of the Excusable Delay. Such notice shall describe the Excusable Delay and shall state the approximate number of Days CONTRACTOR expects to be delayed. After the cessation of the Excusable Delay, CONTRACTOR shall notify CITY of the number of Days CONTRACTOR believes that its activities were in fact delayed by the Excusable Delay. In the event that the delay arises as a result of a Change Order request by CITY, the request for an extension of time contained in the resulting Change Order proposal shall be deemed sufficient for purposes of this subsection.

4.4.3.2 CONTRACTOR shall demonstrate to the satisfaction of CITY that the Excusable Delay in fact delayed the critical path for performance of the Work (by use of CPM analysis). Any delay that impacts the CPM will be presented to the Project Manager at the monthly meeting, and prior to completion of each activity.

4.4.4 Decision by CITY. Within thirty (30) Days after cessation of an event giving rise to either an Excusable Delay or Inexcusable Delay, the parties will use good faith efforts to agree on the extent to which the Work has been delayed and whether the delay is an Excusable Delay or an Inexcusable Delay. In the absence of agreement between the parties as to the then current status of Excusable Delays and Inexcusable Delays, CITY will provide CONTRACTOR with written notice of CITY's determination of the respective number of Days of Excusable Delay and/or Unexcusable Delay within ten (10) Days after receipt by CITY of CONTRACTOR's written request for such determination. The issuance by CITY of such a determination shall not, however, be deemed a concurrence by CONTRACTOR of the matters set forth therein, and CONTRACTOR may invoke the dispute resolution procedures with respect to such determination. Pending completion of dispute resolution procedures, CONTRACTOR may take such acceleration or other measures required on account of CITY's determination of

Inexcusable Delay, and if completion of the dispute resolution procedures results in CITY's determination being changed to Excusable Delay, the costs associated with such measures shall be paid by CITY as an increase to the GMP in accordance with the Change Order provisions of this Agreement.

4.5 Adjustment in GMP on Account of Extensions of Time.

4.5.1 Certain Excusable Delays. Section 4.5 governs the extent to which CONTRACTOR is entitled to an extension of time due to Excusable Delays. Provisions governing the payment of additional compensation on account of such Excusable Delays, (if any) are set forth in Article 6.

4.5.2 Concurrent Delays. To the extent CONTRACTOR is entitled to an extension of time due to an Excusable Delay, but the performance of the Work would have been suspended, delayed or interrupted by the fault or neglect of CONTRACTOR, any subcontractor and/or by an Inexcusable Delay, CONTRACTOR shall not be entitled to any additional costs for the period of such concurrency.

4.6 Liquidated Damages.

4.6.1 General. CONTRACTOR and CITY acknowledge that in the event that CONTRACTOR fails to achieve Final Completion of the Project by the date established, CITY will incur substantial damages that shall be incapable of accurate measurement. Nonetheless, the parties acknowledge that on the date of this Agreement, the amount of liquidated damages set forth below represents a good faith estimate as to the actual potential damages that CITY would incur as a result of late Completion of the Project. Such liquidated damages shall be in-lieu of actual damages resulting from late completion. The amount of the liquidated damages calculated hereunder does not include any penalty.

4.6.2 Amount of Liquidated Damages. If CONTRACTOR fails to achieve Final Completion of the Work on or before the Notice of Completion date, as adjusted for Excusable Delays, CONTRACTOR shall pay to CITY liquidated damages in the amount of \$500.00 (five hundred dollars) per Day for each calendar day the date of Final Completion is unexcusably delayed. Payment of liquidated damages shall be made contemporaneously with CITY's required payment to CONTRACTOR, and such payments may be offset against each other.

ARTICLE 5 PAYMENT AND COMPLETION

5.1 Guaranteed Maximum Price ("GMP") and GMP Shared Savings. CITY shall pay for CONTRACTOR's performance under this Agreement the Cost of the Work and Fee (as described in Exhibit A hereto); provided, however, that the sum of the Cost of the Work and the Fee shall not exceed the GMP, as adjusted by Change Order/Directive in accordance with the Contract Documents. CONTRACTOR bears the risk of its increased costs due to market price increases (including escalating costs for materials).

5.1.1 Shared Savings. CONTRACTOR shall be compensated for actual work completed based on the Cost of Work and Fee up to the amount of the GMP. If CONTRACTOR's actual total Cost of the Work and Fee is less than the GMP, upon Final Completion, the CONTRACTOR shall be entitled to receive forty percent (40%) of the GMP Savings. "GMP" Savings shall mean the positive difference, if any, when the actual Total Cost of the Work and Fee is subtracted from the GMP; provided, however, that unused contingency monies, if any, shall not be subject to shared savings.

5.2 Schedule of Values. Before the first Application for Payment, CONTRACTOR shall submit to CITY, and CITY shall approve, a schedule of values, setting forth the various portions of the Work, and the portions of the GMP allocated to each portion. This schedule of values shall be used as a basis for payment.

5.3 Applications for Payment. CONTRACTOR shall deliver to CITY not more than once each month an Application for Payment covering the Cost of Work and Fee applicable to the Work performed during the immediately preceding month. With each Application for Payment CONTRACTOR shall submit such evidence as may be necessary to demonstrate costs incurred on account of Cost of the Work during such month and the percentage of completion of each category of Work. CITY may reject requests for payment, or portions thereof, for Work, or portions thereof, not performed or completed.

5.4 Amount of Progress Payments. CITY shall pay CONTRACTOR the actual Cost of the Work and Fee, if any, through the period covered by the Application for Payment, less Retention as set forth in Section 5.5 below, provided that the aggregate payment amount before retention will not exceed the percentage of completion of the Work multiplied by the GMP (excluding items of the GMP not subject to retention). CITY may additionally withhold from progress payments such amounts pursuant to stop payment notice claims as required by law and CITY administrative regulation 4.01.

5.5 Retention; Escrow Agreement; Final Payment. Five percent (5%) Retention shall be withheld from each progress payment until the expiration of thirty-five (35) days following the recordation of the notice of completion; provided however, City shall continue to retain such amount as required by law and/or CITY administrative regulation 4.01. CONTRACTOR may elect to establish an escrow account for securities in-lieu of the five percent (5%) Retention in a form of escrow agreement compliant with law and subject to approval by the City Attorney (form of escrow agreement is attached as Exhibit D). Release of Retention monies shall constitute the Final Payment.

5.6 Early Release of Subcontractor Retention. [reserved]

5.7 Payment for On-Site and Off-Site Stored Materials. [reserved]

5.8 Title to Construction Work. CONTRACTOR warrants that title to all Construction Work covered by an Application for Payment shall pass to CITY no later than the time of payment. CONTRACTOR further warrants that upon submittal of an Application for Payment,

all Construction Work for which Applications for Payment have been previously issued and payments received from CITY shall, to the best of CONTRACTOR's knowledge, information and belief, be free and clear of liens, claims, security interests or encumbrances in favor of CONTRACTOR, Subcontractors, material suppliers, or other persons or entities making a claim by reason of having provided labor, materials or equipment relating to the Construction Work.

5.9 Withholding of Payment. CITY may withhold payment on account of an Application for Payment if required or authorized by any Applicable Law, or to the extent necessary to protect CITY from loss because of:

5.9.1 defective Work not remedied;

5.9.2 third party claims filed or reasonable evidence indicating probable filing of such claims;

5.9.3 failure of CONTRACTOR to make payments of undisputed amounts to Subcontractors for labor, materials or equipment;

5.9.4 damage to CITY or a Separate Contractor caused by the fault or neglect of CONTRACTOR to the extent not reimbursed by insurance; or

5.9.5 reasonable evidence that the Work will not be Substantially Completed within the Contract Time due to Inexcusable Delay, and that the unpaid balance of the GMP would not be adequate to cover liquidated damages for the anticipated Inexcusable Delay.

5.10 Failure of Payment; Interest. In accordance with Public Contract Code §20104.50, CITY shall pay CONTRACTOR interest on any progress payment, which is made by CITY more than thirty (30) days after CITY receives an undisputed and properly submitted written payment request. Said interest shall be equal to the rate set forth in Code of Civil Procedure §685.010(a), and shall begin to accrue upon the expiration of said thirty (30) day period. Any written request for a progress payment which CITY determines to be disputed, improper or not suitable for payment for any reason shall be returned to CONTRACTOR within seven (7) days after receipt by CITY, along with a written statement of the reason or reasons why such request is disputed, improper or not suitable for payment.

5.11 Occupancy by CITY Prior to Acceptance. CITY reserves the right to Beneficial Occupancy and without charge by CONTRACTOR. In those areas of the Work which are completed, CITY may store materials, equipment, and supplies, and may perform partial operation.

5.12 Substantial Completion. When CONTRACTOR considers the entire Work complete and ready for its intended use, CONTRACTOR shall certify in writing to CITY that the entire Work is substantially complete by providing CITY with a Certificate of Substantial Completion. Within a reasonable time thereafter, CITY and CONTRACTOR shall make an inspection of the Work to determine the status of completion. If CITY does not consider the Work substantially complete, CITY will notify CONTRACTOR in writing giving reasons therefor. If CITY

considers the Work substantially complete, CITY will accept a corresponding partial Certificate of Substantial Completion. There shall be attached to the Certificate a Punch List of items to be completed or corrected before Final Acceptance and Final Payment.

5.13 Final Completion. When the Work is fully completed, CONTRACTOR shall provide CITY with a Certificate of Final Completion and shall request final inspection in writing. Additionally, CONTRACTOR shall provide legally effective releases or waivers satisfactory to CITY of all lien rights arising out of or liens filed in connection with the Work. Within ten (10) calendar days of receipt of such completed request form, CITY shall make final inspection. If following final inspection CITY determines that the Work (including all Punch List items) has been fully completed, CITY will process a Notice of Completion. If CITY determines that the Work is not complete after receipt of certification from CONTRACTOR, CONTRACTOR shall be notified in writing of deficiencies. After the deficiencies have been corrected, the procedure for final inspection as set forth above shall again be initiated by CONTRACTOR. In the event CITY determines the Work is fully completed, CITY shall initiate process of attaining a notice of completion.

5.13.1 Waiver of Claims at Final Payment. Acceptance of final payment by CONTRACTOR shall constitute a waiver of all claims by CONTRACTOR, except those previously made in writing and identified as unsettled at the time of final payment.

5.14 Construction Allowance Items. [reserved]

5.15 Superintendent. CONTRACTOR shall employ a competent superintendent and necessary assistants who shall be in attendance at the Project site during performance of the Construction Work. The superintendent shall represent CONTRACTOR, and communications given to the superintendent shall be as binding as if given to CONTRACTOR.

5.16 Documents and Samples at the Site. CONTRACTOR shall maintain at the site for CITY one record copy of the drawings, specifications, addenda, Change Order and other Modifications, in good order and marked currently to record changes and selections made during construction, and in addition approved Shop Drawings, Product Data, Samples and similar required submittals. CONTRACTOR shall also prepare one reproducible set of as-built drawings. These shall be provided to CITY upon completion of the Work.

5.17 Contingency. [reserved]

ARTICLE 6 CHANGES IN THE WORK; CLAIMS

6.1 Changes. Changes in the Work shall be performed under applicable provisions of the Contract Documents. If unit prices are stated in the Contract Documents or subsequently agreed upon, and if quantities originally contemplated are so changed in a proposed Change Order or Change Directive that application of such unit prices to quantities of Work proposed will cause substantial inequity to CITY or CONTRACTOR, the applicable unit prices for such change

order/directive shall be equitably adjusted. No GMP adjustment on account of a Change Order shall include CONTRACTOR's or Subcontractor's profit, Fee, home office overhead or a formula allocation of indirect costs unless otherwise specifically allowed hereunder.

6.2 Change Directives. The following procedures shall apply with respect to Change Directives:

6.2.1 Upon receipt of a Change Directive signed by CITY, CONTRACTOR shall promptly proceed with the change in the Work involved and advise CITY of CONTRACTOR's agreement or disagreement with the method, if any, provided in the Change Directive for determining the proposed adjustment in the GMP or the Schedule. If CONTRACTOR receives a written communication signed by CITY which CONTRACTOR believes is a Change Directive but is not so identified, it shall not proceed with the change in the Work until it receives from CITY a written confirmation that such communication is in fact a Change Directive.

6.2.2 A Change Directive signed by CONTRACTOR indicates the agreement of CONTRACTOR with the contents thereof, and shall convert the Change Directive to a Change Order.

6.2.3 If CONTRACTOR does not respond promptly or disagrees with the method for adjustment in the GMP or Schedule, the method and adjustment shall be determined as provided in Sections 6.5 or 6.10 below, as applicable. In such case, CONTRACTOR shall keep and present, in such form as CITY may request, an itemized accounting, together with appropriate supporting data.

6.2.4 Pending final determination of cost to CITY, amounts not in dispute shall be included in Applications for Payment. The amount of credit to be allowed by CONTRACTOR to CITY for a deletion or change which results in a net decrease in the GMP shall be actual net cost. When both additions and credits covering related Work or substitutions are involved in a change, the allowance for Fee shall be figured on the basis of net increase, if any, with respect to that change.

6.2.5 If CITY and CONTRACTOR do not agree with the adjustment in the Schedule or the GMP, such disagreement shall be submitted for dispute resolution in accordance with the provisions of this Contract.

6.3 Change Proposals. If CITY requests CONTRACTOR to submit a Change Proposal which would entitle CONTRACTOR to an increase in the GMP for costs of preparation of such Change Proposal pursuant to the provisions of this Section 6.3, CONTRACTOR shall first estimate the costs of preparing such Change Proposal and inform CITY in writing of such costs. CITY shall then direct CONTRACTOR either to proceed with the Change Proposal or cancel the Change Proposal. If CITY directs CONTRACTOR to proceed with the Change Proposal and then elects not to proceed with the Change Order contemplated therein, a Change Order shall be issued to reimburse CONTRACTOR for costs reasonably incurred by CONTRACTOR on account of such Change Proposal, but only to the extent the Change Order contemplated by such Change Proposal involves a material change to the scope of the Work requiring modification to

one or more systems which have been designed and approved in accordance with the standards set forth in the technical specifications. To the extent the preparation of such Change Proposal impacts the Schedule (e.g., other Work is suspended pending a decision on such Change Proposal or the Design Work is delayed due to the preparation of the Change Proposal), an equitable adjustment in the Schedule shall be made.

6.4 Claims. CONTRACTOR shall submit any claims for additional compensation to CITY in writing. The claim shall set forth the reason(s) that CONTRACTOR believes additional compensation will or may be due, the nature of the costs involved, and insofar as possible, the amount of the potential claim. The notice must be given to the Project Manager prior to the time that CONTRACTOR shall have performed the work giving rise to the potential work for additional compensation, if based on an act or failure to act by CITY, or in all other cases within fifteen (15) calendar days after happening of the event, thing or occurrence giving rise to the potential claim. Any and all Claims not presented as required herein shall be waived.

6.5 Change Orders Increasing or Decreasing Scope.

6.5.1 Increased Scope. With respect to Change Orders which increase the Scope of Work described on Exhibit F, are not due to the errors or omissions of CONTRACTOR and are not attributable to Excusable Delays or the contingencies set forth in Section 6.6 below, the GMP shall be increased by the following "Scope Change Costs":

6.5.1.1 Construction Work and Mark Ups.

6.5.1.1.1 The estimated increase in the Cost of the Work attributable to the Change Order and which would not have been incurred but for the Change Order and/or Work Directive. In addition, CONTRACTOR may add a markup of up to ten percent (10%), subject to the discretion of the Project Manager, to the increase in the Cost of the Work due to the Change Order. This markup shall constitute full compensation for all delay costs, overhead costs and profit. The GMP shall be revised accordingly.

6.5.1.1.2 When Change Order work is performed by a Subcontractor(s), each Subcontractor may add a markup of up to ten percent (10%), subject to the discretion of the Project Manager, to their direct costs for labor, materials and equipment used in performing the Change Order work. The GMP shall be revised accordingly.

6.5.2 Decreased Scope. With respect to Change Orders, which decrease the Scope of Work described on Exhibit F, the GMP shall be decreased by the Cost of Work attributable to such Change Order and/or Work Directive. Furthermore, if the Change Order deletes a part of the Scope of Work, CONTRACTOR shall be entitled to retain a value of five percent (5%) of the full value of the reduction in Cost of Work attributable only to the portion of the Scope of Work deleted from the Scope of Work. The GMP shall be revised accordingly.

6.6 Change Orders on Account of Contingencies. With respect to Change Orders which are attributable to the following contingencies, the GMP shall be adjusted (increased or decreased) by the following "**Contingency Costs**," consisting of the following:

6.6.1 With respect to new or increased taxes arising after the date of this Agreement (other than taxes assessed based on the income of CONTRACTOR), the Change Order shall consist of the incremental amount of such new or increased taxes only. With respect to reductions in taxes arising after the date of this Agreement (other than taxes assessed based on the income of CONTRACTOR), the Change Order shall consist of the incremental amount of such reduced taxes only.

6.6.2 With respect to increases or decreases in fees for permits or other governmental certificates or instruments arising after the date of this Agreement, the Change Order shall consist of the incremental amount of such increases or decreases. To the extent this Agreement states that a permit or certificate is not required and CONTRACTOR is later required to procure such permit or certificate, all out-of-pocket costs reasonably associated therewith shall be included in the Change Order.

6.7 Change Orders on Account of Excusable Delay. With respect to Change Orders, which are attributable to Excusable Delays, and subject to the exceptions set forth in Section 6.7.3 below, the GMP shall be increased by the following "Delay Costs":

6.7.1 Construction Work.

6.7.1.1 Increased allowable labor costs resulting from wage increases paid due to the delay;

6.7.1.2 Premiums for overtime and extra shifts incurred in accelerating the Work, but only if acceleration is required in advance by CITY;

6.7.1.3 Proven increased material costs;

6.7.1.4 Additional general conditions costs which would not have been incurred but for the delay (itemized, and not based on a formula allocation);

6.7.1.5 Demobilization and remobilization costs; and

6.7.1.6 Additional items of Cost of the Work attributable to the Excusable Delay and which would not have been incurred but for the Excusable Delay.

6.7.2 Intentionally left blank.

6.7.3 Exceptions. The following exceptions to the provisions of Section 6.7.1 above shall apply:

6.7.3.1 With respect to the Excusable Delay described in Section 4.4.2.1, the cost described in Section 6.7.1 shall not be compensable delay costs if such Excusable Delay occurs prior to the commencement of the Construction Work.

6.7.3.2 With respect to the Excusable Delay described in Section 4.4.2.2, the cost described in Section 6.7.1 shall not be compensable delay costs if such Excusable Delay occurs prior to the commencement of the Construction Work.

6.7.3.3 With respect to the Excusable Delay described in Section 4.4.2.4, costs incurred in connection with such delay are chargeable against the Cost of the Work but shall not increase the GMP.

6.7.3.4 With respect to the Excusable Delay described in Section 4.4.2.5, in addition to the compensation provided in Section 6.7.1, CONTRACTOR shall be entitled to the additional costs set forth in Section 6.10.

6.7.3.5 With respect to the Excusable Delay described in Section 4.4.2.7, additional compensation shall only be paid if the change in Applicable Law is not a change in law of general application (e.g., CAL/OSHA), but is a change in law specifically affecting the Project.

6.8 Force Majeure. There shall be no additional compensation to CONTRACTOR on account of Force Majeure.

6.9 Intentionally left blank.

6.10 Change Orders on Account of Differing Site Conditions. If CONTRACTOR encounters conditions described in Section 4.4 which constitute Excusable Delay, in addition to the increase in the GMP on account of delay costs incurred by CONTRACTOR (as described in Section 6.7.1), the GMP shall also be increased by the additional Cost of the Work attributable to such conditions which would not have been incurred but for such conditions.

6.11 Time Extensions on Account of Change Orders. CONTRACTOR shall be entitled to a time extension in connection with any Change Order to the extent its time of performance is extended due to such Change Order. CONTRACTOR shall present to CITY a CPM analysis showing how the Change Order affects the critical path of the Work.

ARTICLE 7 CORRECTION OF WORK

7.1 Correction of Work Prior to Completion. Prior to the date of Final Completion, CONTRACTOR shall correct Work which (a) CITY reasonably rejects as being defective or nonconforming to the requirements of the Contract Documents in a written notice delivered to CONTRACTOR or (b) CONTRACTOR recognizes is defective or nonconforming to the Contract Documents. If other portions of the Work are adversely affected by or are damaged by such defective Work, CONTRACTOR shall also correct, repair or replace such affected or damaged Work, as well as any other property of CITY or others damaged by such defective or nonconforming Work. Prior to the date of Final Completion, the cost of correcting any damaged or defective work shall be paid as a Cost of the Work.

7.2 Correction of Work After Completion. For defects identified by CITY and for which CITY has notified CONTRACTOR within a period of twelve (12) months after the date of Final Completion, or within such longer period as may be provided by special warranties contained in the Contract Documents, CONTRACTOR shall re-execute, correct, repair or replace all Work found to be defective or nonconforming to the Contract Documents (whether arising from a design or construction defect, error, omission or deficiency). If other portions of the Work are adversely affected by or damaged by such defective Work, CONTRACTOR shall also correct, repair or replace such affected or damaged Work, as well as any other property of CITY or others damaged by such defective or nonconforming Work.

7.3 Acceptance of Nonconforming Work. If CITY prefers to accept Work, which is not in accordance with the requirements of the Contract Documents, CITY may do so instead of requiring its removal and correction, in which case the GMP will be reduced as appropriate and equitable. Such adjustment shall be effected whether or not final payment has been made.

7.4 No Effect on Limitations. Nothing contained in this Article shall be construed to establish a period of limitation with respect to other obligations, which CONTRACTOR may have under the Contract Documents.

ARTICLE 8 SUBCONTRACTORS

8.1 Subcontracts

8.1.1 Incorporation of Contract Documents. CONTRACTOR may enter into Subcontracts with various Subcontractors for portions of the Work. The Subcontracts shall require each Subcontractor, to the extent of the Work to be performed by such Subcontractor, to assume towards CONTRACTOR all the obligations and responsibilities which CONTRACTOR assumes towards CITY. All Subcontracts shall incorporate the terms of this Agreement and the Contract Documents to the extent applicable to the Work to be performed by the Subcontractor.

8.1.2 Approval of Subcontractors. Those portions of the Construction Work that the CONTRACTOR does not intend to perform with CONTRACTOR's own personnel shall be performed under Subcontracts. A proposed list of Subcontractors shall be submitted to CITY for approval. Proposed Subcontractors will be deemed accepted unless CITY objects in writing within five (5) days after submission by CONTRACTOR.

ARTICLE 9 INSURANCE AND BONDS; INDEMNIFICATION

9.1 Insurance to be provided by CONTRACTOR:

A. Evidence of Coverage. CONTRACTOR shall, at all times, maintain in full force and effect at a minimum the insurance required by this section; and CONTRACTOR shall not allow any subcontractor to commence Work until similar insurance required of the subcontractor has been obtained and filed. An original Certificate of Insurance, and copies of all required endorsements, all in a form approved by the Risk Manager, evidencing all required coverage or policies shall be filed after the award of the bid and prior to approval of the Contract by the City Council. CONTRACTOR shall provide ten (10) Days prior written notice to CITY of any reduction of coverage limits or cancellation of the coverage or policies shall be given to the City of Roseville as Certificate holder.

B. Qualifying Insurers. With the exception of the State Compensation Insurance Fund, all required insurance policies shall be issued by companies licensed to do business in the State of California and who hold a current policy holders alphabetic and financial size category rating of not less than AVII according to the most recent issue of Best's Insurance Reports.

C. Insurance Required. Commercial General Liability, automobile liability, and worker's compensation insurance shall be maintained as follows:

- | | | |
|----|------------------------------------|-----------------------------|
| 1. | Commercial General Liability | \$2,000,000 each occurrence |
| | Minor Construction Project | \$4,000,000 aggregate |
| | (Projects under \$1,000,000) | |
| | | Personal Injury: |
| | | \$2,000,000 each occurrence |
| | | \$4,000,000 aggregate |
| | Commercial General Liability for | \$5,000,000 each occurrence |
| | Major Construction Projects | \$10,000,000 aggregate |
| | (Projects over \$1,000,000) | Personal Injury: |
| | | \$5,000,000 each occurrence |
| | | \$10,000,000 aggregate |
| 2. | Professional Liability (errors and | \$2,000,000 per claim |
| | omissions) | \$4,000,000 aggregate |

The Commercial General Liability policy shall include coverage or endorsements for:

- a. Completed operations.
- b. Losses related to independent contractors, products and equipment.
- c. Explosion, collapse and underground hazards.

The Commercial General Liability Insurance shall include the following, copies of which shall be provided:

- a. Inclusion of the City of Roseville, and its officers, agents, employees and volunteer, as additional insured (except for workers' compensation as respects services or operations under the Contract. The additional insured endorsement for

the general liability policy shall be at least as broad as the Insurance Services Office ("ISO") CG 20 38 04 13 or an equivalent, blanket endorsement or section of the policy. Endorsements must include coverage for on-going and completed operations. Endorsements shall cover the City of Roseville, its officers, agents, employees, and volunteers.

- b. Cross liability and severability of interest clauses providing that the insurance applies separately to each insured except with respect to the limits of liability.
- c. Stipulation that the insurance is primary and noncontributory, as evidenced by a separate endorsement (CG 20 01 04 13 or an equivalent) or section of the policy, and that neither CITY nor its insurers will be called upon to contribute to a loss.
- d. Such insurance shall specifically cover the contractual liability of the CONTRACTOR.
- e. Any available insurance proceeds in excess of the specified minimum insurance coverage requirements and limits shall be available to the additional insureds. Furthermore, the requirements for coverage and limits shall be: (1) the minimum coverage and limits specified in this Agreement; or (2) the full coverage and maximum limits of any insurance proceeds available to the named insureds, whichever is greater.
- f. Waiver of subrogation endorsement.
- g. CONTRACTOR shall furnish a certificate for the period covered.

SPECIAL NOTICE - CLAIMS MADE COVERAGE:

Liability insurance coverage may not be written on a "claims made" basis. The Certificate of Insurance must clearly provide that the coverage is on an "occurrence" basis.

2. Comprehensive Automobile Liability for bodily injury (including death) and property damage which provides total limits of not less than One Million Dollars (\$1,000,000) combined single limits per accident, applicable to all owned, non-owned, and hired vehicles.

3. Statutory Workers' Compensation and Employer's Liability Insurance, including a waiver of subrogation endorsement and a Broad Form "All-States" Endorsement for all employees engaged in services or operations under the Contract. The employer's liability insurance shall provide limits of not less than One Million Dollars (\$1,000,000) per occurrence. Both the worker's compensation and employer's liability policies shall contain the Insurer's waiver of subrogation in favor of CITY, its officers, agents, employees, and volunteers.

4. Builder's Risk/Course of Construction Insurance: CONTRACTOR shall be responsible for all loss, damage or destruction whatsoever to the Work called for by this Contract until the approval of a Notice of Completion. CONTRACTOR shall secure "All Risk" type of builder's Risk Insurance of the type covering one hundred percent (100%) of the value of the Work performed under this Contract (the value is presumed to be the Contract amount unless otherwise stated in Supplemental Conditions) and all materials, equipment, or other items to be incorporated therein while the same are located at the construction site, a bonded warehouse, or its place of manufacture. At any time, the policy shall cover the value of the Work completed. The policy shall cover hazards including the losses due to fire, explosion, hail, rain, lightning,

flood (separate insurance as needed), vandalism, malicious mischief, wind, collapse, aircraft, and smoke.

The policies providing such insurance shall name CITY as a loss payee as its respective interests may appear, and certified copies of such policies shall be filed with CITY. The maximum deductible allowable under the Builder's All Risk policy shall be five percent (5%) of the Contract amount.

Builder's Risk Insurance is not required for coverage of losses in excess of five percent (5%) of the Contract amount for damages resulting from earthquake in excess of a magnitude of 3.5 on the Richter scale, or tidal waves. Coverage in the amount of five percent (5%) of the Contract amount for such losses is required.

D. Other Insurance Provisions.

1. The requirements of the Contract Conditions as to types and limits of insurance coverage to be maintained by CONTRACTOR, and any approval of insurance by CITY, are not intended to, and shall not in any manner limit or qualify the liabilities and obligations otherwise assumed by CONTRACTOR pursuant to the Contract, including, but not limited to, the provisions concerning indemnification, nor preclude CITY from taking any other action available to it under any other provision of the Contract or law.

2. CITY acknowledges that some insurance requirements contained in the Contract Conditions may be fulfilled by self-insurance on the part of CONTRACTOR. However, this shall not in any way limit liabilities assumed by CONTRACTOR under the Contract. Any self-insurance must be approved in writing by CITY, in its sole discretion and shall not reduce the limits of liability. Any deductibles or self-insured retentions ("SIR") must be declared on the certificate of insurance and approved by CITY in writing. Policies containing any SIR provision shall provide or be endorsed to provide that the SIR may be satisfied by either the named insured or CITY. CITY reserves the right to obtain a full certified copy of any insurance policy and endorsements. The failure to exercise this right shall not constitute a waiver of such right.

3. CONTRACTOR agrees to include in its contracts with all subcontractors the same requirements and provisions of this Contract, including the indemnity and insurance requirements, to the extent they apply to the scope of the subcontractor's work. Furthermore, CONTRACTOR shall require its subcontractors to agree to be bound to CONTRACTOR and CITY in the same manner and to the same extent as CONTRACTOR is bound to CITY under this Contract. Additionally, CONTRACTOR shall obligate its subcontractors to comply with these same provisions with respect to any tertiary subcontractor, regardless of tier. A copy of CITY's indemnity and insurance provisions will be furnished to the subcontractor or tertiary subcontractor upon request. Alternatively, CONTRACTOR may insure subcontractor(s) under its own policy.

4. CITY, its officers, agents, employees and volunteers are to be covered as insureds with respect to liability arising out of automobiles owned, leased, hired or borrowed by or on behalf of CONTRACTOR; and with respect to liability arising out of work or operations

performed by or on behalf of CONTRACTOR including materials, parts or equipment furnished in connection with such work or operations. Coverage shall not extend to any indemnity coverage for the active negligence of the additional insured in any case where an agreement to indemnify the additional insured would be invalid under California Insurance Code Section 11580.04. In addition, the insurance policy may not contain language which prohibits additional insureds or other insurers from satisfying the self-insured retention or deductible.

5. The limits of insurance required in this Contract may be satisfied by a combination of primary and excess insurance. Any excess insurance shall contain or be endorsed to contain a provision that such coverage shall also apply on a primary and noncontributory basis for the benefit of CITY (if agreed to in a written contract) before the CITY's own insurance shall be called upon to protect it as a named insured.

6. Unless provided by CONTRACTOR, CONTRACTOR shall require its Architect/Engineer to provide professional liability (errors and omissions) insurance (certificate and additional insured endorsement).

7. CITY RESERVES THE RIGHT TO WITHHOLD ANY PROGRESS PAYMENTS TO CONTRACTOR IN THE EVENT OF NONCOMPLIANCE WITH ANY INSURANCE REQUIREMENTS.

9.2 Insurance to be provided by CITY. [not applicable]

9.3 Payment, Performance and Warranty Bonds. CONTRACTOR shall furnish and deliver to CITY Performance, Labor & Materials, and Warranty Bonds issued by a surety prior to, and as a condition precedent to, commencement of the Construction Work on the Site; provided, however, the Warranty Bond shall be waived if such bond is not required pursuant to CITY's request for proposals for the Project. The Payment and Performance Bonds shall be in a penal sum equal to one hundred percent (100%) of the GMP, and the Warranty Bond shall be in the penal sum equal to ten percent (10%) of the GMP. All bonds shall be in the form as set forth in Exhibit E hereto. All premiums for the Performance, Labor & Materials, and Warranty Bonds shall be a Cost of the Work. CITY shall have the right to withhold any payment(s) under this Agreement until CONTRACTOR has fully complied with this sub-section.

9.4 Indemnification. To the fullest extent allowed by law, CONTRACTOR shall defend, indemnify, and hold harmless, CITY, its officers, employees, agents, and volunteers, and each and every one of them, from and against all actions, damages, claims, losses, expenses or other liabilities of every type and description, including reasonable attorney fees, to which they may be subjected or put, by reason of, or resulting from, the performance of the Work, whether upon or off the Work, including the loss of use thereof, that is caused in whole or in part by willful or reckless misconduct and/or any negligent or wrongful act or omission of CONTRACTOR, any Subcontractor, and anyone directly or indirectly employed by any of them or anyone for whose acts any of them may be liable, whether or not it is caused in part by a party indemnified hereunder, except for such claims arising from the sole or active negligence of CITY. The parties intend that this provision shall be broadly construed.

CONTRACTOR's responsibility for such defense and indemnity obligations shall survive the termination or completion of this Agreement for the full period of time allowed by law. The defense and indemnity obligations of this Agreement are undertaken in addition to, and shall not in any way be limited by, the insurance obligations contained in this Agreement.

ARTICLE 10 PROTECTION OF PERSONS AND PROPERTY

10.1 Safety Precautions and Programs.

10.1.1 Site Safety. CONTRACTOR shall be responsible for initiating, maintaining and providing supervision of safety precautions and programs in connection with the Work, and shall also comply with any and all insurance carrier-mandated safety requirements and programs.

10.1.2 Safety Notices. In connection with the performance of the Work, CONTRACTOR shall provide notices and comply with all Applicable Laws bearing on the safety of persons and property and their protection from damage, injury or loss.

10.2 Safety of Persons and Property.

It is the intent of the parties that CITY is not an exposing, creating, controlling, or correcting employer under California Labor Code Section 6400. In accordance with generally accepted fabrication and construction practices and all applicable Laws and Standards and Codes, CONTRACTOR shall have the authority and be solely and completely responsible for the safety of all property utilized and all persons performing under this Agreement. Moreover, the CONTRACTOR shall be the controlling employer and has the authority and responsibility to enforce safety for all fabrication, construction work, and Work performed under this Agreement. The services of CITY's contract administrator, if any, in conducting a review of CONTRACTOR's performance under this Agreement is not intended to include a review of the adequacy of CONTRACTOR's work methods, equipment or safety measures. If CITY and/or its contract administrator observes a safety violation related to the CONTRACTOR's performance under this Agreement, then CITY and/or its contract administrator will report the violation to the CONTRACTOR who is then responsible for assuring the violation is abated.

CONTRACTOR is hereby informed that work on this Project could be hazardous. CONTRACTOR shall carefully instruct all personnel performing under this Agreement in potentially hazardous work areas as to potential dangers and shall provide such necessary safety equipment and instructions as are necessary to prevent injury to personnel and damage to property.

All Equipment, Work and materials provided under this Agreement shall be in strict accordance with all applicable Laws and Standards and Codes, and attention is drawn to the requirements of CAL/OSHA.

CONTRACTOR shall perform under this Agreement so as not to expose personnel to, or to discharge into the atmosphere from any materials brought to the Site by CONTRACTOR,

smoke, dust, asbestos, toxic chemicals or other air contaminants in violation of applicable Laws and Standards and Codes.

10.2.1 Reasonable Precautions. CONTRACTOR shall take all precautions and implement all safety measures and requirements imposed by any Applicable Law. Without limiting the generality of the foregoing, CONTRACTOR shall take necessary precautions for the safety of, and shall provide necessary protection to prevent damage, injury or loss to:

10.2.1.1 Employees on the Work and other persons who may be affected thereby;

10.2.1.2 The Work and materials and equipment to be incorporated therein, whether in storage on or off the Site under care, custody or control of CONTRACTOR; and

10.2.1.3 Other property at the Site or adjacent thereto, such as trees, shrubs, lawns, walks, pavements, roadways, structures and utilities not designated for removal, relocation or replacement in the course of the Construction Work.

10.2.2 Safeguards. CONTRACTOR shall erect and maintain, as required by existing conditions and performance of the Work, reasonable safeguards for safety and protection, including posting danger signs and other warnings against hazards, promulgating safety regulations and notifying CITY and users of adjacent sites and utilities, and shall comply fully with the requirements of CAL/OSHA.

10.2.3 Use of Explosives. Use of explosives is prohibited, unless approved in advance in writing by CITY. CITY may impose reasonable conditions on the use of explosives.

10.2.4 Remedy of Damage. CONTRACTOR shall promptly remedy damage and loss to property referred to in Sections 10.2.1.2 and 10.2.1.3 caused in whole or in part by CONTRACTOR, or anyone employed by or in control of CONTRACTOR, or any Subcontractor. All costs incurred by CONTRACTOR in connection with its obligations under this Section shall be cost of the Work, but shall not increase the GMP.

10.2.5 Designation of Safety Coordinator. [reserved]

10.2.6 Loads. CONTRACTOR shall not load or permit any part of the Construction Work or the Site to be loaded so as to endanger its safety.

10.3 Security. CONTRACTOR shall take any and all precautions that may be reasonably necessary to render all portions of the Work, the Site and any adjacent areas affected by the Work secure in all material respects, to decrease the likelihood of accidents, and to avoid vandalism and other contingencies which are liable to delay the Work or give rise to claims or liabilities. CONTRACTOR shall furnish and install all necessary facilities to provide safe means of access to all points where Work is being performed. CONTRACTOR shall take all precautions and measures as may be reasonably necessary to secure the Project at all hours,

including evenings, holidays and non-work hours. Such precautions may include provision of security guards.

10.4 Damage to Property at the Site. CONTRACTOR shall be responsible for any and all damage or loss to property at the Site, except to the extent caused by the acts or omissions of CITY or its representatives, agents or employees. If such damage or loss is caused by CONTRACTOR, payment of such costs as Cost of the Work shall be limited by the provisions of Section 2.20.5 hereof.

10.5 Damage to Property of Others. CONTRACTOR shall avoid damage, as a result of CONTRACTOR's operations, to existing sidewalks, curbs, streets, alleys, pavements, utilities, adjacent property, the work of Separate Contractors and the property of CITY. CONTRACTOR shall repair any such damage caused by the operations of CONTRACTOR.

10.6 Failure of CONTRACTOR to Repair Damage. If CONTRACTOR fails to commence the repair of damage to property as set forth in this Article, and/or diligently pursue such repair, then CITY, after ten (10) Days prior written notice to CONTRACTOR (provided CONTRACTOR has not commenced such repair during such ten (10) Day period), may elect to repair such damages with its own forces and to deduct from payments due or to become due to CONTRACTOR amounts paid or incurred by CITY in correcting such damage.

10.7 Emergencies. In an emergency affecting the safety of persons or property, CONTRACTOR shall act, at CONTRACTOR's discretion, to prevent threatened damage, injury or loss. Additional costs or extensions of time caused by CONTRACTOR on account of an emergency not caused by the fault or neglect of CONTRACTOR shall be determined as provided in Section 6.2 hereof.

ARTICLE 11 DISPUTES

11.1 Disputes between CITY and CONTRACTOR. In the event of any dispute arising between CITY and CONTRACTOR regarding any part of the Contract or the Contract Documents, or the Parties' obligations or performance thereunder, and subject to any claims presentation requirements set forth in the Contract Documents, either Party may institute the dispute resolution procedures set forth herein. The Parties shall continue performance of their respective obligation hereunder notwithstanding the existence of a dispute.

11.2 Dispute Resolution Procedures. CONTRACTOR must submit all claims as defined in and in accordance with the claim resolution process set forth in Section 9204 of the Public Contract Code. Each such claim must be sent to CITY by registered mail or certified mail with return receipt requested and must contain reasonable documentation to support the claim. All claims must be received prior to acceptance of the Work and will be handled in accordance with the procedures set forth in Section 9204 of the Public Contract Code.

ARTICLE 12

EVENTS OF DEFAULT AND REMEDIES; TERMINATION

12.1 CONTRACTOR Events of Default. The following shall be considered "CONTRACTOR Events of Default":

12.1.1 If CONTRACTOR fails or neglects to carry out the Work in accordance with the provisions of the Contract Documents, and fails, after seven (7) Days notice from CITY, to commence a cure to correct such failure or neglect and thereafter diligently pursue such cure to completion;

12.1.2 If CONTRACTOR materially breaches this Agreement and fails, after seven (7) Days notice from CITY, to commence a cure to correct such breach and thereafter diligently pursue such cure to completion (such breach to include, but not be limited to, failure to make payment to Subcontractors for materials or labor in accordance with the respective agreements between CONTRACTOR and the Subcontractors or violation of Applicable Laws);

12.1.3 If a custodian, trustee or receiver is appointed for CONTRACTOR, or if CONTRACTOR becomes insolvent or bankrupt, is generally not paying its debts as they become due or makes an assignment for the benefit of creditors, or CONTRACTOR causes or suffers an order for relief to be entered with respect to it under applicable bankruptcy law or applies for or consents to the appointment of a custodian, trustee or receiver for CONTRACTOR, or bankruptcy, reorganization, arrangement or insolvency proceedings, or other proceedings for relief under any bankruptcy or similar law or laws for the relief of debtors, are instituted by or against CONTRACTOR, and in any of the foregoing cases such action is not discharged or terminated within sixty (60) Days of its institution.

12.2 Remedies of CITY upon a CONTRACTOR Event of Default.

12.2.1 Termination of Contract. Upon the occurrence of a CONTRACTOR Event of Default, CITY shall have the right to terminate this Contract upon an additional seven (7) Days written notice to CONTRACTOR, provided that CONTRACTOR has not commenced a cure within such seven (7) Day period. Without prejudice to any other rights or remedies of CITY, CITY may:

12.2.1.1 Take possession of the Site and of all materials, equipment, tools and construction equipment thereon owned by CONTRACTOR;

12.2.1.2 Accept assignment of Subcontracts; and

12.2.1.3 Finish the Work by whatever reasonable method CITY may deem expedient.

12.2.1.4 When CITY terminates the Contract as aforesaid, CONTRACTOR shall not be entitled to receive further payment until the Work is finished. If the unpaid balance of the GMP exceeds costs incurred in finishing the Work, such excess shall be paid to

CONTRACTOR, up to the amount due CONTRACTOR for work performed prior to termination. If such costs exceed the unpaid balance of the GMP, CONTRACTOR shall pay the difference to CITY.

12.2.2 Recourse to Payment and Performance Bonds. Upon the occurrence of a CONTRACTOR Event of Default and termination of this Contract by CITY, CITY may call upon the Surety to perform its/their obligations under the Payment and Performance Bonds, if applicable.

12.3 Remedies not Exclusive. Except as otherwise provided in this Agreement, no remedy hereunder is intended to be exclusive of any other remedy, but each and every such remedy shall be cumulative and shall be in addition to any other available legal or equitable remedy, existing now or hereafter. No delay or omission to exercise any right or power accruing shall impair any such right or power nor shall it be construed to be a waiver of any Event of Default or acquiescence therein, and every such right and power may be exercised from time to time as often as may be deemed expedient.

12.4 Termination or Suspension for Convenience.

12.4.1 Termination for Convenience. CITY may, without cause, terminate this Contract, or any portion of Work to be performed hereunder at any time by a notice in writing from CITY to CONTRACTOR for CITY's convenience. In such case, CITY shall pay to CONTRACTOR all funds due CONTRACTOR for work performed up to the date of termination, plus all demobilization and close-out costs, including, but not limited to, any amounts payable to Subcontractors for early termination, plus reasonable overhead and profit on Work performed. All funds due hereunder, including unpaid Retention, shall be released within thirty (30) Days of termination of the Contract for convenience, subject to any withholding required or authorized by any Applicable Law. In no event shall such amounts owed to CONTRACTOR exceed the GMP.

12.4.2 Suspension for Convenience. CITY may, without cause, order CONTRACTOR in writing to suspend, delay or interrupt the Work in whole or in part for such period of time as CITY may determine. An adjustment shall be made for increases in the cost of performance of the Work, including Fee on the increased cost of performance, caused by the suspension, delay or interruption, in accordance with the Change Order provisions of this Contract. No adjustment shall be made to the extent (1) the performance is, was or would have been so suspended, delayed or interrupted by another cause for which CONTRACTOR is responsible or (2) that an equitable adjustment to the GMP and/or Schedule is made or denied under another provision of this Contract. Adjustments made in the cost of performance may have a mutually agreed fixed or percentage Fee.

ARTICLE 13 MISCELLANEOUS PROVISIONS

13.1 Governing Law. This Contract shall be construed with and governed by the laws of the State of California.

13.2 Successors and Assigns. CITY and CONTRACTOR respectively bind themselves, their partners, shareholders, successors, assigns and legal representatives to the other Party hereto and to shareholders, successors, assigns and legal representatives of such other Party in respect to covenants, agreements and obligations contained in the Contract Documents. Neither Party shall assign the Contract without the prior written consent of the other.

13.3 Notice. Any notices to Parties required by this Agreement shall be delivered or mailed, U.S. first class, postage prepaid, addressed as follows:

If to CITY:

If to CONTRACTOR:

Address for Notice may be changed by Notice to the other Party.

13.4 Prevailing Wages. For purposes of this Agreement, CONTRACTOR and its Subcontractors shall comply with all applicable prevailing wage laws, e.g., but not limited to, California Labor Code Sections 1770 et seq. In accordance with said Section 1775, CONTRACTOR shall forfeit as a penalty to CITY Two Hundred Dollars (\$200) for each calendar Day or portion thereof for each worker paid less than the prevailing rates for such work or craft in which such worker is employed for any work done on-Site under the Agreement by CONTRACTOR or by any Subcontractor in violation of the provisions of the Labor Code and in particular, Labor Code Sections 1770 to 1780, inclusive. In addition to said penalty and pursuant to said Section 1775, the difference between such stipulated prevailing wage rates and the amount paid to each worker for each calendar Day or portion thereof for which each worker was paid less than the stipulated prevailing wage shall be paid to each worker by CONTRACTOR or the applicable Subcontractor.

Pursuant to the provisions of California Labor Code Section 1773, the Department of Industrial Relations has identified the source, stated below, of the General Prevailing Rate of Wages applicable to the work to be done, for straight time, overtime, and holiday work. The holiday wage rate listed shall be applicable to all holidays recognized in the collective bargaining agreement of the particular craft, classification or type of worker concerned. These wage rates may be obtained from the State Department of Industrial Relations and/or the following website address: <http://www.dir.ca.gov/dlsr/DPreWageDetermination.htm>, which is a part of this Agreement.

Pursuant to Labor Code Section 1773.2, the General Prevailing Wage Rates set forth above by the Department of Industrial Relations, which form a part of this Agreement, shall be posted by CONTRACTOR at a prominent place at the Site.

13.5 Modifications. No Modifications or Change Orders shall be valid unless in writing and signed by CITY and CONTRACTOR.

13.6 Interpretation. Any and all headings of this Agreement are for convenience of reference only and do not modify, define or limit the provisions thereof. Words of any gender shall be deemed and construed to include correlative words of the other gender. Words importing the singular number shall include the plural number and vice versa, unless the context shall otherwise be deemed to include all supplements and/or amendments to any such exhibits or documents entered into in accordance with the terms hereof and thereof. All references to any person or entity shall be deemed to include any person or entity succeeding to the rights, duties and obligations of such person or entity in accordance with the terms of this Agreement. Where reference is made in this Agreement to another Contract Document, the reference refers to that provision as amended or supplemented by the other provisions of the Contract Documents. In the event of any conflict between or among the Contract Documents, the provisions of this Agreement shall govern.

13.7 Severability. If any provision of this Agreement is held to be inoperative or unenforceable as applied in any particular case because it conflicts with any other provision hereof or any constitution, statute, ordinance, rule of law or public policy, or for any other reason, such holding shall not have the effect of rendering the provision in question inoperative or unenforceable in any other case, or of rendering any other provision herein contained inoperative or unenforceable to any extent whatever. The invalidity of any one or more phrases, sentences, clauses or sections contained in this Agreement shall not affect the remaining portions of this Agreement or any part hereof, and they shall otherwise remain in full force and effect.

13.8 Whole Agreement. This Agreement, the Exhibits hereto and the Contract Documents, specifications and Drawings shall constitute the entire agreement between the Parties, and no inducements, considerations, promises or other references shall be implied in this Agreement that are not expressly addressed herein

13.9 Accounting Records. CONTRACTOR shall keep full and detailed accounts and exercise such controls as may be necessary for proper financial management under this Agreement; the accounting and control systems shall be reasonably satisfactory to CITY. CITY and CITY's accountants shall be afforded access to CONTRACTOR's records, books, correspondence, instructions, drawings, receipts, Subcontracts, vouchers, memoranda and other data relating to this Agreement, and CONTRACTOR shall preserve these for a period of three (3) years after final payment, or for such longer period as may be required by law.

13.10 Intentionally left blank.

13.11 No Waiver. Neither the inspection by CITY or its agents, nor any order or certificate for payment of money, nor payment for, nor acceptance of the whole or any part of the work by CITY, nor any extensions of time, nor any position taken by CITY or its agents shall operate as a waiver of any provision of this Agreement or of any power herein reserved to CITY or any right

to damages herein provided, nor shall any waiver of any breach of this Agreement be held to be a waiver of any other or subsequent breach.

13.12 CONTRACTOR Shall Assume Risks. Until the Final Completion or acceptance by CITY of all Work under this Contract, the Work shall be under CONTRACTOR's responsible care and charge. CONTRACTOR shall rebuild, repair, restore and make good all injuries, damages, corrections, and repairs occasioned or rendered necessary by accidental causes of any nature, to all or any portions of the Work, except as otherwise stipulated.

13.13 General Liability of CONTRACTOR. Except as otherwise herein expressly stipulated, CONTRACTOR shall perform all the work and furnish all the labor, materials, tools power and light, and appliances, necessary or proper for performing and completing the Work herein required in the manner within the time herein specified. The mention of any specific duty or liability of CONTRACTOR shall not be construed as a limitation or restriction of any general liability or duty of CONTRACTOR and, any reference to any specific duty or liability shall be construed to be the purpose of explanation.

13.14 Attorney's Fees and Venue. If either Party commences any legal action against the other Party arising out of this Agreement or the performance thereof, the prevailing Party shall be entitled to recover its reasonable litigation expenses, including but not limited to, court costs, expert witness fees, discovery expenses, and attorney's fees. Any action arising out of this Agreement shall be brought in Placer County, California, regardless of where else venue may lie. To the extent permitted by applicable law, each Party waives any defense that it may have based on lack of *in personam* jurisdiction or *forum nonconveniens*.

13.15 Third Party Beneficiaries. There are no third party beneficiaries to this Agreement.

IN WITNESS WHEREOF, the City of Roseville, a municipal corporation, has authorized the execution of this Agreement in duplicate by its City Manager and attested to by its City Clerk under the authority of Resolution No. _____, adopted by the Council of the City of Roseville on the ____ day of _____, 20____, and CONTRACTOR has caused this Agreement to be executed.

CITY OF ROSEVILLE, a
municipal corporation:

_____, a
_____:

BY: _____
DOMINICK CASEY
City Manager

BY: _____
its: _____

ATTEST:

and

BY: _____
CARMEN AVALOS
City Clerk

BY: _____
its: _____

APPROVED AS TO FORM:

BY: _____
MICHELLE SHEIDENBERGER
City Attorney

APPROVED AS TO SUBSTANCE:

By: _____

LIST OF EXHIBITS:

Exhibit A	Guaranteed Maximum Price
Exhibit B	Construction Allowance Items [reserved]
Exhibit C	Hazardous Materials
Exhibit D	In Lieu of Securities Escrow Agreement
Exhibit E	Performance, Labor & Materials, and Warranty Bonds (Note: Warranty Bond may be waived at the option of CITY)
Exhibit F	CONTRACTOR's Proposal

EXHIBIT A

GUARANTEED MAXIMUM PRICE, FEE, AND COST OF WORK

A. GUARANTEED MAXIMUM PRICE: The **Guaranteed Maximum Price** as of the date of execution of this Agreement is _____ (\$_____), U.S. Currency.

B. FEE AND CONTINGENCY: The Fee and Contingency amounts, if any, are as stated in the Proposal.

C. COST OF THE WORK:

1. "Cost of the Work." The term "Cost of the Work" shall mean costs incurred by CONTRACTOR in the performance of the Work, that do not exceed the GMP. The following are categories of cost and expense to be paid by CITY to CONTRACTOR as Cost of the Work:

2. Construction Costs.

2.1 Labor Costs.

2.1.1 Wages of construction workers directly employed by CONTRACTOR to perform the construction of the Work at the Site or, with CITY's agreement, at off-site workshops.

2.1.2 Wages or salaries of CONTRACTOR's supervisory and administrative personnel when stationed at the Site and wages, salaries and other costs of project management, pre-construction services, form design, foundation engineering, manpower planning, purchasing, estimating and data processing, whether performed at the Site or in CONTRACTOR's offices, including, but not limited to services rendered during the Design Phase of the Project.

2.1.3 Wages and salaries of CONTRACTOR's supervisory or administrative personnel engaged at factories, workshops or on the road, in expediting the production or transportation of materials or equipment required for the Work, but only for that portion of their time required for the Work.

2.1.4 Costs paid or incurred by CONTRACTOR for taxes, insurance, contributions, assessments and benefits required by law or collective bargaining agreements and, for personnel not covered by such agreements, customary benefits such as sick leave, medical and health benefits, holidays, vacations and pensions, provided such costs are based on wages and salaries included in subsections 2.1.1 through 2.1.3 above.

2.2 Subcontract Costs. Amounts due Subcontractors for work, excluding Change Order work, in accordance with the requirements of the Subcontracts.

2.3 Costs of Materials and Equipment Incorporated in the Completed Construction. Costs, including transportation, of materials and equipment incorporated or to be incorporated in the completed construction.

2.4 Costs of other Materials and Equipment, Temporary Facilities, and Related Items.

2.4.1 Costs, including transportation, installation, maintenance, dismantling and removal of materials, supplies, temporary facilities, machinery, equipment and hand tools not customarily owned by the construction workers, which are provided by CONTRACTOR at the Site and fully consumed in the performance of the Work; and cost, less salvage value, on such items if not fully consumed, whether sold to others or retained by CONTRACTOR. Costs for items previously used by CONTRACTOR shall mean fair market value.

2.4.2 Rental charges for temporary facilities, machinery, equipment and hand tools not customarily owned by the construction workers, which are provided by CONTRACTOR at the Site, whether rented from CONTRACTOR or others, and costs of transportation, installation, minor repairs and replacements, dismantling and removal thereof. Rental charges for equipment owned by CONTRACTOR shall be at then prevailing rates.

2.4.3 Costs of removal of debris from the Site.

2.4.4 Costs of facsimiles, telegrams and long distance telephone calls, postage and delivery charges (whether originating at the Site or at the offices of CONTRACTOR or CONTRACTOR), telephone service at the Site and reasonable petty cash expenses of the Site office.

2.5 Premiums; Taxes; Fees; Royalties.

2.5.1 That portion directly attributable to this Agreement of premiums for insurance and the Payment and Performance Bonds.

2.5.2 Sales, use, gross receipts or similar taxes imposed by a governmental authority, which are related to the Work and for which CONTRACTOR is liable.

2.5.3 Fees and assessments for any permits, licenses and inspections required by the Contract Documents.

2.5.4 Fees of testing laboratories for tests required by the Contract Documents or government authorities.

2.5.5 Royalties and license fees paid for the use of a particular design, process or product required by the Contract Documents. The costs of defending suits or claims for infringement of patent rights arising from such requirement by the Contract Documents; payments made in accordance with legal judgments against CONTRACTOR or CONTRACTOR resulting from such suits or claims and payments of settlements in connection therewith.

2.5.6 Deposits lost for cause other than CONTRACTOR's negligence.

2.6 Emergencies. Costs incurred in taking action to prevent threatened damage, injury or loss in case of emergency affecting the safety of persons and property, as provided in Section 10.7 of this Agreement.

2.7 Other Costs. Other costs incurred in the performance of the Work, if and to the extent approved in writing by CITY, which approval shall not be unreasonably withheld.

3. Items not Included in Cost of the Work.

3.1 Salaries and other compensation of CONTRACTOR's personnel stationed at CONTRACTOR's principal office or offices other than the Site, except as specifically provided in subsections 2.1.2 and 2.1.3 above.

3.2 Expenses of CONTRACTOR's principal office and offices, other than the Site office.

3.3 Overhead and general expenses, except as may be included in Sections 1 and 2 above.

3.4 The capital expenses of CONTRACTOR, including interest on capital employed for the Work.

3.5 Costs that would cause the GMP to be exceeded.

EXHIBIT B
CONSTRUCTION ALLOWANCE ITEMS

(reserved)

EXHIBIT C

HAZARDOUS MATERIALS

1. Certain Definitions.

1.1 "Hazardous Materials" means any substance:

1.1.1 the presence of which requires investigation or remediation under federal, state or local law, statute, regulation, ordinance, order, action, policy or common law;

1.1.2 which is or becomes defined as a "hazardous waste," "hazardous substance," pollutant or contaminant under any federal, state or local law, statute, regulation, rule or ordinance or amendments thereto, including, without limitation, the Comprehensive Environmental Response, Compensation and Liability Act, 42 USC §§9601 et seq. ("CERCLA"), as amended, or the Resource, Conservation and Recovery Act, as amended, 42 USC §§6901 et seq. ("RCRA");

1.1.3 which is petroleum, including crude oil or any fraction thereof not otherwise designated as a "hazardous substance" under CERCLA, including without limitation gasoline, diesel fuel or other petroleum hydrocarbons;

1.1.4 which is toxic, explosive, corrosive, flammable, infectious, radioactive, carcinogenic, mutagenic, or otherwise hazardous and is or becomes regulated by any governmental authority or instrumentality;

1.1.5 the presence of which on the Site causes or threatens to cause a nuisance upon the Site or to the adjacent properties or poses or threatens to pose a hazard to the health or safety of persons on or about the Site; or

1.1.6 the presence of which on adjacent properties could constitute a trespass by CONTRACTOR or CITY.

1.2 "Underground Storage Tank" shall have the definition assigned to that term by RCRA §9001, 42 USC §6991, and also shall include:

1.2.1 any tank of 1,100 gallons or less capacity used for storing motor fuel;

1.2.2 any tank used for storing heating oil for consumption on the premises where stored;

1.2.3 any septic tank; and

1.2.4 any pipes connected to items 1.2.1-1.2.3.

1.3 "Environmental Requirements" means all Applicable Laws, statutes, regulations, rules, ordinances, codes, licenses, permits, orders and similar items of all federal, state or local governmental agencies or other instrumentalities and all applicable judicial, administrative and regulatory decrees, judgments and orders relating to the protection of human health or the environment, including, without limitation:

1.3.1 all requirements, including but not limited to, those pertaining to reporting, licensing, permitting, investigation and remediation of emissions, discharges, releases or threatened releases of Hazardous Materials into the air, surface water, ground water or land, or relating to the manufacture, processing, distribution, use, treatment, storage, disposal, transport or handling of Hazardous Materials; and

1.3.2 all requirements pertaining to the protection of the health and safety of employees or the public.

1.4 "Environmental Damages" means all claims, judgments, damages, losses, penalties, fines, liabilities, encumbrances, liens, costs and expenses of investigation and defense of any claim, including, without limitation, attorney's fees, which are incurred at any time as a result of the existence of Hazardous Materials upon, about or beneath the Site or migrating or threatening to migrate to or from the Site, and including, without limitation:

1.4.1 damages for personal injury, or injury to property or to natural resources occurring upon or off the Site;

1.4.2 fees incurred for the services of attorneys, consultants, CONTRACTOR, experts, laboratories and all other costs incurred in connection with the investigation or remediation of such Hazardous Materials or violation of Environmental Requirements; and

1.4.3 liability to any third party or governmental agency or political subdivision to indemnify such party, agency or political subdivision for costs expended in connection with the items listed in subparagraph 1.4.2.

1.5 "Environmental Conditions" means collectively, Hazardous Materials and Underground Storage Tanks existing on the Site and not brought there by CONTRACTOR or any Subcontractor.

2. Investigation of Site.

2.1 Upon written notice from CITY, CONTRACTOR shall prepare for approval and execution by CITY, one or more contracts ("Environmental Contracts") with suitably qualified consultants and/or engineers ("Environmental Engineers"), for purposes of performing an investigation and analysis of the Site prior to demolition and excavation activities, to determine the presence of any Environmental Conditions on, in or under the Site. The Environmental Contracts shall provide for a commercially reasonable scope of investigation approved by CITY, and may provide for conducting the investigation and testing in phases acceptable to CITY. The Environmental Contracts shall also provide that the Environmental Engineers shall begin their

tests and inspections at the Site as soon as CITY is able to arrange access to the Site, or any portions thereof, for such purposes. The Environmental Contracts shall provide that CONTRACTOR, acting as agent of CITY, shall coordinate the activities of the Environmental Engineers.

2.2 The Environmental Contracts shall provide that the Environmental Engineers shall prepare such reports, feasibility studies and remedial plans ("Environmental Assessments") as may be reasonably necessary in order to identify and explain the quantity, scope and nature of the Environmental Conditions found to exist at the Site. The Environmental Assessments shall contain a detailed analysis of the Environmental Conditions discovered, and the actions ("Remedial Actions") required for the response, removal, cleanup or remediation of such Environmental Conditions (i) which are required by Environmental Requirements, or (ii) which are reasonably necessary to mitigate Environmental Damages.

2.3 The Environmental Contracts shall provide that the Environmental Engineers shall promptly provide CITY and CONTRACTOR with a copy of each Environmental Assessment, together with any other reports and test results generated pursuant to the Environmental Contracts. CONTRACTOR shall, promptly after receipt of the foregoing matters from the Environmental Engineers, prepare and submit to CITY a written report setting forth CONTRACTOR's understanding of whether and to what extent any recommended Remedial Actions may result in an amendment to the Schedule and the progress of the Work.

2.4 The Environmental Contracts shall provide that it shall be the responsibility of the Environmental Engineers to give any necessary notice to the appropriate regulatory agency or agencies of the presence of any Environmental Conditions; to pursue all necessary negotiations with such agencies concerning preparation and approval of a plan for clean-up to the extent required; and to obtain all necessary permits to perform any Remedial Actions.

3. Remedial Actions.

3.1 If so instructed by CITY, based upon the results of the Environmental Assessments, CONTRACTOR shall, as agent for CITY, obtain bids from remediation contractors ("Remediation Contractors") suitably qualified and approved by CITY, to perform the Remedial Actions selected by CITY and shall submit such bids to CITY, together with CONTRACTOR's recommendation of the Remediation Contractor(s) to be retained. If CITY elects to go forward with all or any portion of the Remedial Actions covered by the bids submitted, CITY will so advise CONTRACTOR in a written notice on or before the date which is sixty (60) Days after receipt of the foregoing matters from CONTRACTOR. Promptly after receipt of such notice, CONTRACTOR shall prepare for CITY's execution remediation contracts ("Remediation Contracts") with the Remediation Contractors identified in such notice.

3.2 CONTRACTOR, as agent for CITY, shall be responsible for coordinating the work and services performed by the Remediation Contractors, and coordinating such remediation work with the Work.

3.3 If in the course of performance of the Work, CONTRACTOR encounters on the Site any Hazardous Materials not previously disclosed and remediated by the Environmental Engineers or the Remediation Contractors, CONTRACTOR shall immediately suspend the Work in the area affected and promptly thereafter report the condition to CITY.

4. Payments: Liability of CONTRACTOR.

4.1 All payments due under the Environmental Contracts and the Remediation Contracts shall be made by CITY directly to the Environmental Engineers and the Remediation Contractors. Such payments will be based on requisitions, which requisitions shall be approved by CONTRACTOR prior to submission to CITY.

4.2 All payments due under the Environmental Contracts, the Remediation Contracts and for Environmental Damages, shall not be a part of the GMP, and shall be the sole responsibility of CITY, except as expressly provided otherwise in Section 5 hereof.

4.3 It is understood and agreed that with respect to any Environmental Conditions existing on the Site, CONTRACTOR is not, and shall not be deemed to be, a generator, arranger, operator, treater, storer, transporter or disposer of, or otherwise responsible for, any such Environmental Conditions. It is understood and agreed that CONTRACTOR shall have no right to direct the means or methods of performance of any Environmental Engineer or Remediation Contractor.

4.4 CITY shall indemnify, defend and hold harmless CONTRACTOR, from and against any Environmental Damages asserted against or sustained by CONTRACTOR as a result of CONTRACTOR being deemed or determined to be a generator, arranger, operator, treater, storer, transporter or disposer of, or otherwise responsible for, any such Environmental Conditions.

5. Environmental Responsibilities of CONTRACTOR.

5.1 CITY acknowledges and agrees that CONTRACTOR shall not commence or continue any demolition or construction activities on any portion of the Site on or in which Remedial Actions are to be performed until such Remedial Actions are to the point where construction activities will not interfere with such Remedial Actions, as evidenced by appropriate certification by the applicable Environmental Engineer and/or Remediation CONTRACTOR and any required approval of any applicable government agency. CONTRACTOR agrees to use good faith diligent efforts to adjust and reschedule its activities at the Site so as to minimize, to the extent reasonably practical, the adverse effect on the progress of the Work resulting from any Remedial Actions.

5.2 CONTRACTOR shall not bring Hazardous Materials to the Site, and shall not include Hazardous Materials in any construction materials, unless permitted by Environmental Requirements. CONTRACTOR shall comply, and shall cause all Subcontractors to comply, with all Environmental Requirements regarding the generation, handling, storage, treatment and disposal of Hazardous Materials.

5.3 CONTRACTOR shall indemnify, defend and hold harmless the Indemnified Parties from and against any Environmental Damages asserted against or sustained by such parties as a result of any Environmental Conditions caused or created by CONTRACTOR or any Subcontractor, or of any violation by CONTRACTOR or the Subcontractors, of any Environmental Requirement arising out of the performance of the Work.

EXHIBIT D

IN LIEU OF SECURITIES ESCROW AGREEMENT

**(form of agreement follows this page)
(use is optional by Contractor)**

ESCROW AGREEMENT FOR SECURITY DEPOSITS IN LIEU OF RETENTION

(Project: _____)

THIS ESCROW AGREEMENT is made and entered into on this ____ day of _____, 20__ by and between the:

City of Roseville, whose address is:

311 Vernon Street
Roseville, CA 95678

(hereinafter called "CITY"); and

_____, whose address is:

(hereinafter called "CONTRACTOR"); and

_____, whose address is:

(hereinafter called "ESCROW AGENT").

For the consideration hereinafter set forth, CITY, CONTRACTOR, and ESCROW AGENT agree as follows:

1. Pursuant to Section 22300 of the Public Contract Code of the State of California, CONTRACTOR has the option to deposit securities, subject to prior approval of CITY, with ESCROW AGENT, as a substitute for retention earnings required to be withheld by CITY pursuant to the contract for public works entered into between the CITY and CONTRACTOR for the Project in the amount of _____

_____ dollars (\$_____) dated _____, (hereinafter referred to as the “Contract”). Alternatively, on written request of CONTRACTOR, CITY shall make payments of the retention earnings directly to the ESCROW AGENT.

When CONTRACTOR deposits the securities as a substitute for Contract earnings, the ESCROW AGENT shall notify CITY within ten (10) days of the deposit. The market value of the securities at the time of the substitution shall be at least equal to the cash amount then required to be withheld as retention under the terms of the Contract between CITY and CONTRACTOR. Securities shall be held in the name of ESCROW AGENT, and shall designate CONTRACTOR as the beneficial owner, and shall be limited to those types of acceptable securities as described in Public Contract Code Section 22300.

2. CITY shall make progress payments to CONTRACTOR for those funds which otherwise would be withheld from progress payments pursuant to the Contract provisions, provided that ESCROW AGENT holds securities in the form and amount specified above.

3. When CITY makes payment of retentions earned directly to ESCROW AGENT, ESCROW AGENT shall hold them for the benefit of CONTRACTOR until the time that the escrow created under this Agreement is terminated. CONTRACTOR may direct the investment of the payments into securities. All terms and conditions of this Agreement and the rights and responsibilities of the parties shall be equally applicable and binding when CITY pays ESCROW AGENT directly.

4. CONTRACTOR shall be responsible for paying all fees for the expenses incurred by ESCROW AGENT in administering the Escrow Account and all expenses of CITY. These expenses and payment terms shall be determined by CITY, CONTRACTOR, and ESCROW AGENT.

5. The interest earned on the securities or the money market accounts held in escrow and all interest earning on that interest shall be for the sole account of CONTRACTOR and shall be subject to withdrawal by CONTRACTOR at any time and from time to time without notice to CITY.

6. CONTRACTOR shall have the right to withdraw all or any part of the principal in the Escrow Account only by written notice to ESCROW AGENT accompanied by written authorization from CITY to ESCROW AGENT that CITY consents to the withdrawal of the amount sought to be withdrawn by CONTRACTOR.

7. CITY shall have a right to draw upon the securities in the event of default by CONTRACTOR. Upon seven (7) days' written notice to ESCROW AGENT from CITY of the default, ESCROW AGENT shall immediately convert the securities to cash and shall distribute the cash as instructed by CITY.

8. Only upon receipt of written notification from CITY certifying that the Contract is final and complete, and that CONTRACTOR has complied with all requirements and procedures applicable to the Contract, ESCROW AGENT shall release to CONTRACTOR all securities and interest on deposit less escrow fees and charges of the Escrow Account. The escrow shall be closed immediately upon disbursement of all moneys and securities on deposit and payments of fees and charges.

9. ESCROW AGENT shall rely on the written notifications from CITY and CONTRACTOR pursuant to Sections (5) to (8), inclusive, of this Agreement and CONTRACTOR shall hold ESCROW AGENT harmless from ESCROW AGENT's release and disbursement of the securities and interest as set forth above.

10. The parties hereto mutually agree that this Agreement is substantially similar to the form under Public Contracts Code Section 22300.

11. The names of the persons who are authorized to give written notice or to receive written notice on behalf of CITY and on behalf of CONTRACTOR in connection with the foregoing, and exemplars of their respective signatures are as follows:

On behalf of CITY:

Title

Name

Signature

Address

On behalf of CONTRACTOR:

Title

Name

Signature

Address

On behalf of ESCROW AGENT:

Title

Name

Signature

Address

12. At the time the Escrow Account is opened, CITY and CONTRACTOR shall deliver to ESCROW AGENT a fully executed counterpart of this Agreement.

IN WITNESS WHEREOF, the City of Roseville, a municipal corporation, has authorized the execution of this Agreement by its City Manager and attestation by its City Clerk under the authority of Resolution No. 87-141, adopted by the Council of the City of Roseville on the 5th day of August, 1987, and CONTRACTOR and ESCROW AGENT have authorized the execution of this Agreement.

CITY OF ROSEVILLE, a
municipal corporation:

CONTRACTOR:

_____, a

BY: _____
DOMINICK CASEY
City Manager

BY: _____

its: _____

and

ATTEST:

BY: _____

BY: _____
CARMEN AVALOS
City Clerk

its: _____

ESCROW AGENT:

BY: _____

APPROVED AS TO FORM:

its: _____

BY: _____
MICHELLE SHEIDENBERGER
City Attorney

and

BY: _____

APPROVED AS TO SUBSTANCE:

its: _____

BY: _____
DENNIS KAUFFMAN
Assistant City Manager/Chief Financial Officer

ACKNOWLEDGED BY ADMINISTERING DEPARTMENT:

BY: _____

EXHIBIT E

BOND FORMS

Bond No. _____
Premium \$ _____

PERFORMANCE BOND

This Performance Bond ("Performance Bond"), dated _____, 20____, is in the penal sum of _____ Dollars (\$ _____), which is an amount not less than one hundred percent (100%) of the Total Contract Price, and is entered into by and between the undersigned _____ ("Principal" or "Contractor") and the undersigned _____ ("Surety") to ensure the Principal's faithful performance of the Design Build Construction Agreement for the _____ project ("Design Build Contract"). This Performance Bond consists of this page and the following Performance Bond Terms and Conditions, Paragraphs 1 through 12. Any singular reference to the Principal, the Surety, the City of Roseville, California ("City") or other party shall be considered plural where applicable.

BOND TERMS AND CONDITIONS

1. The Principal and the Surety, jointly and severally, bind themselves, their heirs, executors, administrators, successors and assigns to the City for the complete and proper performance of the Design Build Contract, which is incorporated herein by reference.
2. If the Principal completely and properly performs all of its obligations under the Design Build Contract, the Surety and the Principal shall have no further obligation under this Performance Bond, except to participate in conferences as provided in Paragraph 3.1 below.
3. If there is no City Default, the Surety's obligation under this Performance Bond shall arise after:
 - 3.1 The City has notified the Contractor and the Surety at their respective addresses described in Paragraph 10 below, that the City is considering declaring a Contractor Default and has requested and attempted to arrange a conference with the Contractor and the Surety to be held not later than fifteen (15) days after receipt of such notice to discuss methods of performing the Design Build Contract. If the City, the Contractor and the Surety agree, the Contractor shall be allowed a reasonable time to perform the Design Build Agreement, but such a mutual agreement shall not waive the City's right, if any, subsequently to declare a Contractor Default; and
 - 3.2 The City has declared a Contractor Default and formally terminated the Contractor's right to complete the Design Build Contract. Such Contractor Default shall not be declared earlier than twenty (20) days after the Contractor and the Surety have received notice as provided in Paragraph 3.1 above.
 - 3.3 The City has agreed to pay the Balance of the Total Contract Price to:
 - 3.3.1 The Surety in accordance with the terms of this Performance Bond and the Design Build Contract; or

3.3.2 To a contractor selected to perform the Design Build Contract in accordance with the terms of this Performance Bond and the Design Build Contract.

4. When the City has satisfied the conditions of Paragraph 3 above, the Surety shall promptly (within thirty (30) days) and at the Surety's expense elect to take one of the following actions:
 - 4.1 Arrange for the Contractor, with the City's consent, such consent to be in the City's sole discretion, to perform and complete the Design Build Contract. If the City withholds its consent, the Surety must elect an option described in Paragraphs 4.2, 4.3 or 4.4, below; or
 - 4.2 Undertake to perform and complete the Design Build Contract itself, through its agents or through independent contractors; or
 - 4.3 Obtain proposals from qualified contractors acceptable to the City for a contract for performance and completion of the Design Build Contract, and, upon determination by the City of the best value for the City, arrange for a contract to be prepared for execution by the City and the contractor selected, to be secured with performance and payment bonds executed by a qualified surety equivalent to the bonds issued on the Design Build Contract; and, if the Surety's obligations defined in Paragraph 6 below exceed the Balance of the Total Contract Price, then the Surety shall pay to the City the amount of such excess; or
 - 4.4 Waive its right to perform and complete the Design Build Contract, arrange for completion, or obtain a new contractor and with reasonable promptness under the circumstances, and, after investigation and consultation with the City, determine in good faith the amount for which it may then be liable to the City under Paragraph 6, below, for the performance and completion of the Design Build Contract and, as soon as practicable after the amount is determined, tender payment therefor to the City with full explanation of the payment's calculation. If the City accepts the Surety's tender under this Paragraph 4.4, the City may still hold Surety liable for future damages then unknown or unliquidated resulting from the Seller Default. If the City disputes the amount of Surety's tender under this Paragraph 4.4, the City may exercise all remedies available to it at law to enforce the Surety's liability under Paragraph 6, below.
5. If the Surety does not proceed as provided in Paragraph 4, above, then the Surety shall be deemed to be in default on this Performance Bond ten (10) calendar days after receipt of an additional written notice from City to the Surety demanding that the Surety perform its obligations under this Performance Bond. At all times the City shall be entitled to enforce any remedy available to the City at law or under the Design Build Contract including, without limitation, and by way of example only, rights to perform work, protect work, mitigate damages, or coordinate work with other consultants or contractors at Surety's sole expense.
6. The Surety's monetary obligation under this Performance Bond is limited by the amount of this Performance Bond. Subject to these limits, the Surety's obligations under this Bond are commensurate with the obligations of the Seller under the Design Build Contract. The Surety's obligations shall include, but are not limited to:
 - 6.1 The responsibilities of the Seller under the Design Build Contract for completion of the Design Build Contract and correction of defective work;

- 6.2 The responsibilities of the Seller under the Design Build Contract to pay liquidated damages, and damages for which no liquidated damages are specified in the Design Build Contract, including but not limited to, all valid and proper back charges, offsets, payments, indemnities, defense costs or other damages; and
- 6.3 Additional legal, design professional and delay costs resulting from the Seller Default or resulting from the actions or failure to act of the Surety under Paragraph 4, above.
7. The Surety shall not be liable to the City or others for the obligations of the Contractor that are unrelated to the Design Build Contract, and the Balance of the Total Contract Price shall not be reduced or set off on account of any such unrelated obligations. No right of action shall accrue on this Performance Bond to any person or entity other than the City or its heirs, executors, administrators, or successors.
8. The Surety hereby waives notice of any change, alteration or addition to the Design Build Contract or to related subcontracts, purchase orders and other obligations, including but not limited to changes of time. The Surety consents to all terms of the Design Build Contract, including provisions on changes to the Contract Documents. No extension of time, Change Order, alteration, Modification, deletion, or addition to the Contract Documents, or of the work required thereunder, shall release or exonerate Surety on this Performance Bond or in any way affect the obligations of Surety on this Performance Bond.
9. Any proceeding, legal or equitable, under this Performance Bond shall be instituted in any court of competent jurisdiction in Placer County, California within two (2) years after the Contractor Default or within two (2) years after the Contractor ceased working or within two (2) years after the Surety refuses or fails to perform its obligations under this Performance Bond, whichever occurs first. If the provisions of this Paragraph 9 are void or prohibited by law, the minimum period of limitation available to sureties as a defense in Placer County shall be applicable.
10. Notice to the Surety, the City or the Principal shall be mailed or delivered to the address shown on the signature page.
11. Any provision in this Performance Bond conflicting with any statutory or regulatory requirement shall be deemed deleted herefrom and provisions conforming to such statutory requirement shall be deemed incorporated herein. The intent is that this Performance Bond shall be construed as a statutory bond and not as a common law bond.
12. Definitions.
- 12.1 Balance of the Total Contract Price: The total amount payable by the City to the Contractor pursuant to the terms of the Design Build Contract after all proper adjustments have been made under the Design Build Contract, including, for example, deductions for progress payments made, deductions for liquidated damages owed, and increases/decreases for approved modifications to the Design Build Contract.
- 12.2 Design Build Contract: The documents between the City and the Principal identified as the Contract Documents in that certain first above-mentioned Design Build Construction Agreement, including all changes, Addenda and modifications thereto.

- 12.3 Contractor Default: Material failure of the Contractor, which has neither been remedied nor waived, to perform or otherwise to comply with the terms of the Design Build Contract.
- 12.4 City Default: Material failure of the City, which has neither been remedied nor waived, to pay the Contractor progress payments due under the Design Build Contract or to perform other material terms of the Design Build Contract, provided such failure is the cause of the asserted Contractor Default and is sufficient to justify Contractor termination of the Design Build Contract.

IN WITNESS WHEREOF, the undersigned obligated parties have executed this instrument.

(Corp. Seal)

Principal:

Signature:

Name & Title:

Address:

(Corp. Seal)

Surety:

Signature:

Name & Title:

Address:

Attorney in Fact: _____

Surety shall submit the following documents along with this Performance Bond:

1. Verification that Surety is admitted to transact surety business in the State of California; and
2. Copy of Surety's Certificate of Authority, issued by the Insurance Commissioner of the State of California, along with a statement that said Certificate has not been surrendered, revoked, cancelled, annulled or suspended.

Approved: _____, City Attorney

END OF DOCUMENT

Bond No. _____
Premium \$ _____

LABOR AND MATERIAL BOND

This Labor and Material Bond ("Labor and Material Bond") dated _____, 20____, is in the penal sum of _____ Dollars (\$ _____), which is an amount not less than one hundred percent (100%) of the Total Contract Price, and is entered into by and between the undersigned _____ ("Principal" or "Contractor") and the undersigned _____ ("Surety") to ensure the Principal's payment of claimants pursuant to the Design Build Construction Agreement for the _____ project ("Design Build Contract"). This Labor and Material Bond consists of this page and the following Labor and Material Bond Terms and Conditions, Paragraphs 1 through 15. Any singular reference to the Principal, the Surety, the City of Roseville, California ("City") or other party shall be considered plural where applicable.

BOND TERMS AND CONDITIONS

1. The Principal and the Surety, jointly and severally, bind themselves, their heirs, executors, administrators, successors and assigns to the City and to Claimants, to pay for labor, materials, Equipment furnished and Services provided in the performance of the Design Build Contract, which is incorporated herein by reference.
2. With respect to the City, this obligation shall become null and void if and when the Principal:
 - 2.1 Promptly and fully makes payment, directly or indirectly, for all sums due Claimants, and
 - 2.2 Fully defends, indemnifies and holds harmless the City from all claims, demands, liens or suits by any person or entity who furnished labor, materials or equipment for use in the performance of the Design Build Contract, provided the City has promptly notified the Principal and the Surety (at the address described in Paragraph 10 below) of any claims, demands, liens or suits and has tendered defense of such claims, demands, liens or suits to the Principal and the Surety, and provided there is no City Default.Otherwise, this Labor and Material Bond shall be, and remain, in full force and effect.
3. With respect to Claimants, this obligation shall become null and void if and when the Principal promptly and fully makes payment, directly or indirectly through its Subcontractors, for all sums due Claimants; otherwise, this Labor and Material Bond shall be, and remain, in full force and effect.
4. The Surety shall have no obligation to Claimants under this Labor and Material Bond until:
 - 4.1 Claimants who are employed by or have a direct contract with the Contractor have given notice to the Surety (at the address described in Paragraph 12) and sent a copy, or notice thereof, to the City, stating that a claim is being made under this Labor and Material Bond and, with substantial accuracy, the amount of the claim.

- 4.2 Claimants who do not have a direct contract with the Contractor:
- 4.2.1 Have furnished written notice to the Contractor and sent a copy, or notice thereof, to the City, within ninety (90) days after having last performed labor or last furnished materials or equipment included in the claim stating, with substantial accuracy, the amount of the claim and the name of the party to whom the materials were furnished or supplied or for whom the labor was done or performed; and
 - 4.2.2 Have either received a rejection in whole or in part from the Contractor, or have not received within thirty (30) days of furnishing the above notice any communication from the Contractor by which the Contractor has indicated the claim will be paid directly or indirectly; and
 - 4.3.3 Not having been paid within the above thirty (30) days, have sent a written notice to the Surety (at the address described in Paragraph 12) and sent a copy, or notice thereof, to the City, stating that a claim is being made under this Labor and Material Bond and enclosing a copy of the previous written notice furnished to the Contractor.
5. If a notice required by Paragraph 4 above is given by the City to the Contractor or to the Surety, that is sufficient compliance.
6. When the Claimant has satisfied the conditions of Paragraph 4, the Surety shall promptly and at the Surety's expense take the following actions:
- 6.1 Send an answer to the Claimant, with a copy to the City, within forty-five (45) days after receipt of the claim, stating the amounts that are undisputed and the basis for challenging any amounts that are disputed.
 - 6.2 Pay or arrange for payment of any undisputed amounts.
7. The Surety's total obligation shall not exceed the amount of this Labor and Material Bond, and the amount of this Labor and Material Bond shall be credited for any payments made in good faith by the Surety under this Labor and Material Bond.
8. Amounts due the Contractor under the Design Build Contract shall be applied to satisfy claims, if any, under this Labor and Material Bond.
9. The Surety shall not be liable to the City, Claimants or others for obligations of the Contractor that are unrelated to the Design Build Contract. The City shall not be liable for payment of any costs, expenses, or attorney's fees of any Claimant under this Labor and Material Bond, and shall have no obligations to make payments to, give notices on behalf of, or otherwise have obligations to Claimants under this Labor and Material Bond.
10. The Surety hereby waives notice of any change, alteration or addition to the Design Build Contract or to related subcontracts, purchase orders and other obligations, including but not limited to changes of time. The Surety consents to all terms of the Design Build Contract, including provisions on changes to the Contract Documents. No extension of time, Change Order, alteration, modification, deletion, or addition to the Contract Documents, or of the work required thereunder,

shall release or exonerate Surety on this Labor and Material Bond or in any way affect the obligations of Surety on this Labor and Material Bond.

11. Any proceeding, legal or equitable, under this Labor and Material Bond shall be instituted in any court of competent jurisdiction in Placer County, California within one (1) year from the date on which (i) the Claimant gave the notice required by Paragraph 4.1 or Paragraph 4.3.3, or (ii) the last labor or service was performed by anyone or the last materials or equipment were furnished by anyone under the Design Build Contract, whichever of (i) or (ii) first occurs. If the provisions of this Paragraph 11 are void or prohibited by law, the minimum period of limitation available to sureties as a defense in Placer County shall be applicable.
12. Notice to the Surety, the City or the Principal shall be mailed or delivered to the address shown on the signature page below. Actual receipt of notice by the Surety, the City or the Principal, however accomplished, shall be sufficient compliance as of the date received at the address shown on the signature page below.
13. Any provision in this Labor and Material Bond conflicting with any statutory or regulatory requirement shall be deemed deleted herefrom and provisions conforming to such statutory requirement shall be deemed incorporated herein.
The intent is that this Labor and Material Bond shall be construed as a statutory bond and not as a common law bond.
14. Upon request by any person or entity appearing to be a potential beneficiary of this Labor and Material Bond, the Principal shall promptly furnish a copy of this Labor and Material Bond or shall permit a copy to be made.
15. DEFINITIONS
 - 15.1 CLAIMANT: An individual or entity having a direct contract with the Contractor or with a subcontractor (of any tier) of the Contractor to furnish labor, materials or equipment for use in the performance of the Design Build Contract. The intent of this Labor and Material Bond shall be to include without limitation in the terms "labor, materials or equipment" that part of water, gas, power, light, heat, oil, gasoline, telephone service or rental equipment used in the Design Build Contract, architectural and engineering services used or reasonably required for performance of the work of the Contractor and the Contractor's subcontractors, and all other items for which a mechanic's lien or stop payment notice might be asserted.
 - 15.2 DESIGN BUILD CONTRACT: The documents between the City and the Contractor identified as the Contract Documents in that certain first above-mentioned Design Build Contract, including all changes, Addenda and modifications thereto.
 - 15.3 CITY DEFAULT: Material failure of the City, which has neither been remedied nor waived, to pay the Contractor as required by the Design Build Contract, provided such failure is the cause of the failure of Principal to pay the Claimants and is sufficient to justify Contractor termination of the Design Build Contract.

IN WITNESS WHEREOF, the undersigned obligated parties have executed this security instrument.

(Corp. Seal)

Principal: _____

Signature: _____

Name & Title:

Address:

(Corp. Seal)

Surety: _____

Signature: _____

Name & Title:

Address:

Attorney in Fact: _____

Surety shall submit the following documents along with this Labor and Material Bond:

1. Verification that Surety is admitted to transact surety business in the State of California; and
2. Copy of Surety's Certificate of Authority, issued by the Insurance Commissioner of the State of California, along with a statement that said Certificate has not been surrendered, revoked, cancelled, annulled or suspended.

Approved: _____, City Attorney

END OF DOCUMENT

Bond No. _____
Premium \$ _____

WARRANTY BOND

This Warranty Bond ("Warranty Bond"), dated _____, 20____, is in the penal sum of _____ for under the Design-Build Construction Agreement for the _____ project, and is entered into by and between the undersigned _____ ("Principal" or "Contractor") and the undersigned _____ ("Surety") to guaranty that all Equipment and Services provided by Seller under the above-mentioned Design Build Contract will fulfill the requirements of Principal's warranties and guarantees included in the Contract Documents. This Warranty Bond consists of this page and the following Warranty Bond Terms and Conditions, Paragraphs 1 through 7. Any singular reference to the Principal, the Surety, the City of Roseville, California ("City") or other party shall be considered plural where applicable.

BOND TERMS AND CONDITIONS

1. The Principal and the Surety, jointly and severally, bind themselves, their heirs, executors, administrators, successors and assigns to the City for a period of one (1) year following the date of Final Acceptance, or such longer period specified in the Contract Documents, its unconditional warranty of the quality and adequacy of all of the work including, without limitation, all equipment and work provided by Contractor and its subcontractors and subvendors of all tiers in connection with the Design Assist Contract.
2. Neither final payment nor use or occupancy of the Equipment or Services performed by the Contractor shall constitute an acceptance of such Equipment or Services not done in accordance with this Warranty Bond or relieve Contractor of liability in respect to any express guarantees, warranties or responsibilities for faulty materials or workmanship, ordinary wear and tear excepted. If within one (1) year after the date of Final Acceptance, or such longer period of time as may be prescribed the terms of the Contract Documents, any Equipment or Services is found to be defective, Contractor and Surety shall promptly, without cost to City and in accordance with City's written instructions, correct such defective Equipment or Services. Contractor and Surety shall remove any defective Equipment rejected by City and replace it with Equipment that is not defective. If Contractor or Surety fails to promptly comply with the terms of such instructions, or in an emergency where delay would cause serious risk of loss or damage, City may have the defective Equipment or Services corrected or removed and replaced. Contractor and Surety shall pay for all claims, costs, losses and damages caused by or resulting from such removal and replacement. Where Contractor and Surety fail to correct defective Equipment or Services, or defects are discovered outside the correction period, City shall have all rights and remedies granted by law.
3. As part of the obligation secured hereby and in addition to the face amount specified therefor, there shall be included costs and reasonable expenses and fees, including reasonable attorney's fees, incurred by City.
4. The Surety hereby waives notice of any change, alteration or addition to the Design Assist Contract or to related subcontracts, purchase orders and other obligations, including but not limited to changes of time. The Surety consents to all terms of the Design Assist Contract, including provisions on changes to the Contract Documents. No extension of time, Change Order, alteration, Modification, deletion, or addition to the Contract Documents, or of the work required thereunder, shall release or exonerate Surety on this Warranty Bond or in any way affect the obligations of Surety on this Warranty Bond.

5. If the Surety does not proceed as provided in Paragraph 2 above, then the Surety shall be deemed to be in default on this Warranty Bond ten (10) calendar days after receipt of an additional written notice from City to the Surety demanding that the Surety perform its obligations under this Warranty Bond. At all times the City shall be entitled to enforce any remedy available to the City at law or under the Design Assist Contract including, without limitation, and by way of example only, rights to perform work as Surety's expense, protect work, mitigate damages, or coordinate work with other consultants or contractors.
6. All abbreviations and definitions of terms used in this Warranty Bond shall have the meanings set forth in the Contract Documents, including, without means of limitation, the Design Assist Contract.
7. The foregoing Warranty Bond is in addition to any other guarantees and warranties of Contractor contained in the Contract Documents, and not in lieu of, any and all other liability imposed on Contractor under the Contract Documents and at law with respect to Contractor's duties, obligations, and performance under the Contract Documents. In the event of any conflict or inconsistency between the terms of this Warranty Bond and any guaranty, warranty or obligation of the Seller under the Contract Documents or at law, such inconsistency or conflict shall be resolved in favor of the higher level of obligation of the Contractor and Surety.

IN WITNESS WHEREOF, the undersigned obligated parties have executed this instrument.

(Corp. Seal)

Principal: _____

Signature: _____

Name & Title: _____

Address: _____

(Corp. Seal)

Surety: _____

Signature: _____

Name & Title: _____

Address: _____

Attorney in Fact: _____

Surety shall submit the following documents along with this Warranty Bond:

1. Verification that Surety is admitted to transact surety business in the State of California; and
2. Copy of Surety's Certificate of Authority, issued by the Insurance Commissioner of the State of California, along with a statement that said Certificate has not been surrendered, revoked, cancelled, annulled or suspended.

Approved: _____, City Attorney

END OF DOCUMENT

EXHIBIT F
CONTRACTOR'S PROPOSAL

Attachment E – Contractor and Subcontractor List



CONTRACTOR LICENSES AND SUB LISTS

List the licenses held by your company and/or employees. The following representations are made under penalty of perjury:

CA State Lic No.	Name on License	Class/Type	Expiration Date
<u>758610</u>	<u>Syblon Reid</u>	<u>A & B</u>	<u>2/28/2025</u>
<u>410103</u>	<u>San Joaquin Electric</u>	<u>C-10</u>	<u>08/31/2023</u>
<u>1025671</u>	<u>Frisch Engineering, Inc.</u>	<u>C-10</u>	<u>04/30/2025</u>
<u> </u>	<u> </u>	<u> </u>	<u> </u>

Do you have a City of Roseville Business License? Yes____ No ☒

**** Will obtain upon Award.**

License # TBD

ATTACHMENT E
SUBCONTRACTOR LIST

If subcontractors will not be used, proposer must write "NONE". For construction contracts, in accordance with the Public Contract Code, Part 1, Chapter 4, Subletting and Subcontracting, Contractors must list the name and business address of each subcontractor who will perform work or labor or render service to the prime contractor in or about the construction of the work or improvement, or who will specially fabricate and install a portion of the work or improvement according to detailed drawings contained in the plans and specifications, in an amount in excess of one-half of one percent (0.5%) of the prime contractor's total bid, or in the case of bids or offers for the construction of streets and highways, including bridges, in excess of one-half of one percent (0.5%) of the prime contractor's total bid or ten thousand dollars (\$10,000) whichever is greater.

Company Name	San Joaquin Electric
Principal	Doug Talbert
Address	4501 Harlin Drive
City	Sacramaneto
Phone	(916) 368-9166
Job capacity	Supply and installation of VFD and Electrical
Percentage of total work	15%
Licenses and numbers	C10 #40103
DIR Contractor Registration Number & Expiration Date	#1000002857 06/30/2024

Company Name	Frisch Engineering, Inc.
Principal	Thomas P. Frisch
Address	13405 Folsom Blvd., Unit 600
City	Folsom
Phone	(916) 353-1025
Job capacity	System Integration and supply of flow meters
Percentage of total work	7%
Licenses and numbers	C-10 1025671
DIR Contractor Registration Number & Expiration Date	1000020435 06/30/2023

Appendices

Appendix A – Résumés

Scott Goodall, P.E.

Senior Manager, Water/Wastewater

"I work with a team oriented approach to make each effort successful. From building projects, to supporting individuals building their careers, I enjoy contributing my knowledge and experience to achieve goals and objectives."

Mr. Goodall has been in the heavy civil mechanical construction industry for over 30 years. His experience includes:

- ❖ Leading mechanical and heavy civil project delivery for private and municipal clients.
- ❖ Budgeting and alternatives analysis using the Early Contractor Involvement/Construction Manager at Risk (ECI/CMAR) delivery method.
- ❖ Overseen over \$200 million in estimating annually.
- ❖ Providing solutions to difficult projects and working with teams to provide beneficial results.

KEY PROJECT EXPERIENCE

WATER TREATMENT PLANTS

Linkan Engineering/Homestake Mining Company of California | McLaughlin Mine Water Treatment Plant | Near Lower Lake, California

Senior Manager. Syblon Reid partnered with Linkan Engineering to provide Engineering, Procurement, Construction Management (EPCM) delivery services that encompassed engineering support, procurement, assembly, construction, commissioning, and operation. The construction scope comprised installing a turnkey temporary mobile water treatment plant, including earthwork; concrete work; piping; electrical work; plant assembly; and startup, commissioning, and testing of the facility.

Sacramento Suburban Water District | Well N6A – Palm Pump Station and Treatment Plant | Sacramento, California

Senior Manager. The project consisted of installing a pump station and manganese water treatment plant at Well N6A. A previous well on the site was abandoned and destroyed by the District. The scope of work included constructing concrete foundations, slabs, ring wall foundations, filter pedestals and raised concrete platforms; procuring and installing a 1,500 gallon per minute manganese filter system, a 200 horsepower submersible well pump assembly, a 45,000-gallon, factory-coated, bolted steel storage tank for backwash and reclaimed water storage, and reclaim pump and sewer drain pump systems in connection with the backwash tank; installing a concrete masonry unit (CMU) sound wall, new fusion epoxy lined and coated steel station piping and related appurtenances, new sodium hypochlorite chemical treatment systems, overflow piping, and a chlorine analyzer system and eyewash/shower system; procuring, installing, programming, and testing outdoor electrical control panels; conducting performance testing and providing training for all components; and submitting operation and maintenance manuals and full-size as-built drawings.

California Department of Corrections and Rehabilitation | CCC/HDSP Arsenic Groundwater Treatment Facility | Susanville, California

Project Manager. The project consisted of providing an arsenic removal system for the existing water supply to the High Desert and CCC Correctional Facility. The components of this project included approximately 15,000 linear feet of collection and distribution pipeline, connection of seven (7) existing wells into the collection system and providing a state-of-the-art arsenic filter system. The arsenic filtration system included carbon dioxide, sodium hydroxide, and sodium hypochlorite chemical feed systems, incorporation of five (5) existing storage tanks and booster pump station as well as major electrical upgrades and integrations of the existing SCADA system. All work done within the constraints of the California Department of Corrections. The project value was just over \$8,700,000.



Areas of Construction Expertise

- New water and wastewater treatment plant construction
- Water treatment facility expansions and upgrades
- Pump stations
- Sewage lift stations
- Effluent disinfection facilities
- Mechanical field fabrications and installations

Education

Bachelor of Science, Construction Management, California State University, Sacramento – Sacramento, California, 1992

Professional Registration

Licensed Civil Engineer, State of California

Year Started with Syblon Reid

2006

El Dorado Irrigation District | El Dorado Hills Water Treatment Plant – 26 MGD Expansion | El Dorado Hills, California

Senior Project Manager. Installation of a new dissolved air floatation tank, tertiary filters, chemical feed system, and a new reclaimed pump station for the distribution system to serve the El Dorado Hills community. Syblon Reid performed the earthwork, cast-in-place concrete, equipment installation, mechanical work, and related appurtenances.

City of Georgetown | Water Treatment Plant Emergency Upgrade | Georgetown, California

Senior Project Manager. Installation of a new Loprest filter system, with related valves and pumps. The \$200,000 upgrade was performed as an emergency contract and was completed within 30 days.

Hawthorne Water Treatment Plant

Senior Project Manager. Mr. Goodall coordinated the design consultants, field staff, and purchasing for this \$2.5M design/build water treatment system project to meet schedule and provide solutions to the challenging water quality requirements for the base residents.

WASTEWATER TREATMENT PLANTS

City of Placerville | Placerville Madrone and Giovanni Sewer Lift Station | Placerville, California

Senior Manager.

City of Folsom | Easton Valley Parkway Sewer Lift Station | Folsom, California

Senior Manager.

City of Orange Cove | Facility Improvements | Orange Cove, California

Senior Project Manager. Construction of a new treatment facility in Fresno County. The project included concrete structures including sludge drying beds, head works, clarifiers and blower building. Site work that provided 55 acres of irrigation fields for land disposal, three aeration basins, an aerobic digester, and 6,000 linear feet (lf) of underground piping ranging in size from 4" to 42" diameter. The mechanical requirements of the project included blower installation, aeration system, and clarifier mechanisms. The project value was just under \$6.0M.

Selma-Kingsburg-Fowler County Sanitation District | Dewatering Centrifuge Project | Fresno County, California

Senior Project Manager. This \$1.0M project included the installation of an owner-furnished centrifuge and related piping in a new premanufactured metal building.

City of Colfax | Effluent Disinfection Facility | Colfax, California

Project Manager. The project included the construction of a concrete chlorine contact basin and chemical feed equipment buildings along with the related electrical and instrumentation improvements for the city. The cost of the project was \$390K.

MECHANICAL

Northrop Grumman | 108" Turbine Exhaust Test Stand | Sunnyvale, California

Senior Project Manager. The project included the field fabrication of the 108-inch segmented "S" bend to allow the testing of the steam engine that Northrop Grumman was providing to the U.S. Navy. The project cost approximately \$460K to fabricate and install in the south bay facility. As a result of the performance of this project, Mr. Goodall's employer was awarded one of the two national Northrop Grumman outstanding achievement awards in 2004.

U.S. Army Corps of Engineers | Pine Flat Dam Turbine Bypass | Fresno, California

Senior Project Manager. This \$4.2M penstock bypass required the special fabrication and acquisition of pipe and valves from international sources. The work was performed during two 4-month shut down periods to alleviate downtime for power generation. The work included drilling and chipping 20-foot diameter holes through the 25-foot thick splash wall and placing foundations 20 feet thick.

CERTIFICATIONS/TRAINING

- ❖ 40 Hr Hazwoper certification
- ❖ ISN PG&E Certification
- ❖ CPR, AED, and First Aid for Adults
- ❖ E-rail certification
- ❖ PG&E Corp. Contr. Safety Orientation
- ❖ Defensive Driving

Ryan Fox

Project Manager

Mr. Fox has nineteen years of experience in civil construction, including tunnel liner repairs; repairs, recoating, and seal replacement for radial gates and drum gates; underground utilities; aboveground steel storage tank construction for water, wastewater, and petroleum; production and installation of precast concrete flume sections; mechanical pipeline modifications and installation; site grading; and paving. In addition, Mr. Fox has extensive experience in performing complex work in full compliance with high level safety, environmental, and quality protocols.

Responsibilities include: Scheduling and coordinating subcontractors, creating, submitting and tracking submittals, RFI's, correspondence, CCO's, procuring materials, coordinating field crews and equipment, and managing overall contract compliance.

KEY PROJECT EXPERIENCE

Granite Construction Company/Caltrans | I-5 Corridor Improvement Project | Sacramento, California

Project Manager. SRC was a subcontractor to NorCal Paving, a joint venture between Granite and Teichert construction. Our scope of work was the retrofitting of 5 storm water pump stations along the section of I-5 that was getting improved. We replaced the existing vertical turbine pumps with submersible Flygt pumps ranging from 6" to 16", installed associated new piping, replaced all electrical components, added HMI and SCADA controls and removed all sediment from wet wells, detention basins and drain inlets.

Pacific Gas and Electric Company | Poe Dam Radial Gates 1, 2, 3, and 4 Arm and Trunnion Replacement | Poe Diversion Dam – Pulga, California

Project Manager. The scope of work involved extensive dredging in the wet in preparation for the upgrades to the radial gates, modifying all five pier noses to accommodate supporting a needle beam cofferdam across each bay, installing the needle beam cofferdam across the upstream side of the bays and a wooden A-frame cofferdam with an impermeable layer across the downstream side, dewatering of and leakage control within the bays, erecting scaffolding within the bays, dismantling and removing the old radial gate arms and trunnions, and installing and coating the new gate arms and trunnions. Dredging operations were conducted utilizing a specialized hydro crane with clamshell bucket and grapple. The scope also included installing a turbidity curtain to ensure water quality standards were maintained in compliance with resource agency permits and FERC.

Union Pacific Railroad | Industrial Wastewater Treatment Facility | Pocatello, Idaho

Project Manager. The project scope entailed constructing a new treatment plant to process industrial wastewater for Union Pacific Railroad in Pocatello, Idaho. The project included installing 2,500 lineal feet of 12-inch, 8-inch, and 6-inch diameter ductile iron pipe (DIP) with 15 new manholes to collect the incoming industrial waste, a rotating screen trash rack, a rope oil skimmer, a 20-foot deep pump station with three process pumps and two stormwater pumps, four 25,000 gallon stormwater surge storage tanks, one 8,000 gallon sludge storage tank, and one 8,000 gallon used oil storage tanks; the erection of a 40-foot by 150-foot metal building to house the dissolved air flotation (DAF) equipment and operator's office; demolition of the existing treatment plant; and abandonment of two miles of existing industrial waste lines and 34 manholes.

CLIENT REFERENCES

Below is a list of owner references and contact information for Ryan Fox.

Name	Company	Title	Address	Phone	Email
Jeff Jukkola	Pacific Gas and Electric Company	Project Engineer	529 Pearson Road Paradise, CA 95969	(530) 624-8640	JAIV@pge.com



Areas of Construction Expertise

- Dam facility rehabilitation and modifications
- Radial gate and drum gate rehabilitation
- Flume replacement
- Tunnel rehabilitation and liner repairs
- Pump stations
- Water and wastewater treatment facilities
- Pipelines
- Fuel transfer facilities
- Storm water surge tanks
- Environmental enhancements
- Road improvements
- Emergency response

Education

Bachelor of Science, Construction Management
California State University, Chico – Chico, California

Year Career Started
2003

Year Started with Syblon Reid
2007

Name	Company	Title	Address	Phone	Email
Gerrit Post, PE	Psomas	Construction Manager	1660 Olympic Boulevard Suite 300 Walnut Creek, CA 94596	(925) 766-2099	gerrit.post@psomas.com

CERTIFICATIONS/TRAINING

- ❖ FMI Project Management Academy
- ❖ Construction Quality Management for Contractors; U.S. Corps of Engineers
- ❖ OSHA 30-Hour – Construction Safety and Health
- ❖ OSHA 10-Hour
- ❖ Confined Space Awareness Training and Testing
- ❖ Fall Protection Competent Person
- ❖ Trench and Excavation Competent Person
- ❖ Scaffold Competent Person
- ❖ Stormwater Pollution Prevention Plan (SWPPP) Training
- ❖ NFPA 70E – Electrical Safety in the Workplace
- ❖ PG&E Corporate Contractor Safety Orientation (SAFE-0101)
- ❖ Boater California Course – Waterway Safety Training
- ❖ Reachlift Certification
- ❖ Straight Mast Forklift Certification
- ❖ Standard First Aid, CPR, AED & BBP
- ❖ 4-Hour Illegal Drug & Alcohol Awareness Training for Supervisors
- ❖ Defensive Driving Course 4-Hour (DDC4)





Mike Fisher, PE

Senior Engineer / Project Manager / Principal

<u>Education</u>	<u>Years of Experience</u>	<u>Registration</u>	<u>Memberships</u>
B.S. – Civil/Environmental Engineering, CA State Polytechnic University, San Luis Obispo (1996)	14 years with the firm/ 27 years total	Registered Civil Engineer: Arizona - 30012 California - C61534 Utah – 8169064-2202	WEF AZWA

Commented [SH1]: Update fields using "toggle field codes"

Over 27 years of experience in managing all phases of planning, design, and construction management for new and existing wet utility infrastructure. He has extensive experience in hydraulic analysis and condition/capacity assessments in preparation of rehabilitation and replacement recommendations for wet utility infrastructure. He is experienced in trenchless construction methods and is certified in pipe-bursting and cured-in-place pipe (CIPP) best design and construction practices by the North American Society for Trenchless Technologies (NASTT). Mr. Fisher specializes in management of complex projects requiring coordination of multi-discipline design teams. His "hands-on" approach to design, attention to details, and exceptional communication skills are what make his projects successful. Mike led the development of Water Works "risk" based infrastructure failure analysis protocol and has utilized that protocol in the preparation of prioritized, time-phased, capital improvement plans for numerous existing water and sewer systems.

Representative Project Experience

City of Roseville PGWWTP Influent Pump Station Hydraulic Tech Memo (On-Call Services)—Roseville, CA (Planning/Design) The project consisted of analyzing historical operation of the Influent Pump Station at the Pleasant Grove Wastewater Treatment Plant to make recommendations to improve performance of the station and provide longevity to ensure future capacity. Mr. Fisher led infrastructure improvement and operational recommendations to facilitate the desired pump replacements and the ancillary infrastructure. Mr. Fisher was responsible in charge for all project work.

Sharon Heights GC Water Reclamation Facility Design-Build - Menlo Park, CA (Design-Build)

The project involved the design-build construction of a MBR plant at the Sharon Heights Golf Club that produces Title 22 recycled water for use on the landscaping. Influent for the plant is pumped from a new pump station and forcemain to the plant. Mr. Fisher was Pump Station and Pipeline Project Manager that designed the civil and yard piping for the project. He also assisted with permitting the WRF and pipeline including complying with the ISMND, writing the Title 22 WRF engineering report, and assisting with the SWPPP, Caltrans encroachment permit, County encroachment permit, and City encroachment permit.

City of Roseville West Side Tank and Pump Station Design & CM – Roseville, CA (Design Assist)

As Project Manager, Mr. Fisher is responsible for design, plans and specifications, bidding assistance, and construction management services for two pre-stressed concrete tanks, booster pump station, and new crew facility. The water tanks and pump station were delivered using the City's design assist project delivery method and the crew build as design- build.

City of Folsom WTP Solids Dewatering Facility – Folsom, CA. (Design-Build)

Mr. Fisher was the QAQC Manager for Water Works Engineers, in partnership with Auburn Constructors, design-build services for the Dewatering Facility Project at the 30-mgd City of Folsom Water Treatment Plant. Mr. Fisher oversaw the design improvements that included the following: Rehabilitation of the existing flocculation/sedimentation basins to serve as filter backwash/actiflo blowdown treatment systems, conveyance of collected solids to a new solids dewatering facility. Installation of a new solids dewatering facility, homogenization tanks with chopper pump-mixing, FKC screwpress dewatering system and roll-off container storage for 20-25% cake prior to landfill.



City of Torrance North Well Field Project Phase III Design Build Project – Torrance, CA (Design)

Mr. Fisher assisted with permitting on this project in which the City is implementing the North Torrance Well Field (NTWF) project to expand its pumping and treatment capacity to obtain the City's full groundwater allotment and provide sufficient reserve capacity to participate in conjunctive use and enable additional groundwater extractions during a drought or emergency.

City of Morro Bay WRF Lift Station and Offsite Pipelines – Morro Bay, CA (Planning/ Design/ SDC)

Mr. Fisher is providing project management on the design services for the Morro Bay Water Reclamation Facility Influent Lift Station and associated offsite pipelines. The project included design of an 8MGD (peak wet weather flow) triplex submersible pump station with provisions to turndown all the way to 0.3 - 1 MGD during typical daily flow conditions. The unique system layout required the WRF be moved out of California Coastal Commission regulated beachfront property resulting in TDH conditions ranging between 150' and 300'. Site improvements included self-cleaning wet well with deep foundation; MCC, SCADA and controls building with deep foundation; emergency generator; odor control; by-pass pumping connections; pig launching facilities; and approximately 17,000-LF of dual 14" and 20" HDPE forcemains and a 16" FPVC effluent/brine discharge line. The offsite pie alignment required one elevated creek crossing, an 800-ft long HDD of a critical highly impacted roundabout intersection, and a 500-LF auger bore and jack crossing of Highway 1. Unique features of the project included analysis of multiple lift station design options, including vertical turbine solids handling pumps versus a grinder with submersible N-series Flygt pumps versus dry/wet pit submersible pumps. We also compared absorbent, air scrubber, and bio-filters to identify the odor control device that best met the long term needs of the site.

Mr. Fisher was Project Manager on the design of rehabilitation for concrete deteriorated by Microbiologically Induced Corrosion on the influent channel walls, aerated grit chamber and grit chamber effluent channel. Project includes 12 MGD by-pass pumping system; removal of existing liner and surface preparation; concrete rehabilitation with hydraulic fast-setting cement mortar; and construction oversight and testing of Aero-Lock Liner installation. **City of Roseville Dry Creek WWTP Digester 1&2 Structural Assessment and Rehabilitation Design Project - Roseville, CA (Inspection)** Mr. Fisher is the Project Manager overseeing condition assessment of Digester 1 and 2 at the City of Roseville Dry Creek WWTP. During routine maintenance and cleaning, Mr. Fisher and the Water Works inspection team provided a thorough structural assessment of the concrete structures, in particular the flat top and domed roofs and interior mechanical piping, to assess its condition and identify more significant rehabilitation and/or replacement needs. Mike worked with the Contractor responsible for the routine cleaning project to remove all fluid and materials in the digesters; wash and clean all internal components; and pump the tank dry. They then set-up a scaffolding and lighting system for use by Water Works for the structural assessment. Water Works team efficiently completed a visual assessment and took concrete core samples for material testing to characterize the condition of the digester and summarized the findings and recommended improvements in a structural assessment report.

City of Roseville Pleasant Grove Wastewater Treatment Plant As Needed Environmental Utilities – Roseville, CA Mr. Fisher led engineering services related to evaluation of the PGWWTP influent trunk line and influent facilities. The interceptor had experienced several odor events in the last 3 miles. Mr. Fisher led the Water Works Engineers team that assessed the extent and causation of the venting of the interceptor. The interceptor had two different locations of significant air headspace area changes. Those areas were instrumented with gas phase hydrogen sulfide analyzers/data loggers combined with pressure analyzers/data loggers. The evaluation included analysis of the influent PS operations impact on trunk line odors.

Jon Roy, PE

Civil Engineer / Construction Manager



Education

B.S. – Civil Engineering
Oregon State University (2016)

Years of Experience

5 years with the
firm/ 7 years
total

Registration

Registered Civil Engineer
California – C92341

Mr. Roy is a Civil Engineer with over 7 years of experience in water infrastructure constructability, construction management, and design. Mr. Roy has specializes in design and construction of yard and process pipe, and mechanical systems. Mr. Roy has extensive experience in existing process infrastructure rehabilitation and modification in both water and wastewater.

Representative Project Experience

City of Roseville PGWWTP Influent Pump Station Hydraulic Tech Memo (On-Call Services)—Roseville, CA (Planning/Design)

The project consisted of analyzing historical operation of the Influent Pump Station at the Pleasant Grove Wastewater Treatment Plant to make recommendations to improve performance of the station and provide longevity to ensure future capacity. Mr. Roy assisted with making infrastructure improvement and operational recommendations to facilitate the desired pump replacements and the ancillary infrastructure. Mr. Roy also provided constructability review and construction phasing recommendations.

West Side Tank and Pump Station Design and CM – Roseville, CA (Design/CM)

Mr. Roy provided services for the design, plans and specifications, bidding assistance, and construction management services for two pre-stressed concrete tanks, a booster pump station, and the new operations crew facility. The water tanks and pump station were delivered using the City's design assist CM @ Risk project delivery method and the crew build as design-build. Improvements to the greenfield site included:

- ✓ Two 6 MG partially buried AWWA D110 Type I pre-stressed concrete tank(s).
- ✓ Booster Pump Station – four 3800 GPM @ 170' TDH vertical turbine pumps and controls.
- ✓ CMU block building with pump, E&IC and chemical feed rooms
- ✓ Site design to minimize material off-haul and provide post construction drainage water quality enhancements
- ✓ Mechanical stabilized earth foundation improvements under tank to minimize differential settlement
- ✓ Crew building with office, training, lavatory, showers, kitchen and shop to support water operations and maintenance staff
- ✓ Architectural features of the site followed master planned community CC&Rs.

City of Roseville Shadowbrook Forcemain Replacement Project

Mr. Roy provided Construction Management services for the installation of a 6" DIP dual force main. This project included installation of a diversion structure for a crossing of Dry Creek, post construction stream bed restoration, and the administration of the associated permit constraints.

City of Morro Bay WRF Lift Station and Offsite Pipelines – Morro Bay, CA

Mr. Roy assisted with the design and services during construction for the Water Reclamation Facility Influent Lift Station and associated offsite pipelines. This project included design of an 8MGD (peak wet weather flow) triplex submersible pump station with provisions to turndown all the way to 0.3 - 1 MGD during typical daily flow conditions.



City of San Bruno Sneath and Lake Pump Station Rehabilitation Project - San Bruno, CA (Design)

Mr. Roy was the project engineer for rehabilitating two pump stations. Improvements included structural improvements for the existing building, new electrical equipment including MCCs, VFDs, switchgear, and generator, new steel discharge piping and a new building. Building improvements were designed for the wildland urban interface requirements. The project included preliminary design through final design. Sneath pump station has three 125 hp vertical turbine pumps. Lake pump station has two 100 hp vertical turbine pumps.

PCWA Bowman WTP Improvements Project Phases II and III - Auburn, CA (Design)

Mr. Roy provided design services for upgrades to existing plant facilities and new process systems at the Bowman Water Treatment Plant. Plant upgrades included filter and flocculation basin rehabilitation, piping and valve modifications, and new intake screen and Polymer feed system.

City of Healdsburg Fitch and Dry Creek Well Field Filter Upgrade and Improvements Project - Healdsburg, CA (Design)

Mr. Roy was the project engineer for design of cartridge filter trains at two well sites, and rehabilitation of existing distribution infrastructure. Upgrades to existing infrastructure included replacement of four end suction horizontal split case pumps and installation of VFDs, and complete interior rehabilitation and repair of the 170,000 gallon Clearwell.

City of Millbrae Water System Improvement Project - Millbrae, CA (Planning/Design/CM)

Mr. Roy was the project engineer for the water system improvement project. The project implemented some of the projects described in the Master Plan to improve the resiliency of the water distribution system. Distribution system improvements to intertie previously unconnected pressure zones were confirmed using an InfoWater model. A final design was prepared for a new 1.5 million gallon prestressed concrete tank to replace infrastructure at the end of its life. Construction management was provided for the construction of the tank.

Valley of the Moon Water District Saddle Tank - Glen Ellen, CA (Design/CM)

Mr. Roy provided engineering services for the design, plans and specifications, bidding assistance, and construction management services for a 200,000-gallon welded steel tank. The steel tank replaced a redwood tank that burned down in the 2017 California wildfires. Constructability challenges of the project included getting working area from the neighbor, staying within the 60' x 60' parcel, and how to get material to the site up a steep, narrow, and private road. The project was funded by FEMA.

San Jose Water Cambrian Station Improvements Project – San Jose, CA (Design and Permitting)

Mr. Roy was the project engineer for the design and permitting of a new CMU block pump station with two 100 hp pumps and two 200 hp pumps, two 1000 gallon bladder tanks, new MCC, and associated valves and piping. Demolition of the existing pump station and other facilities on site were completed to create room for the new facilities. Hazardous materials on site were sampled for and mitigated. A historical report was created to ensure the new facilities did not impact the remaining historical facilities on site.

San Jose Water Company Belgatos Reservoir Replacement Project

Mr. Roy provided Construction Management of the complete reservoir replacement, including retirement of existing infrastructure and new mechanical piping, and construction of two 2.37 MG post-tensioned concrete tanks.



JOE ZIEMANN, P.E.

Project Engineer/Project Manager



Education

M.S. – Environmental Eng.
Lehigh University (2006)
B.S. – Environmental Eng.,
Lehigh University (2005)

Experience

14 years with
the firm/ 17
years total

Registration

Registered Civil Engineer
California - C76172

Memberships

AWWA
CWEA

Mr. Ziemann is a water and wastewater treatment process design and consulting engineer with 16 years of experience in the water, wastewater, and recycled water industry. He has worked as a project engineer and project manager on projects ranging from plan and specification preparation for new utility infrastructure to master planning and utility asset rehabilitation analysis and design. Mr. Ziemann's experience also includes operations and maintenance planning and protocol development, as well as graphical information systems (GIS) analysis, which have allowed him to develop a broad perspective of how individual projects fit in to the larger picture of a municipality's overall utility scheme and future objectives.

REPRESENTATIVE PROJECT EXPERIENCE

The project consisted of analyzing historical operation of the Influent Pump Station at the Pleasant Grove Wastewater Treatment Plant to make recommendations to improve performance of the station and provide longevity to ensure future capacity. Mr. Ziemann led development of infrastructure improvement and operational recommendations to facilitate the desired pump replacements and the ancillary infrastructure.

City of Roseville Pleasant Grove Wastewater Treatment Plant As Needed Environmental Utilities – Roseville, CA

Mr. Ziemann provided engineering services for the interceptor to collect wastewater to its wastewater treatment facilities. The interceptor had experienced several odor events in the last 3 miles. Mr. Ziemann and the Water Works Engineers team assessed the extent and causation of the venting of the interceptor. The interceptor had two different locations of significant air headspace area changes. Those areas were instrumented with gas phase hydrogen sulfide analyzers/data loggers combined with pressure analyzers/data loggers.

City of Shasta Lake Wastewater Treatment Plant Final Design – Shasta Lake, CA (Planning/Design)

Mr. Ziemann was the lead design engineer for improvements at an existing wastewater treatment plant required to meet new nutrient limits in the facility's discharge permit. Mr. Ziemann completed construction drawings and specifications for retrofit of the existing headworks screens, conversion of an oxidation ditch into an equalization basin, a self-cleaning trench style influent pump station, 5-stage Bardenpho aeration basins, and a new secondary clarifier. Mr. Ziemann developed the BioWIN model of the plant that was used for final design.

City of Shasta Lake Centrifuge Dewatering System – Shasta Lake, CA (Design/CM)

The project team evaluated mechanical dewatering technologies for the City's water treatment plant sludge, including belt filter press, screw press, and centrifuge technology. Centrifuge technology was selected due to the limited footprint available on the site and operational preferences. Mr. Ziemann led final design of the facility, which included a two story building with the centrifuge on the second floor, and a dewatered solids roll-off bin on the first floor. Mr. Ziemann also provided construction management, startup, and operational optimization services for the project.

17-067 City of Roseville Dry Creek WWTP Sewer Collection System and Pump Station Hydraulic Investigation -

Roseville, CA (Assessment) Mr. Ziemann provided engineering services in conducting a review of the existing City of Roseville sanitary sewer hydraulic model (in InfoWorks ICM) and developing inflow and infiltration reduction program recommendations.

12-012 Dry Creek Secondary Clarifier Replacement Project - City of Roseville, CA (Design/CM)

Mr. Ziemann provided design and construction management services for the complete rehabilitation and replacement of four

circular secondary clarifiers. The project included demolition of all existing internal mechanical equipment, re-tasking of existing concrete structures and supports, and replacement of the drive mechanisms with new stainless-steel equipment. The project also included RAS pump replacement and controls improvements.

City of Folsom WTP Solids Dewatering Facility – Folsom, CA (Design/Build) Water Works Engineers, in partnership with Auburn Constructors, was hired by the City to provide design-build services for the Dewatering Facility Project at the 50-mgd City of Folsom Water Treatment Plant. The project included rehabilitation of the existing flocculation/sedimentation basins to serve as filter backwash / actiflo blowdown treatment systems, sludge homogenization tanks with chopper pump-mixing, and a screwpress dewatering system and roll-off container storage for 20-25% cake prior to landfill disposal. Mr. Ziemann also developed a detailed Operations Guide for the facility which included SOPs for typical startup, shutdown, coagulant dose adjustment, operational mode selection, HMI control screen descriptions, and operational setpoints.

City of Willits WTP Emergency Water Supply Project – Willits, CA (Design/CM) Mr. Ziemann responded to an emergency request by the City to develop a groundwater well treatment system pre-design report on a very fast timeline to secure grant funding from the California Department of Public Health's emergency drought fund that became available in early 2014. Mr. Ziemann subsequently developed plans and specifications for an arsenic, iron, and manganese treatment system, employing manganese dioxide media filters, for the City's two existing groundwater wells which were previously being utilized as sources of non-potable water. Mr. Ziemann also performed bench testing of manganese sequestration chemicals, and determined they were not a viable alternative to manganese removal treatment.

Riviera West Water Treatment Plant Improvements – Kelseyville, CA (Planning/Design/CM) Mr. Ziemann prepared a preliminary design report for improvements to an existing water treatment plant drawing raw water from Clear Lake, which was not in full compliance with Title 22 water treatment requirements. The preliminary design report was utilized to secure State grant funding for the project. Mr. Ziemann also prepared plans and specifications for the identified improvements including dissolved air flotation clarification, pressure filtration, granular activated carbon contact, and chlorine contact. Mr. Ziemann also provided construction management, construction inspection, plant startup services, and developed the WTP Operations Guide which was required to be submitted to and reviewed by the SWRCB for the WTP permit.

City of Willits WTP Improvements – Willits, CA (Planning/Design/CM) Mr. Ziemann prepared plans and specifications for improvements to an existing surface water treatment plant.. Mr. Ziemann and the project team worked closely with water treatment plant operators to understand the extent of the deficiencies in the existing system and develop a strategy for improving the operation and performance of the plant while maximizing the use of existing equipment and minimizing construction cost. The improvements included a solids contact clarifier for pretreatment, an additional Trident Microfloc unit, a pH adjustment chemical feed system, and a new SCADA system. The design of the improvements was focused around providing flexibility in the operation of each individual process in terms of pH and loading rate to optimize the removal of seasonal contaminants such as iron, manganese, colloidal clay, algae, and organic carbon. Mr. Ziemann developed the WTP Operations Guide which was required to be submitted to and reviewed by the SWRCB for the WTP permit.

City of Montague WTP Improvements – Montague, CA (Planning/Design) Mr. Ziemann performed an analysis of treatment process alternatives for surface water treatment plant improvements required to reduce disinfection byproduct formation, reduce finished water taste and odor, and improve plant reliability. Mr. Ziemann developed and compared treatment alternatives based on capital costs, operating costs, ability to meet regulatory demands and project goals, and ease of operation. Mr. Ziemann prepared final design plans and specifications for construction of the improvements, provided construction management and startup assistance, and developed a WTP Operations Guide.



FRISCH ENGINEERING, INC.

Consulting Electrical Engineers
13405 Folsom Blvd., Unit 600
Folsom, CA 95630

Phone 916.353.1025

Thomas P. Frisch, P.E.

Experience Summary

Mr. Thomas Frisch has worked in the water/wastewater/power/landfill industry since 1991 and has developed skills in power, controls, instrumentation and communications. He has become very familiar with most practices and processes used in this industry. His experience is diverse since he has worked as a Contractor and Consultant in various capacities. As a Contractor, he brought contract drawings to completion by designing the final details, making submittals and managing production. As a



Consultant, he has designed over 250 water and wastewater projects ranging from small pump stations to large scale treatment plants. Consequently, he has a high degree of product knowledge that enables him to minimize design exposure to unproven materials or practices. He knows the challenges that Contractors face in taking plans to construction and knows when to assist on behalf on the Owner. His designs for electrical, instrumentation, and telemetry systems have been very successful with near-zero change orders due to design flaws. His designs include complex PLC motor controls for booster pump stations, lift stations and motor operated valves and SCADA telemetry between pump stations and tanks. He has performed electrical studies such as a damage assessment or to determine system capacity and cost comparisons to determine electrical operational costs of VFDs vs. throttled fixed speed motors

Education B.S. Electrical Engineering, University California Los Angeles, 1991

Registration Professional Electrical Engineer Reg. CA E15761, other states as needed

Work Experience

Electrical Engineer (30 years)

Mr. Frisch obtained his Professional Engineering License 1998, and shortly thereafter, began working as a consultant in Electrical Design. Thomas has designed over 800 projects ranging from small sewage lift stations to large (2000 HP total medium voltage) pump stations and treatment plants. During this time, Mr. Frisch has become proficient as a designer, obtained the respect of his peers, and now operates a successful Electrical Engineering design and construction services business.

Prior to consulting, Mr. Frisch worked for Tesco Controls as a Field Service Engineer (4 years), Sales Engineer (1 year), and Project Engineer (3 years). While working for Tesco, He became very familiar with design philosophies of HDR, Montgomery Watson, Brown and Caldwell, Black and Veatch, Carollo and others. He engineered and coordinated many projects including full treatment plants at El Dorado Hills, City of Davis, City of Corona, and City of Sanger. He became very familiar with many manufacturers of instrumentation, PLCs and SCADA systems. He developed and defined many of the standards still in use today at Tesco Controls concerning drafting, testing and manufacturing.



FRISCH ENGINEERING, INC.

Consulting Electrical Engineers
110 Blue Ravine Road, Suite 101
Folsom, CA 95630

Phone 916.353.1025
Fax 916.353.1028

Michael J. Frisch, P.E.

Experience Summary

Mr. Michael Frisch has worked in the water/wastewater industry since 1994 and is familiar with most processes used in this industry. His experience is well rounded as he has worked as a Consultant and a Contractor. This experience has provided Michael additional perspectives of a project or problem. As a Consultant, he is capable of providing information and expertise to the Owner, and assist the Contractor with suggestions that can expedite the project without compromising contractual requirements. His experiences as a Contractor have provided knowledge in all areas in the water/wastewater industry. This experience has provided him the expertise to assist clients with product selection, application, implementation, and process control. He is diverse in PLC and SCADA automation that include motor and process control with instrumentation. His experience with telemetry application and testing has proven invaluable.

Education

B.S. Electrical Engineering, University California Los Angeles, 1994

Registration

California State Professional Electrical Engineer Reg. E17155

Work Experience

Electrical Engineer

Mr. Frisch obtained his Professional Engineering License in 2003, and began working as a consultant in Electrical Design and Construction Support in 1999. Michael has designed projects but his primary focus has been Construction Support. He has managed over one hundred projects ranging from small sewage lift stations and pump stations to water and wastewater treatment plants. During this time, Michael has become proficient as a Construction Manager, Designer and PLC programmer and has obtained the respect of his peers. He has experience with Allen Bradley, Modicon and GE products. His expertise has been invaluable to the Owner, project managing team and Contractor. He has a "hands-on" approach to implementing and completing a job which helps to assure the job is completed correctly and per plans and specifications. He now operates a successful Electrical Engineering design and construction services business.



FRISCH ENGINEERING, INC.

Consulting Electrical Engineers
13405 Folsom Blvd., Unit 600
Folsom, CA 95630

Phone 916.353.1025

Martin Yarbrough

Experience Summary

Mr. Martin Yarbrough has worked in the water/wastewater industry since 1995 and offers an excellent combination of manufacturing, project management and electrical engineering experience. His past experience as a systems integrator provides a solid basis and broad understanding required to be a successful Electrical Consultant. He has a proven ability to diagnose customer requests, translate them to action and deliver with the highest customer satisfaction. Mr. Yarbrough is a hardworking employee with a strong work ethic who works efficiently in a professional environment by using keen organizational, time-management, and prioritizing skills to consistently meet deadlines. He maintains effective and thorough working relationships with customers in a positive, professional and timely manner.

Mr. Yarbrough is skilled at analyzing complex functions, procedures and problems to find creative, logical and effective solutions. He is experienced with numerous facets of engineering concepts, products, control processes, instrumentation, practices, and procedures within the industry. Mr. Yarbrough offers the meticulous, professional and thorough communications that ensure successfully managed projects and satisfied customers.

Mr. Yarbrough has performed many arc-flash studies and circuit breaker coordination. Frisch Engineering has offers services to analyze previous Arc-Flash calculations to find discrepancies and inaccuracies which cause the incident energy to be over rated. Mr. Yarbrough has found in many cases where ratings may be lowered making maintenance easier and less hassle. Over rated systems are very onerous to service which causes it to not be services at all. Mr. Yarbrough is able to help.

Born and raised in Louisiana and California, Mr. Yarbrough is a very good communicator and has a non-aggressive demeanor. He is very personable and quick to know and get-along with. He is requested by Clients to assist on projects routinely.

Education Associate of Applied Science, Computer Aided Design, ITT Technical Institute, 1993

**Project
Experience** Mr. Yarbrough works as Project Designer on many projects and also provides Construction management and site inspection. Usually providing input on the on the engineering side of projects, Mr. Yarbrough can produce electrical drawings and specifications, breaker coorwdination, Arc Flash calculations, submittal reviews, site inspections, and testing.

Mr. Yarbrough has been working for Frisch Engineering for many years and utilizes the design concepts and practices of the company. Those concepts and practices are flexible enough to provide custom solutions for each client while ensuring the detail, quality, and completeness that Frisch Engineering is known for.

Wade Johnson

Experience

Wade's 30 years of experience in the electrical industry has given him many insights to the electrical construction field. This includes water and waste water projects, Industrial projects, Commercial, food processing, agricultural, automation, PLC control systems, Scada systems, process instrumentation, pneumatics, petro chemical, refinery's, Industrial lighting systems, lighting controls, fiber optics, security systems and Electrical estimation.

Past affiliations and License

*Independent Electrical Contractors Association, Western Electrical Contractors Association
California Contractors License C-10 Electrical, Nevada state C-2 Electrical License*

Education

*5 Year electrical trade school,
Electrical construction project management, Purdue University 1996*

PROJECT EXPERIENCE

Construction Projects:

- . North fork screens & ladders, Manton CA
- . Groveland WTP, Groveland CA
- . Deer creek WWTP, Eldorado CA
- . TMWRF WWTP upgrade, Reno NV
- . Wildhawk GWTP, Sacramento CA
- . Bridge District tank and BPS, Sacramento CA
- . Chevron pipeline and pump station, Richmond CA
- . Anatolia WTP, Sacramento CA
- . Folgers coffee, South San Francisco CA
- . Yuba City WWTP upgrade, Yuba City CA
- . STMWRF chemical, Washoe County NV
- . Douglas county WWTP, Douglas County NV
- . Zone 4 & intertie PS, Roseville
- . Blue oaks/Hayden wells, Roseville
- . Stoneridge tank & PS, Roseville
- . Northeast tank & PS, Roseville
- . Fall creek WTP, Yreka CA
- . Martin slough PS, Eureka CA
- . Dollar point PS, Carnelian bay CA
- . Combie powerhouse, Auburn CA
- . Diablo Grande Scada, Patterson CA
- . Lodi WWTP, Lodi CA
- . STMWRF Biosolids, Washoe County
- . Incline village Pump station 8, NV

Design-Build/Assist Projects:

- . Carson city WRRF pre-construction, NV
- . Carson city WRRF CMAR contract, NV
- . Thunder valley casino WWTP, Lincoln CA
- . Cache creek casino WWTP, Brooks CA
- . Red Hawk casino WWTP, Camino CA
- . Pleasant Grove WWTP Expansion
- . Pleasant grove UV upgrade, Roseville
- . Dry creek cooling towers, Roseville
- . Dry creek Clarifiers, Roseville
- . Saddle creek WTP, Copperopolis CA
- . Red Hawk casino, WTP, Camino CA
- . Pleasant Grove Energy Recovery

Fred Lozo

4501 Harlin Dr.
Sacramento, CA 95826
(209) 470-9428
fred@sanjoaquinelectric.com

PROFILE

Over 30 years of field & office experience in the electrical trade. Expert knowledge of electrical systems, electronics, field instrumentation, AC/DC systems, and communication systems. Skilled at project planning, documentation control, and adjusting project priorities to meet milestones and customer's needs.

PROJECT EXPERIENCE - 100% DESIGNED

- Wildhawk Water Treatment Plant - Sacramento, CA
- South Truckee Meadows WWTP Biosolids - Reno, NV
- Lake Wildwood WWTP - Lake Wildwood, CA
- Auburn WTP - Auburn, CA
- TMWRF WWTP - Reno, NV
- Yuba City WWTP Upgrades - Yuba City, CA
- Lodi WWTP - Lodi, CA

PROJECT EXPERIENCE - DESIGN-BUILD/ASSIST

- Pleasant Grove WWTP Expansion - Roseville, CA
- Pleasant Grove Energy Recovery - Roseville, CA
- Pleasant Grove WWTP UV Upgrade - Roseville, CA
- Dry Creek WWTP Cooling Towers - Roseville, CA
- Dry Creek WWTP Clarifier Upgrade - Roseville, CA
- Thunder Valley WWTP - Lincoln, CA
- SRCSD Pilot WWTP - Sacramento, CA
- Bellevue Pump Station - Milpitas, CA

EDUCATION

- Long Beach City College — Associates in Electrical Science - 1988
- Long Beach Naval Shipyard - Electrical Apprenticeship - 1984-1988

LICENSES

- California State Contractor C-10
- Nevada State Contractor C-2

SKILLS

- Inspecting, testing, and trouble-shooting electrical services and systems
- Planning and scheduling resources to meet project goals
- Organized, detailed oriented, and efficient
- Managing projects in excess of \$5 million dollars
- Working on high/low voltage, telecommunications, fire alarm, instrumentation, PLC, and security systems

Appendix B – Variable Frequency Drive (VFD) Cut Sheets





Powering Business Worldwide

Eaton Corporation
1741 East Roseville Pkwy
Suite 400
Roseville, CA 95661
Office: (916) 780-4102

To: Wade Johnson, San Joaquin Electric

FOR THE PROJECT KNOWN AS

Roseville-PG WWTP IPS VFD Upgrade

NEG# *SR510427X3K1*

ALT#0000

DATE: 4-27-2023

EQUIPMENT SUMMARY & SELLING POLICY

EATON Electrical is pleased to offer the following Scope of Work and Bill of Material for your consideration. The Bill of Material is in accordance with our interpretation of the Plans and Specifications. This offer is subject to your approval and is conditional upon your acceptance of the applicable EATON Electrical Selling Policy listed below.

Schedules are based on current factory scheduling. Lead times are subject to change at order entry due to market and plant conditions. Please contact your EATON Electrical sales engineer or distributor if different dates are required. Shipment Dates are based on returned Approval Drawings marked "RELEASED FOR MANUFACTURE".

Job is quoted:

☒ Per Plan Drawings and Spec Sections

Specifications: Site Visit RFI, Question # 9.

Plans:

Comments and special conditions as noted.

[See BOM for equipment scope and details.](#)

Unless otherwise noted:

☐ Addendums:

Respectfully,

Mark Townsley

Eaton Electrical
Executive Sales Engineer
Office: (916) 780-4102
Mobile: (916) 799 -2429

Detail Bill of Material

Project Name:	Roseville-PG WWTP IPS VFD Upgrade	Negotiation No:	SR510427X3K1
General Order No:		Alternate No:	0000

Item No.	Qty	Product	Description
	1	EESS SAT	***See Approval Drawings for Comments and Clarifications*** Start-up Contact: Contractor Estimated Start-up Date: A Coordination Study does not exist. Designation Start-up/Training Qty List of Materials 1 EESS Office: Sacramento, CA, quote as of 4/27/2023 5:40:56 PM 1 Jobsite: , Roseville, California 95661 1 Drive Time: 0.08 Hours 3 Drive Start-up Visits 8 Customer Training Provided by EESS: 8 Hours, Video Recording: N 6 Drives - Enclosed

Item No.	Qty	Product	Description
	4	Drives - Enclosed	EGP 18-Pulse Enclosed Drive w/ 5% Dual DC Link Choke, 200 HP (149 KW) High Overload (IH) Rated, 480VAC Three Phase Input, NEMA 1 Enclosure Catalog No EGP2404C11JGB00000* Designation 150HP Qty List of Materials 1 Isolation Fuses 1 Circuit Breaker 1 Engineered Options 1 Manual HOA RVSS Bypass 1 30mm HOA Switch - 10250T Series 1 DV/DT Filter 1 30mm Start (Green) & Stop (Red) Buttons - 10250T Series 1 30mm Speed Pot - 10250T Series 1 Misc 30mm Push-To-Test Pilot Light - 10250T Series 1 Varnished Boards (Standard) 1 20 inch Pull Box 1 Standard freight CA

Item No.	Qty	Product	Description
	2	Drives - Enclosed	EGP 18-Pulse Enclosed Drive w/ 5% Dual DC Link Choke, 100 HP (75 KW) High Overload (IH) Rated, 480VAC Three Phase Input, NEMA 1 Enclosure Catalog No EGP1244C11JGB00000* Designation 100HP Qty List of Materials 1 Isolation Fuses 1 Engineered Options 1 Manual HOA RVSS Bypass 1 30mm HOA Switch - 10250T Series 1 DV/DT Filter

Detail Bill of Material

Project Name:	Roseville-PG WWTP IPS VFD Upgrade	Negotiation No:	SR510427X3K1
General Order No:		Alternate No:	0000

Qty	List of Materials
1	30mm Start (Green) & Stop (Red) Buttons - 10250T Series
1	30mm Speed Pot - 10250T Series
1	Misc 30mm Push-To-Test Pilot Light - 10250T Series
1	Varnished Boards (Standard)
1	Standard freight CA

Eaton Selling Policy 25-000 applies.

All orders must be released for manufacture within 90 days of date of order entry. If approval drawings are required, drawings must be returned approved for release within 60 days of mailing. If drawings are not returned accordingly, and/or if shipment is delayed for any reason, the price of the order will increase by 1.0% per month or fraction thereof for the time the shipment is delayed.

Seller shall not be responsible for any failure to perform, or delay in performance of, its obligations resulting from the COVID-19 pandemic or any future epidemic, and Buyer shall not be entitled to any damages resulting thereof.

<u>DESCRIPTION</u>	CONTRACTOR NET (TAX NOT INCLUDED)	
BASE LOT PRICE		

PROJECT SPECIFIC COMMENTS & CLARIFICATIONS

- VFDs for 150HP pumps quoted as 200HP to accommodate 6-pole motors.
- VFDs for 150HP pumps includes 20"W pull section.
- VFDs quoted with features that emulate Eaton CAT# provided in RFQ materials (question # 9).

Project Name: Roseville-PG WWTP IPS VFD Upgrade
General Order No:

Negotiation No: SR510427X3K1
Alternate No: 0000

COMMENTS & SPECIAL CONDITIONS

1. Written quotations are valid for 30 days from its date unless otherwise stated.
2. Lead times are plus transit.
3. Eaton provides FOB Factory (or FOB Destination as adder); any additional logistics/staging/kitting should be coordinated through an authorized Eaton distributor.
4. The bill of material is based upon our interpretation of any specifications, drawings, and/or other information provided. Any items or features not listed in the bill of material are not included.
5. Any modifications or additions to the bill of material will require a revised quotation and is subject to a change in price and lead times.
6. Items NOT included unless shown as a separate item within the bill of materials: safety switches, enclosed circuit breakers, starters, meter sockets, lighting contactors, fuses, spare parts, renewal parts, other miscellaneous equipment, factory testing, extended warranty, seismic calculations, selective coordination or ArcFlash analysis.
7. When the information is not indicated, it is assumed equipment enclosures are NEMA 1 indoor.
8. When the information is not indicated, it is assumed Panelboards are NEMA 1 indoor, flush mounted, 10kAIC (208V) and 14kAIC (480V).
9. Nameplates are NOT included for miscellaneous equipment such as safety switches, enclosed circuit breakers, starters, lighting contactors, etc.
10. Cable terminations use mechanical type lugs. Mechanical lugs will accept either copper or aluminum cables. Compression type lugs are available at an additional charge.
11. Proposed equipment is finished using EATON Electrical standard application process and colors.
12. Dry Type transformers (DOE 2016) supplied do NOT include primary or secondary terminal lugs. Dry type transformers are supplied with factory standard impedance and reactance levels unless shown otherwise.
13. Motor control centers overload heaters are included in MCC pricing. However, these heaters will NOT be shipped until a verified list of full load amps or the specific heater sizes have been submitted to Eaton Electrical in writing.
14. The Supply and Installation of Labels and Signage as required by the 2011 NEC/2010 CEC (i.e., See 110.24; 230.72(A); 312.8(3); 403.8(F)(2); 408.4) as "Field Installed" are the responsibility of the End User and are NOT included in this quotation.
15. SEISMIC QUALIFICATION: Eaton equipment is Seismic certified per IBC and CBC requirements where applicable. Eaton will supply "Seismic Qualified" certificates, mounting provision locations, center of gravity, weights, and installation recommendations. (These items can also be found at www.eaton.com/seismic) The CONTRACTOR will be responsible for all costs associated with the equipment anchorage details that are to be prepared and stamped by a licensed civil engineer in the State of California. Said drawings shall be coordinated with the Eaton supplied mounting provision locations, center of gravity, weights, and installation recommendations. Calculations of anchor lengths and other seismic calculations are to be PROVIDED BY OTHERS.
16. TITLE 24: Panels and switchboards - Eaton is not responsible for Title 24 design compliance unless Title 24 requirements are an integral part of the design. SPD and customer metering is only included where shown on single line or panel schedules.
17. NEC/CEC ARTICLE 240.87(B): Eaton will provide the arc reduction method where it is specifically called for on the plans and specifications for circuit breakers that are rated or can be adjusted to 1200A or higher. Where no method is detailed on the plans and specifications, Eaton will provide standard circuit breakers with the features defined in the plans and specifications and can provide the additional cost adder(s) for compliance with article 240.87(B) at a future date when the designers of the project select their choice of arc reduction method.

TERMS & CONDITIONS SUMMARY

1. **All orders must be released for manufacture within 90 days of date of order entry. If approval drawings are required, drawings must be returned approved for release within 60 days of mailing. If drawings are not returned accordingly, and/or if shipment is delayed for any reason, the price of the order will increase by 1.0% per month or fraction thereof for the time the shipment is delayed.**
2. Customer accepts Terms & Conditions of the EATON Corporation 25-000 Selling Policy when accepting this quotation and placing an order. Eaton 25-000 Selling Policy also contains payment, net and discount terms. **Customer's PO must state "Per EATON 25-000 Selling Policy."**

Detail Bill of Material

Project Name:	Roseville-PG WWTP IPS VFD Upgrade	Negotiation No:	SR510427X3K1
General Order No:		Alternate No:	0000

3. Applicable sales taxes are NOT included in the quoted price.
4. Delivery of this electrical equipment to any common carrier shall constitute delivery to the purchaser; and all risk of loss and damage during shipment shall pass to the purchaser at that time.
5. **Freight charges are included** in the price (Standard ground freight). **F.O.B. - Factory** to accessible common carrier point nearest first destination continental USA. **For F.O.B. Destination, add 2% to the above Quoted Amount.** (NOTE: F.O.B. – Destination is INCLUDED on all GSA purchases)
6. **WARRANTY:** Standard EATON Electrical warranty is applicable for (12) months from date of installation of the product or (18) months from date of shipment of the product, whichever occurs first.

Detail Bill of Material

Project Name: Frisch - 18pulse Drive
General Order No:

Negotiation No: SR560410X3K1
Alternate No: 0000

Item No.	Qty	Product	Description
	1	Drives - Enclosed	EGP 18-Pulse Enclosed Drive w/ 5% Dual DC Link Choke, 150 HP (112 KW) High Overload (IH) Rated, 480VAC Three Phase Input, NEMA 1 Enclosure
		Catalog No	EGP1804C130DB10000*
		Designation	150HP 18Pulse
Catalog No	Qty	List of Materials	
Isolation Fuses	1	Isolation Fuses	
Circuit Breaker	1	Circuit Breaker	
Engineered Options	1	Engineered Options	
--->100KAIC Rated	1	--->100KAIC Rated	
DV/DT Filter	1	DV/DT Filter	
HOA Switch	1	22mm HOA Switch - M22 Series	
Speed Pot	1	22mm Speed Pot - M22 Series	
Start/Stop Buttons	1	22mm Start (Green) & Stop (Red) Buttons - M22 Series	
Light Kit	1	22mm Power On (White), Drive Run (Green), & Drive Fault (Red) Push-To-Test Light Kit - M22 Series	
Varnished Boards (Standard)	1	Varnished Boards (Standard)	

Eaton Selling Policy 25-000 applies.

All orders must be released for manufacture within 90 days of date of order entry. If approval drawings are required, drawings must be returned approved for release within 60 days of mailing. If drawings are not returned accordingly, and/or if shipment is delayed for any reason, the price of the order will increase by 1.0% per month or fraction thereof for the time the shipment is delayed.

Seller shall not be responsible for any failure to perform, or delay in performance of, its obligations resulting from the COVID-19 pandemic or any future epidemic, and Buyer shall not be entitled to any damages resulting thereof.

General Information: Drives - Enclosed

Drive Schedule

Item	Qty	Equipment ID	Catalog Number	Output HP	Output Amps	Output Voltage
	1	150HP 18Pulse	EGP1804C130DB1 0000*	150	180	480VAC Three Phase

Item Information

Design Series:	Enclosed 18-Pulse DG1 Drive
Output Power:	150 HP (112 KW)
Rated Output Current (Amps):	180
Input Voltage:	480VAC Three Phase
Input Frequency	45 to 66 Hz
Output Voltage:	480VAC Three Phase
Output Frequency	0 to 320 Hz
Branch Protection:	
Short Circuit Current Rating:	100KAIC
Enclosure NEMA Rating:	NEMA 1
Enclosure Size:	8X
Drive Frame Size:	FR6
Onboard Comms:	BACnet MS/TP, Ethernet/IP, Modbus, & Modbus TCP
Optional Comms:	None

Enclosure Information

NEMA Rating:	NEMA 1
Height (in):	
Width (in):	
Depth (in):	
Weight (lbs):	1600

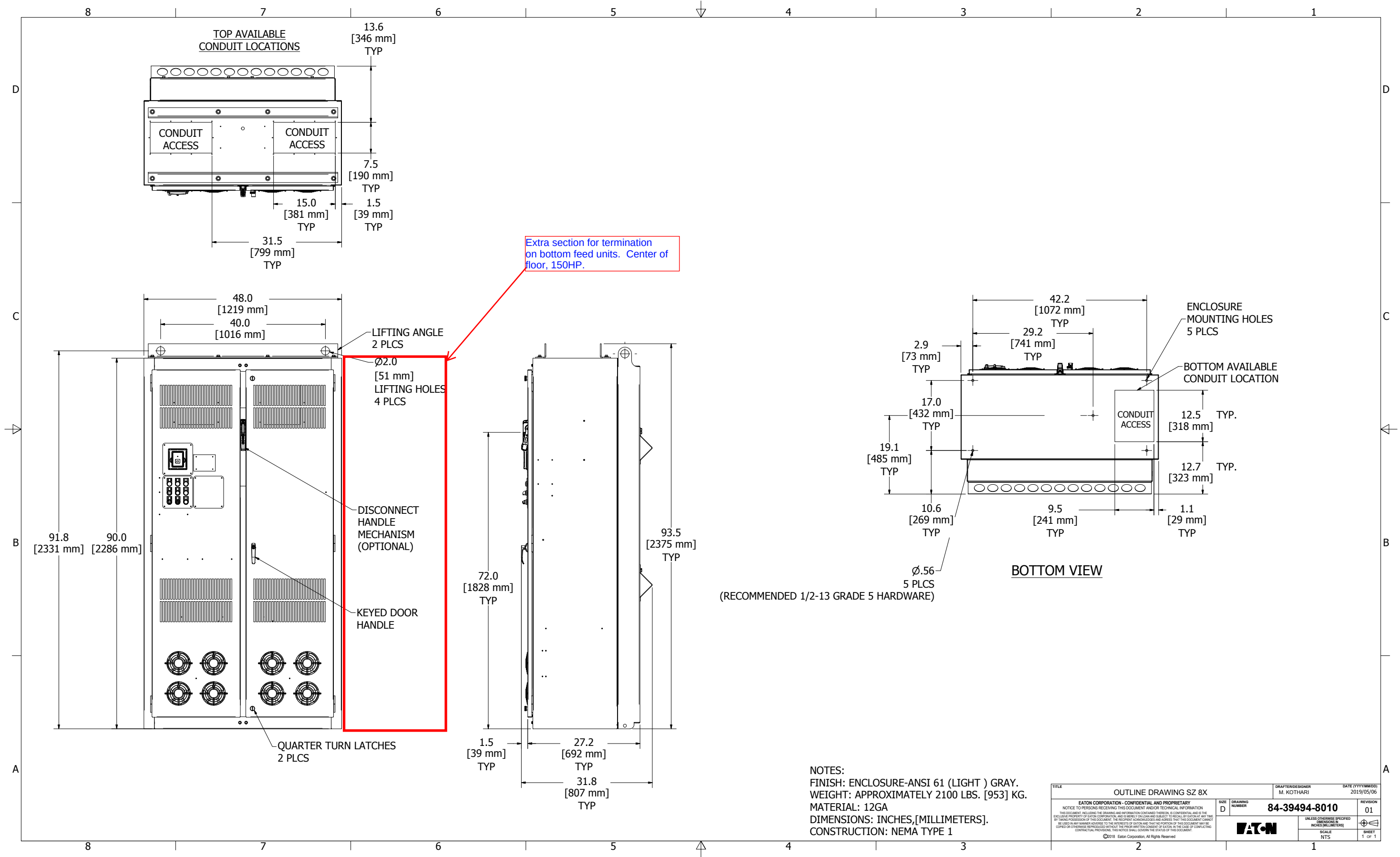
Circuit Protection

250

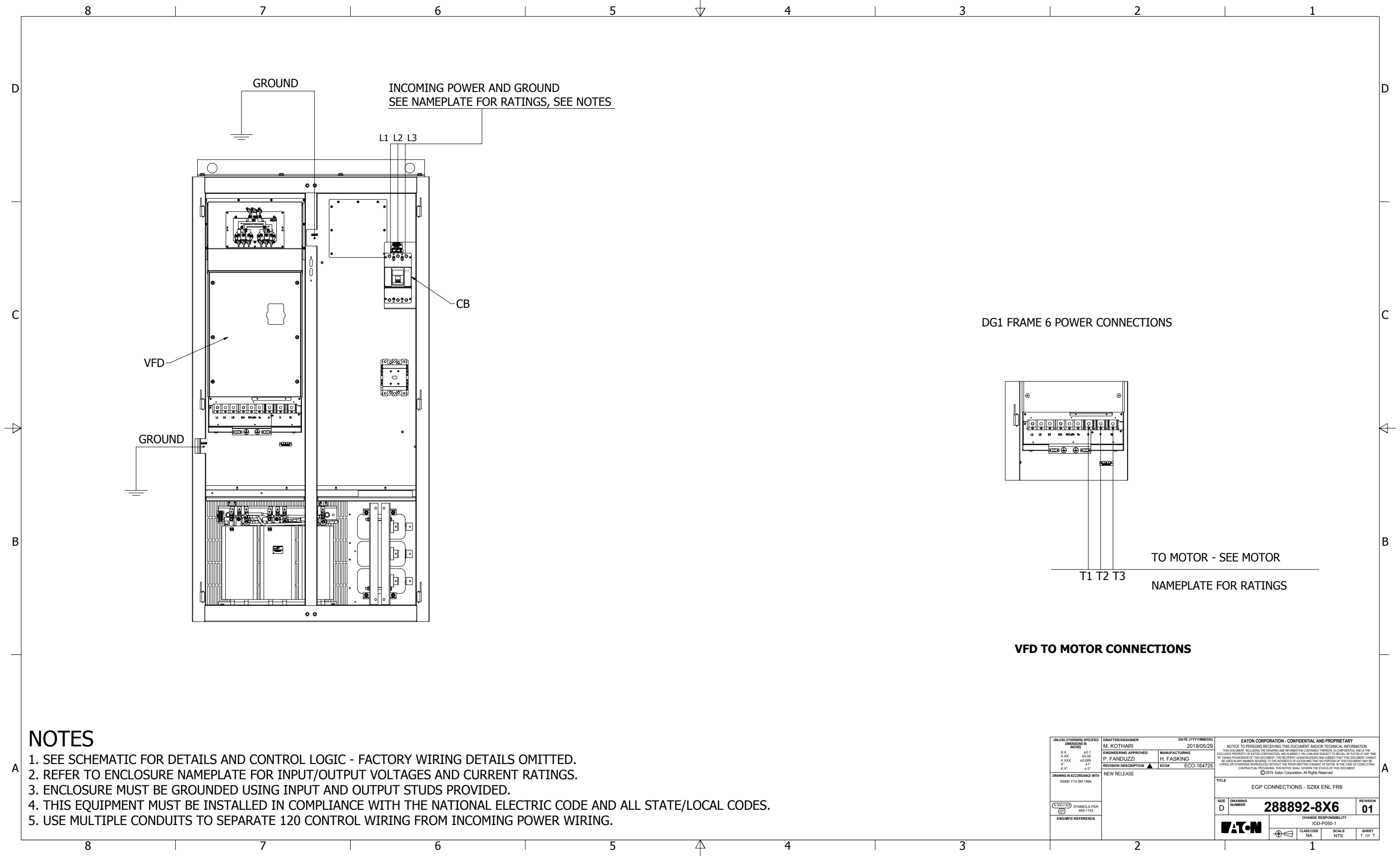
400

The information on this document is created by Eaton Corporation. It is disclosed in confidence and it is only to be used for the purpose in which it is supplied.

PREPARED BY BOYD WESTOVER	DATE 4/9/2023	Eaton			
APPROVED BY	DATE	JOB NAME Frisch - 18pulse Drive			
		DESIGNATION 150HP 18Pulse			
VERSION 10.0.11.0	TYPE Drives - Enclosed	DRAWING TYPE Customer Appr.			
NEG-ALT Number SR560410X3K1-0000	REVISION 0	DWG SIZE A	G.O.	ITEM	SHEET 1 of 1



GO/NEG-Alt-Date:	SR560410X3K1-0000-4/9/2023	Job Name:	Frisch - 18pulse Drive
Item Number:	Catalog Number: EGP1804C130DB10000*	Designation:	150HP 18Pulse



UNLESS OTHERWISE SPECIFIED DIMENSIONS IN INCHES		DRAFTER/DISIGNER M. KOTHARI		DATE (YYYYMMDD) 2019/05/29		EATON CORPORATION - CONFIDENTIAL AND PROPRIETARY NOTICE TO PERSONS RECEIVING THIS DOCUMENT AND/OR TECHNICAL INFORMATION THIS DOCUMENT, INCLUDING THE DRAWING AND INFORMATION CONTAINED THEREON, IS CONFIDENTIAL AND IS THE EXCLUSIVE PROPERTY OF EATON CORPORATION AND IS HEREBY ON LOAN AND SUBJECT TO RECALL BY EATON AT ANY TIME. BY TRANSFER OF POSSESSION OF THIS DOCUMENT, THE RECIPIENT ASSUMES RESPONSIBILITY FOR THE PROTECTION OF THIS DOCUMENT AND THAT NO PORTION OF THIS DOCUMENT MAY BE COPIED OR OTHERWISE REPRODUCED WITHOUT THE PRIOR WRITTEN CONSENT OF EATON. IN THE CASE OF CONFLICTING CONTRACTUAL PROVISIONS, THIS NOTICE SHALL GOVERN THE STATUS OF THIS DOCUMENT. ©2019 Eaton Corporation. All Rights Reserved.			
X.X ±0.1 X.XX ±0.05 X.XXX ±0.005 X" ±1" X.X" ±0.5"		ENGINEERING APPROVED P. FANDUZZI		MANUFACTURING H. FASKING		REVISION DESCRIPTION ECO#-164725		TITLE EGP CONNECTIONS - SZ8X ENL FR6	
DRAWING IN ACCORDANCE WITH ASME Y14.5M-1994		NEW RELEASE		SIZE D		DRAWING NUMBER 288892-8X6		REVISION 01	
CADD/3D ENGR/MPG		SYMBOLS PER 468-1143		CHANGE RESPONSIBILITY ICD-P050-1		CLASS CODE NA		SCALE NTS	
ENGR/MPG REFERENCE				EATON		SHEET 1 OF 1			

GO/NEG-Alt-Date: SR560410X3K1-0000-4/9/2023		Job Name: Frisch - 18pulse Drive
Item Number:	Catalog Number: EGP1804C130DB10000*	Designation: 150HP 18Pulse

Life Is On

Schneider
Electric

Customized drive solutions

Altivar 680 low-harmonic drive system
150 – 900 hp ND/125 – 700 hp HD



altivardrives.com



What will you get with drive systems?

Whatever you need — simple packaged drives or complex drive solutions adapted to your requirements — Schneider Electric Altivar™ drive systems will cover all your needs.

We listen closely.

Working with our expert drive specialists, you can refine your requirements:

- Application characteristics and necessary motor performance
- Environmental conditions and requested standards
- Integration into control systems and safety concepts to save energy and reduce costs

We provide an optimized solution.

You receive a comprehensive proposal:

- Detailed and fast quotation, including mechanical and electrical documentation
- On-site analysis by measurement and simulation
- Identification of opportunities to save energy and reduce costs

We deliver your customized drive systems ready to use.

- You will receive your drive solution on schedule and manufactured according to your specifications
- Fully tested, with parameters adapted to the integrated functions
- Short lead time thanks to the modular design
- Fast and simple commissioning

100%

flexibility to build drives according to your needs.

-30%

planning time thanks to modular assembly system.



Single drive systems

Our drive systems are enclosure units with built-in frequency inverters to control the speed of asynchronous or synchronous motors. The modular construction makes it possible to adapt the enclosure unit to your particular requirements.

-20%

space needed
compared to
previous range.

Compact design

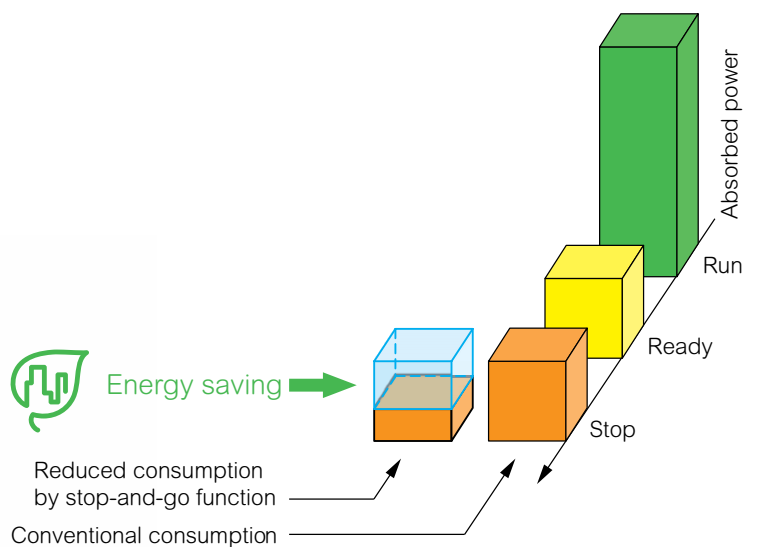
- Less space required in the control room
- Generous connecting area for power cables
- Easy access to all components
- Control panel for numerous options

The energy-saving drive solution

- Up to 60% energy savings without additional costs
- Intelligent control of internal fans, depending on the operation
- Optimal energy efficiency over the entire life cycle
- Logging and graphic presentation of absorbed power

60%

energy savings
at standby
using innovative
stop-and-go operation.



World's first three-level low-harmonic drive

This new technology reaches a total harmonic distortion (THD(i)) of $\sim 2\%$, and fulfills the requirements of the IEEE 519 standard for $\text{THD(i)} < 5\%$, in the event of distorted mains.



Extended motor lifetime with three-level concept

Significantly reduced voltage load in the motor compared to the classic two-level, low-harmonic drives helps to extend the motor's lifetime.

Reduced losses with three-level concept

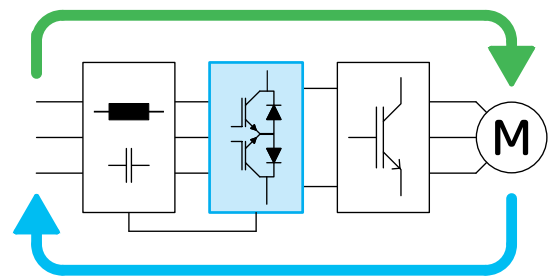
Compared to classic low-harmonic drives, the switching frequency is increased and the current load is reduced, resulting in significantly reduced losses in the whole system.

Compact dimensions thanks to three-level concept

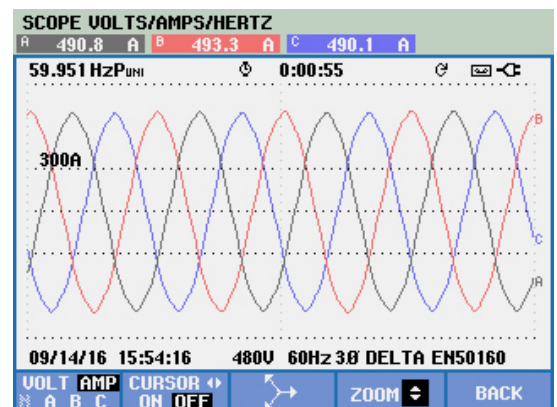
The compact dimensions of the integrated filter components offer a significant advantage. Due to the increased switching frequency, the filter dimensions can be almost halved.

Reliable operation with generator applications

Stable operation when being powered by a generator. During operation, these drive systems have nearly sinusoidal input current waveforms with a unity power factor. Current harmonics measured at the terminals during full load testing showed to be around 2%.



Three-level concept



ATV680 full load input current waveform with generator-supplied power.



ATV680

Output filter

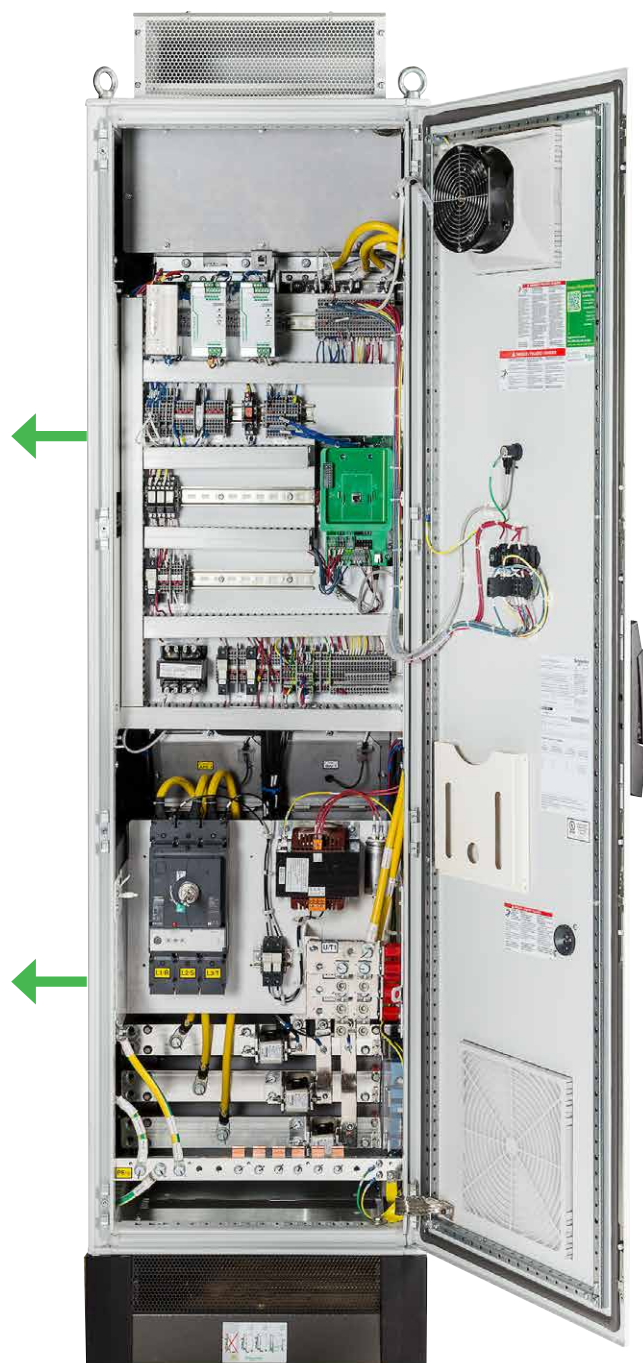
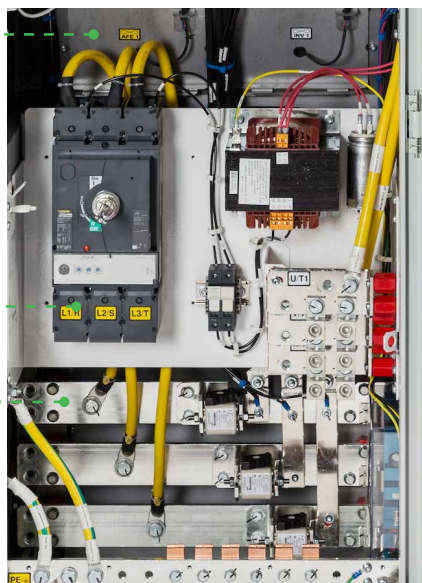
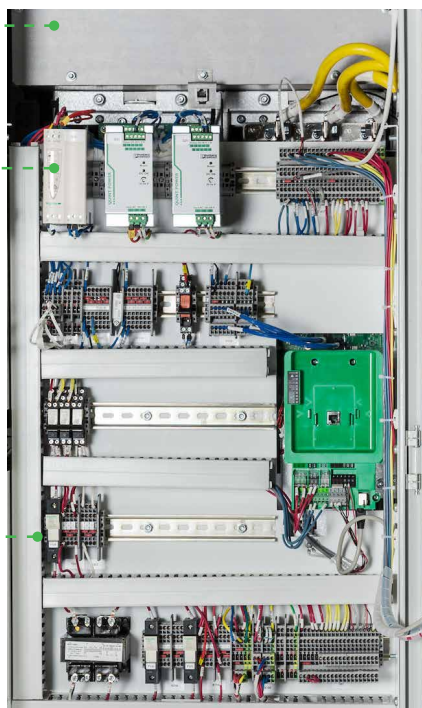
Inverter module
(behind panel)

Rectifier module
(behind panel)

Fans

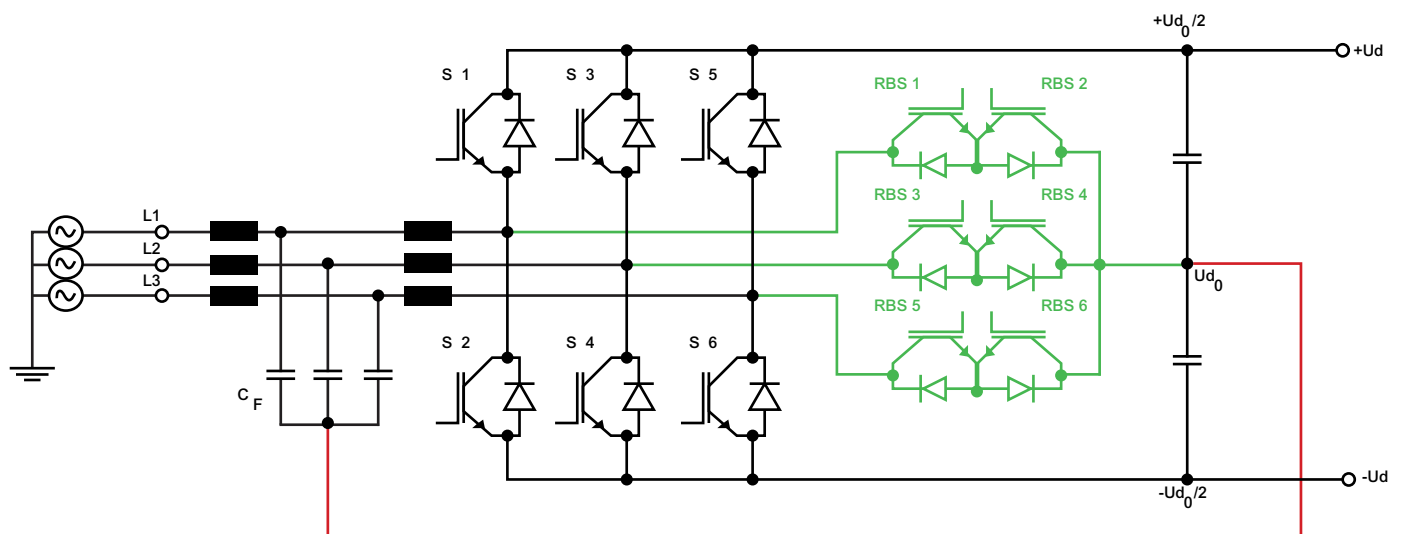
Circuit breaker

Line reactor



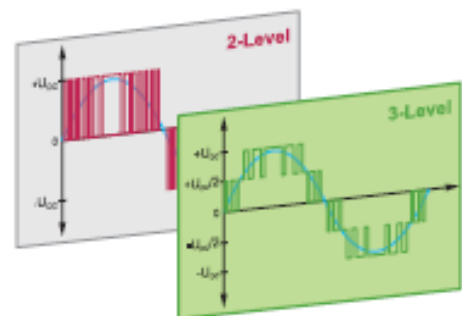
ATV680

Three-level architecture with common mode suppression



Newest three-level architecture

- Total current distortion factor THD $<< 5\%$
- Improved lifetime of the motor due to reduced voltage load
- Less heat losses compared to the classic AFE architecture
- Compact dimensions due to optimized filter components





Overall features

- Access to real-time data
- QR codes to access support
- Innovative tools and diagnostics
- Powerful user interfaces
- Flexible communications
- Easy-to-maintain designs
- Full array of support services
- Built-in pump protection functions
- Multiple configurations and options

Targeted applications

Altivar Process drive systems are tailor-made to meet the specific needs of your market.

Mining, Minerals & Metals

- Highest level of protection for harsh environments
- Lower maintenance costs
- Smooth motor start reduces mechanical stress
- Low noise level

Oil & Gas

- Low harmonic drive systems for weak power supply systems
- Low-voltage solutions for medium-voltage applications
- Solutions for installations with very long motor cables

Energy

- Complete integration into the plant control network processes
- Wide range of fieldbus connections
- Better cost control of energy-intensive applications
- Replaces older hydraulic and mechanical controls

Water & Wastewater

- Reduced energy consumption
- Accurate flow, pressure, and level control
- Reduced life cycle costs
- Extended equipment life
- Integrated pump curves
- Monitoring of pump efficiency

Hoisting

- Common DC-bus structure
- Energy feedback into the power supply system
- Torque boost, even at zero speed, for safe and reliable brake control
- Extended lifetime thanks to specialized, smooth hoisting functions



Specifications

ATV680 low-harmonic drive system 150 – 900 hp normal duty (ND) Technical characteristics

Electrical specifications	
Input voltage	460 VAC $\pm$ 10%, three phase
Short circuit current rating (AC symmetrical)	100 kA
Control voltage	24 VDC, 115 VAC $\pm$ 10% (control power transformer included)
Displacement power factor	Unity power factor (above 30% rated power) (in AFC operation mode)
Input frequency	60 Hz $\pm$ 5%
Output voltage	Three-phase output, maximum voltage equal to input voltage
Galvanic isolation	Galvanic isolation between power and control (inputs, outputs, and power supplies)
Output frequency range of power converter	0.1 – 500 Hz (factory setting of 60 Hz)
Torque/over torque	ND: 110% of nominal motor torque for 60 s Heavy duty (HD): 150% of nominal motor torque for 60 s
Current (transient)	ND: 110% of drive rated current for 60 s HD: 150% of drive rated current for 60 s
Switching frequency	Selectable from 0.5 – 8 kHz Factory setting: 2.5 kHz The drive reduces the switching frequency automatically in the event of excessive heat sink temperature

Environmental specifications	
Storage temperature	-13 to +149 °F (-25 to +65 °C)
Operating temperature 125 – 700 hp HD, 150 – 900 hp ND 460 V	+14 to +122 °F (-10 to +50 °C) Below 32 °F (0 °C) with additional enclosure heating, above 104 °F (+40 °C) with derating
Humidity	95% with no condensation or dripping water, conforming to IEC 60068-2-78
Altitude	3,300 ft (1000 m), without derating, derating of the current by 1% for each additional 330 ft (100 m) - Up to 6,561 ft. (3000 m) maximum - Up to 12,467 ft. (3800 m) maximum (TN, TT, or IT systems only — no corner grounded delta systems allowed) 125 – 250 hp: up to 15,747 ft. (4800 m) maximum (TN/TT systems only — no delta connected systems allowed) - Above 250 hp: up to 13,123 ft. (4000 m) maximum (TN/TT systems only — no delta connected systems allowed)
Enclosure	UL Type 1: General indoor (ventilated); UL Type 12: Indoor dust-tight (ventilated)
Pollution degree	Pollution degree 2 (Type 1) or 3 (Type 12) per NEMA ICS-1 Annex A and IEC 61800-5-1
Operational test vibration	Conforming to IEC/EN 60068-2-6 1.5 mm at 3 – 10 Hz, 0.6 g at 10 – 200 Hz 3M3 conforming to IEC/EN 60721-3-3
Transit shock test	Conforming to National Safe Transit Association and International Safe Transit Association test for packages
Operational shock	Conforming to IEC/EN 60068-2-27 4 g for 11 ms 3M3 conforming to IEC/EN 60721-3-3
Codes and standards	UL Listed per UL 508A IEEE519 compliant Conforms to applicable NEMA ICS, NFPA, and IEC standards; Manufactured under ISO 9001 standards

Process drives without bypass are available up to 700 hp HD/ 900 hp ND. The following are standard features for process drives without bypass, when no options are ordered:

- Disconnect handle with lockout/tagout provisions
- Door-mounted keypad holder and display
- One form C tripped relay
- Two form A sequence relays
- Six programmable digital inputs
- Two programmable digital inputs/pulse inputs
- Standard color RAL735
- Class 10 overload protection
- Controller programming
 - Acceleration (ACC): 10 s
 - Deceleration (DEC): 10 s
 - Low speed (LSP): 3 Hz

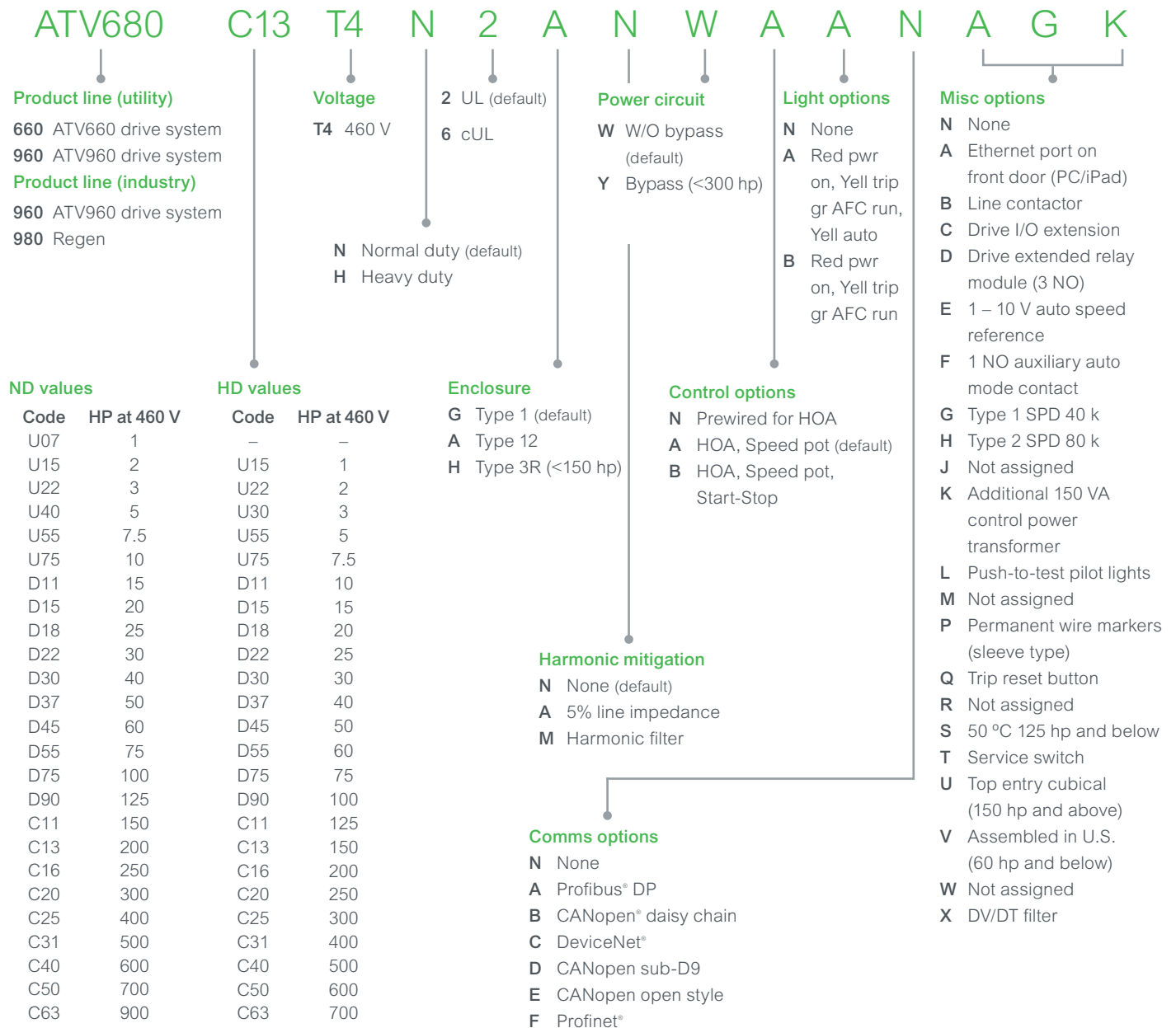
Technical characteristics

Operation and control	
Maximum current	ND: 110% for 60 seconds per 10 minutes HD: 150% for 60 seconds per 10 minutes
Speed reference	AI1: 0 – 10 V, Impedance = 30 kΩ. Can be used for speed potentiometer, 1 – 10 kΩ. AI2 Factory setting: 4 – 20 mA. Impedance = 242 kΩ (reassignable, X-Y range with graphic display terminal)
Frequency resolution in analog reference	0.1 for 100 Hz (11 bits)
Harmonics	Less than 5% TDDi
Speed regulation	V/f control: Equal to the motor's rated slip. Sensorless flux vector control (SFVC): 10% of the motor's rated slip from 20 – 100% of nominal motor torque
Efficiency	96% (or greater) at full load typical, assuming minimum motor efficiency of 88%
Reference sample time	2 ms ± 0.5 ms
Acceleration and deceleration ramps	Drive: 0.1 – 999.9 s (definition in 0.1 s increments)
Graphic display terminal	Self-diagnostics with trip indication messages in three languages. Refer to bulletin EAV64318, <i>Altivar Process Programming Manual</i> , available online at www.schneider-electric.com

Protection	
Motor and pump:	
Thermal overload	Class 10 electronic overload protection (drive) Class 20 bypass overload protection (drive with bypass)
Drive system:	
Overcurrent protection	An overcurrent protection device provides Type 1 coordination to the short-circuit current ratings
Overtemperature protection	Protection if heat sink temperature exceeds 185 °F (85 °C)
Functional safety:	
Functional safety of the drive	The function Safe Torque Off (STO) allows a controlled shutdown as well as a switch-off of the power supply when at a standstill It also helps prevent any unintended start of the motor according to ISO 13849-1, performance level PL e, according to IEC/EN 61508 safety integrity level SIL 3 and IEC/EN 61800-5-2.
Response time	≤ 100 ms at STO

Configured to order

Catalog number example: ATV680C13T4N2ANWANN



Schneider Electric

8001 Knightdale Blvd.
 Knightdale, NC 27545
 USA Customer Care Center
 Tel: 888-778-2733

www.schneider-electric.com

December 2016

©2016 Schneider Electric. All Rights Reserved.
 Schneider Electric | Life Is On and Altivar are trademarks and the property of Schneider Electric SE, its subsidiaries, and affiliated companies. All other trademarks are the property of their respective owners.
 998-19696726_GMA-US_A

This document has been
 printed on recycled paper



Seq #	Qty	Product Description
1	6	Designation : 150Hp AFE VFD Product Details : 6 - ATV680C11T4N2GNWABNX-Altivar 680 ATV680C11T4N2GNWABNX Designation: 150Hp AFE VFD Main circuit breaker disconnect 100k AIC rated Selected for 460 Vac 3 phase motor 150 Horsepower Sized for Normal duty. Drive controller rated for 211 Max. Output Amps Type 1 Enclosure UL508A Label RAL7035 (Gray) Power Circuit W: Drive combination package Dv/Dt Motor Filter Control options: Hand-Off-Auto selector switch Speed Potentiometer Pilot light options: Power on pilot light (red) Run pilot light (green) Trip pilot light (yellow) Auxiliary contacts: 1 NO/NC run contact 1 NO/NC trip contact 1 NO auto mode contact Output Filter

Seq #	Qty	Product Description
2	1	Designation : ATV930 Training Product Details : 1 - SRVTTRFUNSIBS-1 day of Product Training Without Video Taping Maximum Number of Participants 10

Seq #	Qty	Product Description
3	1	Designation : Startup 2 ATV930 Trip1 Product Details : 1 - SRVSTRTUPVSDSTD-Startup Services - Straight Time Schneider Electric will perform the Scope of Work per Schneider Electric document 1910DB1302-120213 "Scopes of Work for Electrical Acceptance Testing." Work will be performed during Straight Time (any scheduled 8 hour period between 06:00 and 18:00 hours Monday thru Friday). It is estimated that the service will be performed using one technician with all equipment and tests performed in immediate succession, unless otherwise specified. If equipment is not available or prepared to be tested in the number of days specified, additional travel and expense charges may apply. For each hour that SE Services is delayed at the job site due to the unavailability of the equipment for any reason, a charge at the applicable T&M rates will be added to the invoice. Startup scope of work includes Schneider Electric technician supervision during energization of equipment. Quote price is based on energization during final day of inspection and testing.

If additional trips are required in order to provide energization supervision, additional travel, expense and labor charges will apply. To schedule date for start of work, call: 1-888-SQUARED (1-888-778-2733).

Schneider Electric services must be contacted prior to 3 weeks from the required date of service to avoid additional charges.
Reference SE Terms and Conditions of Sale for Proposal Based Projects 0100PL0043R03/20.

Formal test report(s) will be provided upon completion of the startup service.

Trip summary:

Round Trip Distance: Up to 150 Miles
Technician will make 1 trip to the job site per day of service (total of trips)
Equipment to be started up and included in this complimentary warranty is listed below.
Sel Rev: (20160224/20160224)
Tra Rev: 4/25/2023 8:16:24 PM/ 4/25/2023

Following user entered devices included in startup:

Qty 2 Enclosed Process Drive - 150HP and above

30 month complimentary extended warranty.
Schneider Electric Services is pleased to offer a complimentary 30 month warranty extension above and beyond our standard warranty and any purchased extended warranties.

For details on 30 month complimentary warranty please reference document 8800DB0101R05/18 Service Guide for AC Drives and Softstarters.

Std equipment warranty is 18 months from date of shipment or 12 months from issuance of a substantial completion letter by the customer subject to Schneider Electric Terms and Conditions of Sale for Proposal Based Projects 0100PL0043R03/20.

The 30 month warranty extension only applies to equipment that is successfully started up, invoiced by SE, and paid in full by the customer.

If startup with SE Services is not completed and paid in full, the bonus 30 month warranty will be invalid, but the standard warranty and any purchased extended warranties will still be in effect.

1 - SRVRECRSTVFD30MO-30 MONTH BONUS STARTUP WARRANTY DRIVES

Schneider Electric Services is pleased to offer a complimentary 30 month warranty extension above and beyond our standard warranty and any purchased extended warranties.

For details on 30 month complimentary warranty please reference document 8800DB0101R05/18 Service Guide for AC Drives and Softstarters.

Std equipment warranty is 18 months from date of shipment or 12 months from issuance of a substantial completion

letter by the customer subject to
Schneider Electric Terms and Conditions
of Sale for Proposal Based Projects
0100PL0043R03/20.

The 30 month warranty extension only
applies to equipment that is successfully
started up, invoiced by SE, and paid in
full by the customer.

If startup with SE Services is not
completed and paid in full, the bonus 30
month warranty will be invalid, but the
standard warranty and any purchased
extended warranties will still be in
effect.

Seq #	Qty	Product Description
4	1	Designation : Startup 2 ATV930 Trip2 Product Details : 1 - SRVSTRTUPVSDSTD-Startup Services - Straight Time Schneider Electric will perform the Scope of Work per Schneider Electric document 1910DB1302-120213 "Scopes of Work for Electrical Acceptance Testing." Work will be performed during Straight Time (any scheduled 8 hour period between 06:00 and 18:00 hours Monday thru Friday). It is estimated that the service will be performed using one technician with all equipment and tests performed in immediate succession, unless otherwise specified. If equipment is not available or prepared to be tested in the number of days specified, additional travel and expense charges may apply. For each hour that SE Services is delayed at the job site due to the unavailability of the equipment for any reason, a charge at the applicable T&M rates will be added to the invoice. Startup scope of work includes Schneider Electric technician supervision during energization of equipment. Quote price is based on energization during final day of inspection and testing. If additional trips are required in order to provide energization supervision, additional travel, expense and labor charges will apply. To schedule date for start of work, call: 1-888-SQUARED (1-888-778-2733). Schneider Electric services must be contacted prior to 3 weeks from the required date of service to avoid additional charges. Reference SE Terms and Conditions of Sale for Proposal Based Projects 0100PL0043R03/20. Formal test report(s) will be provided upon completion of the startup service. Trip summary: Round Trip Distance: Up to 150 Miles Technician will make 1 trip to the job site per day of service (total of trips) Equipment to be started up and included in this complimentary warranty is listed below. Sel Rev: (20160224/20160224) Tra Rev: 4/25/2023 8:17:47 PM/ 4/25/2023

Following user entered devices included in
startup:
Qty 2 Enclosed Process Drive - 150HP and
above

30 month complimentary extended warranty.
Schneider Electric Services is pleased to
offer a complimentary 30 month warranty
extension above and beyond our standard
warranty and any purchased extended
warranties.

For details on 30 month complimentary
warranty please reference document
8800DB0101R05/18 Service Guide for AC
Drives and Softstarters.

Std equipment warranty is 18 months from
date of shipment or 12 months from
issuance of a substantial completion
letter by the customer subject to
Schneider Electric Terms and Conditions
of Sale for Proposal Based Projects
0100PL0043R03/20.

The 30 month warranty extension only
applies to equipment that is successfully
started up, invoiced by SE, and paid in
full by the customer.

If startup with SE Services is not
completed and paid in full, the bonus 30
month warranty will be invalid, but the
standard warranty and any purchased
extended warranties will still be in
effect.

1 - SRVRECRSTVFD30MO-30 MONTH BONUS STARTUP WARRANTY DRIVES

Schneider Electric Services is pleased to
offer a complimentary 30 month warranty
extension above and beyond our standard
warranty and any purchased extended
warranties.

For details on 30 month complimentary
warranty please reference document
8800DB0101R05/18 Service Guide for AC
Drives and Softstarters.

Std equipment warranty is 18 months from
date of shipment or 12 months from
issuance of a substantial completion
letter by the customer subject to
Schneider Electric Terms and Conditions
of Sale for Proposal Based Projects
0100PL0043R03/20.

The 30 month warranty extension only
applies to equipment that is successfully
started up, invoiced by SE, and paid in
full by the customer.

If startup with SE Services is not
completed and paid in full, the bonus 30
month warranty will be invalid, but the
standard warranty and any purchased
extended warranties will still be in
effect.

Seq #	Qty	Product Description
5	1	Designation : Startup 2 ATV930 Trip3 Product Details : 1 - SRVSTRUPVSDSTD-Startup Services - Straight Time Schneider Electric will perform the Scope of Work per Schneider Electric document 1910DB1302-120213 "Scopes of Work for Electrical Acceptance Testing." Work will be performed during Straight Time (any scheduled 8 hour period between 06:00

and 18:00 hours Monday thru Friday).

It is estimated that the service will be performed using one technician with all equipment and tests performed in immediate succession, unless otherwise specified.

If equipment is not available or prepared to be tested in the number of days specified, additional travel and expense charges may apply.

For each hour that SE Services is delayed at the job site due to the unavailability of the equipment for any reason, a charge at the applicable T&M rates will be added to the invoice.

Startup scope of work includes Schneider Electric technician supervision during energization of equipment. Quote price is based on energization during final day of inspection and testing.

If additional trips are required in order to provide energization supervision, additional travel, expense and labor charges will apply. To schedule date for start of work, call: 1-888-SQUARED (1-888-778-2733).

Schneider Electric services must be contacted prior to 3 weeks from the required date of service to avoid additional charges. Reference SE Terms and Conditions of Sale for Proposal Based Projects 0100PL0043R03/20.

Formal test report(s) will be provided upon completion of the startup service.

Trip summary:

Round Trip Distance: Up to 150 Miles

Technician will make 1 trip to the job site per day of service (total of trips)

Equipment to be started up and included in this complimentary warranty is listed below.

Sel Rev: (20160224/20160224)

Tra Rev: 4/25/2023 8:18:53 PM/ 4/25/2023

Following user entered devices included in startup:

Qty 2 Enclosed Process Drive - 150HP and above

30 month complimentary extended warranty. Schneider Electric Services is pleased to offer a complimentary 30 month warranty extension above and beyond our standard warranty and any purchased extended warranties.

For details on 30 month complimentary warranty please reference document 8800DB0101R05/18 Service Guide for AC Drives and Softstarters.

Std equipment warranty is 18 months from date of shipment or 12 months from issuance of a substantial completion letter by the customer subject to Schneider Electric Terms and Conditions of Sale for Proposal Based Projects 0100PL0043R03/20.

The 30 month warranty extension only applies to equipment that is successfully

started up, invoiced by SE, and paid in full by the customer.

If startup with SE Services is not completed and paid in full, the bonus 30 month warranty will be invalid, but the standard warranty and any purchased extended warranties will still be in effect.

1 - SRVRECRSTVFD30MO-30 MONTH BONUS STARTUP WARRANTY DRIVES

Schneider Electric Services is pleased to offer a complimentary 30 month warranty extension above and beyond our standard warranty and any purchased extended warranties.

For details on 30 month complimentary warranty please reference document 8800DB0101R05/18 Service Guide for AC Drives and Softstarters.

Std equipment warranty is 18 months from date of shipment or 12 months from issuance of a substantial completion letter by the customer subject to Schneider Electric Terms and Conditions of Sale for Proposal Based Projects 0100PL0043R03/20.

The 30 month warranty extension only applies to equipment that is successfully started up, invoiced by SE, and paid in full by the customer.

If startup with SE Services is not completed and paid in full, the bonus 30 month warranty will be invalid, but the standard warranty and any purchased extended warranties will still be in effect.

ATV680 FACTORY CONFIGURATION- VARIATIONS FROM DEFAULT						
MENU	TAB	SUBMENU	DESCRIPTION	SETTING	CODE	ADJ
1	S. START	-----	2/3 WIRE CONTROL	2C	TCC	2C
1	S. START	-----	BASIC FREQUENCY	60HZ NEMA	BFR	60
1	S. START	-----	MAX FREQUENCY	60	TFR	60
1	S. START	-----	LOW SPEED	3	LSP	3
1	S. START	-----	ACCELERATION	10	ACC	10
1	S. START	-----	DECELERATION	10	DEC	10
5.2	-----	SWITCHING FREQUENCY	SWITCHING FREQUENCY	2.5	SFR	2.5
5.5	-----	-----	REF. FREQ 1 CONFIG	AI3	FR1	AI3
5.5	-----	-----	FREQ SWITCH ASSIGN	DI3	RFC	DI3
5.5	-----	-----	2-WIRE TYPE	LEVEL	TCT	LEL
5.5	-----	-----	REF. FREQ 2 CONFIG	AI1	FR2	AI1
5.5	-----	CONTROL MODE	MIXED MODE CONFIG	CONTROL MODE I/O PROFILE	CHCF	IO
5.5	-----	COMMAND SWITCHING	COMMAND SWITCHING	DI3	CCS	DI3
5.5	-----	CMD CHANNEL 1	CMD CHANNEL 1	TERMINAL	CD1	TER
5.5	-----	CMD CHANNEL 2	CMD CHANNEL 2	TERMINAL	CD2	TER
5.11	AI/AQ	AI3 CONFIGURATION	AI3 TYPE	CURRENT	AI3T	0A
5.11	AI/AQ	AI3 CONFIGURATION	AI3 MIN VALUE	4	CRL3	4
5.11	AI/AQ	AQ1 CONFIGURATION	AQ1 ASSIGNMENT	MOTOR FREQUENCY	AQ1	0FR
5.11	AI/AQ	AQ1 CONFIGURATION	AQ1 MIN OUTPUT	4	AQ1L	4
5.11	RELAY	R1 CONFIGURATION	R1 ASSIGNMENT	OPERATING STATE	R1	FLT
5.11	RELAY	R2 CONFIGURATION	R2 ASSIGNMENT	DRIVE RUNNING	R2	RUN
5.12	-----	CATCH ON THE FLY	CATCH ON THE FLY	YES	FLR	YES
5.12	-----	FAULT (TRIP) RESET	FAULT (TRIP) RESET	DI4	RSF	DI4

Wiring Diagram Details:

- Power Connections:** R1A, R1B, R2A, R2C, R3A, R3C. R1C, R2C, R3C are grounded.
- Control Signals:** DI1 (RUN FORWARD), DI2 (REFERENCE SWITCHING), DI3 (HAND OFF), DI4 (RESET), DI5, DI6, 24V, 0V, 24V.
- Terminal Block:** X170-3, X170-4, X170-7, X170-33, X170-34, X170-35, X170-36, X170-11, X170-12, X170-13.
- 24V Sequencing and Configuration:** STOA, STOB, 24V, COM, AO1, AO2, TB1-16, TB1-15, TB1-14.

NOTES:

- ALL 24V CONTROL WIRE #16 AWG BLUE.
- ALL 120V LINE CONTROL WIRE #16 AWG RED.
- ALL 120V NEUTRAL CONTROL WIRE #16 AWG WHITE.
- SHIELDED CABLE IS RED/WHITE/BLACK OR RED/BLACK.
- GROUND WIRE TO BE #14 GREEN OR GREEN/YELLOW.
- (UNLESS OTHERWISE NOTED)
- CONTROL TRANSFORMER T01 USED FOR INTERNAL POWER SUPPLY ONLY.
- NO CUSTOMER CONNECTIONS TO BE USED.
- SHOWN FOR MANUFACTURING ASSEMBLY PURPOSES.

JOB NAME: Frisch Eng Roseville VFD project

JOB LOCATION:

DRAWN BY: (Q2C)

ENGR:

DATE: April 25 2023

DRAWING STATUS: QUOTE

EQUIPMENT DESIGNATION: 150Hp AFE VFD

EQUIPMENT TYPE: ALTIVAR PROCESS DRIVE

DRAWING TYPE: ELEMENTARY

By Schneider Electric

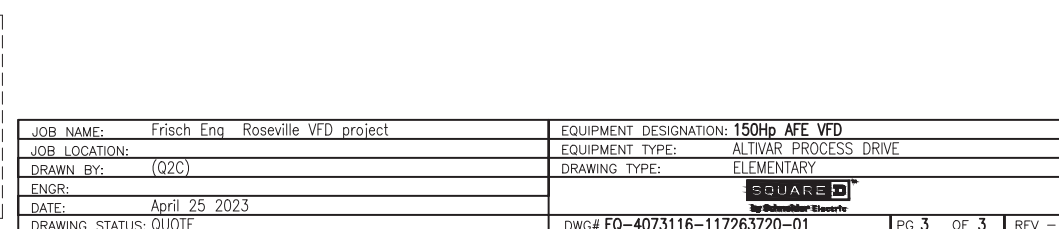
DWG# EQ-4073116-117263720-01

PG 2 OF 3
REV -

WFC WIRING NOTES:

- ALL 24V CONTROL WIRE #16 AWG BLUE.
- ALL 120V LINE CONTROL WIRE #16 AWG RED.
- ALL 120V NEUTRAL CONTROL WIRE #16 AWG WHITE.
- SHIELDED CABLE IS RED/WHITE/BLACK OR RED/BLACK.
- GROUND WIRE TO BE #16 GREEN OR GREEN/YELLOW.
- (UNLESS OTHERWISE NOTED)

The diagram illustrates the wiring for the WFC system, showing the connection of various components including a 230VAC source, a transformer (XFMR 100VA), a control circuit with relays (R1, R2, R3, R4, R5, R6, R7, R8, R9, R10, R11, R12, R13, R14, R15, R16, R17, R18, R19, R20, R21, R22, R23, R24, R25, R26, R27, R28, R29, R30, R31, R32, R33, R34, R35, R36, R37, R38, R39, R40, R41, R42, R43, R44, R45, R46, R47, R48, R49, R50, R51, R52, R53, R54, R55, R56, R57, R58, R59, R60, R61, R62, R63, R64, R65, R66, R67, R68, R69, R70, R71, R72, R73, R74, R75, R76, R77, R78, R79, R80, R81, R82, R83, R84, R85, R86, R87, R88, R89, R90, R91, R92, R93, R94, R95, R96, R97, R98, R99, R100), and a terminal block. The diagram is divided into two main sections: a power distribution section and a control logic section. The power distribution section shows the connection of a 230VAC source to a transformer (XFMR 100VA) and a control circuit with various relays (R1, R2, R3, R4, R5, R6, R7, R8, R9, R10, R11, R12, R13, R14, R15, R16, R17, R18, R19, R20, R21, R22, R23, R24, R25, R26, R27, R28, R29, R30, R31, R32, R33, R34, R35, R36, R37, R38, R39, R40, R41, R42, R43, R44, R45, R46, R47, R48, R49, R50, R51, R52, R53, R54, R55, R56, R57, R58, R59, R60, R61, R62, R63, R64, R65, R66, R67, R68, R69, R70, R71, R72, R73, R74, R75, R76, R77, R78, R79, R80, R81, R82, R83, R84, R85, R86, R87, R88, R89, R90, R91, R92, R93, R94, R95, R96, R97, R98, R99, R100). The control logic section shows the connection of various components including a 230VAC source, a transformer, a control circuit with relays, and a terminal block.

Page 10 of 13

The drawing consists of three main views: a left side internal view, a front internal view, and a detailed component layout.

- LEFT SIDE INTERNAL VIEW:** Shows the internal structure of the cabinet, including the AFE (Asynchronous Feedback Encoder) and the CONTROL PANEL.
- FRONT INTERNAL VIEW:** Shows the internal components of the cabinet, including the AFE, CONTROL PANEL, and various components labeled ROW 1 through ROW 5. A red box highlights the bottom section of the cabinet, with a note: "Extra section as needed to accommodate bottom entry, exit."
- COMPONENT DETAILS:** A detailed view of the internal components, including the AFE, CONTROL PANEL, and various components labeled T01, FU1, FU2, T1, T2, T3, L1, L2, L3, and GND.

JOB NAME:	Frisch Eng Roseville VFD project	EQUIPMENT DESIGNATION:	150Hp AFE VFD
JOB LOCATION:		EQUIPMENT TYPE:	ALTIVAR PROCESS DRIVE
DRAWN BY:	(Q2C)	DRAWING TYPE:	LAYOUT
ENGR:			
DATE:	April 25 2023		
DRAWING STATUS:	QUOTE		
DWG# RQ-4073116-117263720-01		PG 1	OF 3

ROW 4

X140

X130

B01 K31

X120

ROW 2

X801

X802

ROW 3

ADTR ADRR RCR

ROW 1

X240

X110

X100

TB1

TB1
CONNECTOR
LAYOUT
FACTORY JUMPERS
(#16 RED)

																			CUSTOMER NEUTRAL	
19 20 21 22 23					24 25 26 27 28					29 30 31 32 33					34 35 36 37 38					
5 PIN PLUG					7 PIN PLUG					8 PIN PLUG										
10 PIN PLUG										6 PIN PLUG					4 PIN PLUG					
2A	1	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	
CUSTOMER REMOTE START LOCKOUT (DRY CONTACT - NC)						(NC)(NO) (C)		(NC)(NO) (C)		(NC)(NO) (C)		(-) (+) (SH)		(SH) (+) (-)		(NO) (C)				
AUTO START INPUT (DRY CONTACT)						AFC RUN STATUS (SHOWN NOT RUNNING)		AFC TRIP STATUS (SHOWN TRIPPED)		EXTERNAL SPEED REFERENCE 4-20 MA (INPUT)		SPEED FEEDBACK 4-20 MA (OUTPUT)		AUTO MODE INDICATOR (DRY CONTACT)						

TB1

JOB NAME:	Frisch Eng Roseville VFD project	EQUIPMENT DESIGNATION:	150Hp AFE VFD
JOB LOCATION:		EQUIPMENT TYPE:	ALTIVAR PROCESS DRIVE
DRAWN BY:	(Q2C)	DRAWING TYPE:	LAYOUT
ENGR:			
DATE:	April 25 2023		
DRAWING STATUS:	QUOTE		
		DWG#	RQ-4073116-117263720-01
		PG	2 OF 3
		REV	

ROW 5

■ PLUG KEYING PINS
■ POLE PLUGS

X170

X170
CONNECTOR
LAYOUT

26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50		
5 PIN PLUG					2 PIN	8 PIN PLUG					10 PIN PLUG															
4 PIN PLUG				2 PIN	2 PIN	2 PIN	6 PIN PLUG					9 PIN PLUG														
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25		

JOB NAME:	Frisch Eng Roseville VFD project	EQUIPMENT DESIGNATION:	150Hp AFE VFD
JOB LOCATION:		EQUIPMENT TYPE:	ALTIVAR PROCESS DRIVE
DRAWN BY:	(Q2C)	DRAWING TYPE:	LAYOUT
ENGR:			
DATE:	April 25 2023		
DRAWING STATUS:	QUOTE	DWG#	RQ-4073116-117263720-01
		PG	3 OF 3
		REV	



SANITATION • HYDRAULIC • AND PROCESSING EQUIPMENT

PLEASANTON	SACRAMENTO	STOCKTON
5976 W. Las Positas Blvd. #226 Pleasanton, CA 94588 Phone (925) 485-9720	2200 Sunrise Ave, Ste 240 Gold River, CA 95670 Phone (916) 309-4132	119 Val Dervin Parkway # 2 Stockton, CA 95206 Phone (209) 234-5909

QUOTATION

TO:	Frisch Engineering, Inc 13405 Folsom Blvd, Unit 600 Folsom, CA 95630	DATE:	04-18-2023
		QUOTE #:	111866
		DESC:	ABB ULH Cabinet Drives
		JOB:	Pleasant Grove WWTP IPS Rehabilitation
		LOCATION:	Roseville
ATTN:	Thomas Frisch	PHONE:	(916) 812-8069
		EMAIL:	tfrisch@frischengineering.com
WE ARE PLEASED TO QUOTE ON THE FOLLOWING EQUIPMENT SUBJECT TO CONDITIONS PRINTED ON LAST PAGE HEREOF, THESE CONDITIONS MAY BE CHANGED ONLY BY A WRITTEN STATEMENT SIGNED BY AN OFFICER OF SHAPE, INCORPORATED.		☒ F.O.B. FACTORY ☐ F.F.A. TO FIRST DESTINATION	

ABB ULH Cabinet Drives			
Line #	Qty	Item	Price
01	1	ACQ580-C03-240A-4+B054+C137+E205+F255+G302+G304+G328+H350+H352+K475+P902 ACQ580 NEMA-1 Filtered, Thermostatically Controlled Fan Cooling Drive Package. Provided with a single Cabinet Ultra Low Harmonic drive with (Rotary Mounted) Door Interlocked Circuit Breaker. Rated at 480 Volts, for 240 amps (200 HP) with 110% overload for 1 minute every 10 minutes. Ratings based on use in environments with an ambient temperature of 40°C or less and for elevations of 1000m or less. Rated 65kA SCCR. Base Part: ACQ580-34-240A-4 Included Options: [+B054]: IP42, UL type 1, NEMA 1 [+C137]: Thermostatically Controlled Fan Cooling [+E205]: dV/dT Output Filter [+F255]: (Rotary Mounted) Door Interlocked Circuit Breaker [+G302]: Hand - Off - Auto Switch [+G304]: 115 VAC Control Transformer [+G328]: Run Pilot Light [+H350]: Bottom Entry [+H352]: Bottom Exit [+K475]: Dual Ethernet Adapter (Ethernet/IP, Modbus TCP, PROFINET) [+P902]: 20" (Minimum) empty cabinet on right side of enclosure for customer use. Approximate cabinet dimensions = 87H X 80W X 24D	
02	1	ACQ580-C03-124A-4+B054+C137+E205+G302+G304+G328+H351+H352+K475 ACQ580 NEMA-1 Filtered, Thermostatically Controlled Fan Cooling Drive Package. Provided with a single Cabinet Ultra Low Harmonic drive with (Rotary Mounted) Door Interlocked Circuit Breaker. Rated at 480 Volts, for 124 amps (100 HP) with 110% overload for 1 minute every 10 minutes. Ratings based on use in environments with an ambient temperature of 40°C or less and for elevations of 1000m or less. Rated 65kA SCCR. Base Part: ACQ580-31-124A-4 Included Options: [+B054]: IP42, UL type 1, NEMA 1 [+C137]: Thermostatically Controlled Fan Cooling [+E205]: dV/dT Output Filter [+F255]: (Rotary Mounted) Door Interlocked Circuit Breaker [+G302]: Hand - Off - Auto Switch [+G304]: 115 VAC Control Transformer [+G328]: Run Pilot Light [+H351]: Top Entry [+H352]: Bottom Exit [+K475]: Dual Ethernet Adapter (Ethernet/IP, Modbus TCP, PROFINET) Approximate cabinet dimensions = 72H X 36W X 24D	

Notes and Clarifications:	

	Grand Total:
Notes: 1. QUOTE IS VALID FOR 45 DAYS, See attached TOCs for details 2. Price DOES NOT INCLUDE ANY APPLICABLE TAXES 3. Price DOES NOT INCLUDE Freight 4. Price does not include: installation, equipment unloading, conduit, interconnection drawings to other equipment, seismic calcs, anchor bolts, harmonic analysis, field services or any other items not listed. 5. <u>ESTIMATED EQUIPMENT LEAD TIME</u>: 64 weeks after approved submittals (subject to change depending on when the drives are releasead for fabrication)	

SHAPE, INC.

Ricardo Garcia - rgarcia@shapecal.com

QUOTATION DOES NOT INCLUDE ANY SALES OR USE TAX PAYABLE UNDER ANY STATE OR FEDERAL STATURE. THIS QUOTATION PRICE IS FOR MATERIAL LISTED ABOVE. ANY ADDITIONS OR MODIFICATIONS THAT BECOME NECESSARY FOR APPROVED SUBMITTALS, UPON AWARDDING OF THIS CONTRACT, MAY RESULT IN NECESSARY PRICE CHANGES.

NOTE: ITEMS NOT SPECIFIED ON THIS QUOTATION ARE NOT INCLUDED IN OUR PRICE AND ARE TO BE SUPPLIED BY OTHERS. PRICES ARE FOR IMMEDIATE ACCEPTANCE AND SUBJECT TO CHANGE WITHOUT NOTICE. SALE SUBJECT TO MANUFACTURERS STANDARD TERMS AND CONDITIONS. 30% Re-stocking fee.

SHAPE, INC. - CONDITIONS OF SALE

Quote is valid for 45-days. Prices can only be guaranteed if scope is released for production within 120-days of quote date. Please note a PO does not constitute equipment release.

Interest of 1% per month will be charged on all past due accounts.

No retention will be allowed.

This quotation is based on the quantity and description of the material shown in the quotation. We do not guarantee quantities, types, or arrangements of equipment listed – the correct takeoff is the responsibility of the contractor or customer.

We do not guarantee acceptance or approval of the equipment listed in this quotation since the selection and sizing of this equipment is, to the best of our knowledge, the equipment specified of as nearly equal as possible with the equipment listed.

The price stated in this proposal is for immediate acceptance.

Any sales or other tax not specifically mentioned in this proposal, applicable to the sale of any equipment or material listed herein which may become effective before the date of the final shipment, is to be added to the price quote herein.

All equipment shall remain the personal property of SHAPE, INC. until all payments have been made in cash, and the giving and accepting of drafts, notes, and/or trade acceptances to evidence the payments due shall not constitute or be construed as payment so as to pass title until said drafts, notes and/or trade acceptances are paid in full in cash.

If shipment is postponed at the request of the purchaser after manufacturer has been commenced, payment will be due on notice from us that the equipment is ready for shipment. Pro rata payments shall be made for partial shipments.

We make every effort to ship on dates promised, and to maintain production schedules consistent therewith, but we are not liable for claims of damage or any other expense due to failure to meet the scheduled shipping date.

We guarantee that the equipment herein described will, when properly erected and operated in accordance with our instructions, perform the work for which it is sold.

We will assume no responsibility or expense for repairs made on the apparatus when done outside our factory without our written authority.

We do not guarantee prime movers, starting equipment, electrical apparatus, or materials not manufactured by us, same being covered by guarantees of their respective manufacturers.

We guarantee this equipment for one year from date of shipment against defects of workmanship or material, and will furnish F.O.B. our factory ant parts proven defective. We assume no liability for corrosion or fouling of the equipment by any foreign material that may be deposited.

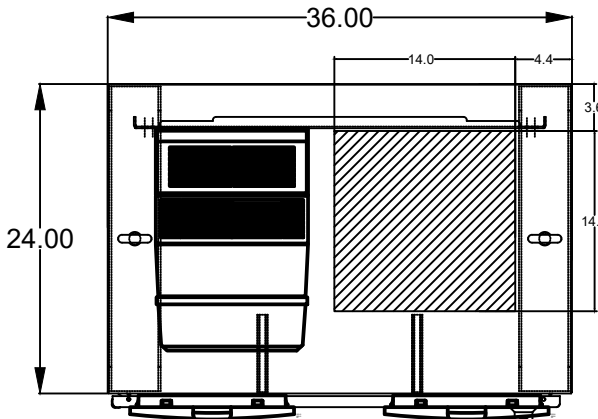
It is expressly understood we are not responsible for and will not be held liable for damage and/or injury caused to buildings, contents, products, or persons by reason of the installation of any of our products.

If attorney's fees and costs must be incurred to enforce the condition of sale (whether or not legal action is instituted), the prevailing party shall be entitled to recover reasonable attorney's fees and costs.

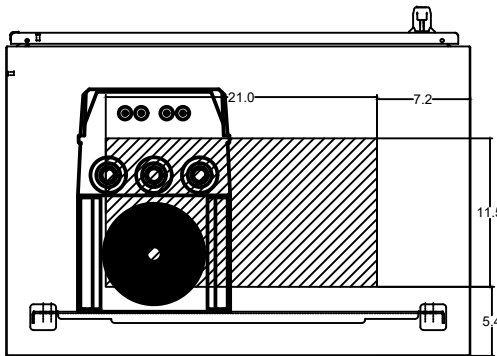
ACQ580-C03-124A-4+E205+P902
100HP 480V 124A ULTRA LOW HARMONIC
3PH INPUT / 3PH OUTPUT
WITH 110% OVERLOAD FOR 1MIN/10MIN
RATINGS BASED ON 40C ENVIRONMENTS

NOTES:
FINISH: ENCLOSURE-ANSI 61 GRAY.
WEIGHT: APPROXIMATELY 800 LBS.
HEAT LOSS: 2507 WATTS
MATERIAL: 12GA
DIMENSIONS: INCHES
CONSTRUCTION: NEMA TYPE 1/12
CONDUIT ACCESS: TOP ENTRY / BOTTOM EXIT
COMPONENT LOCATIONS ARE SUBJECT TO CHANGE

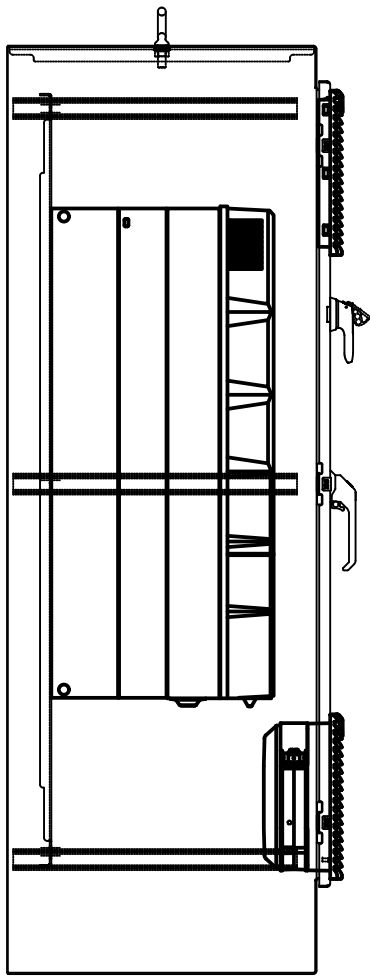
RECOMMENDED CONDUIT ACCESS AREA
(TO BE CUT DURING INSTALLATION)



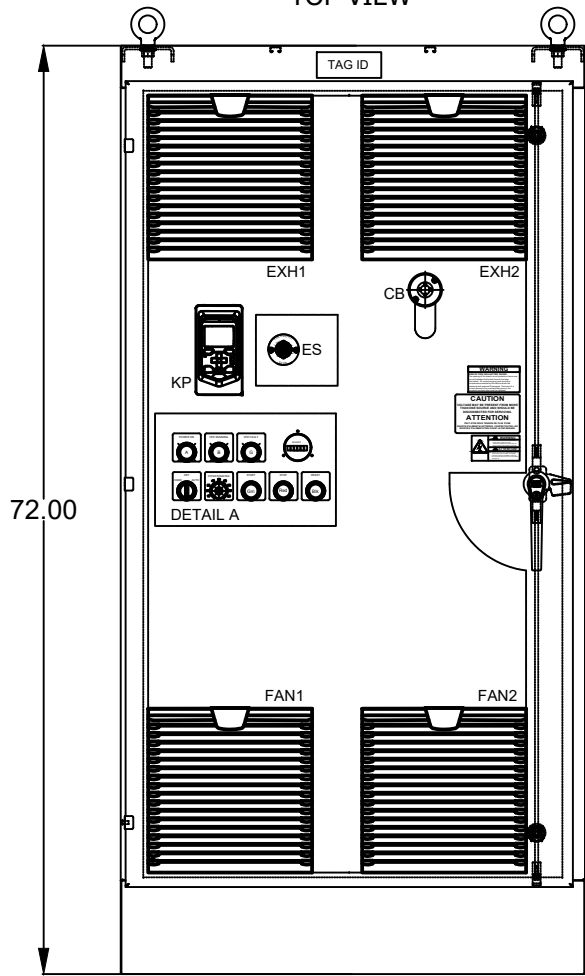
TOP VIEW



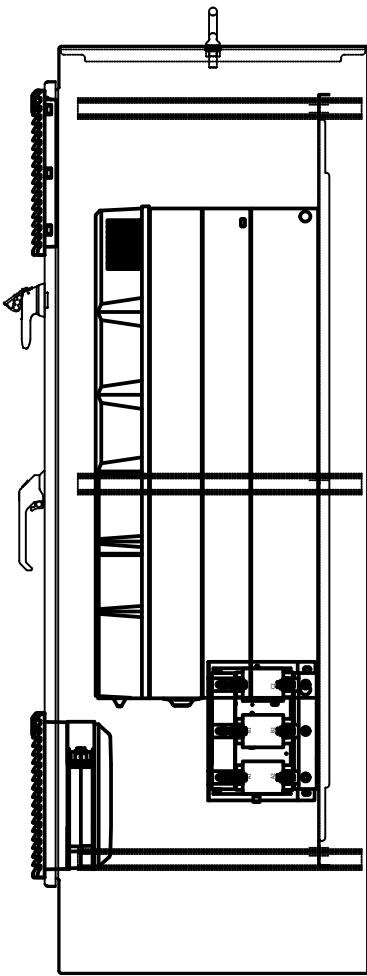
BOTTOM VIEW



LEFT SIDE VIEW

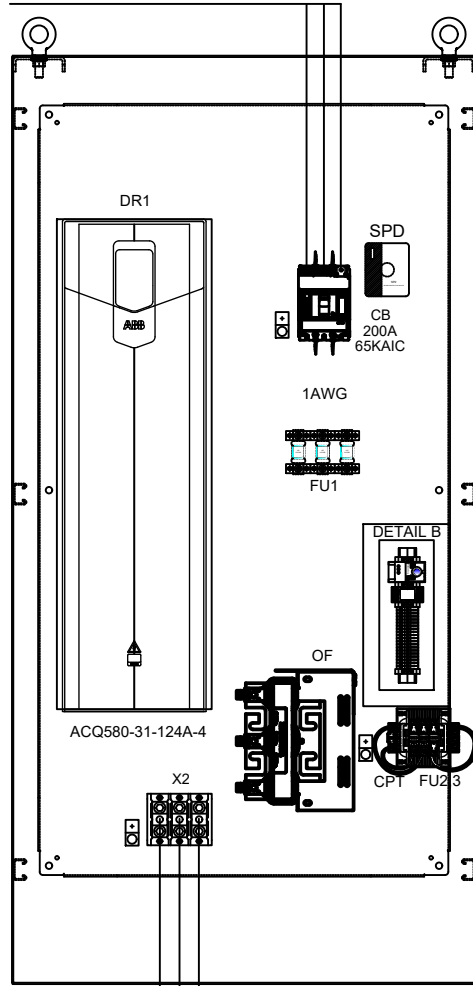


FRONT VIEW
EXTERNAL VIEW



RIGHT SIDE VIEW

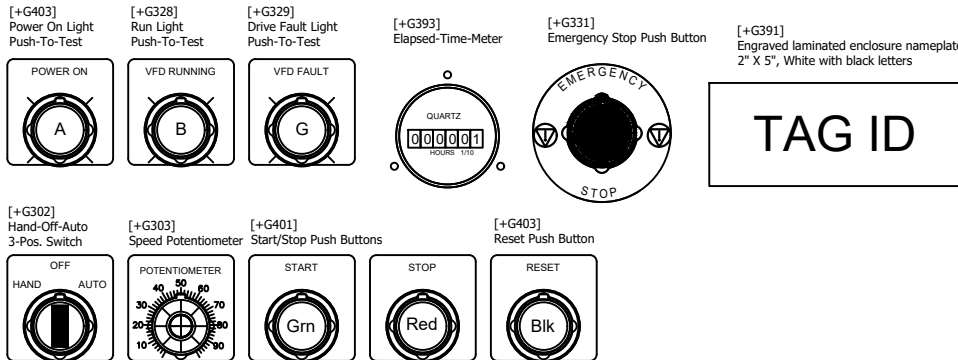
Line Connection: 10AWG-250



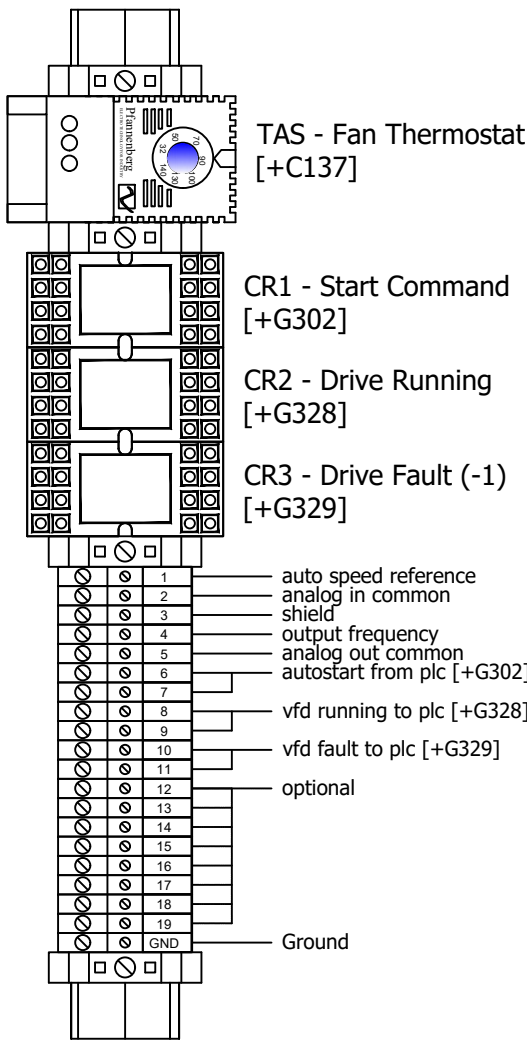
Motor Connection: 6AWG-350MCM

INTERNAL PANEL VIEW

DETAIL A:
30MM PILOT DEVICES
ENGRAVED TAGS: WHITE WITH BLACK LETTERS

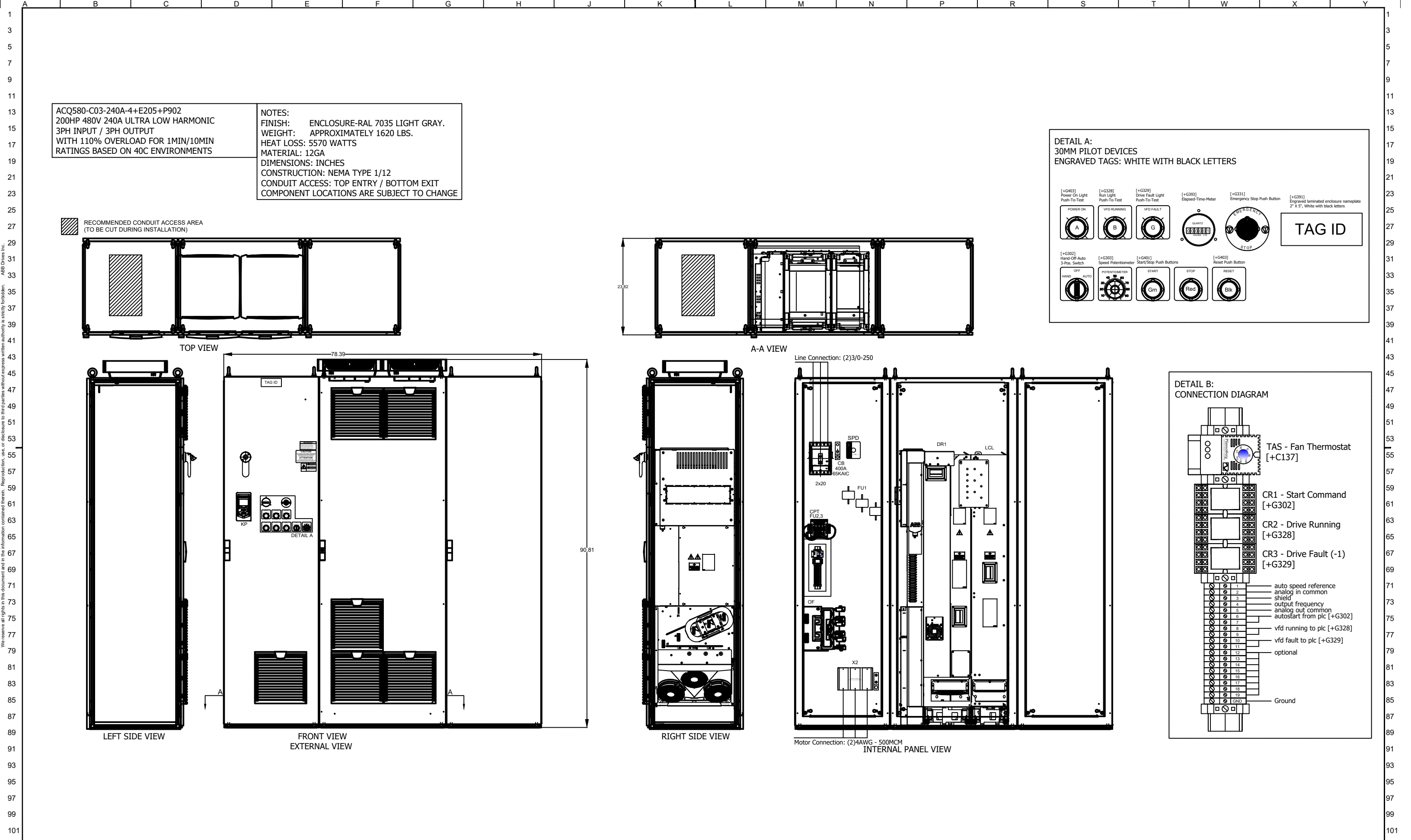


DETAIL B:
CONNECTION DIAGRAM



0	FIRST ISSUE	3/31/2022	TDT	Description ACQ580-C03-124A-4+P902 100HP 480V 124A Ultra Low Harmonic Enclosure Layout Drawing	Project Name D Tech W/WW Standard	Approved TCV	Reference Number	Sheet 1
Rev	Description	Date	By			Checked TCV	Document Number	Cont.
Based On:						Prepared TDT	ACQ580-C03-124A-4+P902	2
				Dept ENG.		Date 3/31/22		

ABB ABB Inc.



0	QUOTE SAMPLE	4/18/2023	MJK	Description	Project Name	Approved	Reference Number	Sheet
Rev	Description	Date	By	ACQ580-C03-240A-4+P902	QUOTE SAMPLE	TCV	RFQ 87960	1
Based On:				200HP 480V 240A Ultra Low Harmonic		Checked	Document Number	Cont.
				ENCLOSURE LAYOUT DRAWING		TCV	D23308	2
						Prepared		
						MJK		
						Dept		
						ENG.		
						Date		
						4/18/2023		

F:\04028
Rev A-05-07

4/18/2023

Appendix C – Pump Cut Sheets





**Xylem Water Solutions USA, Inc.
Flygt Products**

May 3, 2023

790-A Chadbourne Rd
Fairfield, CA 94534
Tel (707) 422-9894
Fax (707) 422-9808

ALL BIDDING CONTRACTORS

Quote # 2023-FFB-0148
Project Name: City of Roseville
Job Name: Pleasant Grove WWTPIPS

Xylem Water Solutions USA, Inc. is pleased to provide a quote for the following Flygt equipment.

Pumps

Qty	Part Number	Description
4	00335671600000	Flygt NP 3356, 63-670, 410 mm Intended for semi permanent wet installation, guiding claw included other installation components to be ordered individually Hard iron impeller and insert ring Drive Unit: 716 6 pole, 150 hp, 460 V, IE3 motor Approval: FM Ex Cooling jacket with closed loop cooling system Large connection housing Insulated support bearing Cables Power Cable not included. Material Shaft: AISI 431 Stainless steel Supervision FLS, leakage detector, in junction box FLS, leakage detector, in stator housing PT-100 in one stator winding PT-100 in lower bearing Pump memory
60	94 19 96	CABLE,SUBCAB S3X50+3X25/3+ S(4X0.5) 39MM
60	94 19 96	CABLE,SUBCAB S3X50+3X25/3+ S(4X0.5) 39MM
60	94 19 96	CABLE,SUBCAB S3X50+3X25/3+ S(4X0.5) 39MM
60	94 19 96	CABLE,SUBCAB S3X50+3X25/3+ S(4X0.5) 39MM
60	94 19 96	CABLE,SUBCAB S3X50+3X25/3+ S(4X0.5) 39MM
60	94 19 96	CABLE,SUBCAB S3X50+3X25/3+ S(4X0.5) 39MM
60	94 19 96	CABLE,SUBCAB S3X50+3X25/3+ S(4X0.5) 39MM
60	94 19 96	CABLE,SUBCAB S3X50+3X25/3+ S(4X0.5) 39MM
2	3301.095-0077	Flygt Model NP-3301.095 10" volute Submersible pump equipped with a 460 Volt / 3 phase / 60 Hz 85 HP 1150 RPM motor, 634 impeller, 1 x 65 Ft. length of SUBCAB 3x50+2G35/2+S(2x0,5) submersible cable, FLS leakage detector, volute is prepared for Flush Valve

3356 Accessories

Qty	Part Number	Description
-----	-------------	-------------



Qty	Part Number	Description
6	388 27 05	CONNECTION,DISCH 14X14" CI
6	14-59 00 00	KIT,HARDWARE 3/8IN SS (2X)
12	255 47 01	SLEEVE,NBR
6	661 54 01	BRACKET,GUIDE BAR U. 3" 316SS
6	14-58 44 89	BRACKET,INT GB 3 X 14" 316SS+ FOR CI/DI PIPE 3306,3312,3356
4	14-58 91 10	HOOK,SAFETY ASSEMBLY
1	SS-lifting-cha	160ft (cut into qty (4) 40ft lengths) SS 1/2" link lifting chain. includes qty(8) SS hammerlock fittings
4	14-58 72 07	KIT,CHAIN FITTINGS FSWL 7150#
4	14-48 94 00	HOLDER,CABLE HEAVY DUTY 316SS

3301 Accessories

Qty	Part Number	Description
2	604 59 05	CONNECTION,DISCH 10X10" CI
2	14-59 00 00	KIT,HARDWARE 3/8IN SS (2X)
4	255 47 01	SLEEVE,NBR
2	661 54 01	BRACKET,GUIDE BAR U. 3" 316SS
2	14-58 44 87	BRACKET,INT GB 3 X 10" 316SS+ FOR CI/DI PIPE 3170,3201
2	14-58 91 11	HOOK,SAFETY ASSEMBLY, S.S.
40	14-48 71 18	CHAIN 1/2" 316SS SWL7350#
40	14-48 71 18	CHAIN 1/2" 316SS SWL7350#
2	14-58 72 10	KIT,CHAIN FITTING 316SS+ FLYGT SWL 2500#
1	14-48 94 00	HOLDER,CABLE HEAVY DUTY 316SS

Electrical

Qty	Part Number	Description
3	823 06 00	#MONITOR,PUMP MAS800 BU811+ R/B: 8230601
1	14-40 71 29	MINI-CASII/FUS 120/24VAC,24VDC
1	14-40 70 97	SOCKET,11 PIN OCTAL DIN MOUNT

Services & Misc.

Qty	Part Number	Description
1	14-69 00 13	START UP CHARGE FLYGT 5-TP MODELS: 3000,7000,8000
24	14-69 97 61U	AUTOMATION AND CONTROLS FIELD+ SPECIALIST SUPPORT
4	14-69 98 19	TEST FUS >3300
2	14-69 98 15	TEST FUS <=3300,5000,8000
1	Seismic-Calcs	Seismic calculations performed by certified 3rd party P.E. for all pumps in system.
8	14-69 00 00A	LABOR,SVC FLYGT,NO TAX Z1-TP MODELS: 3000,7000,8000 NOTES:

-8 hours of labor is for installation of Great and Grey pump cables

Freight Charge \$ 39,971.00

NOTES:

-Guide rails to be provided by others, specs on recommended 3" guide rail attached.



- Lead time is an estimated 19 weeks delivered.
- Anchor bolts to be provided by others.
- Due to existing MAS801 and miniCAS units this quote only includes 3 additional MAS gateways for the 3356 pumps and 1 additional miniCAS unit and mounting socket for the 3301 pumps.

Terms & Conditions

This order is subject to the Standard Terms and Conditions of Sale – Xylem Americas effective on the date the order is accepted which terms are available at <http://www.xyleminc.com/en-us/Pages/terms-conditions-of-sale.aspx> and incorporated herein by reference and made a part of the agreement between the parties.

Purchase Orders: Please make purchase orders out to: Xylem Water Solutions USA, Inc.

Freight Terms: 3 DAP - Delivered At Place 08 - Jobsite (per Incoterms 2020)
See Freight Payment (Delivery Terms) below.

Taxes: State, local and other applicable taxes are not included in this quotation.

Back Charges: Buyer shall not make purchases nor shall Buyer incur any labor that would result in a back charge to Seller without prior written consent of an authorized employee of Seller.

Shortages: Xylem will not be responsible for apparent shipment shortages or damages incurred in shipment that are not reported within two weeks from delivery to the jobsite. Damages should be noted on the receiving slip and the truck driver advised of the damages. Please contact our office as soon as possible to report damages or shortages so that replacement items can be shipped and the appropriate claims made.

Terms & Conditions: Attached please find our Standard Terms & Conditions of Sale that apply to this order.

Taxes: State, local and other applicable taxes are not included in this quotation.

Time of delivery: Delivery lead times are an estimated 19 weeks weeks after receipt of submittal approval and order acceptance.

Terms of delivery: PP/Add Order Position

Terms of Payment: 100% Net 30 days following shipment date. Xylem's payment shall not be dependent upon Purchaser being paid by any third party unless Owner denies payment due to reasons solely attributable to items related to the equipment being provided by FLYGT.

Schedule: Please consult your local Flygt Branch Office to get fabrication and delivery lead times.

Changes: This Quote is based on the current design criteria provided to Xylem Water Solutions USA, Inc. Revisions may result in price changes.

Exclusions: This Quote includes only the items listed specified above.

Validity: Please note that this pricing is valid for 30 days and is contingent upon final approval of submittals and release for fabrication within 90 days of PO date.



We thank you for your interest in Flygt equipment from Xylem Water Solutions USA, Inc. and look forward to being of service to you in the near future.

Sincerely,

A handwritten signature in black ink, appearing to read 'Adrian Gutierrez', with a stylized flourish at the end.

Adrian Gutierrez
Sales Representative
Phone: 508-274-4643

adrian.gutierrez@xylem.com



Customer Acceptance

This order is subject to the Standard Terms and Conditions of Sale – Xylem Americas effective on the date the order is accepted which terms are available at <http://www.xyleminc.com/en-us/Pages/terms-conditions-of-sale.aspx> and incorporated herein by reference and made a part of the agreement between the parties.

A signed copy of this Quote is acceptable as a binding contract.

Purchase Orders: Please make purchase orders out to: Xylem Water Solutions USA, Inc.

Quote #: 2023-FFB-0148
Customer Name: ALL BIDDING CONTRACTORS
Job Name: Pleasant Grove WWTPIPS
Total Amount:
(excluding freight)

Signature: _____	Name: _____ (PLEASE PRINT)
Company/Utility: _____	PO: _____
Address: _____	Date: _____
_____	Phone: _____
_____	Email: _____
_____	Fax: _____



Introducing the Xylem Preventative Maintenance Agreement

Don't forget to protect your new assets

Thank you for considering Xylem for your pumping equipment needs. We appreciate the significance of your purchase decision and want to ensure you get the most out of your investment. The most cost-effective way to do this is to sign-up for a preventative maintenance agreement (PMA) that we tailor to your specific requirements and budget. A Xylem PMA offers a proven method to extend your equipment life, prevent expensive repairs and minimize unplanned failures. It's also ensures you remain in compliance with environmental, health and other government regulations – critical to maximizing operation uptime.

Our Flygt Gold PMA Includes:

- One scheduled preventative maintenance service visit with multi-point inspection, 12 months after purchase and discounted access to Xylem's rental fleet
- An additional 12-month warranty when purchased with your new or replacement Flygt pump(s)
- The option to renew annually or on a multi-year basis following the first service visit
- Priority service on repairs and field service calls

** Flat-Rate Pricing is available for new and replacement Flygt models 3069, 3085, 3102, 3127, 3153, 3171, 3202, 3301 & 3315 starting at \$500 per pump.*

Multi-year PMA packages are available as well.
Contact your Xylem Sales Representative today for more information.

Visit our [PMA site](#) for more info

xylem
Let's Solve Water



WARRANTY

Xylem Water Solutions USA, Inc.

For the period defined, Xylem Water Solutions USA, Inc. offers a commercial warranty to the original End Purchaser against defects in workmanship and material on Flygt Products. Warranty covers Flygt parts and labor as outlined in **ADDENDUM – A**.

COVERAGE:

Xylem Water Solutions USA, Inc. will pay the cost of parts and labor during the warranty period, provided that the Flygt product, with cable attached, is returned prepaid to a Xylem Water Solutions USA, Inc. Authorized Service Facility for Flygt Product repairs. Coverage for Flygt parts and labor will be provided for the period shown in **ADDENDUM - A**. The warranty period will begin from date of shipment or date of a valid Start-up (For permanently installed pumps only). In cases where the Start-up date is used as the beginning of the warranty on a permanently installed Flygt pump, a Start-up Report completed by an approved service technician from a Xylem Water Solutions USA, Inc. Authorized Service Facility for Flygt products must be received by the Xylem Water Solutions USA, Inc. Area Service Manager for Flygt Products within thirty (30) days of the initial onset of the unit placed into service. If not received, the beginning of the warranty coverage will default to the Flygt product ship date. A Start-up for a permanently installed Flygt pump must occur within one (1) year from the date of shipment from a Xylem Water Solutions USA, Inc. authorized facility for Flygt Products or warranty will automatically default to ship date as start of warranty. (See **STORAGE** section) When using the start-up date as the beginning of the warranty, a copy of the Start-up Report will be required to support any Warranty Claims. Warranty on Flygt Dewatering pumps will begin with ship date only. No other date on Flygt Dewatering pumps will be considered.

Xylem Water Solutions USA, Inc.'s sole obligation under this Warranty for Flygt Products shall be to replace, repair or grant credit for Flygt Products upon Xylem Water Solutions USA, Inc.'s exclusive determination that the Flygt Product does not conform to the above warranty. In the event that the Flygt product is replaced, warranty on the replacement product will be equal to the balance remaining on the original product or ninety (90) days, which ever is greater.

MISUSE:

This Warranty shall not apply to any Flygt product or part of Flygt product which (i) has been subjected to misuse, misapplication, accident, alteration, neglect, or physical damage (ii) has been installed, operated, used and/or maintained in a manner which is in an application that is contrary to Xylem Water Solutions USA, Inc.'s printed instructions as it pertains to installation, operation and maintenance of Flygt Products, including but without limitation to (iii) operation of equipment without being connected to monitoring devices supplied with specific products for protection; or (iv) damaged due to a defective power supply, improper electrical protection, faulty installation or repair, ordinary wear and tear, corrosion or chemical attack, an act of God, an act of war or by an act of terrorism; or (v) has been damaged resulting from the use of accessory equipment not sold by Xylem Water Solutions USA, Inc. or not approved by Xylem Water Solutions USA, Inc. in connection with Flygt products.

WEAR PARTS:

This warranty does not cover costs for standard and/or scheduled maintenance performed, nor does it cover Flygt parts that, by virtue of their operation, require replacement through normal wear (aka: Wear Parts), unless a defect in material or workmanship can be determined by Xylem Water Solutions USA, Inc.. Wear Parts are defined as Cutters, Cutting Plates, Impellers, Agitators, Diffusers, Wear Rings (Stationary or Rotating), Volutes (when used in an abrasive environment), oil, grease, cooling fluids and/or any items deemed necessary to perform and meet the requirements of normal maintenance on all Flygt equipment.



WARRANTY

Xylem Water Solutions USA, Inc.

DISCLAIMERS:

(i) Xylem Water Solutions USA, Inc.'s warranties are null and void when Flygt Products are exported outside of the United States of America without the knowledge and written consent of Xylem Water Solutions USA, Inc.; (ii) Xylem Water Solutions USA, Inc. makes no independent warranty or representation with respect to parts or products manufactured by others and provided by Xylem Water Solutions USA, Inc. (however, Xylem Water Solutions USA, Inc. will extend to the Purchaser any warranty received from Xylem Water Solutions USA, Inc.'s supplier for such parts or products).

LIMITATIONS:

XYLEM WATER SOLUTIONS USA, INC. NEITHER ASSUMES, NOR AUTHORIZES ANY PERSON OR COMPANY TO ASSUME FOR XYLEM WATER SOLUTIONS USA, INC., ANY OTHER OBLIGATION IN CONNECTION WITH THE SALE OF ITS FLYGT EQUIPMENT. ANY ENLARGEMENT OR MODIFICATION OF THIS WARRANTY BY A FLYGT PRODUCT DISTRIBUTOR, OR OTHER SELLING AGENT SHALL BECOME THE EXCLUSIVE RESPONSIBILITY OF SUCH ENTITY.

THE FOREGOING WARRANTY IS EXCLUSIVE AND IN LIEU OF ANY AND ALL OTHER EXPRESS OR IMPLIED WARRANTIES, GUARANTEES, CONDITIONS OR TERMS OF WHATEVER NATURE RELATING TO FLYGT PRODUCT(S), INCLUDING AND WITHOUT LIMITATION ANY IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE WHICH ARE HEREBY EXPRESSLY DISCLAIMED AND EXCLUDED. PURCHASER'S EXCLUSIVE REMEDY AND XYLEM WATER SOLUTIONS USA, INC.'S AGGREGATE LIABILITY FOR BREACH OF ANY OF THE FOREGOING WARRANTIES IS LIMITED TO REPAIRING OR REPLACING FLYGT PRODUCTS AND SHALL IN ALL CASES BE LIMITED TO THE AMOUNT PAID BY THE PURCHASER HEREUNDER. IN NO EVENT IS XYLEM WATER SOLUTIONS USA, INC. LIABLE FOR ANY OTHER FORM OF DAMAGES, WHETHER DIRECT, INDIRECT, LIQUIDATED, INCIDENTAL, CONSEQUENTIAL, PUNITIVE, EXEMPLARY OR SPECIAL DAMAGES, INCLUDING BUT NOT LIMITED TO LOSS OF USE, LOSS OF PROFIT, LOSS OF ANTICIPATED SAVINGS OR REVENUE, LOSS OF INCOME, LOSS OF BUSINESS, LOSS OF PRODUCTION, LOSS OF OPPORTUNITY OR LOSS OF REPUTATION.

XYLEM WATER SOLUTIONS USA, INC. WILL NOT BE HELD RESPONSIBLE FOR TRAVEL EXPENSES, RENTED EQUIPMENT, OUTSIDE CONTRACTOR'S FEES, OR ANY EXPENSES ASSOCIATED WITH A FLYGT PRODUCT REPAIR SHOP NOT AUTHORIZED BY XYLEM WATER SOLUTIONS USA, INC. U.S.A., INC. REIMBURSEMENT COSTS FOR CRANES AND/OR ANY SPECIAL EQUIPMENT USED IN CONJUNCTION FOR THE REMOVAL AND/OR REINSTALLATION OF ANY FLYGT EQUIPMENT IS NOT COVERED UNDER THIS WARRANTY.

ANY UNAUTHORIZED ALTERATIONS TO SUPPLIED FLYGT EQUIPMENT USED WITHOUT XYLEM WATER SOLUTIONS USA, INC. SUPPLIED FLYGT BRAND CABLE OR CONTROLS WILL NOT BE COVERED UNDER THIS WARRANTY, UNLESS IT CAN BE PROVEN SUCH ANCILLARY EQUIPMENT IS SUITABLE FOR THE PURPOSE AND EQUAL TO XYLEM WATER SOLUTIONS USA, INC. SUPPLIED FLYGT BRAND CABLES OR CONTROLS THAT WOULD ORIGINALLY HAVE BEEN SUPPLIED WITH THE TYPE OF EQUIPMENT IN USE.

REQUIREMENTS:

A copy of Electrical System Schematics of the Control used (including a Control's Bill of Material) could be required to support a Warranty Claim when a non Flygt Brand Control is used. In addition, a written record, hereby known as "the log", will be associated with each unit serial number and must be maintained by the organization having product maintenance responsibility. The log must record each preventative maintenance activity and any repair activity during the life of the warranty or verification that a Xylem Water Solutions USA, Inc. authorized Service Contract for Flygt Products is in force and must be available for review and/or auditing. Failure to meet these conditions could render this warrant null and void. Such logs could be required to determine warranty coverage.



WARRANTY

Xylem Water Solutions USA, Inc.

STORAGE:

Should a delay occur between ship date and the date of start-up, maintenance as outlined in Xylem Water Solutions USA, Inc.'s Care & Maintenance Manual for Flygt Products must be performed by the "CONTRACTOR" and/or "OWNER" during any such period of storage. Documentation providing proof and outlining what maintenance was performed must be provided to Xylem Water Solutions USA, Inc. or its Flygt Products representative within thirty (30) days of said maintenance, or the Xylem Water Solutions USA, Inc. warranty for Flygt Products could be considered void.

CONTROLS:

Warranty coverage for permanently installed controls will start for the end purchaser on the date of shipment. This warranty does not apply to controls that have been damaged due to a defective and/or improper input power supply, improper electrical protection, accidental damage, improper or unauthorized installation and/or repair, unauthorized alteration, negligence, environmental corrosion or chemical attack, improper maintenance or storage of control, any act of God, an act of war, an act of terrorism or damage resulting from the use of accessory equipment not approved by Xylem Water Solutions USA, Inc.. Further, this warranty does not apply in the event an adjustment is found to correct the alleged defect.

Solid state devices will be covered for a period of one (1) year except in the Flygt Standard Control Panel (FSCP) where the solid state devices will be covered for the full warranty period of the control panel. Electrical control panels containing controllers, PLC's, drives, soft starts, and other computerized equipment will require Transient Voltage Surge Suppression (TVSS) protection in order to satisfy the requirements of this warranty. The protection equipment associated with the control must be kept in working condition during the life of the warranty. Auxiliary equipment supplied with the control (air-conditioners etc.) is limited by the respective original equipment manufacturer's warranty offered. Consumable items such as: light bulbs, fuses, and relays are covered under normal operating conditions. Electrical surges experienced during startups and/or during normal operating use of the control panel will cause the consumable items not to be covered under this warranty policy. Components not supplied by Xylem Water Solutions USA, Inc. will not covered by this warranty.

TOP (The Optimum Pump Station)

Xylem Water Solutions USA, Inc. will warrant the Flygt TOP pre-engineered fiberglass pump station components against defects in material and workmanship for a period of one (1) year from date of start-up or eighteen (18) months from date of shipment and is valid only to the original owner of the station. Warranty shall cover the cost of labor and materials required to correct any warrantable defect, excluding any removal and reinstallation costs, FOB Xylem Water Solutions USA, Inc.'s authorized warranty service location for Flygt's TOP.

Flygt Products contained within a TOP pre-engineered fiberglass pump station will carry the standard Xylem Water Solutions USA, Inc. warranty for Flygt products and/or accessories installed in the TOP pre-engineered fiberglass pump station.

All Flygt Product restrictions and/or limitations as outlined and described within the context of this warranty are germane to all sections of this Xylem Water Solutions USA, Inc. Warranty document.

Xylem Water Solutions USA, Inc.
National Quality Assurance - US Corporate

WARRANTY

Xylem Water Solutions USA, Inc.

ADDENDUM – WARRANTY COVERAGE BY PRODUCT

PRODUCT	PRODUCT SERIES AND CONFIGURATION	Months	Months	Months	Months	Months
		1 - 12	13 - 18	19 - 36	37 - 39	40 - 60
Axial Flow/ Mixed Flow/ Centrifugal Pumps & Mixers	3000 Series (CP, NP, DP, CT, NT, CZ, NZ, LL) 4000 Series (SR, PP) 7000 Series (PL)	100%		50%		25%
Flygt Standard Control Panels (FSCP)	Standard Control Panels (FSCP – permanently installed)	100% (From Ship Date)				
ETO Electrical Control Panels	Engineered to Order, Xylem Manufactured Control Panels (permanently installed) - 3 Years	100% - 1 YR	LIMITED - 2 - YR			
Abrasion/Corrosion Resistant & Chopper/ Grinder Pumps	3000 Series (MP, MF, MH, FP, FS, FT, HP, HS) 5000 Series (HP, HS) 8000.280 Series (DP, DZ, DT, DS, DF)	100%				
Dewatering Pumps	2000 Series (BS, KS) 3000 Series (CS, NS, DS) 8000.280 Series (DS, DF)	100% (From Ship Date)				
TOPS	Fiberglass Pump Station	100% (From Ship Date)				
Accessories	Permanent / Portable	100% (From Ship Date)				
Hydro ejectors/ Aerators	HE, JA	100%				
Portable Pump Controls TOPS Control Panels	Control Boxes (Nolta, MSHA etc.) TOPS control panels (permanently installed)	100% (From Ship Date)				
Small Pumps	3045, 3057, SX	100% (From Ship Date)				
Parts - *	All new Flygt parts (mechanical & electrical)	100% (From Ship Date)				

* - Parts that fail where used in a repair are warranted for one (1) year from the date of the repair for the failed part only – no labor; This Includes Flygt pump controllers, Flygt supervision equipment, Flygt submersible level transducers, etc.

NP 3356/716 3~ 670

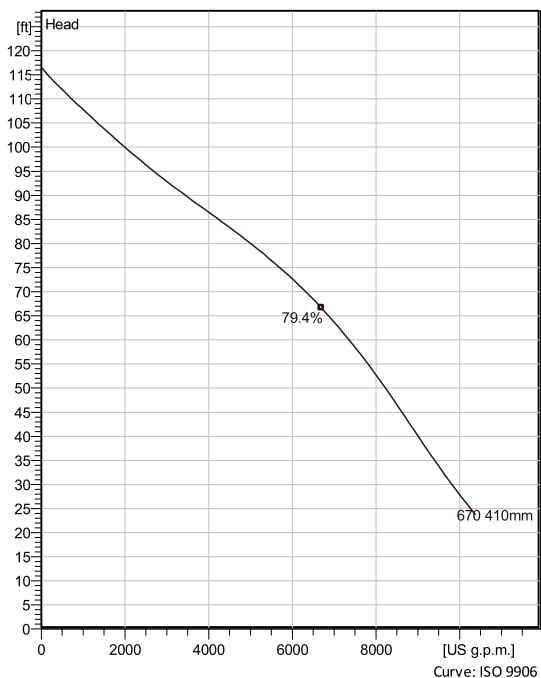
Patented self cleaning semi-open channel impeller, ideal for pumping in waste water applications. Modular based design with high adaptation grade.



Technical specification



Curves according to: Water, pure Water, pure [100%], 39.2 °F, 62.42 lb/ft³, 1.6891E-5 ft²/s



Configuration

Motor number N0716.000 43-30-61D-W IE3 150hp	Installation type P - Semi permanent, Wet
Impeller diameter 410 mm	Discharge diameter 14 inch

Configuration

Pump information

Impeller diameter 410 mm
Discharge diameter 14 inch
Inlet diameter 350 mm
Maximum operating speed 1185 rpm
Number of blades 3
Max. fluid temperature 40 °C

Material

Impeller Hard-Iron™

Project Xylect-20483374
Block

Created by
Created on 4/25/2023 **Last update** 4/25/2023

NP 3356/716 3~ 670

Technical specification



Motor - General

Motor number N0716.000 43-30-61D-W IE3 150hp	Phases 3~	Rated speed 1185 rpm	Rated power 150 hp
Approval FM	Number of poles 6	Rated current 188 A	Stator variant 1
Frequency 60 Hz	Rated voltage 460 V	Insulation class H	Type of Duty S1
Version code 000	Closed loop cooling system		

Motor - Technical

Power factor - 1/1 Load 0.78	Motor efficiency - 1/1 Load 96.0 %	Total moment of inertia 63 lb ft ²	Starts per hour max. 10
Power factor - 3/4 Load 0.71	Motor efficiency - 3/4 Load 96.5 %	Starting current, direct starting 1110 A	
Power factor - 1/2 Load 0.59	Motor efficiency - 1/2 Load 96.5 %	Starting current, star-delta 368 A	

Project Xylect-20483374
Block

Created by
Created on 4/25/2023 **Last update** 4/25/2023

NP 3356/716 3~ 670

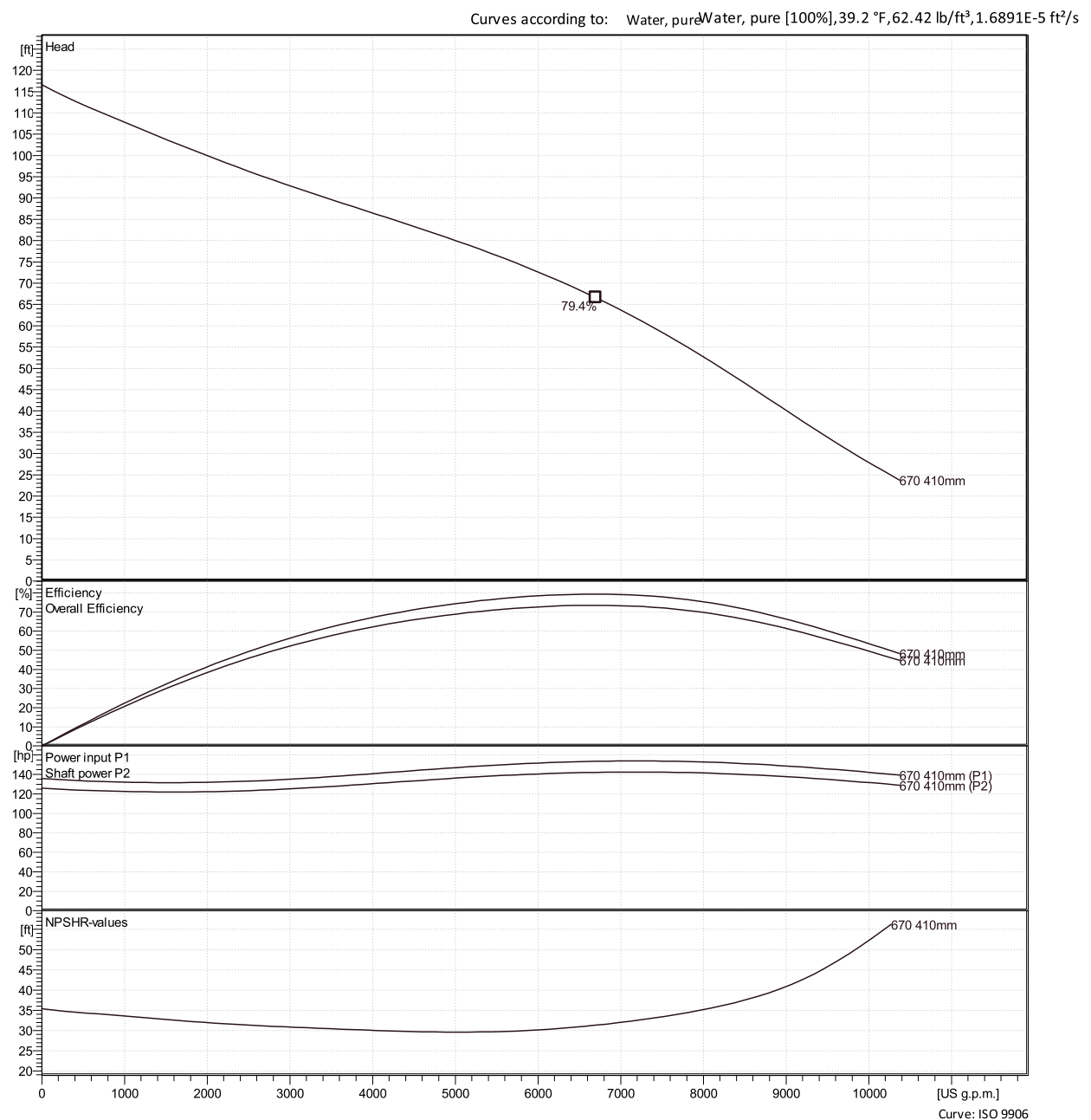
Performance curve



Duty point

Flow

Head



Xylect-20483374

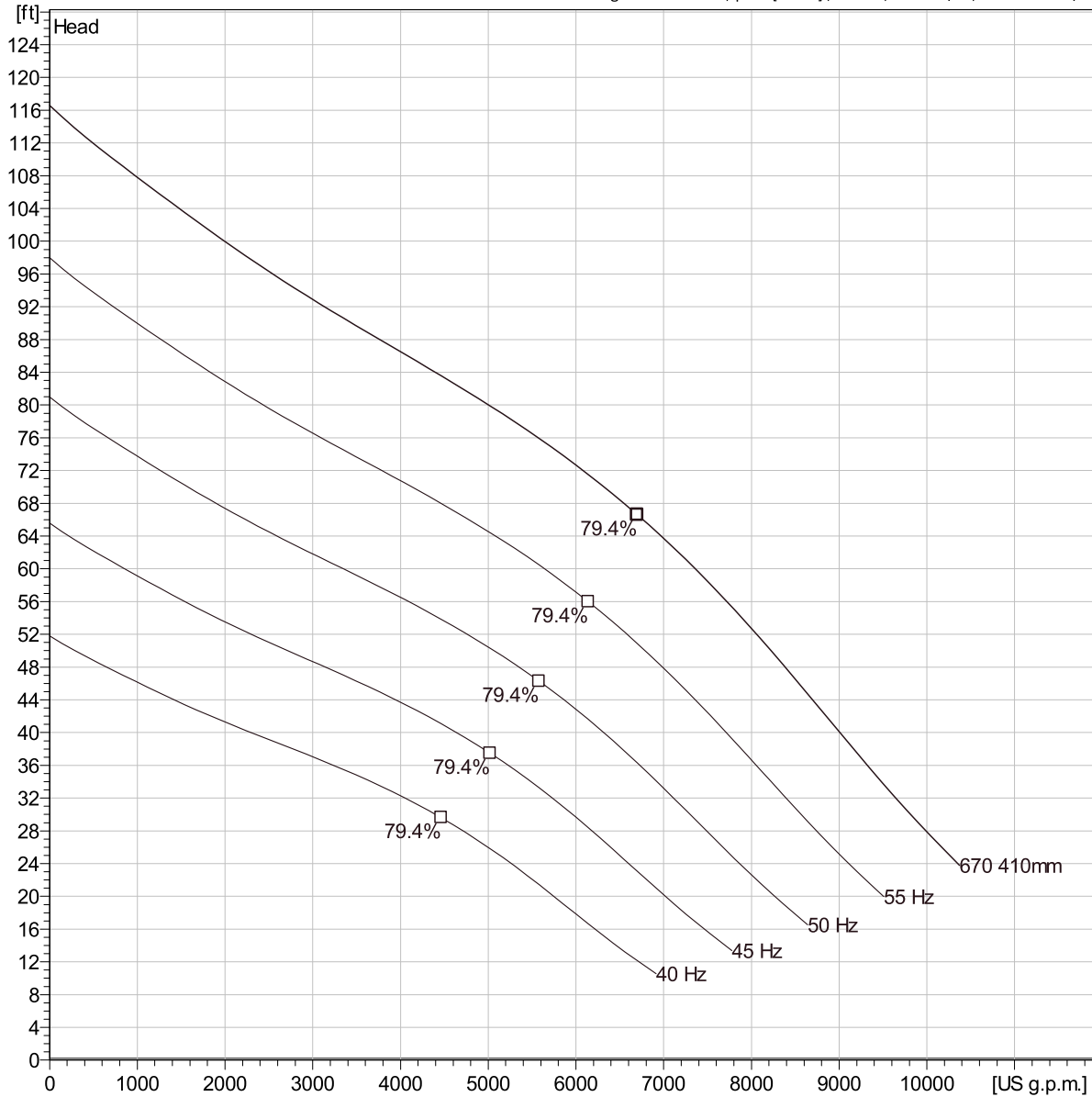
Created on 4/25/2023 Last update 4/25/2023

NP 3356/716 3~ 670

Duty Analysis



Curves according to: Water, pure [100%] ; 39.2°F; 62.42lb/ft³; 1.6891E-5ft²/s



Operating characteristics

Pumps / Systems	Flow US g.p.m.	Head ft	Shaft power hp	Flow US g.p.m.	Head ft	Shaft power hp	Hydr.eff.	Spec. Energy kWh/US MG	NPSHre ft
-----------------	-------------------	------------	-------------------	-------------------	------------	-------------------	-----------	---------------------------	--------------

Project

Block Xylect-20483374

Created by

Created on 4/25/2023

Last update

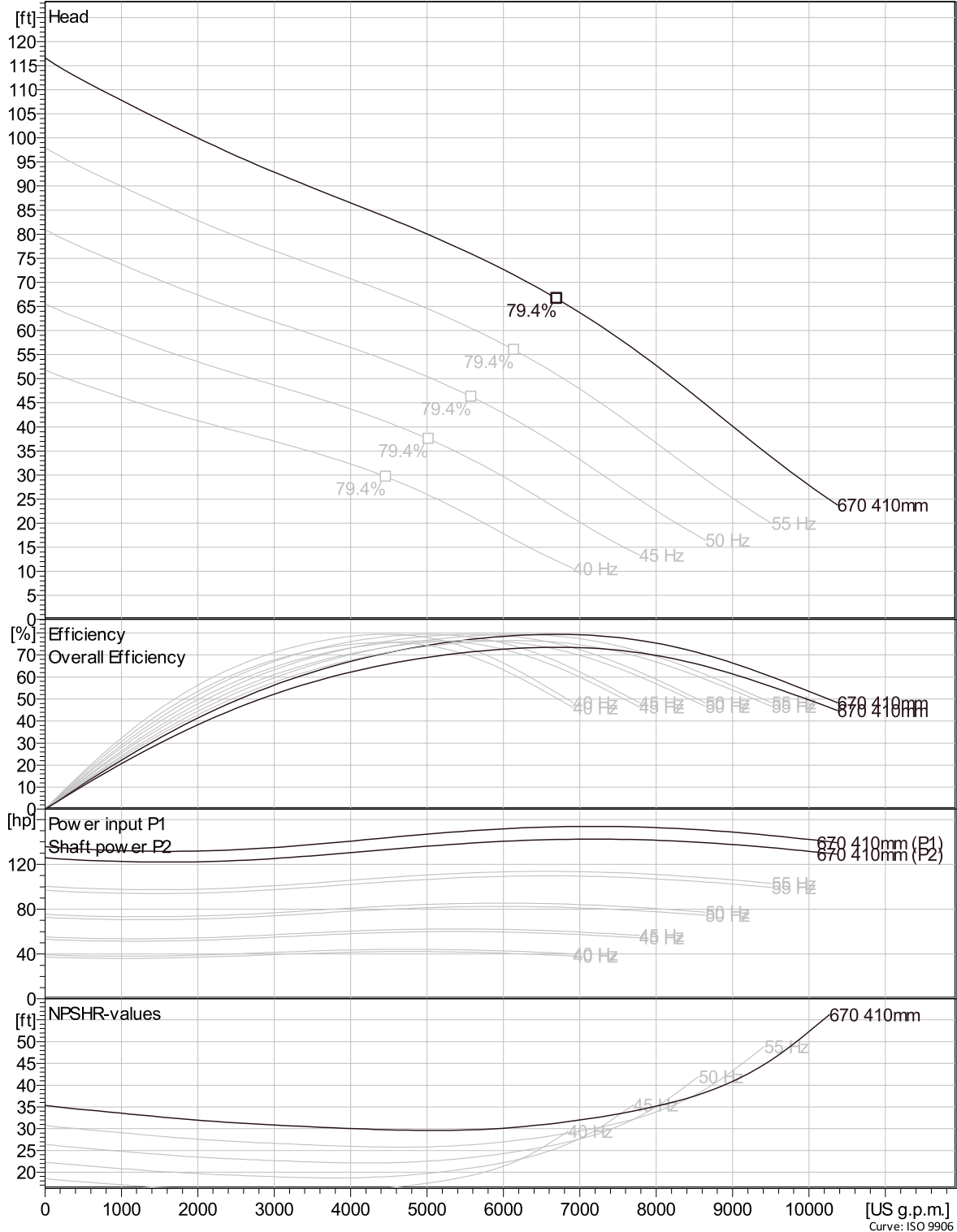
4/25/2023

NP 3356/716 3~ 670

VFD Curve



Curves according to: Water, pure, 39.2 °F, 62.42 lb/ft³, 1.6891E-5 ft²/s



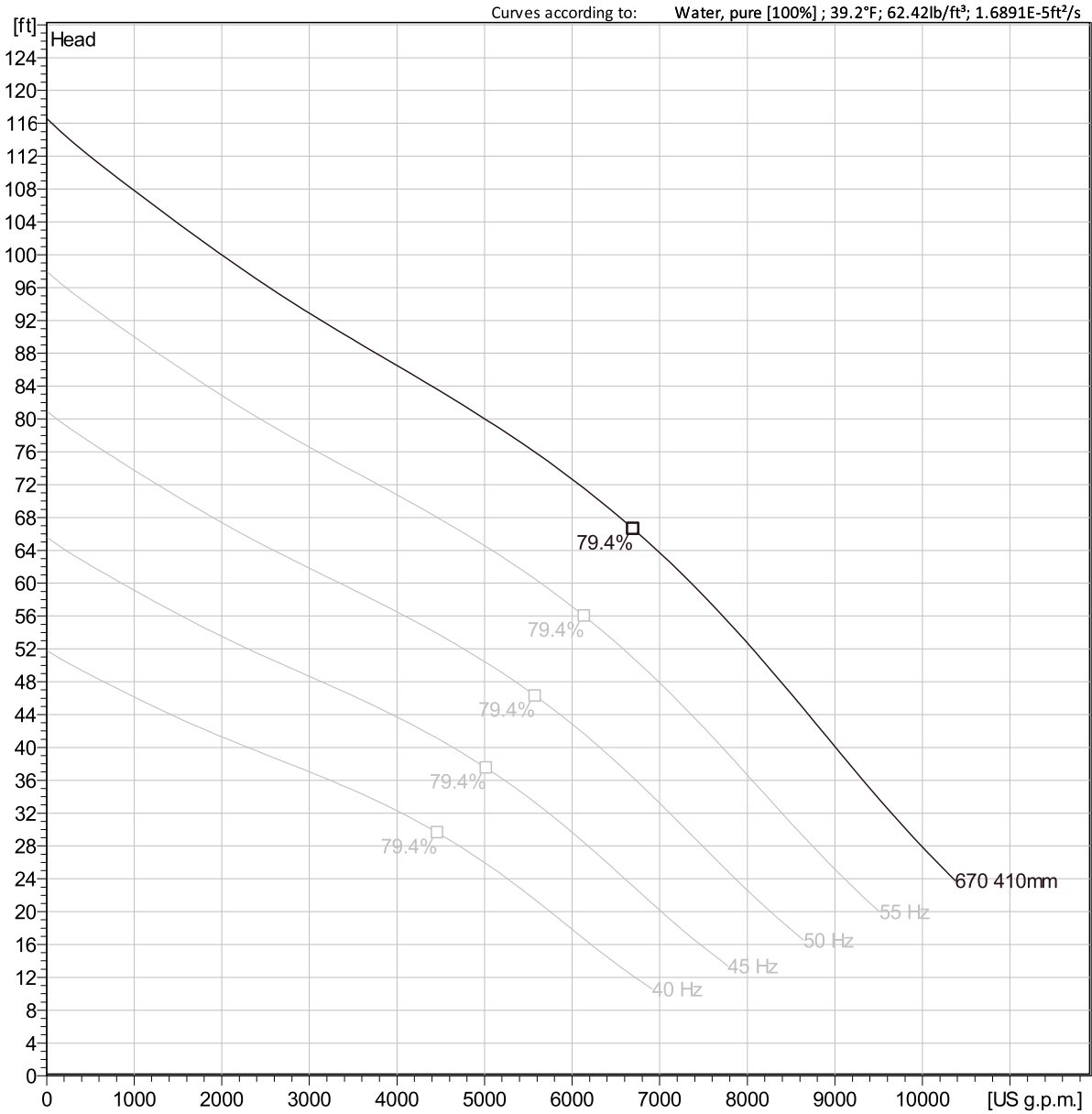
Project Xylect-20483374
Block

Created by
Created on 4/25/2023 Last update 4/25/2023

Curve: ISO 9906

NP 3356/716 3~ 670

VFD Analysis



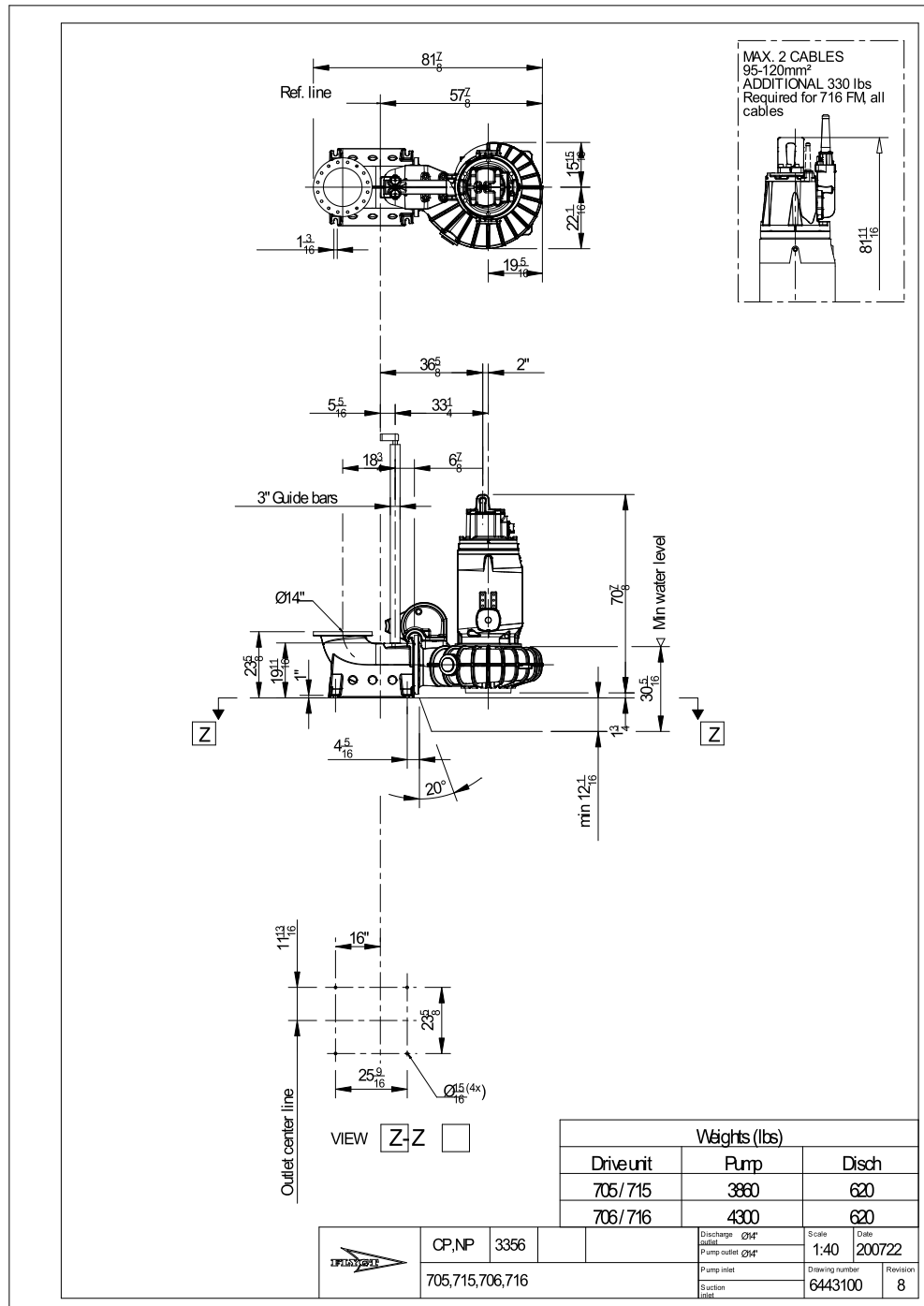
Operating Characteristics

Pumps / Systems	Frequency	Flow	Head	Shaft power	Flow	Head	Shaft power	Hydr. eff.	Specific energy	NPSHre
		US g.p.m.	ft	hp	US g.p.m.	ft	hp		kWh/US MG	ft

Project	Xylect-20483374	Created by	
Block		Created on	4/25/2023
		Last update	4/25/2023

NP 3356/716 3~ 670

Dimensional drawing



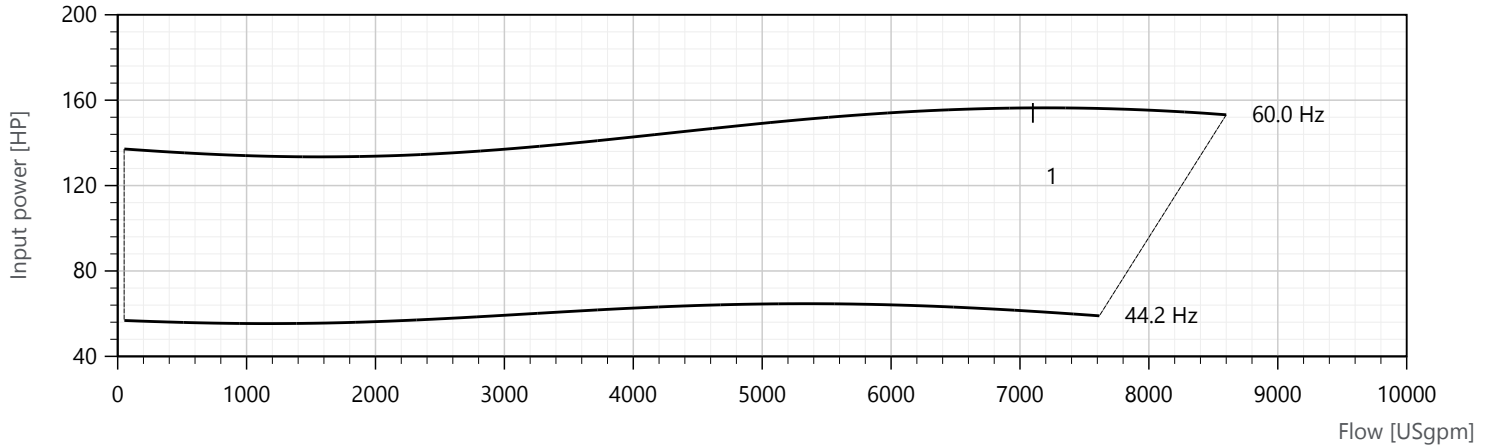
Project Xylect-20483374
Block

Created by
Created on 4/25/2023 Last update 4/25/2023

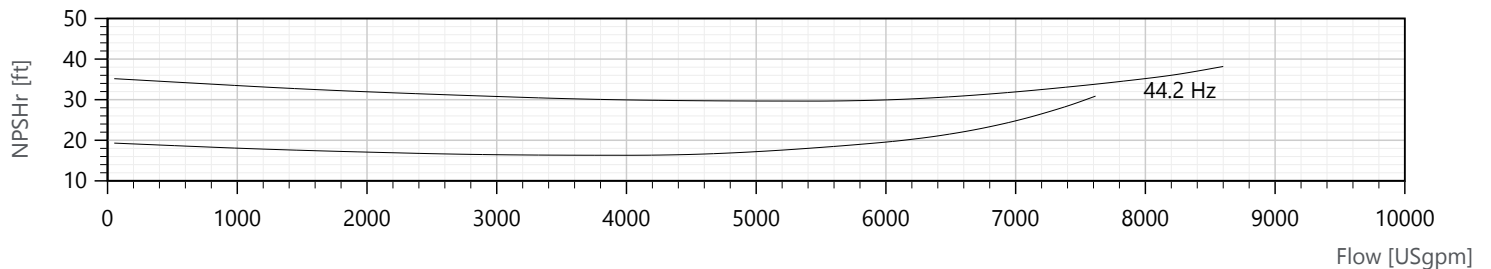
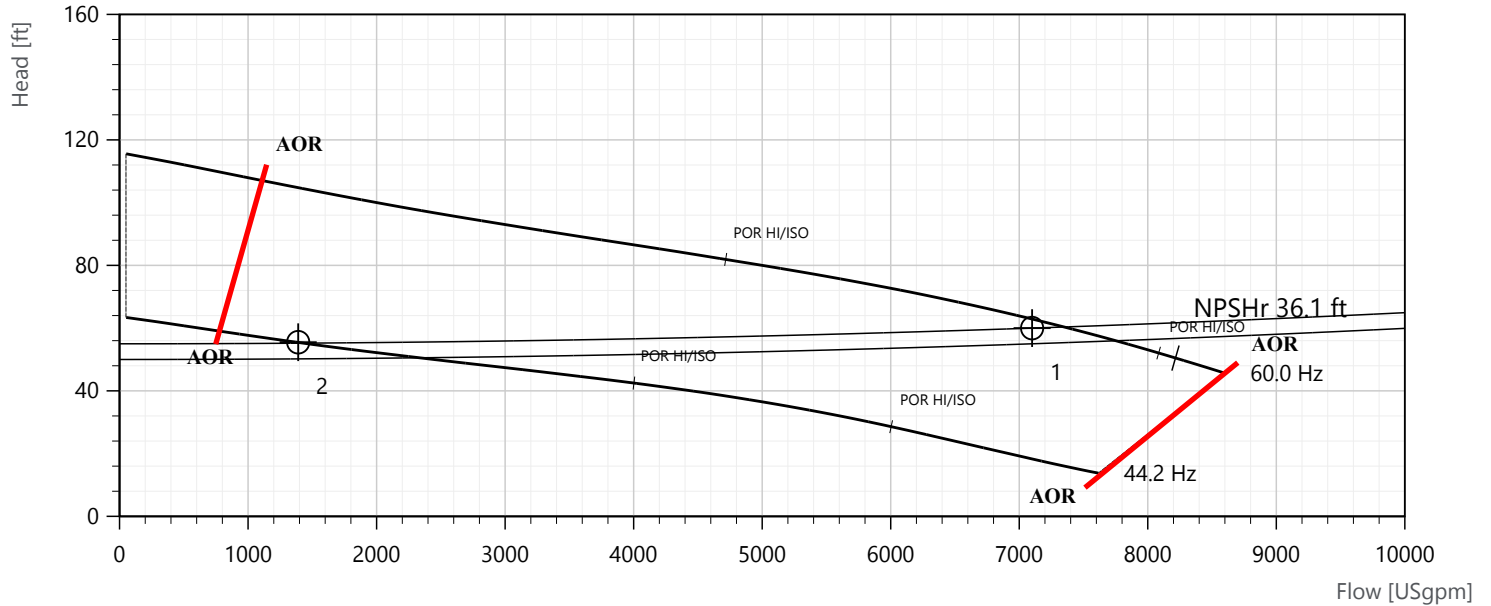


PERFORMANCE FIELD FREQUENCY VARIATION

DATE 2023-04-18		REPORT Roseville		ISSUE 68	FREQUENCY 60 Hz	PRODUCT NP3356 / 716.000 FM
INLET/OUTLET 400/350 mm		NOMINAL HYDRAULIC SPEED 990 RPM		VOLTAGE 460 V	NUMBER OF BLADES 3	CURVE NAME 63-670
DRIVE UNIT 0716.000	MOTOR TYPE 43-30-6ID/01	RATED POWER 150 HP / 112 KW	RATED SPEED 1185 RPM	POLES 6	PHASES 3	IMPELLER DIAMETER 410 mm



Duty points	Flow [USgpm]	Head [ft]	Power [HP]	Efficiency [%]	NPSHr [ft]	Standard	Guarantee (-> no guarantee
1	7100	60.0	(149) (137)	(72.1) (78.9)	31.6 ft	HI11.6-2017	1U QH Guarantee
2	1390	55.5	-	-	-	None	None



NOTE:
CURVES SHOW PERFORMANCE WITH CLEAR COLD WATER
NPSHR = NPSH3 + MARGIN
NO OPERATION ALONG DASHED CURVE.

CHANGES
INFORMATION SHOWN IS MODIFIED BY USE OF A GENERIC VFD MODEL
FLOW AND HEAD CAN BE GUARANTEED
BUT THE ACTUAL SPEED MAY VARY

AUTHOR:
DAVID TROYER

NP 3301 MT 3~ 634

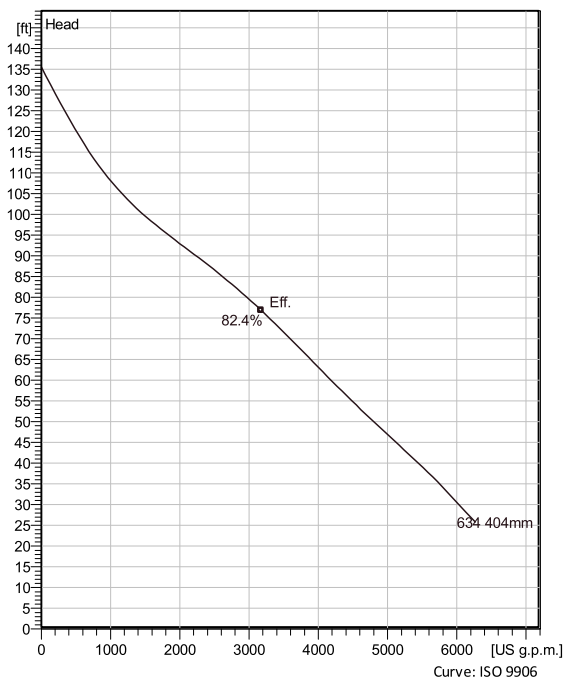
Patented self cleaning semi-open channel impeller, ideal for pumping in waste water applications. Modular based design with high adaptation grade.



Technical specification



Curves according to: Water, pure Water, pure [100%], 39.2 °F, 62.42 lb/ft³, 1.6891E-5 ft²/s



Configuration

Motor number N3301.830 35-45-6IE-W IE3 85hp	Installation type P - Semi permanent, Wet
Impeller diameter 404 mm	Discharge diameter 10 inch

Configuration

Pump information

Impeller diameter 404 mm
Discharge diameter 10 inch
Inlet diameter 250 mm
Maximum operating speed 1185 rpm
Number of blades 2

Material

Impeller Hard-Iron™

Max. fluid temperature 40 °C
--

Project	Xylect-20404572
Block	

Created by	
Created on	4/6/2023
Last update	4/6/2023

NP 3301 MT 3~ 634

Technical specification



Motor - General

Motor number N3301.830 35-45-6IE-W IE3 85hp	Phases 3~	Rated speed 1185 rpm	Rated power 85 hp
ATEX approved FM	Number of poles 6	Rated current 102 A	Stator variant 1
Frequency 60 Hz	Rated voltage 460 V	Insulation class H	Type of Duty S1
Version code 830			

Motor - Technical

Power factor - 1/1 Load 0.83	Motor efficiency - 1/1 Load 94.7 %	Total moment of inertia 40.4 lb ft ²	Starts per hour max. 30
Power factor - 3/4 Load 0.78	Motor efficiency - 3/4 Load 95.2 %	Starting current, direct starting 760 A	
Power factor - 1/2 Load 0.67	Motor efficiency - 1/2 Load 95.1 %	Starting current, star-delta 253 A	

Project Xylect-20404572
Block

Created by
Created on 4/6/2023 **Last update** 4/6/2023

NP 3301 MT 3~ 634

Performance curve

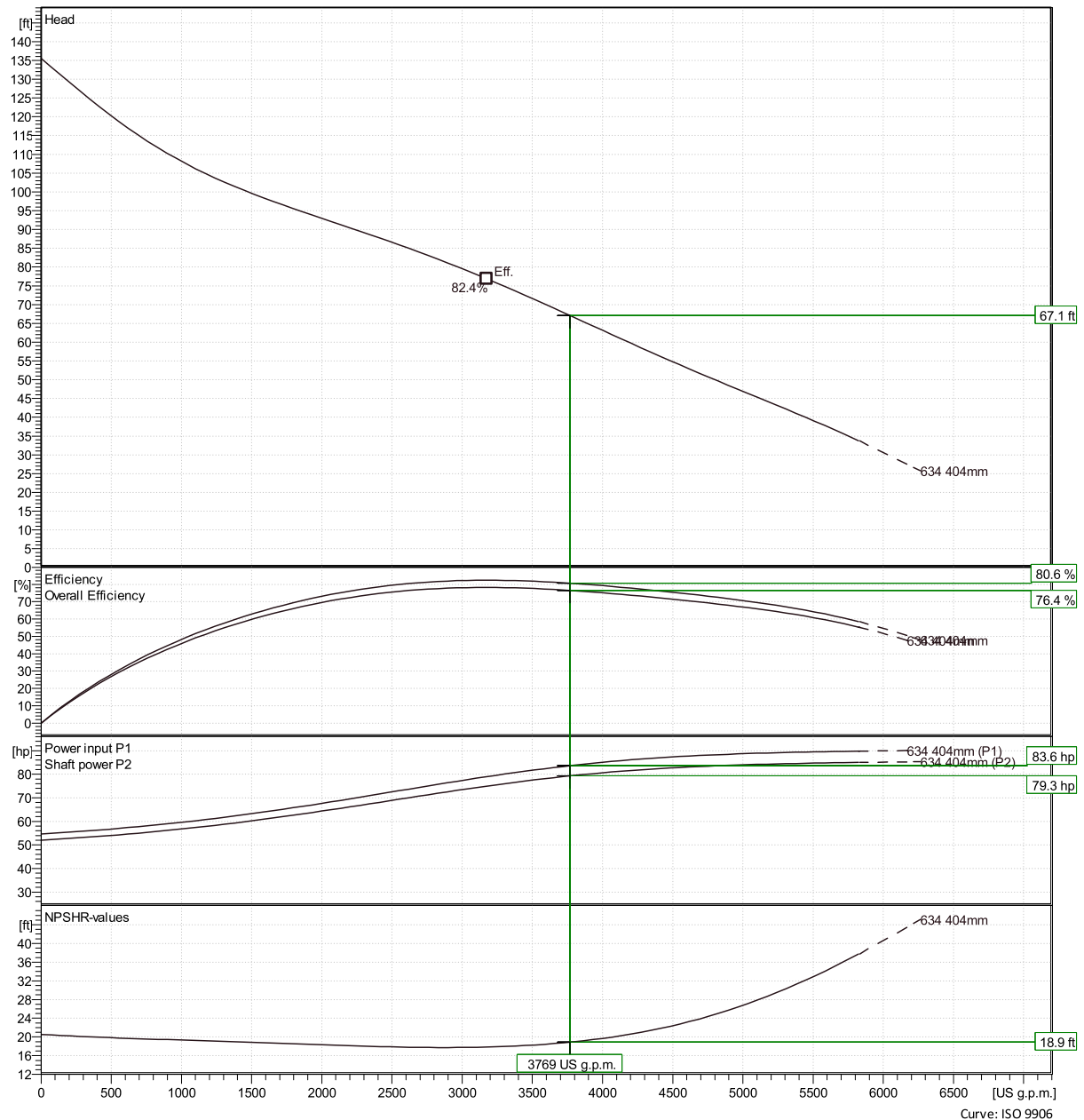


Duty point

Flow
3770 US g.p.m.

Head
67.1 ft

Curves according to: Water, pure Water, pure [100%], 39.2 °F, 62.42 lb/ft³, 1.6891E-5 ft²/s



Xylect-20404572

Created on 4/6/2023 Last update

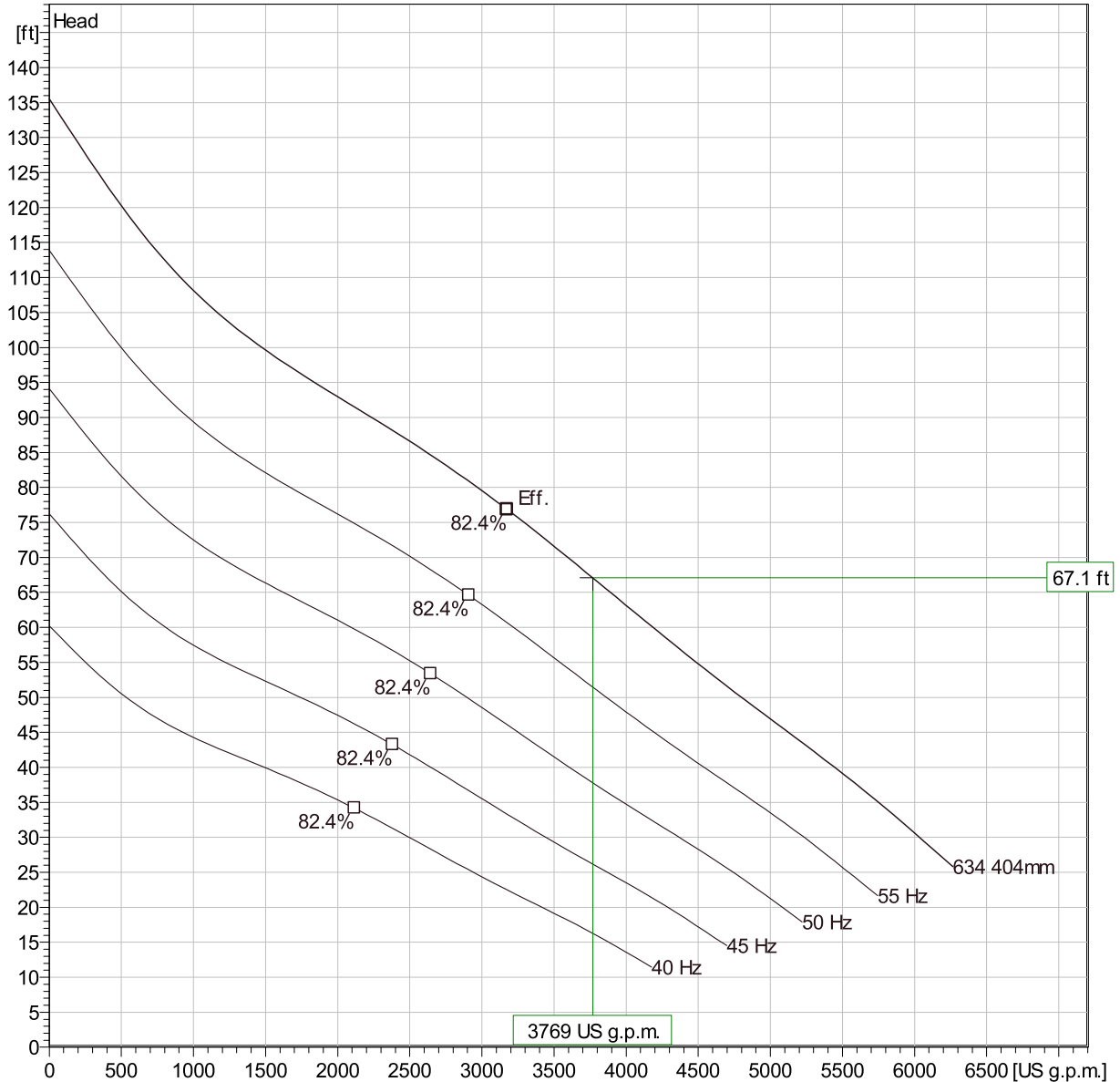
4/6/2023

NP 3301 MT 3~ 634

Duty Analysis



Curves according to: Water, pure [100%] ; 39.2°F; 62.42lb/ft³; 1.6891E-5ft²/s



Operating characteristics

Pumps / Systems	Flow US g.p.m.	Head ft	Shaft power hp	Flow US g.p.m.	Head ft	Shaft power hp	Hydr.eff.	Spec. Energy kWh/US MG	NPSHre ft
1	3770	67.1	79.3	3770	67.1	79.3	80.6 %	276	18.9

Project

Block Xylect-20404572

Created by

Created on 4/6/2023

Last update

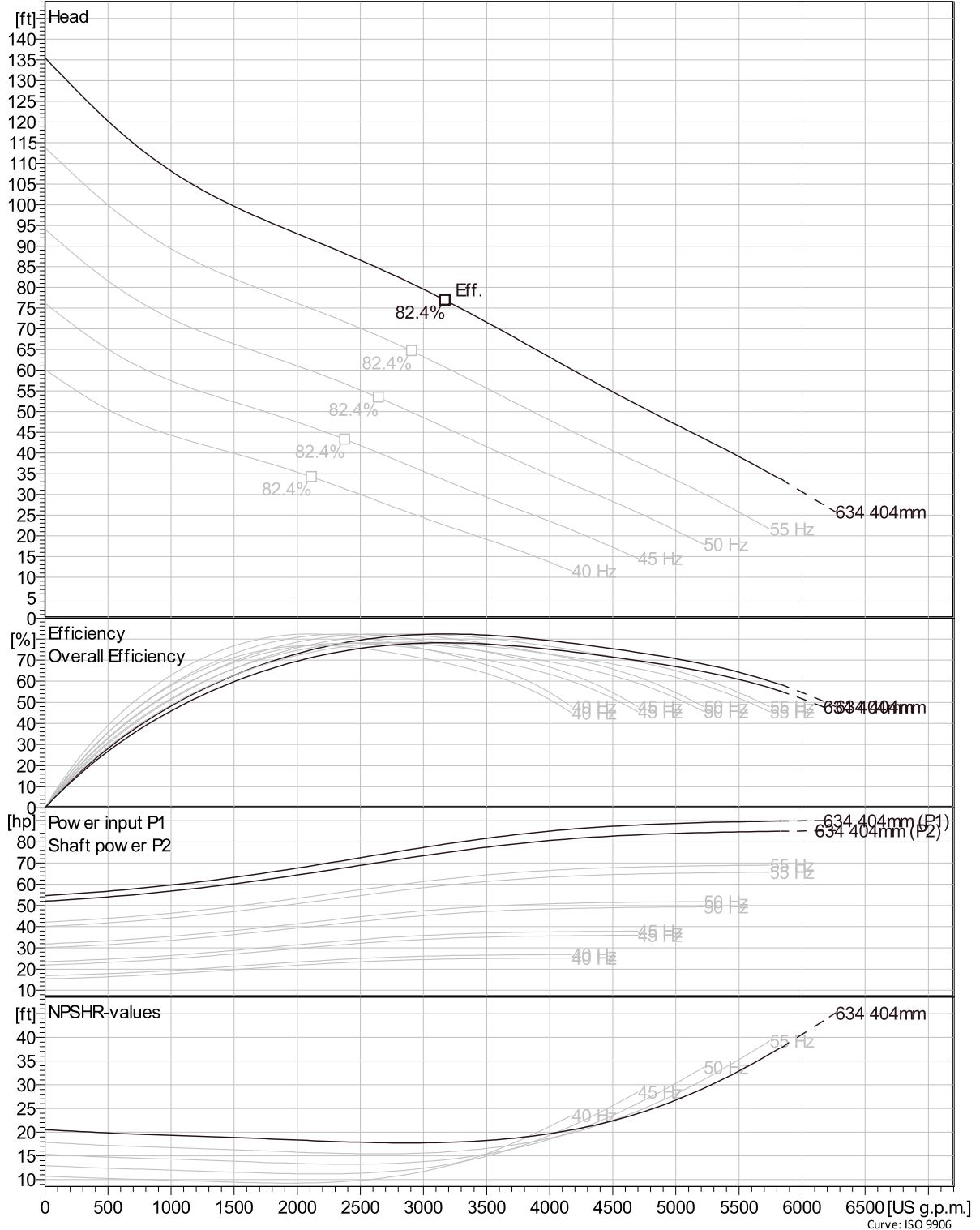
4/6/2023

NP 3301 MT 3~ 634

VFD Curve



Curves according to: Water, pure, 39.2 °F, 62.42 lb/ft³, 1.6891E-5 ft²/s

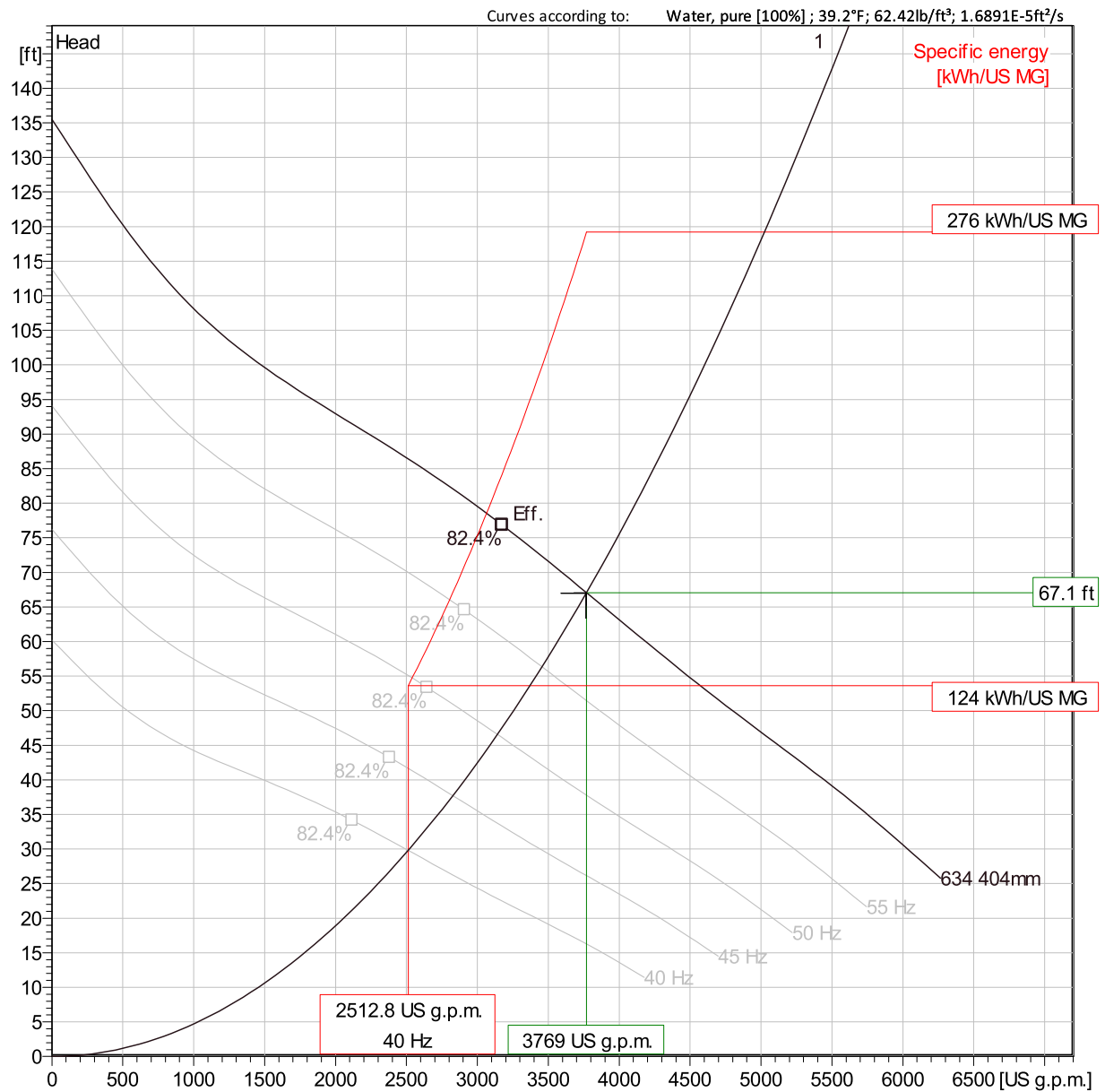


Project Xylect-20404572
Block

Created by
Created on 4/6/2023 Last update 4/6/2023

Curve: ISO 9906

VFD Analysis

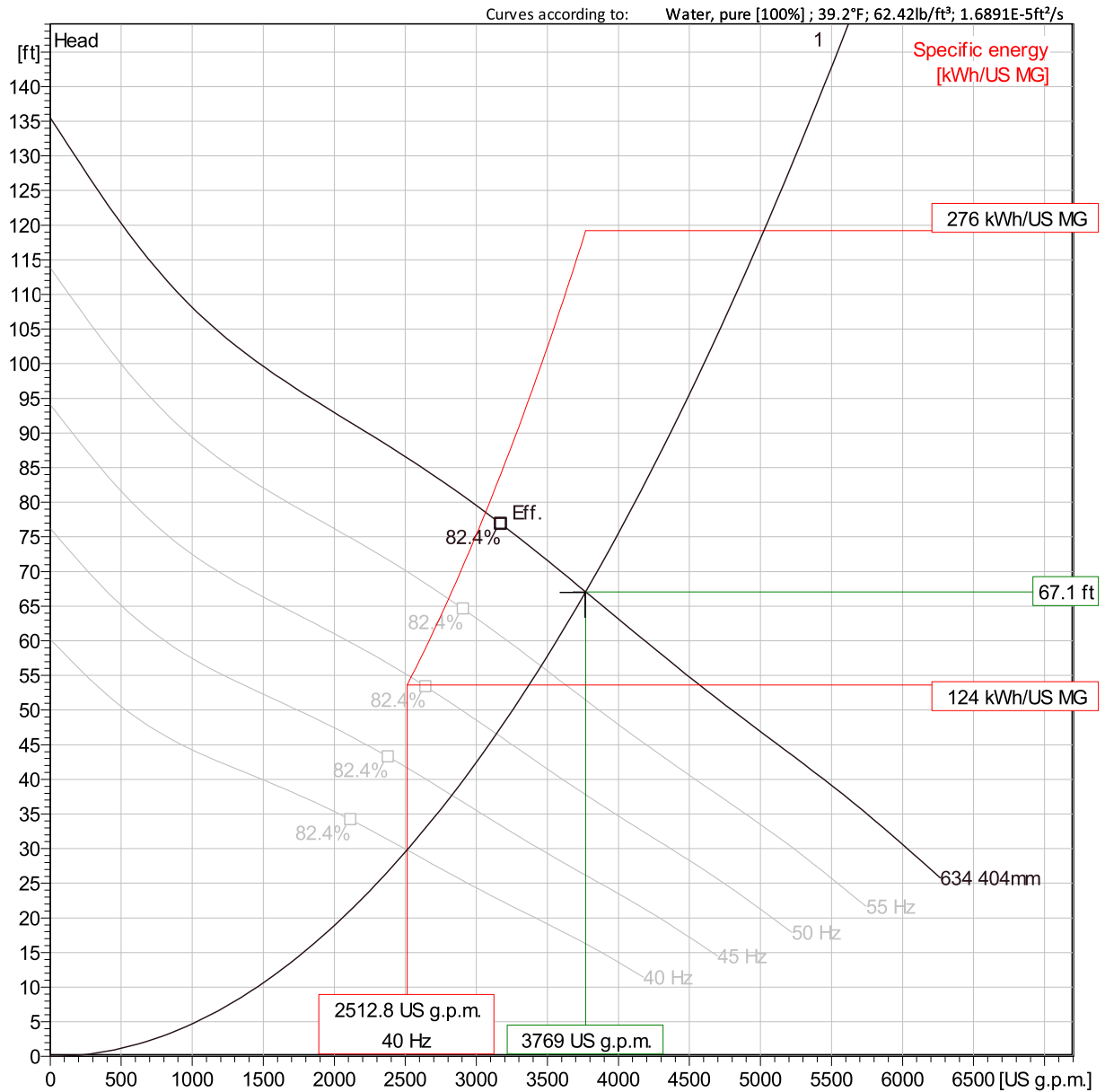


Pumps / Systems	Frequency	Flow	Head	Shaft power	Flow	Head	Shaft power	Hydr.eff.	Specific energy	NPSHr
		US g.p.m.	ft	hp	US g.p.m.	ft	hp		kWh/US MG	
1	60 Hz	3770	67.1	79.3	3770	67.1	79.3	80.6 %	276	18.9
1	55 Hz	3460	56.4	61.1	3460	56.4	61.1	80.6 %	231	16.4
1	50 Hz	3140	46.6	45.9	3140	46.6	45.9	80.6 %	191	14.1
1	45 Hz	2830	37.7	33.5	2830	37.7	33.5	80.6 %	155	11.9

User group(s)
Xylem:USA-EXT

NP 3301 MT 3~ 634

VFD Analysis



Operating Characteristics

Pumps / Systems	Frequency	Flow US g.p.m.	Head ft	Shaft power hp	Flow US g.p.m.	Head ft	Shaft power hp	Hydr. eff.	Specific energy kWh/US MG	NPSHre ft
1	40 Hz	2510	29.8	23.5	2510	29.8	23.5	80.6 %	124	9.88

Project Xylect-20404572

Created by

Block

Created on

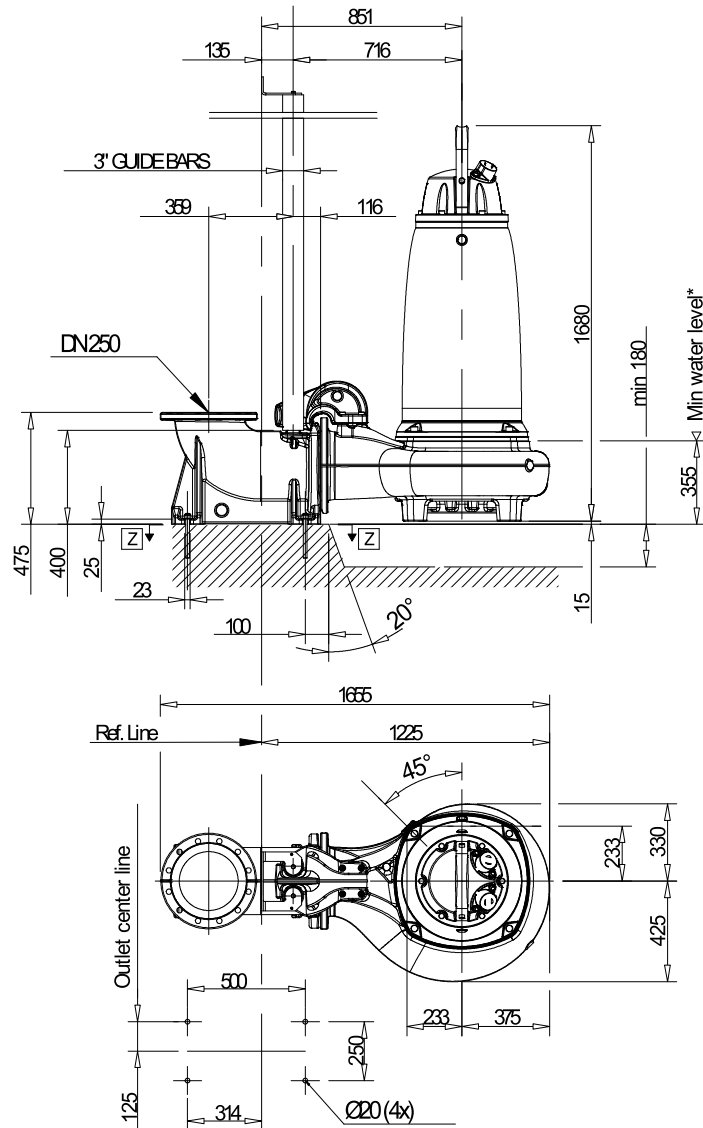
4/6/2023

Last update

4/6/2023

NP 3301 MT 3~ 634

Dimensional drawing



* Only applicable for intermittent duty. Consult the IOM for more info.

VIEW Z — Z

Weight (kg)	Pump	Discharge
with coding jacket	1085	142
without coding jacket	995	142



NP 3301 MT
800,810,820,830,860,870

Discharge outlet DN250	Scale 1:20	Date 220301
Pump outlet DN250	Drawing number 7729000	Revision 5
Pump inlet		
Suction inlet		

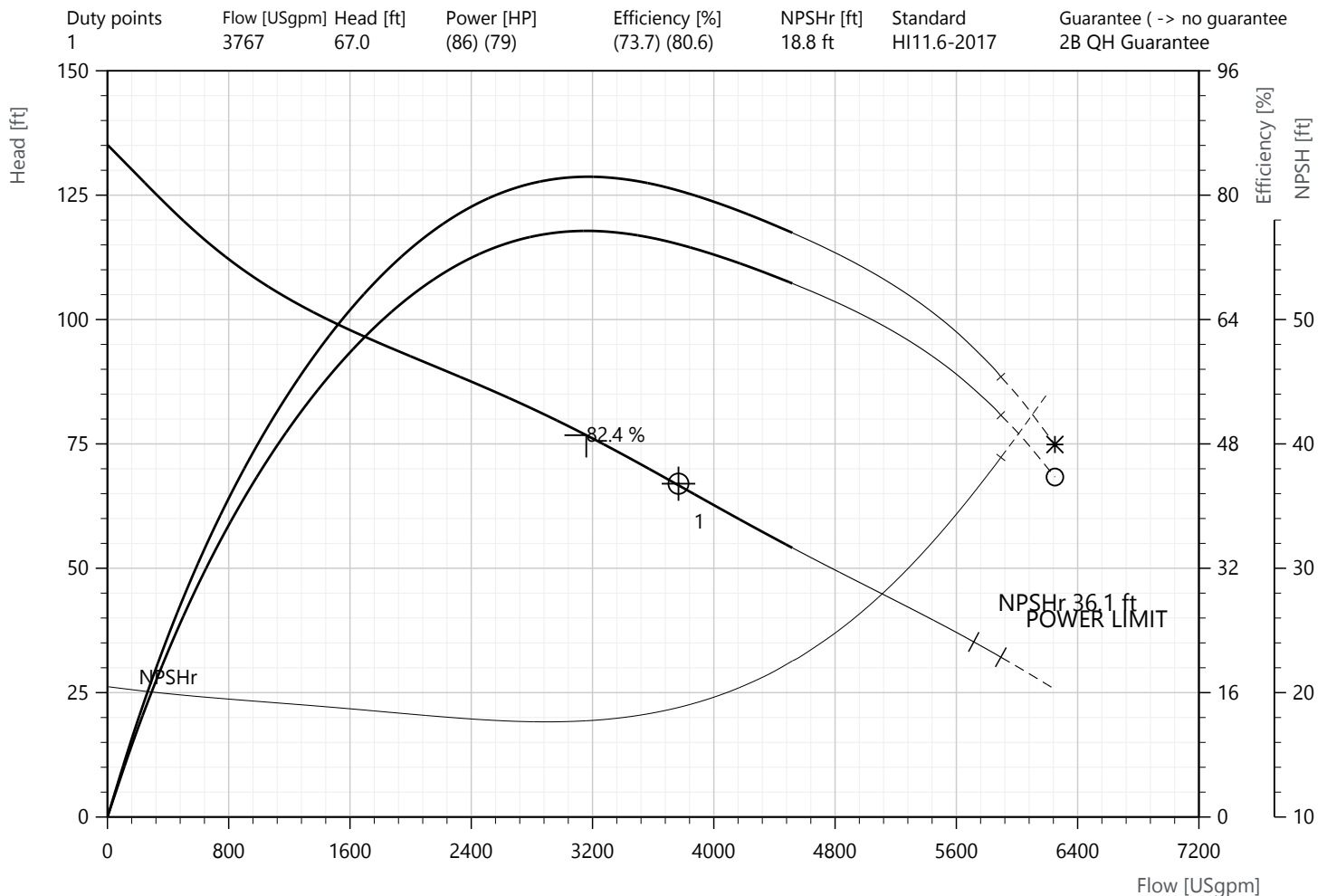
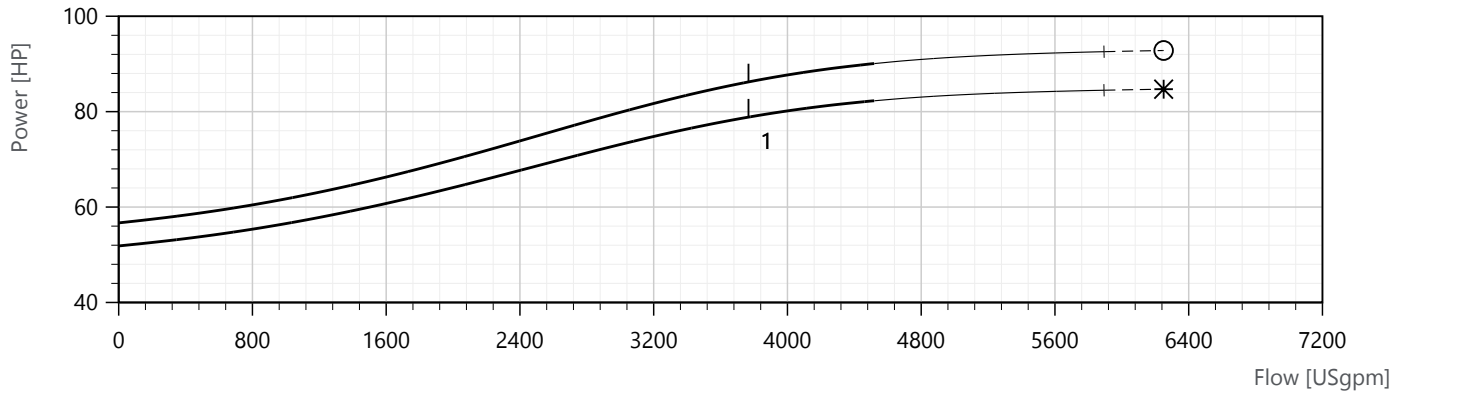
Project Xylect-20404572
Block

Created by
Created on 4/6/2023 Last update 4/6/2023



PERFORMANCE CURVE

DATE		REPORT				ISSUE		PRODUCT	
2023-04-06		PMP-108 Repl				11		NP3301.095 MT FM	
								CURVE NAME	
								63-634-00-3130	
NUMBER OF BLADES		TOTAL MOMENT OF INERTIA		RATED SPEED		POLES		PHASES	
2		1.3 kgm2		1185 RPM		6		3	
						FREQUENCY			
						60 Hz			
						VOLTAGE / COUPLING		RATED POWER	
						460 V / D		85 HP / 63 kW	
MOTOR COS PHI		1/1-RATED POWER	3/4-RATED POWER	1/2-RATED POWER	RATED CURRENT		STARTING CURRENT		
0.80		0.75	0.64	109 A		685 A			
MOTOR EFFICIENCY		91.3 %	91.7 %	90.9 %	STARTING TORQUE		MAX TORQUE		
					745 Nm		1295 Nm		
						MOTOR TYPE / STATOR		35-29-6AA/01	
						MOTOR ISSUE		DUTY CLASS	
						11		S1	



NOTE:
CURVES SHOW PERFORMANCE WITH CLEAR COLD WATER
* : PUMP EFFICIENCY / SHAFT POWER
O : OVERALL EFFICIENCY / INPUT POWER
NPSHR = NPSH3 + MARGIN
NO OPERATION ALONG DASHED CURVE.

AUTHOR:
DAVID TROYER



REQUEST FOR PROPOSALS

08-114

**PLEASANT GROVE WASTEWATER TREATMENT PLANT
INFLUENT PUMP STATION REHABILITATION**

DUE: May 4, 2023

3:00 PM

Deliver to:

City of Roseville
Attn: City Clerk Department
311 Vernon Street
Roseville, CA 95678

OR

Email: cityclerkroseville@roseville.ca.us

CITY OF ROSEVILLE
NOTICE FOR PROPOSALS
RFP 08-114

NOTICE IS HEREBY GIVEN that proposals for **RFP 08-114 Pleasant Grove Wastewater Treatment Plant Influent Pump Station Rehabilitation** will be received by the City of Roseville. Proposals will be accepted **ONLY** at the office of the **City Clerk, Civic Center, 311 Vernon Street, Roseville, CA 95678** **or** **submitted via electronic mail to CityClerkroseville@roseville.ca.us**, until 3:00 p.m., **May 4, 2023**. Said proposals will be evaluated and results will be made public after completion of the negotiation process with the selected contractor. The City reserves the right to reject any or all proposals and to waive any informalities or irregularities in any proposal or in the proposal process.

March 9, 2023

Jeremy Snyder
Preventative Maintenance Supervisor

IMPORTANT!!!

The City is not responsible for misdelivered proposals, and the proposer is strictly liable for its chosen method of delivery. It is the proposer's sole responsibility to make sure that proposals arrive at the proper location. Any proposal which does not actually arrive in the City Clerk's Office by the RFP due date and time will be rejected as non-responsive, even if properly addressed or delivered to another City Department.

Your proposal **MUST** be addressed and delivered as follows:

**City of Roseville
Attn: City Clerk Department
311 Vernon Street
Roseville, CA 95678**

The proposer is also directed to include the attached "Sealed Proposal" label on the outside of the package or envelope, so that it is visible when delivered to the City.

Or emailed to:
cityclerkroseville@roseville.ca.us

Note: Email submissions are limited to 25 megabytes.

City of Roseville RFP

PREVAILING WAGE NOTIFICATION

This is a prevailing wage project. Accordingly, all prevailing wage and fair employment laws and regulations shall be adhered to. For prevailing wage contracts over \$25,000.00, copies of certified payroll must be submitted with invoices. Prevailing wage rates may be obtained from the Department of Industrial Relations and/or the following website address:

<http://www.dir.ca.gov/dlsr/DPreWageDetermination.htm>

**PLEASANT GROVE WASTEWATER TREATMENT PLANT
INFLUENT PUMP STATION REHABILITATION**

TABLE OF CONTENTS

<u>SECTION</u>	<u>Page</u>
1.0 INTRODUCTION	6
2.0 TENTATIVE PROJECT SCHEDULE	7
3.0 PRE-PROPOSAL CONFERENCE	7
4.0 SCOPE OF SERVICES	8
5.0 ASSURANCE OF DESIGNATED PROJECT TEAM	9
6.0 PROPOSAL FORMAT REQUIREMENTS	10
7.0 SUBMITTAL INSTRUCTIONS	12
8.0 EVALUATION CRITERIA	13
9.0 SELECTION PROCESS	14
10.0 GENERAL TERMS AND CONDITIONS	15
11.0 ATTACHMENTS	20
A – PROOF OF CALIFORNIA SECRETARY OF STATE	20
B - PROPOSER’S CERTIFICATION	21
C – NON-COLLUSION DECLARATION	22
D - SAMPLE CONTRACT	23
E – REQUIRED LICENSES / SUB-CONTRACTOR LISTS	24
F – SEALED PROPOSAL LABEL	27

1.0 INTRODUCTION

The City of Roseville (hereinafter “City”), is soliciting proposals for a Rehabilitation of the Influent Pump Station (hereinafter “IPS”) including pumps and variable frequency drives (hereinafter “VFDs”) at the Pleasant Grove Wastewater Treatment Plant (hereinafter “PGWWTP”). This will be a competitive negotiation process. Qualified individuals, firms, contractors, consultants or entities (hereinafter “Contractor(s)”), that meet the requirements set forth in this Request for Proposals (hereinafter “RFP”), and are capable of providing the services requested are encouraged to participate.

1.1 BACKGROUND

The City has determined that the existing IPS pumps and their supporting VFDs have reached the end of useful life. Components are obsolete and are no longer supported. Spare parts for the VFDs are unavailable. The pump rebuilds are not lasting as long, they have become unreliable, and not cost effective.

1.2 CITY OVERVIEW

The City of Roseville is an incorporated city with a population of more than 145,000 residents, located in Placer County off of Interstate 80, approximately 16 miles northeast of Sacramento, California. The City of Roseville is a Charter city operating under the City Council/City Manager form of government.

1.3 PROPOSAL SUBMITTAL

RFP proposal submittals may be delivered to the Office of the City Clerk, Civic Center, 311 Vernon St., Roseville, CA 95678 via common carrier, hand delivered, or submitted via electronic mail to cityclerkroseville@roseville.ca.us by the specified proposal due date and time. Complete and attach the “Sealed Proposal” label to the outside of the proposal packaging if delivering or hand carrying a hard copy of the proposal, so it is visible to the City Clerk. If submitting a proposal via electronic mail, then include the RFP title and RFP number in the subject line of the email.

1.4 CALIFORNIA SECRETARY OF STATE REGISTRATION

The City requires all corporations, limited liability companies and limited partnerships to be registered to do business in the State of California. On a separate sheet of paper, please include a screenshot of your “ACTIVE” status with your proposal submittal, which can be obtained by accessing this link: <https://bizfileonline.sos.ca.gov/search/business>. All proposers must be registered with the Secretary of State or have a valid exemption by the time of award.

1.5 INSTRUCTIONS

This RFP includes a description of the scope of services, proposal requirements, and instructions for submitting your proposal. Failure to follow these instructions may result in rejection of your proposal.

No oral representations or interpretations will be made to any proposer as to the meaning of this RFP.

Direct all inquiries regarding this RFP in writing to Jeremy Snyder by accessing the RFP from the City’s website at: https://www.roseville.ca.us/business/procurement_services/bids_rfps by no later than April 13, 2023 at 3:00pm.

Do not contact other individuals or City departments in this regard. Information provided by anyone other than the above contact may be invalid, and proposals which are submitted in accordance with such information may be declared non-responsive.

In the event that it becomes necessary to revise any part of this RFP, written addenda will be issued. Any amendment to this RFP is valid only if it is in writing and issued by the City department issuing the RFP. No oral interpretations or answers shall bind the City unless confirmed by the City in writing.

All addenda for this RFP will be distributed through PublicPurchase.com to proposers who have registered with PublicPurchase.com and who have downloaded the RFP. Additionally, the Notice of Intent to Award will be posted on PublicPurchase.com. **It is the proposer's sole responsibility to monitor PublicPurchase.com for possible addenda to this RFP and for the Notice of Intent to Award.** Failure of proposer to retrieve addenda or the Notice of Intent to Award from PublicPurchase.com shall not relieve him/her of the requirements contained therein or the timelines associated therewith. Additionally, failure of proposer to return a signed addendum, when required, may be cause for rejection of his/her proposal.

2.0 TENTATIVE SCHEDULE

The following represents the tentative schedule for this RFP. Any change in the scheduled dates for the Pre-Proposal Job Walk, Deadline for Final Questions, or Proposal Submission Deadline will be advertised in the form of an addendum to this RFP. The schedule for the evaluation process and other future dates may be adjusted without notice.

RFP Released by the City.....	03/16/2023
Pre-Proposal Job Walk.....	03/30/2023
Deadline for Final Questions.....	04/13/2023
City Responses to Written Questions.....	04/20/2023
Proposal Submission Deadline.....	05/04/2023
Contractor Interviews as needed.....	TBD
Contract Negotiations.....	TBD
Contract Approval by City Council.....	July-2023
Commencement of Services.....	July-2023

3.0 MANDATORY PRE-PROPOSAL JOB WALK

A **mandatory** pre-proposal job walk has been scheduled for **Thursday, 03/30/2023 at 10:00am**. The job site will be visited to preview the project areas, locations, and accessibility. The job walk will last approximately 120 minutes. Attendance will be taken prior to the job walk.

**Location: Pleasant Grove Wastewater Treatment Plant
5051 Westpark Drive
Roseville, California 95747**

Virtual attendance/conference call-in, shall not be counted as attendance. Proposals from Contractors who do not attend the **mandatory** pre-proposal job walk will be rejected. The pre-proposal job walk will begin at the designated start time. **Attendance for the entire pre-proposal job walk is required and tardiness will be grounds for disqualification.**

Interested firms will have an opportunity to submit questions regarding the requirements outlined in this RFP. In order to make the meeting more effective for all participants, attendees should read this document thoroughly prior to the meeting.

Substantial clarifications or changes required as a result of the meeting will be issued in the form of a written addendum to the RFP. A list of attendees will be distributed upon request.

4.0 SCOPE OF SERVICES

The Awarded Contractor shall provide a “Turn-key”, comprehensive, design-build and construction service. Provide demolition and removal of the pumps, guides, supports, and piping. Modify the existing pump bases. Identify / design replacements based on City input and approval (with Xylem input to accommodate Flygt pump replacements). Procure all materials and install the new equipment.

Provide demolition and removal of the existing VFD cabinets, identify / design replacements based on City input and approval, procure all materials, install the new equipment, test and verify operation. Perform short circuit analysis with the new equipment and provide ARC Flash potential and requirements.

The City intends to standardize the use of Eaton equipment in this project, but discussions of comparable substitutions will be considered.

Since this facility is operational, and will continue to process full flows and loads, all work will be in phases and will need to be scheduled with the City Project Manager.

Expectations and clarifications:

- The Primary Contractor will be required to possess a valid California contractor’s license (C-10) for the eligibility to submit a proposal. Other licenses and requirements are listed under section 6.5, Tab C – Qualifications of the team. Copies of these documents shall be included in the proposal. **(Attachment E)**
- All work items, definitions, references, inspections, testing, repair and replacements shall comply with the latest edition of the American National Standards Institute / International Electrical Testing Association (ANSI / NETA) Maintenance Testing Specifications (MTS).
- It is the Primary Contractor’s responsibility for scheduling and coordinating the work of subcontractors, supplier, and other individuals or entities performing or furnishing any of Contractor’s work.
- The PGWWTP is the City’s only means of treating domestic and industrial wastewater from a portion of the service area. Impairing the operational capabilities of this treatment plant will result in serious environmental damage and monetary fines. Conducting work and commissioning in a manner that will NOT impair the operational capabilities of essential elements of the treatment process or reduce the capacity of the entire treatment plant below levels sufficient to treat the quantity of raw wastewater to the water quality limitations specified in the discharge permit.
- Due to this condition, construction will be performed in a phase approach, one wet well at a time. This will allow for adequate flow capacity throughout the length of the project. Any shutdowns of operational equipment must be scheduled and approved by the City Project Manager. All must organize work to be completed within a minimal number of shutdowns.
- The City will provide all SCADA and/or PLC programming changes when needed.
- Deliverables shall include design submittal review by the City at 30%, 60% and 100% before procurement and construction.
- Operations and Maintenance manuals and training shall be provided by the Contractor and Supplier. Hard Copy: two (2) sets; Electronic Copy: two (2) CD-ROM or DVD. Video filming of the training shall be provided by the Contractor.

- Provide complete loop drawings for all systems. Provide drawings, schematic diagrams, and P&IDs as per the specified Instrument and Control Specifications. Upon completion of work, update all shop drawings to indicate the final As-Built configuration and provide 11”X17” bond paper drawings as well as electronic copies in Auto-Cad DWG and PDF formats.
- Specifics:
 - Structural: There are three (3) existing pump pads in the West wet well, three (3) existing pump pads in the East wet well, and two (2) pump pads in the Side-stream wet well. The Contractor shall work with Xylem to design and modify these eight (8) pads to accommodate the Flygt pump structures. New piping will be installed as well as pump installation guides, so bracketing and anchoring shall be installed by the Contractor.
 - Mechanical: Eight (8) new pump discharge elbows will be installed to accommodate Flygt pumps. Discharge piping will be installed with support brackets. Six (6) new Electromagnetic (Mag-meters) flow meters will be installed in the discharge piping. Six (6) Flygt pumps will be installed (one slot each in the East and West wet wells will be open for future use).
 - Electrical: Six (6) new VFD cabinets will be installed in the IPS electrical building. (2 slots will be left open for future use) Feeder breakers need to be assessed and possibly modified or replaced to accommodate the new pump loads. Six (6) Mag Type flow meters and Transmitters will be installed, wired, programmed, and tested. Three (3) new Flygt Base Units will be installed in an existing cabinet for the IPS pumps. (One has already been done). One (1) new CAS module will be installed for the Side-stream pump. (one has already been completed) Electrical wiring interconnections (including wiring, pulling, conduit, cable trays, and other appurtenances required to provide power connections as needed) shall be provided by the Contractor. Communication cabling and terminations shall be provided by the Contractor, however, Network hardware will be provided by the City as well as configuration and programming.
 - Other: Any onsite painting or touch-up painting of equipment supplied.
- The Contractor shall provide all start-up data, test reports, calibration information, and calculations to the City upon completion of the commissioning.
- The Contractor shall provide all requested information in the City’s asset details spreadsheet for uploading in to Maximo.
- Safety and precautions:
 - City staff and Contractor staff shall conduct a minimum of one Tailgate to communicate Lock out / Tag out and Control of Hazardous Energy procedures for this project and to discuss any concerns or comments.
 - City staff will perform ALL breaker operations required for Lock out / Tag out compliance. Contractor shall apply their locks when applicable.

5.0 ASSURANCE OF DESIGNATED PROJECT TEAM

Proposer shall assure that the designated project team, including sub-consultants or sub-contractors (if any), is used for this project. Departure or reassignment of, or substitution for, any member of the designated project team, sub-consultant(s) or sub-contractor(s) shall not be made without the prior written approval of the City.

6.0 PROPOSAL FORMAT REQUIREMENTS

Each response to this RFP shall include the information described in this section. Provide the information in the specified order. Failure to include all of the information specified may be cause for rejection. Additional information may be provided, but should be succinct and relevant to the goals of

this RFP. Any additional information that a proposing Contractor wishes to include that is not specifically requested should be included in an appendix to the proposal.

Contractors are encouraged to keep the proposals brief and to the point, but sufficiently detailed to allow evaluation of the project approach. Unauthorized conditions, omissions, limitations or provisions attached to a proposal may render the proposal non-responsive and may cause its rejection.

Proposers are warned against making erasures or alterations of any kind, without initialing each and every such change. Proposals that contain erasures or irregularities of any kind, without such initialing, or omissions, may be rejected.

If provided via regular mail, the proposal should be bound or contained in a loose leaf binder. Document pages shall be 8-1/2 inches by 11 inches in size or folded to such a size. Use section dividers, tabbed in accordance with this section as specified below.

6.1 **Cover Letter** with the following information:

- Title of this RFP
- Name and Mailing Address of Firm (include physical location if mailing address is a PO Box)
- Contact Person, Telephone Number, Fax Number, and Email Address
- A statement that the submitting Contractor will perform the services and adhere to the requirements described in this RFP, including any addenda (reference the addenda by date and/or number).

6.2 **Signature Requirements** - The attached Proposer's Certification (**Attachment B**) shall be executed by an official(s) legally authorized to bind the Contractor which states that the proposal is valid for ninety (90) days. Include the executed copy of the Proposer's Certification under Tab G. Note: This is ninety (90) days following the closing date for the receipt of all proposals.

- Proposals submitted on behalf of a Partnership shall be signed in the firm name by a partner or the Attorney-in-Fact. If signed by the Attorney-in-Fact, there shall be attached to the proposal a Power-of-Attorney evidencing authority to sign proposals, dated the same date as the proposal and executed by all partners of the firm.
- Proposals which are submitted on behalf of a Corporation shall have the correct corporate name thereon and the actual signature of the authorized officer of the corporation written (not typed) below the corporate name. The title of the office held by the person signing for the corporation shall appear below the signature of the officer.
- Proposals which are submitted on behalf of a Limited Liability Company ("LLC") shall be signed by the person or persons authorized to bind the LLC under the LLC's articles of organization.
- Proposals which are submitted by an Individual Doing Business under a firm name ("dba") shall be signed in the name of the individual doing business under the proper firm name and style.

6.3 **TAB A: Firm's Qualifications** – Describe your firm and provide a statement of your firm's qualifications for performing the requested services. Identify the services which would be

completed by your firm's staff and those that would be provided by sub-consultants or sub-contractors, if any. Identify any sub-consultants or sub-contractors you propose to utilize to supplement your firm's staff. Include the firm's organizational chart, including its constituent parts, and size variation of staffing levels in the past five (5) years.

- **The firm performing these services should be experienced in the design and construction of pump stations and electrical facilities in water or wastewater treatment plants.**

6.4 **TAB B: Experience and References** – Provide a summary of your firm's experience in providing these or similar services. Provide a minimum of three (3) references for projects or services similar in nature and scope that your firm's team members have completed in the last five (5) years. Include brief descriptions of the projects, dates, client names and contact persons' names, addresses and telephone numbers. Public sector references are preferred.

6.5 **TAB C: Qualifications of Team** – Provide a brief summary of the role, qualifications and experience of each team member and designated project manager/lead assigned to this project, including length of service with the firm and the qualifications/experience of any sub-consultant or sub-contractor staff on your project team. A project team organizational diagram and brief resume of each team member and the designated project manager/lead for each applicable category shall be included. The geographic location of the firm and key personnel shall also be identified. Any proposed sub-consultants or sub-contractors shall be listed. Include sub-consultant's and sub-contractor's assigned task(s) and experience. Full resumes may be included in the appendix (Attachment E).

- **The Contractor shall have a California Contractor's License (C-10).**
- **The project team shall have a licensed electrical engineer in the state of California.**
- **The project engineer performing the studies and analysis shall be a registered professional engineer.**

6.6 **TAB D: Project Understanding** – Based on the available information, supplemental research, field observations, and experience with similar projects, provide a narrative describing your understanding of the services requested in this RFP, your general approach and any major challenges to achieving the City's stated goals. The City's goals include: project budget, schedule and minimal disruptions / downtime to the operating plant. Include any issues that you believe will require special consideration for this project. Also identify any unique approaches or strengths that your firm may have related to this project. City staff will assess your understanding of all aspects of the project based on the overview.

6.7 **TAB E: Approach to the Project's Scope of Work / Special Project Considerations** – Provide a detailed discussion of your firm's approach to the successful implementation of this project. Include thorough discussions of methodologies you believe are essential to accomplishing this project. Include a proposed work schedule to accomplish all of the required tasks within the desired timeline. Identify the staff who would be assigned to each task, including sub-consultants and sub-contractors. List any necessary equipment, training or installation services required. Keep in mind, this is a running plant, and a schedule of component replacements and cut-overs with explanations of mitigating impact to operations, is required. Identify any unique approaches or strengths that your company, and your chosen subcontractors, and suppliers, may have related to this specific project.

6.8 **TAB F: Cost Proposal** – Provide a total cost proposal for all products and services to be delivered, and a breakdown of costs delineated by tasks as described in your project plan. Include a schedule

of hourly rates for all proposed staff and the amount of time each person will be devoted to this project. Define any reimbursable expenses requested to be paid by the City.

- 6.9 **TAB G: Required Statements/Documents** – Include statements of assurance regarding the following requirements in the proposal:
- Non-substitution for the designated members of the team without approval by City staff (**Section 5.0**)
 - The absence of a conflict of interest (**Section 10.4**)
 - Indicate your ability and agreement to fulfill the indemnification and insurance requirements contained in the sample contract (**Section 10.7**). (Please note that actual certificates of insurance are not required as part of your submittal.)
 - A statement that nothing contained in the submitted proposal will be proprietary. (**Section 10.23**)
- Submit the following documents with proposal:
- Proof of registration with California Secretary of State. **Note:** All proposers must be registered with the Secretary of State or have a valid exemption by the time of award. (**Attachment A**)
 - Executed copy of Proposer's Certification (**Attachment B**)
 - Executed copy of Non-collusion Declaration (**Attachment C**)
 - Design-Build Construction Sample Contract (**Attachment D**)
 - Contractors and Subcontractor List (**Attachment E**)
- 6.10 **TAB H: Exceptions** – Describe any and all proposed exceptions, alterations or amendments to the Scope of Services or other requirements of this RFP, including the Sample Contract (**Attachment D**). The nature and scope of your proposed exceptions may negatively affect the evaluation of your submittal and the City's determination of whether it is possible to successfully negotiate a contract with your firm.
- 6.11 **TAB I: Competency of Proposers** – The City wants to ensure that the successful Contractor has the necessary facilities, ability, experience, and financial resources to provide the services specified herein in a satisfactory and timely manner. Please list and explain any pending bankruptcies, liens, stop payment notices, judgments, lawsuits, arbitrations, mediations, foreclosures, and any similar actions filed or resolved in the past seven (7) years. Please indicate whether a client has ever terminated a contract with your firm for breach, and if so, please explain.

7.0 SUBMITTAL INSTRUCTIONS

- 7.1 Your submittal package shall include the following:

If mailing, the below guidelines apply.

- **One (1) original and five (5) printed copies** of your proposal; and
- **One (1) electronic copy** of your proposal in PDF format on a flash drive or other electronic media

OR

If submitting your proposal via electronic mail, then send one (1) copy of the proposal to cityclerkroseville@roseville.ca.us. The file size limit is 25 megabytes.

7.2 Proposals shall be submitted not later than the time and date indicated on the cover page of this RFP. If mailing the proposal, then it shall be submitted in a sealed envelope or container and clearly marked with the RFP title on the outside of the parcel. **Complete and attach the “Sealed Proposal” label to the outside of the envelope or package containing your proposal.**

7.3 Proposals shall be delivered to:

City of Roseville
Attn: City Clerk Department
311 Vernon Street
Roseville, CA 95678

Or electronically mailed to: cityclerkroseville@roseville.ca.us

7.4 The City shall not be responsible for proposals delivered to a person or location other than that specified herein.

7.5 Postmarks will not be accepted and proposals received after the deadline date and time will not be accepted or considered. **No exceptions.**

7.6 The City reserves the right to waive minor defects and/or irregularities in proposals, and shall be the sole judge of the materiality of any such defect or irregularity.

7.7 All costs associated with proposal preparation shall be borne by the proposer.

8.0 EVALUATION CRITERIA

The following evaluation criteria and rating schedule will be used to determine the most highly qualified firm(s).

<u>Evaluation Criteria</u>	<u>Maximum Points Possible</u>
A. Experience and qualifications of firm and proposed staff/sub-consultants/sub-contractors (per Sections 6.3 - 6.5)	30
B. Understanding of the Project / Approach to the Project's Scope of work / Special Project Considerations (per Section 6.6 – 6.7)	40
C. Proposed Cost (per Section 6.8)	30
Total Possible Points:	100

9.0 SELECTION PROCESS

9.1 Award of the RFP shall be made to the responsible proposer whose proposal is determined, through a formal evaluation panel process, to be the most advantageous to the City after the evaluation panel has taken into consideration the evaluation factors set forth in the RFP. A

master score sheet shall be created based on the evaluation panel's initial evaluation. Proposals shall be scored according to the criteria stated in the RFP.

- 9.2 Proposals submitted will be reviewed by a selection committee. Contractors that have submitted the best and most complete proposals may be invited to an interview. The number of Contractors invited to an interview may vary depending upon the number of proposals submitted.
- 9.3 Should the City elect to conduct interviews with any proposers, the following criteria shall be considered and each proposer ranked by the evaluation panel during the interview process: a) Quality of presentation, b) Ability to meet the City's business goals, c) Communication style.
- 9.4 The City reserves the right to make a selection after review of the proposals without oral interviews; therefore, the proposal should be submitted initially on the most favorable terms that the Contractor might propose.
- 9.5 A contract will be negotiated with the Contractor considered best meeting the City's need for this project. In the event a mutually satisfactory contract cannot be negotiated with the City's first choice, negotiations may be terminated and commenced with the Contractor considered next best in meeting the City's needs for this particular project.
- 9.6 The selected Contractor will be required to execute a City prepared contract. The contract may further refine the scope of services and will provide for the terms and conditions of employment.
- 9.7 The award of any contract is expressly contingent upon City Council approval and the availability of funds. City staff may not legally bind the City to a contract.
- 9.8 The City reserves the right to reject any or all proposals, or to waive minor irregularities in said proposals, or to negotiate minor deviations with the successful Contractor(s). In the case of differences between written words and figures in a proposal, the amount stated in written words shall govern. In the case of a difference in unit price versus the extended figure, the unit price shall govern.
- 9.9 The City reserves the right to seek clarification on any or all proposal submittals to ensure the RFP specifications are met. Proposals may be rejected from any proposer who does not comply with the City's request for clarification.
- 9.10 Once a decision has been made to award the contract, then a formal notice of the intent to award to the recommended proposer(s) shall be made by the Department.
- 9.11 A City of Roseville business license as well as all applicable permits, licenses and certifications required by local, state or federal law are required before the award of contract.

10.0 GENERAL TERMS & CONDITIONS

- 10.1 **Standard Contract.** Upon completion of the evaluation and recommendation for award, the selected Contractor will be required to execute an agreement prepared by the City, a sample of which is included as **Attachment D**.

- 10.2 **Independent Contractor.** At all times the Contractor shall represent himself/herself to be an independent contractor offering such services to the general public and shall not represent himself/herself, or his/her employees, to be an employee of the City. Therefore, the Contractor shall assume all legal and financial responsibility for taxes, FICA, employee fringe benefits, workers' compensation, employee insurance, minimum wage requirements, overtime, etc., and agrees to indemnify, save, and hold the City, its officers, agents, and employees, harmless from and against, any and all loss, cost (including attorneys' fees), and damage of any kind related to such matters.
- 10.3 **Non-Appropriation.** The City may terminate any resulting contract at the end of any fiscal year, June 30th, without further liability other than payment of debt incurred during such fiscal year, should funds not be appropriated by its governing body to continue services for which the contract was intended.
- 10.4 **Conflict of Interest.** The Contractor shall warrant that no official or employee of the City has an interest, has been employed or retained to solicit or aid in the procuring of the resulting contract, nor that any such person will be employed in the performance of such contract without immediate divulgence of such fact to the City. Contractors submitting a proposal in response to this RFP must disclose any actual, apparent, direct, indirect, or potential conflicts of interest that may exist with respect to the Contractor or the Contractor's management or employees relative to the services to be provided to the City. Conflict of interest issues may require consultation with legal counsel. If a Contractor has no conflicts of interest, a statement to that effect must be included in the proposal. Violation of this section shall be a material breach of the contract entitling the City to any and all remedies by law or in equity.
- 10.5 **Undue Influence.** The Contractor shall warrant via an executed Proposer's Certification (**Attachment B**) that no undue influence or pressure is used against or in concert with any officer or employee of the City in connection with the award or terms of the contract that will be executed as a result of this RFP, including any method of coercion, confidential financial arrangement or financial inducement. No officer or employee of the City shall receive compensation, directly or indirectly, from the Contractor, or from any officer, employee or agent of the Contractor, in connection with the award of the contract or any work to be conducted as a result of this RFP. Violation of this section shall be a material breach of the contract entitling the City to any and all remedies by law or in equity.
- 10.6 **Non-Collusion.** Contractors submitting proposals shall warrant via an executed Proposer's Certification (**Attachment B**) that their offer is made without any previous understanding, agreement or connection with any person, firm or corporation submitting a separate proposal for the same project and is in all respects fair, without outside control, collusion, fraud or otherwise illegal action. This condition shall not apply to proposals which are submitted by firms who have partnered with others to submit a cooperative proposal that clearly identifies a primary contractor and the associated sub-consultants or sub-contractors. Proposers shall also submit a properly completed and executed "Non-collusion Declaration" which is attached as (**Attachment C**).
- 10.7 **Indemnification & Insurance Requirements.** The City's standard indemnification and insurance requirements are provided in the sample contract, included in **Attachment D**. All costs of complying with the insurance requirements shall be as included in your pricing. The selected Contractor shall provide complete and valid insurance certificates within ten (10) days of the City's written request. Failure to provide the documents within the time stated may result

in rejection of the Contractor's proposal. If a proposer takes exception to the indemnification and insurance requirements, then the nature and scope of the proposed exceptions may negatively affect the evaluation of that proposer's submittal and the City's determination of whether it is possible to successfully negotiate a contract with that firm. Submitting exceptions are at the proposer's own risk.

- 10.8 **Cost of Preparing Proposal.** The City will not pay any costs incurred by any Contractor in preparing or submitting a proposal in response to this RFP.
- 10.9 **Proposals Property of the City.** All documents or materials submitted with or in conjunction with any proposal, including but not limited to electronic files, shall become the property of the City after the proposal submission deadline. No submission documents will be returned. During negotiations, the scope of services may be amended by the City and negotiated based upon ideas provided by other proposers or any other source.
- 10.10 **Proposals are Public Records.** All proposals submitted are subject to the public disclosure requirements under the laws of the State of California, unless the City identifies and exercises a right or obligation to exempt any record from public disclosure. However, proposals will not be disclosed until negotiations are complete and a recommendation for selection and award is made.
- 10.11 **Protests.**

(a) Protest Requirements

(1) Any proposer who is aggrieved in connection with the solicitation or award of a contract may file a protest with the City Clerk's office. The protest must be received in writing by the City Clerk's office within seven (7) calendar days after such aggrieved proposer 1) knows or should have known of the facts giving rise thereto or 2) the date of the notice of intent to award, whichever is sooner. In no event shall a protest be allowed after an award has been made by City Council. If the seventh calendar day falls on a weekend or City holiday, the protesting party may submit the protest prior to close of business on the first business day following such weekend or holiday. Failure to submit a timely protest shall bar consideration of a protest.

(b) Grounds for Protest

(1) The alleged grounds for protest shall be limited to the following: (a) computation errors, (b) violations of local, state, or federal law, or (c) the City failed to follow the procedures specified in this Policy.

(2) The protest shall state all grounds claimed for the protest and include supporting documentation. Failure to clearly state the grounds for the protest and provide supporting documentation shall be deemed a waiver of all protest rights.

(c) Administrative Review

Upon receipt of the protest and after determining the protest was properly filed, the Department Director shall provide a copy of the protest to other proposers who might become aggrieved as a result of the protest and issue a written decision within fourteen (14) calendar days after receipt of the protest. The protest will be evaluated by the Department Director, the City Attorney's Office, and the Purchasing Manager. The protesting proposer shall promptly provide any

information requested by City staff as part of such investigation. The decision shall either deny or uphold the protest and include reasons for the decision. The written decision shall be final.

(d) Stay of Action During a Protest

In the event a protest is filed under Section 10.11, the City shall not proceed further with the award of the contract until the protest is resolved, unless:

(1) The City Manager or designee makes a determination that the award of the contract without delay is necessary to protect a substantial interest of the City, or

(2) The City decides to reject all proposals and issue a new RFP.

- 10.12 **Rejection of RFP.** The City reserves the right to reject any or all proposals, to waive defects or irregularities in any proposal or in the RFP process, and to offer to negotiate or contract with any Contractor in response to any RFP. This RFP does not constitute any form of offer to contract.
- 10.13 **Multiple Award.** The City reserves the right to award the contract to multiple contractors when applicable.
- 10.14 **Increasing/Decreasing Portions of RFP.** The City reserves the right to increase or decrease the amount of any portions of the work represented in the RFP and/or to omit portions of said work, as may be deemed necessary by the City.
- 10.15 **Rejection as Non-Responsive.** Proposals may be rejected as non-responsive at the City's sole discretion if there are alterations of form, the proposal is conditional or the proposal is incomplete.
- 10.16 **Modifying RFP.** The City reserves the right to modify any portion of, or to postpone or cancel this RFP at any time, and/or reject any and all submissions without indicating any reason.
- 10.17 **If no proposal is accepted,** the City may elect to have the services performed in some other manner.
- 10.18 **Rejecting Team Members, Firms or Sub-contractors.** The City reserves the right to reject individual team members, firms, sub-consultants or sub-contractors and request substitution prior to contract award.
- 10.19 **Local Business, Small Business, Minority and Women Owned Business.** Although no preferences will be given, the City highly encourages submission of proposals by local businesses, by small business owners, and by minority and women-owned businesses.
- 10.20 **Withdrawal of Proposals.** Proposals may be withdrawn prior to the date and time specified for proposal submission with a formal written notice by an authorized representative of the proposer delivered to the City Clerk's Office. Proposals submitted will become property of the City after the proposal submission deadline.

Proposals may not be withdrawn for ninety (90) days after the due date unless the City enters into a contract with another Contractor prior to the expiration of that ninety (90) day period.

- 10.21 **Prohibited Transmittals.** No telephone or facsimile proposals will be accepted. If a photocopy is submitted, the proposal must be signed in ink.
- 10.22 **Proposal Postponement and Amendment.** The City reserves the right to revise or amend the RFP or specifications up to the time set for opening of the proposals. Such revisions and amendments, if any, shall be announced by amendments to this RFP through the City's web site. Copies of such amendments shall be furnished to all prospective proposers. Prospective proposers are defined as those proposers who have registered and are on the City's RFP list for this material/service. If revisions and amendments require changes in quantities, prices or scope of services, the date set for opening of the proposals may be postponed by such number of days as in the opinion of the City shall enable proposers to revise their proposals. Proposals which fail to acknowledge a substantive addendum to the RFP, as determined by the City Attorney's Office, on the City supplied addendum form will be rejected as non-responsive. Any revisions or amendments to the RFP will become incorporated into any contract awarded pursuant to the RFP.
- 10.23 **Proprietary Information.** Proposers submitting a proposal in response to this RFP must provide a statement that nothing contained in the submitted proposal will be proprietary. However, if a proposer desires to claim a privilege against public disclosure for a trade secret or other proprietary information, such information must be submitted with the proposal in a separate envelope marked "confidential." The City Attorney's Office will determine if the information is in fact proprietary, based on state and federal law. Note that under California law, a price proposal to a public agency is not a trade secret. The Contractor shall defend, indemnify and hold harmless the City regarding any claim by any third party for the public disclosure of the "confidential" portion of the proposal.
- 10.24 **Right to Request Additional Information.** During the evaluation process, the City reserves the right, where it may serve the best interests of the City, to request additional information and clarifications from proposers. Such information will be requested in writing to the specific proposer. This information will become a part of the original proposal submitted by the specific proposer and will be used by the City in evaluating the proposal and will not be shared with other proposers during the evaluation and negotiation process.
- 10.25 **Modification of Proposals.** Modification of a proposal already received will be considered only if the modification is received prior to the deadline date for receiving proposals. All modifications shall be made in writing, executed, and submitted in the same form and manner as the original proposal.
- 10.26 **Examination of Contract Documents.** Each proposer shall thoroughly examine and be familiar with the terms of this RFP, the sample contract attached as **Attachment D**, legal and procedural documents, general conditions, specifications, and addenda (if any), which will constitute the contract documents. Submission of a proposal shall constitute acknowledgement, upon which the City may rely, that the proposer has thoroughly examined and is familiar with the contract documents. Failure or neglect of a proposer to receive or examine any of the contract documents shall in no way relieve the proposer of any obligation with respect to their proposal or to the contract. No claim for additional compensation will be allowed which is based upon lack of knowledge of any contract document.
- 10.27 **Non-Discrimination.** The City maintains various policies related to contractual service providers. Among these is an anti-discrimination policy, which requires that the City's

contractors not discriminate in hiring on the basis of gender, race, religion, sexual orientation, medical condition, and all other categories protected by law. Upon acceptance of a proposal, the City may request that the selected Contractor sign a statement affirming its compliance with this policy.

- 10.28 **No Assignment or Modifications.** This awarded contract is to be binding on the successors and assigns of the parties hereto. The services called for herein are deemed unique and except as provided herein Contractor shall not assign, transfer, subcontract, or otherwise substitute its interest in the agreement or any of its obligations herein without the written consent of the City. The Agreement may be modified only by a written amendment signed by the parties.
- 10.29 **Bankruptcy.** Upon filing for any bankruptcy or insolvency proceeding whether voluntary or involuntary, or upon the appointment of a receiver, trustee, or assignee for the benefit of creditors, the Contractor must notify the City immediately. Upon learning the actions herein identified, the City reserves the right, at its sole discretion, to cancel the contract.
- 10.30 **Bonds.** The successful Contractor will be required to provide a **100% Faithful Performance Bond and a 100% Labor and Materials Bond** using the City's forms.
- 10.31 **Debarment.** Contractor certifies that Contractor, its employees, directors, officers, agents, subcontractors, vendors, consultants, and volunteers are not presently debarred, excluded, suspended, declared ineligible, voluntarily excluded, or proposed for debarment, exclusion, suspension or ineligibility by any federal, state, or local department or agency.

ATTACHMENT A

PROOF OF REGISTRATION WITH CALIFORNIA SECRETARY OF STATE

ATTACHMENT B

PROPOSER'S CERTIFICATION

I hereby propose to furnish the goods or services specified in the Request for Proposals ("RFP"). I agree that my proposal will remain firm for a period of up to ninety (90) days in order to allow the City of Roseville ("City") adequate time to evaluate the qualifications submitted.

I have carefully examined the Request for Proposals and any other documents accompanying or made a part of this RFP. The information contained in this proposal is true and correct to the best of my knowledge and is signed under penalty of perjury under the laws of the State of California. I further certify that I am duly authorized to submit this proposal on behalf of the firm as its authorized agent and that the firm is ready, willing and able to perform if awarded the contract.

I further certify that this proposal is made without prior understanding, agreement, connection, discussion, or conspiracy with any other person, firm or corporation submitting a proposal for the same product or service; that this proposal is fair and made without outside control, collusion, fraud or illegal action; that no officer, employee or agent of the City or any other proposer is financially interested in said proposal; that no undue influence or pressure was used against or in concert with any officer, employee or agent of the City in connection with the award or terms of the contract that will be executed as a result of this RFP; and that the undersigned executed this Proposer's Certification with full knowledge and understanding of the matters therein contained and was duly authorized to do so.

NAME OF BUSINESS

SIGNATURE

NAME & TITLE, TYPED OR PRINTED

MAILING ADDRESS

TELEPHONE NUMBER

EMAIL

Type of Organization:

____ Sole Proprietorship

____ Corporation

____ State of Incorporation

____ Partnership

____ Limited Liability Company

ATTACHMENT C

NONCOLLUSION DECLARATION TO BE EXECUTED BY BIDDER AND SUBMITTED WITH BID

The undersigned declares:

I am the _____ of _____, the party making the foregoing bid.

The bid is not made in the interest of, or on behalf of, any undisclosed person, partnership, company, association, organization, or corporation. The bid is genuine and not collusive or sham. The bidder has not directly or indirectly induced or solicited any other bidder to put in a false or sham bid. The bidder has not directly or indirectly colluded, conspired, connived, or agreed with any bidder or anyone else to put in a sham bid, or to refrain from bidding. The bidder has not in any manner, directly or indirectly, sought by agreement, communication, or conference with anyone to fix the bid price of the bidder or any other bidder, or to fix any overhead, profit, or cost element of the bid price, or of that of any other bidder. All statements contained in the bid are true. The bidder has not, directly or indirectly, submitted his or her bid price or any breakdown thereof, or the contents thereof, or divulged information or data relative thereto, to any corporation, partnership, company, association, organization, bid depository, or to any member or agent thereof, to effectuate a collusive or sham bid, and has not paid, and will not pay, any person or entity for such purpose.

Any person executing this declaration on behalf of a bidder that is a corporation, partnership, joint venture, limited liability company, limited liability partnership, or any other entity, hereby represents that he or she has full power to execute, and does execute, this declaration on behalf of the bidder.

I declare under penalty of perjury under the laws of the State of California that the foregoing is true and correct and that this declaration is executed on _____ [date], at _____ [city], _____ [state].

(Signature of Declarant)

ATTACHMENT D

DESIGN-BUILD CONSTRUCTION SAMPLE CONTRACT

ATTACHMENT E

CONTRACTOR LICENSES AND SUB LISTS

List the licenses held by your company and/or employees. The following representations are made under penalty of perjury:

CA State Lic No.	Name on License	Class/Type	Expiration Date
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

Do you have a City of Roseville Business License? Yes____ No____

License # _____

ATTACHMENT E
SUBCONTRACTOR LIST

If subcontractors will not be used, proposer must write "NONE". For construction contracts, in accordance with the Public Contract Code, Part 1, Chapter 4, Subletting and Subcontracting, Contractors must list the name and business address of each subcontractor who will perform work or labor or render service to the prime contractor in or about the construction of the work or improvement, or who will specially fabricate and install a portion of the work or improvement according to detailed drawings contained in the plans and specifications, in an amount in excess of one-half of one percent (0.5%) of the prime contractor's total bid, or in the case of bids or offers for the construction of streets and highways, including bridges, in excess of one-half of one percent (0.5%) of the prime contractor's total bid or ten thousand dollars (\$10,000) whichever is greater.

Company Name _____
Principal _____
Address _____
City _____
Phone _____
Job capacity _____
Percentage of total work _____
Licenses and numbers _____
DIR Contractor Registration Number & Expiration Date _____

Company Name _____
Principal _____
Address _____
City _____
Phone _____
Job capacity _____
Percentage of total work _____
Licenses and numbers _____
DIR Contractor Registration Number & Expiration Date _____

Company Name _____
Principal _____
Address _____
City _____
Phone _____
Job capacity _____
Percentage of total work _____
Licenses and numbers _____
DIR Contractor Registration Number & Expiration Date _____

Company Name _____
Principal _____
Address _____
City _____
Phone _____
Job capacity _____
Percentage of total work _____
Licenses and numbers _____
DIR Contractor Registration Number & Expiration Date _____

Company Name _____
Principal _____
Address _____
City _____
Phone _____
Job capacity _____
Percentage of total work _____
Licenses and numbers _____
DIR Contractor Registration Number & Expiration Date _____

ATTACHMENT F
SEALED PROPOSAL LABEL

SEALED PROPOSAL



IMPORTANT
NOTICE TO
PROPOSER

The envelope containing your proposal **MUST** have:
1. Your name and address in the **UPPER** left corner.
2. This label on the **LOWER** left corner.

RFP NAME _____

PROPOSAL DUE DATE _____

PROPOSAL DUE TIME _____

_____ A.M. _____ P.M.
PROPOSAL FOR _____

TIME SENSITIVE. DELIVER TO
CITY CLERK IMMEDIATELY.



Notice of Exemption

To: Placer County Clerk
Recorder's Office
2954 Richardson Drive
Auburn, CA 95603

From: City of Roseville
Development Services Dept.
311 Vernon Street
Roseville, CA 95678

Project Title: Pleasant Grove Wastewater Treatment Plant Influent Pump Station Rehabilitation – New Design-Build Contract and Request for Budget Adjustment

Project Location(s): 5051 Westpark Drive, Roseville, CA 95747. Assessor's Parcel Number 017-101-025-000.

Project Description: The Environmental Utilities Department (EU) seeks to execute a design-build agreement to provide Variable Frequency Drives (VFD's) and submersible influent pump replacements, testing, communications/networking, programming and SCADA integration, and engineering for Pleasant Grove Wastewater Treatment Plant influent pump station rehabilitation. The project was initiated to replace end-of-life electrical equipment and pumps. The existing VFD's are no longer supported and spare parts are unavailable. The original equipment manufacturer does not exist on this capacity presently. The pumps are needing to be rebuilt more often, have become less reliable, and the rebuild costs, due to the age of the equipment, has increased significantly. The project would increase reliability of the pumps while reducing operating costs, and it would not result in an expansion of use.

Public Agency Approving Project: Roseville City Council

Agency/Individual Carrying Out Project: City of Roseville Environmental Utilities Department

Reason why this Project is Exempt: The project qualifies for a Class 1 and Class 2 Categorical Exemption as described in Section 15301 and Section 15302 of the California Environmental Quality Act (CEQA) guidelines which states:

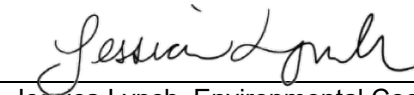
"Class 1 (Existing Facilities) consists of ... minor alteration of existing public or private structures, facilities, mechanical equipment, or topographical features, involving negligible or no expansion of use; and

"Class 2 consists of the...replacement or reconstruction of existing...facilities...including...replacement or reconstruction of existing utility systems involving negligible or no expansion of capacity."

The project consists of replacing the VFDs and submersible influent pumps, testing, communications/networking, programming and SCADA integration, and engineering Pleasant Grove Wastewater Treatment Plant. The project would not result in expansion of use. Consequently, the Class 1 and Class 2 Categorical Exemptions apply.

Lead Agency Contact Person: Jeremy Snyder, Roseville Department of Environmental Utilities (916-746-1936).

Signature: _____


Jessica Lynch, Environmental Coordinator
City of Roseville

Date: 07-24-2023



COUNCIL COMMUNICATION

CC #: 2855
File #: 0900-02

Title: Barton Road Water Treatment Plant East Applied Pipeline Project - Approval of Plans and Specifications and Authorization to Call for Bids
Contact: Jonathan Cummings 916-774-5566 jcummings@roseville.ca.us

Meeting Date: 8/16/2023
Item #: 6.5.

RECOMMENDATION TO COUNCIL

Staff recommends that the City Council:

1. Approve the Project's construction plans and specifications; and
2. Authorize staff to advertise the Project and accept bids from prospective bidders.

BACKGROUND

On October 2, 2019, City Council approved the Professional Design Services Agreement with Carollo Engineers to conduct a condition assessment of major assets at the Barton Road Water Treatment Plant (BRWTP). The goal of the project was to establish a baseline condition of the water treatment plant and acquire pertinent data for forecasting capital improvements and funding needs to support the Environmental Utilities Department's rehabilitation planning process.

The BRWTP Condition Assessment included a non-invasive visual inspection of the 72-inch East Applied Pipeline and a geotechnical analysis of the supporting soils. The pipeline serves as the primary effluent for the treatment facility's flocculation and sedimentation basins. Originally designed and constructed as a subgrade alignment, approximately 100 feet of the pipeline has been partially exposed since 2006 as a result of excavation required for adjacent construction of the facility's mechanical dewatering building, which was completed as part of the Water Treatment Plant Expansion Phase III Project. To extend the longevity of the pipeline and increase its ability to withstand seismic forces, this Project includes improvements to the pipeline's structural supports, its connection to the adjacent flocculation and sedimentation basin, and stormwater drainage around the pipeline.

A copy of the plans and specifications are included as part of this agenda package.

FISCAL IMPACT

The total construction cost for this Project is estimated to be \$350,000, and includes the cost for

construction, contingency for potential change orders, and secondary labor, and is within the existing project budget. Project expenses will be paid from the Water Rehabilitation Fund, which is funded by revenue from water utility sales.

ENVIRONMENTAL REVIEW

The proposed project involves the repair of an existing facility. This activity is categorically exempt from CEQA as a Class 1 Exemption (State CEQA Guidelines Section 15301). The Exemption has been prepared and no further CEQA action is required.

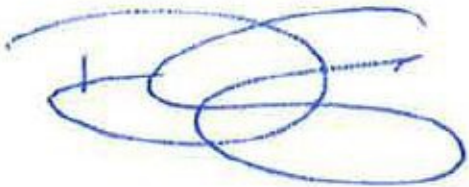
CITY COUNCIL STRATEGIC PLAN/OVERARCHING GOALS

Goal C - Maintain a safe and healthy community

Respectfully Submitted,

Jonathan Cummings, Associate Engineer

Richard Plecker, Environmental Utilities Director



Dominick Casey, City Manager

ATTACHMENTS:

Description

Project Manual

Project Plans

Notice of Exemption



Buildings & Grounds

Project Manual

Project:
**Barton Road Water Treatment Plant East Applied
Pipeline Project**

Department:
Environmental Utilities

CITY OF ROSEVILLE

Barton Road Water Treatment Plant East Applied Pipeline Project

The Specifications contained herein have been prepared by, or under the direct supervision of the following

Bid Documents and Conditions of the Contract Prepared by: City of Roseville

Jonathan Cummings
Associate Engineer
Environmental Utilities Department

Technical Specifications Prepared by: Carollo Engineers, Inc.

Felicia L. James, PE
Expires 09/30/2024

Digitally signed by Felicia L. James
Contact Info: Carollo Engineers, Inc.
Date: 2023.06.20 11:19:46-07'00'



Edgardo Quiroz, PE
Expires 06/30/2024

Digitally signed by Edgardo Quiroz
Contact Info: Carollo Engineers, Inc.
Date: 2023.06.20 15:50:37-07'00'



PROJECT MANUAL

TABLE OF CONTENTS

<u>NOTICE TO CONTRACTORS</u>	<u>NTC</u>
	1
<u>INSTRUCTIONS TO BIDDERS</u>	<u>INT</u>
Section 1: General	1
Section 2: Bid Requirements	4
Section 3: Evaluation of Bids	11
Section 4: Award and Execution of Contract	13
Section 5: Bid Protest Procedures	17
<u>PROPOSAL</u>	<u>PROP</u>
Proposal to the Department of Environmental Utilities	1
Statement of Qualifications and Experience	6
List of Subcontractors	7
Security for Compensation Certificate	8
Bidder's Bond	9
Schedule of Bid Items	11
Noncollusion Affidavit	14
Disqualification Questionnaire	15
Acknowledgement of Insurance and Bond Requirements	16
Disclaimer of Warranties and Accuracy of Data	17
<u>AGREEMENT</u>	<u>AGR</u>
	1
<u>INSURANCE</u>	<u>INS</u>
Table of Contents for Insurance Information Packet	i
Notice to Contractor	1
Notice to Insurance Broker	2
Insurance Requirements	3
Faithful Performance Bond	10
Labor and Materials Payment Bond	15

<u>GENERAL CONDITIONS</u>	<u>GC</u>
Table of Contents for General Conditions	i
Section 1: Definitions and Terms	1:1
Section 2: Control and Scope of Work	2:1
Section 3: Changes in the Work	3:1
Section 4: Control of Materials	4:1
Section 5: Legal Relations and Responsibility	5:1
Section 6: Prosecutions and Progress	6:1
Section 7: Acceptance and Payment	7:1

<u>TEXT OF AB 626</u>	<u>AB 626</u>
	1

<u>SUPPLEMENTAL CONDITIONS</u>	<u>SC</u>
Table of Contents for Supplemental Conditions	i
Scope of Supplemental Conditions	1
Section 1: Definitions and Terms	2
Section 2: Control and Scope of Work	3
Section 3: Changes in the Work	4
Section 4: Control of Materials	5
Section 5: Legal Relations and Responsibility	6
Section 6: Prosecutions and Progress	7
Section 7: Acceptance and Payment	9

<u>SPECIAL PROVISIONS</u>	<u>SP</u>
Table of Contents for Special Provisions	i
Section 1: Governor's Executive Order N-6-22 (EO)	1:1

<u>SPECIFICATIONS for CONSTRUCTION (PREPARED BY CAROLLO)</u>	<u>SPEC</u>
Cover Sheet	i
Table of Contents for Technical Specifications	ii

DIVISION 01 - GENERAL REQUIREMENTS	
SECTION NO.	TITLE
01110	SUMMARY OF WORK
01140	WORK RESTRICTIONS
01220	MEASUREMENT AND PAYMENT
01292	SCHEDULE OF VALUES
01312	PROJECT MEETINGS
01321	SCHEDULES AND REPORTS
01330	SUBMITTAL PROCEDURES
01340	PHOTOGRAPHIC AND VIDEOGRAPHIC DOCUMENTATION

01410	REGULATORY REQUIREMENTS
01450	QUALITY CONTROL
01455	REGULATORY QUALITY ASSURANCE
01600	PRODUCT REQUIREMENTS
01738	SELECTIVE ALTERATIONS AND DEMOLITION
01770	CLOSEOUT PROCEDURES
01783	WARRANTIES AND BONDS
01850	DESIGN CRITERIA

DIVISION 02 - SITE CONSTRUCTION

SECTION NO.	TITLE
02050	SOILS AND AGGREGATES FOR EARTHWORK
02200	SITE CLEARING
02260	EXCAVATION SUPPORT AND PROTECTION
02300	EARTHWORK
02312	CONTROLLED LOW STRENGTH MATERIAL (CLSM)

DIVISION 03 - CONCRETE

SECTION NO.	TITLE
03055	ADHESIVE-BONDED REINFORCING BARS AND ALL THREAD RODS IN CONCRETE
03071	EPOXIES
03301	CONCRETE WORK
03600	GROUTING

DIVISION 05 - METALS

SECTION NO.	TITLE
05120	STRUCTURAL STEEL FRAMING
05190	MECHANICAL ANCHORING AND FASTENING TO CONCRETE AND MASONRY
05310	STEEL DECKING

DIVISION 07 - THERMAL AND MOSTURE PROTECTION

SECTION NO.	TITLE
07600	SHEET METAL
07900	JOINT SEALANTS

DIVISION 09 - FINISHES

SECTION NO.	TITLE
09960	HIGH-PERFORMANCE COATINGS

DIVISION 15 - MECHANICAL

SECTION NO.	TITLE
15052	COMMON WORK RESULTS FOR GENERAL PIPING
15121	PIPE COUPLINGS

DRAWINGS (PREPARED BY CAROLLO)**DRAWING NO. SHEET NO.****(G) - GENERAL**

COVER SHEET	00G01	1
DRAWING INDEX, LEGENDS AND SYMBOLS	00G02	2
GENERAL NOTES	00G03	3
GENERAL ABBREVIATIONS	00G04	4

(D) - DEMOLITION

DEMOLITION PHOTOS	02D01	5
-------------------	-------	---

(C) - CIVIL

OVERALL EXISTING SITE PLAN	00GC01	6
GRADING PLAN	00GC02	7
YARD PIPING PLAN	00GC03	8

(S) - STRUCTURAL

STRUCTURAL NOTES, LEGENDS AND SYMBOLS	00GS01	9
PIPE ENCLOSURE FOUNDATION PLAN	02S01	10
PIPE ENCLOSURE TOP PLAN	02S02	11
PIPE ENCLOSURE SECTIONS	02S03	12
PIPE ENCLOSURE SECTIONS AND DETAILS	02S04	13

CITY OF ROSEVILLE
DEPARTMENT OF ENVIRONMENTAL UTILITIES
BARTON ROAD WATER TREATMENT PLANT EAST APPLIED PIPELINE PROJECT

NOTICE TO CONTRACTORS

NOTICE IS HEREBY GIVEN THAT sealed Proposals will be received at the Office of the City Clerk, 311 Vernon Street, Roseville, California, until Tuesday, September 19, 2023 at 3:00 p.m. Late Proposals will be rejected. No exceptions.

The Proposals will be publicly opened and read by the City Clerk or designee of the City of Roseville at 3:05 p.m. on Tuesday, September 19, 2023 at the Office of the City Clerk located at 311 Vernon Street, Roseville California for the following project: Barton Road Water Treatment Plant East Applied Pipeline Project.

A mandatory pre-bid meeting will be held on Tuesday, September 5, 2023 at 10:00 a.m. at the Barton Road Water Treatment Plant, 9595 Barton Road, Granite Bay, CA 95746.

A Project Manual, including all Contract Documents and the Proposal forms for bidding this project, may be obtained on-line from the City of Roseville's website at www.roseville.ca.us/business/procurement_services/bids_rfps or directly at www.publicpurchase.com. All communications relative to this project shall be conducted through Public Purchase.

Bids shall be submitted on the City's Proposal Forms included in the Project Manual, plainly endorsed with the Bidder's name together with signed acknowledgement of any and all addenda. Proposal Forms shall be securely sealed in a suitable envelope marked with the name and address of the Bidder, and marked in capital letters on the front and back of the envelope as follows:

Barton Road Water Treatment Plant East Applied Pipeline Project

(Name of Bidder)

(Address of Bidder)

Whether mailed or personally delivered, all bids shall be addressed to the City of Roseville, Office of the City Clerk, 311 Vernon Street, Roseville, California, 95678.

Each bid must be accompanied by a Bid Guaranty in the form of a Certificate of Deposit, Certified or Cashier's Check, Bidder's Bond or Irrevocable Standby Letter of Credit in an amount equal to at least ten percent (10%) of the Bidder's Grand Total Price. The Bid Guaranty will be retained by the City and applied to any and all damages sustained by the City in the event that the successful Bidder fails or refuses to enter into the Contract awarded to it and to furnish all required bonds and Certificates of Insurance. The City intends to award the Contract to the lowest responsible Bidder based on the Grand Total Bid Price for all components of the Project. To the extent allowed by law, the City reserves the right to reject any and all bids and/or to waive any irregularities or informalities in any bid or in the bidding procedure. The City specifically reserves the right to not award the Contract after the opening of bids.

Any bid may be withdrawn at any time prior to the time fixed in the public notice for the deadline submission of bids only by written request for the withdrawal of the bid filed with the City Clerk. The request shall be executed by the Bidder or his or her duly authorized representative. The withdrawal of a bid does not prejudice the right of the Bidder to file a new bid by the submission deadline. Whether or not bids are opened exactly at the time fixed in the public notice for opening bids, a bid will not be received after the deadline submission of bids nor may any bid be withdrawn after the time fixed in the public notice for deadline for submission of bids. Immediately following the deadline for submission of bids all bids shall

become the property of the City of Roseville and the City is under no obligation to return bids.

Bids will be examined and reported to the City Council within sixty (60) business days after the bid opening. Except as permitted by applicable law, no Bidder may withdraw its bid for a period of sixty (60) business days after the date of bid opening. Each Bidder will be notified of any award of the Contract by the City.

The City will affirmatively ensure non-discrimination on the basis of one or more of the following: race, religious creed, color, national origin, ancestry, physical disability, mental disability, medical condition, genetic information, marital status, sex, age, sexual orientation, or military and veteran status in the award and administration of contracts that it awards.

Pursuant to Public Contract Code Section 22300, the successful Bidder may submit certain securities in lieu of the City withholding retention of payments during the Project.

The City has determined that the Contractor shall possess a valid Class A – General Engineering Contractor's license at the time that the bid is submitted, as well as any other license classification as may be required by the laws of the California for the performance of the work specified in the Contract Documents. Said license shall be maintained during the Contract period. Failure to possess the specified license shall render the bid nonresponsive and will act as a bar to the award of the Contract to any Bidder not possessing such a license at the time of bid submittal. The Contractor shall provide certification of the license, its number and the expiration date on the proposal form.

The work is to be done in Placer County. Pursuant to California Labor Code Section 1773, the City has ascertained the General Prevailing Rate of Wages in the County in which the work is to be done to be as determined by the Director of Industrial Relations of the State of California. The Contractor is hereby made aware that information regarding prevailing wage

INSTRUCTIONS TO BIDDERS

SECTION 1. GENERAL

1-1.01 **GENERAL.** These Instructions to Bidders form a part of the Contract Documents. Capitalized terms are defined in the General Conditions Section 1.

1-1.02 **TENTATIVE SCHEDULE.** The following represents the tentative schedule for this RFP. Any change in the scheduled dates for the Pre-Proposal, Deadline for Final Questions, or Proposal Submission Deadline will be advertised in the form of an addendum to this RFP. The schedule for the evaluation process and other future dates may be adjusted without notice.

Table 1: Tentative Schedule

Event	Date
RFP Released by the City	8/25/23
Pre-Proposal Conference 10 AM	9/5/23
Deadline for Final Questions	9/8/23
Proposal Submission Deadline – Bid Opening 3PM	9/19/23
Anticipated Contract Approval by City Council	11/1/23
Anticipated Notice to Proceed	11/3/23
Anticipated Final Completion (125 Business Days)	5/3/24

1-1.03 **EXAMINATION OF PLANS, CONTRACT DOCUMENTS AND SITE OF THE WORK.** The Bidder shall examine carefully the site of the Work and all the Contract Documents, including these Instructions to Bidders, and shall inform itself of the conditions relating to the execution of the Work. Failure to do so will not relieve the successful Bidder of its obligation to enter into an Agreement and complete the Work in strict accordance with the Contract Documents. Conditions relating to the execution of the Work include the

rates may be obtained from the State Department of Industrial Relations and/or the following website address: <http://www.dir.ca.gov/dlsr/DPreWageDetermination.htm>. The Contractor is required to post a copy of the applicable wage rates at the job site. Attention is directed to Section 5 “Legal Relations and Responsibility” of the General Conditions.

Pursuant to Labor Code Section 1771.1(b), notice is hereby given that a contractor or subcontractor shall not be qualified to bid on, be listed in a bid proposal, subject to the requirements of Section 4104 of the Public Contract Code, or engage in the performance of any contract for public work, as defined in Labor Code Sections 1720, et seq., unless currently registered and qualified to perform public work pursuant to Labor Code Section 1725.5 or exempt from registration requirements pursuant to Labor Code Section 1725.5(f). It is not a violation of Labor Code Section 1771.1 for an unregistered contractor to submit a bid that is authorized by Section 7029.1 of the Business and Professions Code or by Section 10164 or 20103.5 of the Public Contract Code, provided the contractor is registered to perform work pursuant to Labor Code Section 1725.5 at the time the contract is awarded or is exempt from registration requirements pursuant to Labor Code Section 1725.5(f). The Contractor is hereby notified that this project is subject to compliance monitoring and enforcement by the Department of Industrial Relations.

All questions prior to the deadline for bid submissions must be submitted via the Public Purchase website at <https://www.publicpurchase.com>. The deadline for submissions of questions and clarifications regarding the Contract Documents is ten (10) calendar days before the deadline for bid submissions. Only Addenda issued by the City are binding.

City Clerk, City of Roseville

Dated: _____

Published: _____

INSTRUCTIONS TO BIDDERS

SECTION 1. GENERAL

1-1.01 **GENERAL.** These Instructions to Bidders form a part of the Contract Documents. Capitalized terms are defined in the General Conditions Section 1.

1-1.02 **TENTATIVE SCHEDULE.** The following represents the tentative schedule for this RFP. Any change in the scheduled dates for the Pre-Proposal, Deadline for Final Questions, or Proposal Submission Deadline will be advertised in the form of an addendum to this RFP. The schedule for the evaluation process and other future dates may be adjusted without notice.

Table 1: Tentative Schedule

Event	Date
RFP Released by the City	8/25/23
Pre-Proposal Conference 10 AM	9/5/23
Deadline for Final Questions	9/8/23
Proposal Submission Deadline – Bid Opening 3PM	9/19/23
Anticipated Contract Approval by City Council	11/1/23
Anticipated Notice to Proceed	11/3/23
Anticipated Final Completion (125 Business Days)	5/3/24

1-1.03 **EXAMINATION OF PLANS, CONTRACT DOCUMENTS AND SITE OF THE WORK.** The Bidder shall examine carefully the site of the Work and all the Contract Documents, including these Instructions to Bidders, and shall inform itself of the conditions relating to the execution of the Work. Failure to do so will not relieve the successful Bidder of its obligation to enter into an Agreement and complete the Work in strict accordance with the Contract Documents. Conditions relating to the execution of the Work include the

requirements of federal, state, and local laws, statutes and ordinances relative to the execution of Work, including, but not limited to, applicable regulations concerning prevailing wage rates, non-discrimination in the employment of labor, protection of the public, employee health and safety, and environmental protection.

The submission of a bid shall be conclusive evidence that the Bidder has investigated and is satisfied as to the conditions to be encountered, as to the character, quality, and scope of Work to be performed, the quantities of materials to be furnished, and as to the requirements of all the Contract Documents.

1-1.04 **EXISTING INFORMATION.** Where the Department has made investigations of site conditions, including subsurface conditions in areas where Work is to be performed under the Contract, such investigations are made only for the purpose of study and design. City does not represent that such conditions as found in these investigations or inferences or conclusions drawn as a result of these investigations will represent actual site conditions and hereby disclaims any liability as a result of Contractor's or Bidder's reliance on such investigations. City will presume that all Bidders have conducted their own site investigations, and reviewed all available supplemental materials.. Where such investigations have been made, Bidders or Contractors may, upon written request, inspect the records of the Department as to such investigations subject to the conditions set forth in these Instructions to Bidders. Such inspection of records, if they exist, have been uploaded to the Public Purchase website for this RFP as "supplemental materials". The supplemental materials are not a part of the Contract Documents and are shown solely for the convenience of the Bidder or Contractor. The City assumes no responsibility whatsoever with respect to the sufficiency or accuracy of the investigations made, the records thereof, or of the interpretations set forth therein or made by

the City in its use thereof. The City makes no warranty or guarantee, either express or implied, that the conditions indicated by such investigations or records are representative of those existing throughout such areas, or any part thereof, or that unforeseen developments may not occur, or that materials other than, or in proportions different from those indicated, may not be encountered.

No information derived from such inspection of records of investigations or compilation thereof made by the City, the Department or from the Engineer, or his or her assistants, will in any way relieve the Bidder or Contractor from properly examining the site and making such additional investigations as it may elect, or from properly fulfilling the terms of the Contract.

SECTION 2: BID REQUIREMENTS

2-1.01 **PROPOSAL FORMS.** The Department will furnish to each Bidder standard Proposal Forms (included in this document under section PROP), which, when filled out and executed may be submitted as the bid. Proposals shall include all pages in the Project Manual with page numbers marked “PROP” plus the Addendum acknowledgment form (front sheet) from all Addenda received by the Bidder. Proposals shall be removed from the Project Manual. The full Project Manual shall not be submitted with the proposal. Bids not presented on forms so furnished will be disregarded.

The Proposal and one (1) copy thereof shall be submitted as directed in the “Notice to Contractors” under sealed cover plainly marked as a Proposal, and identifying the project to which the Proposal relates and the date of the bid opening therefor. Proposals which are not properly marked may be disregarded.

All blank spaces in the Proposal must be completed, as required, in ink. All price information shall be shown, clearly legible, in figures where required.

The Bidder shall sign the Proposal in the blank space provided therefor. If the Bidder is the sole owner, the Proposal shall be signed by the owner. If the Bidder is a corporation, the legal name of the corporation and its State of incorporation shall be set forth and the Proposal shall be signed by at least two officers authorized to sign contracts on behalf of the corporation. If the Bidder is a partnership, the true name of the firm shall be set forth, the names and addresses of all partners shall be given and the Proposal shall be signed by a partner in the firm authorized to sign contracts on behalf of the partnership. If the Bidder is a joint venture, the Proposal shall be signed on behalf of each participating company by officers or other individuals who have the full and proper authorization to do so. If the Proposal is signed by an agent of the Bidder other than

an officer of a corporation or a member of a partnership, a notarized Power of Attorney must be on file with the City prior to opening of bids or must be submitted with the Proposal. If requested by the City, the Bidder shall promptly submit evidence satisfactory to the City of the authority of the person signing the Proposal.

2-1.02 **SUBMISSION OF BIDS.** Bids must be submitted at the prescribed time and location specified in the Notice to Contractors. Any submission received after the prescribed time shall be rejected, regardless of whether or not bids are opened exactly at the prescribed time.

Any unauthorized conditions or qualifications entered on, or changes made to, the Proposal may render it invalid and may cause its rejection.

No telegraphic, telephonic, or facsimile or other electronically transmitted bids will be considered.

2-1.03 **REQUIRED LISTING OF PROPOSED SUBCONTRACTORS.** Each Proposal shall list the name, address and Contractor license number of each Subcontractor to whom the Bidder proposes to subcontract portions of the Work in an amount in excess of one-half of one percent (0.5%) of its total bid, in accordance with Section 4100 to 4114, inclusive, of the Public Contract Code for the State of California. The Bidder shall list the Subcontractor's license number and the portion of the Work that will be done by each Subcontractor. If the Bidder fails to specify a Subcontractor for any portion of the Work, the Bidder agrees to perform that portion of the Work itself, and represents that it is qualified to perform that portion of the Work itself. The Bidder's attention is invited to other provisions of the Public Contract Code related to the imposition of penalties for a failure to observe its provisions by using unauthorized Subcontractors or by making unauthorized substitutions.

2-1.04 **CONTRACTOR’S LICENSING LAWS.** Attention is directed to the provisions of Business and Professions Code Chapter 9 of Division 3 concerning the licensing of Contractors.

All Bidders at the time of bid submittal shall be licensed as Contractors in accordance with the laws of this State. Any Bidder or Contractor not so licensed is subject to the penalties imposed by such laws. The form of Contractor's license required is stated in the Notice to Contractors, provided that the City makes no representation as to whether the State may require other or additional licenses. It is the Bidder's and Contractor's responsibility to obtain the correct Contractor's licenses. Bidders shall be skilled and regularly engaged in the general class or type of Work called for under this Contract.

All Bidders and Contractors, including Subcontractors, shall have a current City business license before undertaking any Work.

2-1.05 **NONCOLLUSION DECLARATION.** By submitting a bid, the Bidder represents and warrants that such bid is genuine and not a sham or collusive or made in the interest or on the behalf of any person therein named, and that the Bidder has not, directly or indirectly, included or solicited any other Bidder to put in a sham bid, or any other person, firm, or corporation to refrain from bidding, and that the Bidder has not in any manner sought collusion to secure the Bidder an advantage over any other Bidder.

Bidders shall submit a properly completed and executed “Noncollusion Declaration” in the form required by Public Contract Code Section 7106 and provided with the Proposal (PROP-11).

2-1.06 **DISQUALIFICATION, REMOVAL OR OTHER PREVENTION OF BIDDING.** A bid may be rejected on the basis of a Bidder, any officer of such Bidder, or any

employee of such Bidder who has a proprietary interest in such Bidder, having been disqualified, removed, or otherwise prevented from bidding on, or completing a federal, state, or local project because of a violation of law or a safety regulation.

2-1.07 **PROPOSAL GUARANTY.** All bids shall be accompanied by one of the following forms of Bidder's security: Cash, a cashier's check, a certified check, or a Bidder's bond executed by an admitted California surety insurer, made payable to the City of Roseville, or any other form of security deemed acceptable by the City Attorney. The security shall be in an amount equal to at least ten percent (10%) of the amount bid. A bid will not be considered unless one of the form of Bidder's security is enclosed with it.

A Bidder's bond shall conform to the City's bond form in the Proposal and shall be properly filled out and executed.

2-1.08 **SCHEDULE OF BID PRICES.** Bidders are directed to submit unit and lump sum prices for all Work set forth in the Contract Documents on the Proposal Form entitled "Schedule of Bid Prices."

Unit prices and lump sum prices, as indicated, must be entered in the appropriate spaces provided in the Schedule of Bid Prices. If applicable, unit prices shall be multiplied by the quantities shown, and the total shall be inserted in the Amount column. In the event of any error or discrepancy between the unit price and the calculated amount, the unit prices shall govern. The City may correct any mathematical errors apparent on the face of the bid.

The amounts shown in the Amount column must be added together in arriving at the Grand Total Bid Price.

Amounts for Allowance bid items must be entered in the exact amount in the Amount column.

The prices included within the Schedule of Bid Prices shall include all costs for labor, materials, tools, equipment, services, Subcontractors, suppliers, taxes, insurance, shipment, delivery, overhead, profit, and all other costs necessary to perform the Work in accordance with the Contract Documents.

The Grand Total Bid Price shall be indicated in the Summary table form included with the Schedule of Bid Prices. The Grand Total Bid Price shall be the sum of the amounts bid for each of the designated portions of the Work, as more specifically described on the Schedule of Bid Prices form itself.

Full compensation for complying with the Contract Documents, including requirements of the Standard Specifications, the General Conditions, Supplemental Conditions, and all warranties, shall be considered included in the bid items and no additional compensation shall be allowed therefor.

Full compensation for completion of all work as shown on the plans, as specified in the Specifications, and as directed by the City, shall be considered included in the bid items and no additional compensation shall be allowed.

Bidders are strongly discouraged from submitting unbalanced bids. As used herein, the term “unbalanced bid” is defined as any bid that does not include a reasonable proportionate allocation of indirect costs and profit of each bid item indicated in the Schedule of Bid Prices. The City reserves the right to reject any unbalanced bid if the City determines that there is a reasonable doubt that an acceptance of the bid will not result in the lowest ultimate cost to the City with regard to the work or a disproportionate distribution of contract funds.

The City reserves the right to delete any bid item in its entirety and/or significantly reduce the quantity of Work under a bid item. The City makes no representation that any Work

under a bid item will be performed during the course of the Project or that the Work will be performed at the quantities included in the Schedule of Bid Prices. As provided in the General Conditions, for any deleted Work, Contractor shall not be entitled to payment of the indirect costs and profit included for said bid item. All bid items shall be considered distinct and severable from the remaining bid items, and each Bidder acts at its peril if its bid is unbalanced.

The City shall compare bids on the basis of the Grand Total Bid Price, which includes the base bid and any alternates designated on the Schedule of Bid Prices. Alternates may or may not be awarded, or may be awarded in any combination, at the City's discretion.

2-1.09 **WITHDRAWAL OF PROPOSALS.** Any bid may be withdrawn at any time prior to the time fixed in the Notice to Contractors for the opening of bids, provided that a request in writing, executed by the Bidder or its duly authorized representative, for the withdrawal of such bid is filed with the City Clerk. Facsimile and electronic mail requests are not acceptable. The withdrawal of a bid shall not prejudice the right of a Bidder to file a new bid. The withdrawal of any bid after the time fixed in the Notice to Contractors for the opening of bids will not be permitted.

2-1.10 **ADDENDUM.** Proposals shall include all costs and account for all Addenda issued prior to opening of bids. The Bidder is responsible for verifying that all issued Addenda have been received. An Addendum acknowledgment form for each Addendum shall be included as part of the Proposal submittal.

2-1.11 **PUBLIC OPENING OF PROPOSALS.** Proposals will be publicly opened and read at the time and place indicated in the Notice to Contractors. Bidders or their authorized agents are invited to be present.

2-1.12 **TRENCHING AND EXCAVATION WORK.** In accordance with the provisions of California Labor Code Section 6707, if the Work involves construction of a pipeline, sewer, sewage disposal system, boring or jacking pits, or similar trenches or open excavations, which are five feet (5') or deeper, each bid submitted shall contain, as a bid item, adequate sheeting, shoring, and bracing, or equivalent method, for the protection of life or limb, which shall conform to all applicable safety orders.

SECTION 3: EVALUATION OF BIDS

3-1.01 **BID EVALUATION PROCESS.** Bids will be evaluated to determine the apparent low Bidder. The apparent low Bidder will be determined on the basis of the Grand Total Bid Price, as shown in the Schedule of Bid Prices. If additive or deductive alternates are used in the Schedule of Bid Prices, the apparent low Bidder will be the Bidder with the lowest total of the bid prices for base contract items plus the alternates designated by the City as those that will be used for determining the lowest bid price. However, the City reserves the right to (1) not award any alternates or (2) award any combination of alternates.

In case of discrepancy between the total of the base contract items and any specified alternates and the stated Grand Total Bid Price, the total of the base contract items plus specified alternates shall prevail. Any mathematical errors that appear on the face of the bid will be corrected by the City and the City will use the mathematically corrected addition. For example, if the mathematical total of Bidder's base contract items plus specified alternates equals \$1,000,000, but the Bidder has written \$1,250,000 as the Grand Total Bid Price, the City will consider \$1,000,000 to be the Bidder's Grand Total Bid Price for purposes of comparison to other Bidders and actual bid award. The City reserves its rights to reject or accept bids based on discrepancies between the stated Grand Total Bid Price and the actual mathematical total of the base contract bid items, plus specified alternates.

3-1.02 **REJECTION OF IRREGULAR PROPOSALS.** Proposals may be rejected in the City's sole discretion if they show any alterations of form, additions not called for, conditional bids, incomplete bids, erasures, or irregularities of any kind. However, the City reserves the right to waive any minor irregularities and informalities in any bid or in the bid procedure for any reason.

3-1.03 **COMPETITIVE BIDDING.** If more than one proposal is offered by any individual, firm, partnership, corporation, association, or any combination thereof, under the same or different names, all such proposals may be rejected. A party who has quoted prices on materials or Work to a Bidder is not thereby disqualified from quoting prices to other Bidders, or from submitting a bid directly for the materials or Work.

All Bidders are put on notice that any collusive agreement to control or affect the awarding of this Contract is in violation of the competitive bidding requirements of the City Charter, State Contract Act and the Business and Professions Code and may render void any Contract let under such circumstances.

3-1.04 **RELIEF OF BIDDERS.** If the Bidder claims a mistake was made in its bid, the Bidder shall give the Department written notice within five (5) Days after the opening of the bids of the alleged mistake, specifying in the notice in detail how the mistake occurred. No relief from a claimed mistaken bid shall be granted unless such mistake clearly appears on the face of the bid submitted to the City. Claimed mistakes on backup worksheets, spreadsheets, computerized bidding programs, or any other similar calculative bidding mistake which is not apparent on the face of the bid shall not under any circumstance be considered as a basis for relief. The burden of proving the occurrence of a mistake entitling a Bidder to relief from its bid rests entirely on the Bidder. Relief from bids shall be in the City's sole discretion.

SECTION 4: AWARD AND EXECUTION OF CONTRACT

4-1.01 **AWARD OF CONTRACT.** The City reserves the right to reject any and all proposals and to award (or not award) any combination of bid items at its option. Any such award will be to the lowest responsible Bidder whose proposal complies with the requirements prescribed for the bid items awarded. Such award, if made, will be made within sixty (60) business days after the opening of the proposals. If the lowest responsible Bidder refuses or fails to execute the Contract, or provide an acceptable Performance Bond, Payment Bond, and insurance certificate(s), the City may award the Contract to the second lowest responsible Bidder. Such award, if made, will be made within eighty-two (82) business days after the opening of proposals. If the second lowest responsible Bidder refuses or fails to execute the Contract, or provide an acceptable Performance Bond, Payment Bond, and insurance certificate(s), the City may award the Contract to the third lowest responsible Bidder. Such award, if made, will be made within one hundred four (104) business days after the opening of the proposals. The above time periods within which the award of Contract may be made are subject to extension for such further period as may be agreed upon in writing between the City and the Bidder concerned.

4-1.02 **RETURN OF BIDDER'S SECURITIES.** Within ten (10) Days after the award of the Contract, the City Clerk will return all Bidders' securities, other than Bidders' bonds, accompanying the proposals that are not to be further considered in making the award. Retained Bidders' securities will be held until the Contract has been fully executed, after which all Bidders' securities, except Bidders' bonds and any Bidders' securities that have been forfeited, will be returned.

4-1.03 **CONTRACT BONDS.** The successful Bidder shall furnish two (2) bonds in the form contained in the section entitled Insurance Broker Information Packet and Bonds. One (1) bond shall secure the payment of the claims of laborers, mechanics or materialmen employed on the Work under the Contract, and the other bond shall guarantee the faithful performance of the Contract.

Each of the two (2) bonds shall be in a sum equal to one hundred percent (100%) of the Contract Price. If the Contract Price increases by the issuance of Change Orders, the penal amounts of the bonds required shall increase accordingly. Sureties on each of said bonds shall be satisfactory to the City.

All alterations, extensions of time, extra and additional Work, and other changes authorized by the Standard Specifications, the General Conditions, the Supplemental Conditions or any part of the Contract may be made without securing the consent of the surety or sureties on the Contract bonds.

Furthermore, the successful Bidder shall furnish a certificate from the County Clerk as required by California Civil Code of Procedure Section 995.660(a)(3).

4-1.04 **INSURANCE.** At the time of the execution of the Contract, the Contractor shall, at its own expense, procure, and at all times during the prosecution of the Work maintain in full force and effect Worker's Compensation Insurance, and Liability Insurance as specified in the General Conditions. The Contractor shall provide a Certificate of Insurance in the form contained in the section entitled Insurance Broker Information Packet.

4-1.05 **EXECUTION OF CONTRACT.** The Contract shall be signed by the successful Bidder and returned, together with all the required Contract bonds and insurance certificates, within ten (10) Working Days after the Contract has been awarded, or as otherwise

directed, in writing, by the City.

If the Bidder is an individual, the Contract shall be executed personally by the Bidder. If the Bidder is a partnership, it is desirable that the Contract be executed by all of the partners, but it may be executed by one of them. If the Bidder is a corporation, it must be executed by two officers of the corporation consisting of (1) the chairman of the board, president or vice president; and (2) the secretary, assistant secretary, chief financial officer, treasurer or assistant treasurer, or by a person authorized by the corporation to execute written contracts on its behalf, and the corporate seal affixed thereto. In the alternative, a person other than an officer may sign the Contract, provided evidence satisfactory to the City is provided indicating the individual's authority to bind the corporation. If the corporate seal is not affixed to the Contract, or if it is executed by a person other than officers, or only by one officer, there must be attached to the Contract a certified copy of a resolution of the corporation authorizing such officer or person to execute written contracts for and on behalf of the corporation. If the Bidder is a joint venture, the Contract must be executed on behalf of each participating firm by officers or other individuals who have the full and proper authorization to do so.

4-1.06 **FAILURE TO EXECUTE CONTRACT.** Failure of the lowest responsible Bidder, the second lowest responsible Bidder, or the third lowest responsible Bidder to execute the Contract and file acceptable bonds and insurance as provided within ten (10) Working Days after the Contract has been awarded, or as otherwise directed, in writing, by the City, shall be just cause for annulment of the award and forfeiture of the Bidder's security. The successful Bidder may file with the City Clerk a written notice, signed by the Bidder or Bidder's authorized representative, specifying that the Bidder will refuse to execute the Contract if presented to Bidder. The filing of such notice shall have the same force and effect as the

failure of the Bidder to execute the Contract and furnish acceptable bonds within the time prescribed.

SECTION 5: BID PROTEST PROCEDURES

5-1.01 **POLICY/PROCEDURES.** It is the policy of the City to consider fully and adjudicate promptly protests filed by prospective Bidders relating to the City's bidding procedure or award of the Contract. Protests shall be filed and processed in accordance with Section 4.12.150 of the Roseville Municipal Code. A Bidder's failure to follow the bid protest procedures may result in rejection of the protest by the City.

Project _____

Contractor _____

PROPOSAL

PROPOSAL TO THE DEPARTMENT OF ENVIRONMENTAL UTILITIES

for

Barton Road Water Treatment Plant East Applied Pipeline Project

Name of Bidder _____ Business Phone _____

Business Address _____

Place of Business _____

Contractor's License No. _____

License Expiration Date _____

License Classification Type _____

DIR Registration No. _____

Type of business organization: _____

*If a Corporation, incorporated under the laws of the State of: _____

City of Roseville Business License No. _____

The undersigned Bidder herewith submits this Proposal and binds itself on award by the City of Roseville under this bid to execute a Contract in accordance with its bid and the Contract Documents.

The Notice to Contractors, Instructions to Bidders, Form of Agreement, Specifications, General Conditions, Supplemental Conditions, Contract Drawings, and Addenda, if any, are made part of this bid and all provisions thereof are hereby accepted, and all representations and warranties are required thereby are hereby affirmed.

The work to be done is described in the Bidding Documents entitled Barton Road Water Treatment Plant East Applied Pipeline Project, City of Roseville, California.

This offer shall be irrevocable for a period of sixty (60) Days after the date on which bids are opened.

The undersigned Bidder understands that any clarification made to the above or any new and different conditions or information submitted on or with its Proposal, other than that requested, may render the bid non-responsive.

The undersigned, as Bidder, declares that the only persons or parties interested in this Proposal as principals are those named herein; that this Proposal is made without collusion with any other person, firm, or corporation; that the Bidder has carefully examined the location of the proposed Work, the attached Form of Agreement, and the plans, Specifications, and other Contract Documents; and agrees if this Proposal is accepted, that it will contract with the City of Roseville, in the form of a copy of the Agreement contained in the Project Manual, to provide all necessary machinery, tools, apparatus and other means of construction, and to do all the work and furnish all the materials specified in the Contract Documents, in the manner and time therein prescribed, and according to the requirements of the Director, as therein set forth, and that the Bidder will take in full payment therefore prices indicated in the Schedule of Bid Items, including all work modified by addendum numbers _____. (IF NONE, STATE NONE).

Bids are required for all Bid Items. The amount of the Bid for comparison purposes will be the total of all items awarded.

The Bidder shall set forth for each item of work, in clearly legible figures, an item (“unit”) price and a total for the item in the respective spaces provided for this purpose in the Schedule of Bid Items.

The prices included within the Schedule of Bid Items include all costs for labor, materials, tools, equipment, services, Subcontractors, suppliers, taxes, insurance, shipment, delivery, overhead, profit, and for all other costs necessary to perform the Work in accordance with the Contract Documents.

Accompanying this Proposal is _____.

(Notice: Insert the words “Cash \$ _____,” “Cashier's Check,” “Certified Check,” or “Bidder's Bond,” as the case may be, in an amount equal to at least ten percent (10%) of the total of the Bid.)

The names of all persons interested in the foregoing Proposal as Principals, are as follows: _____

If SOLE OWNER, execute here:

I sign as sole owner of the business named above:

If PARTNERSHIP, one or more partners sign here:

The undersigned certify that we are partners in the business named above and that we sign this bid with the full authority to do so:

If CORPORATION, execute here:

Corporate Name: _____

Incorporated under the laws of the State of _____

The undersigned certify that they sign this bid with the full and proper authorization so to do:

By _____

By _____

*Signature of Authorized Official**

*Signature of Authorized Official**

Title

Title

Typewritten or Printed Name

Typewritten or Printed Name

If JOINT VENTURE, execute here:

Joint Venture name composed of: _____

The undersigned certify that they sign this bid with the full and proper authorization so to do:

_____	_____
<i>Signature of Authorized Official*</i>	<i>Signature of Authorized Official*</i>
_____	_____
<i>Title</i>	<i>Title</i>
_____	_____
<i>Typewritten or Printed Name</i>	<i>Typewritten or Printed Name</i>

*If Bidder is a partnership or Joint Venture, give the full names of all partners and/or Joint Ventures in the space provided (use additional sheet if required). If Bidder is a corporation, two signatures are required as follows: (1) the Chairman, President, or Vice-President and (2) the Secretary, Assistant Secretary, Chief Financial Officer, Treasurer, or Assistant Treasurer. In the alternative, this Agreement may be executed by a single officer or a person other than an officer provided that evidence satisfactory to City is provided demonstrating that such individual is authorized to bind the corporation (example, a copy of a certified resolution from the corporation's board or a copy of the corporation's bylaws).

STATEMENT OF QUALIFICATIONS AND EXPERIENCE

Provide a summary of your firm's experience in providing these or similar services.

Provide a minimum of three (3) references for projects or services similar in nature and scope that your firm's team members have completed in the last five (5) years. Include brief descriptions of the projects, dates, a list of proposed staff that were part of the project, client names and contact persons' names, addresses and telephone numbers. Public sector references are preferred.

LIST OF SUBCONTRACTORS

Contractor's Name: _____

The Bidder is required to furnish the following information in accordance with the provisions of Section 4100 and 4114, inclusive, of the Public Contract Code of the State of California. This list and information shall include all Subcontractors that perform work, provide labor or render services to the Bidder in connection with the Project in an amount in excess of one-half of one percent (0.5%) of the total amount of the Bidder Grand Total Price.

PORTION/ TYPE OF WORK	% OF CONTRACT	SUB- CONTRACTOR'S NAME	CONTRACTOR LICENSE NO.	DIR REG. NO.	BUSINESS ADDRESS (CITY, STATE)

SECURITY FOR COMPENSATION CERTIFICATE

(Required by California Labor Code Section 1861)

TO: City Council

City of Roseville

I am aware of the provisions of Section 3700 of the Labor Code which require every employer to be insured against liability for workers' compensation or to undertake self-insurance in accordance with the provisions of that code, and I will comply with such provisions before commencing the performance of the work of this Contract.

(Signature of Bidder)

Business Address

Telephone

BIDDER'S BOND

City Council of the City of Roseville

KNOW ALL MEN BY THESE PRESENTS:

That we _____
_____, as PRINCIPAL, and

a, _____ and duly authorized to transact business
under the laws of the State of California, as SURETY, are held and firmly bound unto the City of
Roseville in the penal sum of _____ dollars
(\$ _____), being at least TEN PERCENT (10%) OF THE TOTAL AMOUNT OF
THE BID of the Principal above named, submitted by said Principal to the City of Roseville,
acting by and through the Public Works Director, for the work described below, for the payment
of which sum in lawful money of the United States, well and truly to be made, to the Director of
the Department to which said Bid was submitted, we bind ourselves, our heirs, executors,
administrators and successors, jointly and severally, firmly by these presents.

THE CONDITION OF THIS OBLIGATION IS SUCH,

That whereas the Principal has submitted the above-mentioned Bid to the City Council of
the City of Roseville, as aforesaid, for certain construction specifically described as follows, for
which Bids are to be opened at the Office of the City Clerk located at 311 Vernon Street,
Roseville, California, on _____, 20__ FOR

(Copy here the exact title of work as it appears on the Proposal.)

NOW, THEREFORE, IF THE AFORESAID PRINCIPAL is awarded the Contract and, within the time and manner required under the Contract Documents, after the prescribed forms are presented for signature, enters into a written Contract, in the prescribed form, in accordance with the Bid, and files all insurance and two (2) Bonds with the Department, one (1) to guarantee Faithful Performance and the other to guarantee Payment for Labor and Materials, as required by law, then this obligation shall be null and void; otherwise, it shall be and remain in full force and effect.

IN WITNESS WHEREOF, we have hereunto set our hands and seals on this _____ day of _____, 20__.

_____(Seal)

_____(Seal)

_____(Seal)

Principal

_____(Seal)

_____(Seal)

_____(Seal)

Surety

Business Address

NOTE: To be considered complete, both the Principal and the Surety must sign this Bidder's Bond. In addition, signatures of those executing for the Surety must be properly acknowledged.

Project _____

Contractor _____

SCHEDULE OF BID ITEMS

Bid Item	Item Description	Unit	Estimated Quantity	Unit Price (\$)	Total Amount (\$)
1	Mobilization and demobilization including bonds and insurance, and cleanup. (Note: this lump sum figure cannot exceed 10 percent of the total amount of Bid Schedule (excluding this item.)	LS	1		
2	Roseville East Applied Pipeline improvements complete as shown and as specified in these Contract Documents, excluding only work listed in the other bid items herein.	LS	1		
3	Remove and replace the existing flexible couplings.	LS	1		
4	Furnish and install the steel canopy.	LS	1		
5	Installation and maintenance of shoring and soil stabilization for worker safety in accordance with OSHA and District requirements.	LS	1		

GRAND TOTAL BID PRICE (\$) = _____

Grand Total Bid Price in Words: _____

The Grand Total Bid Price must be filled in and completed in figures and written in words above.

In case of discrepancy between words and figures of the Grand Total Bid Price, the words shall prevail.

The Grand Total Bid Price is for the completed Work and includes any and all sales taxes and levies, which may be applicable. The undersigned has examined the location of the proposed Work and is familiar with the Specifications and the local conditions at the place where the Work is to be done.

The undersigned has checked the above amount and understands that the Owner will not be responsible for any errors or omissions on the part of the undersigned in making up this proposal.

Bidder has examined copies of all the Contract Documents including the following addenda (receipt of all of which is hereby acknowledged):

Addendum Number: _____ Date: _____
_____ Date: _____
_____ Date: _____
_____ Date: _____

Failure to acknowledge addenda shall render the bid non-responsive and shall be cause for its rejection.

It is agreed that this proposal may not be withdrawn within a period of sixty (60) days after the date set for the opening thereof.

The undersigned understands that the Owner reserves the right to reject any or all bids and to waive any informality in bids received that in the judgment of the Owner is to the best interest of the Owner.

Respectfully submitted,

Signature of Bidder Title Date

Company

Business Address Phone Number

License Number Expiration Date

END OF SCHEDULE OF BID ITEMS

NONCOLLUSION DECLARATION

TO BE EXECUTED BY BIDDER AND SUBMITTED WITH BID

The undersigned declares:

I am the _____ of _____, the party making the foregoing bid.

The bid is not made in the interest of, or on behalf of, any undisclosed person, partnership, company, association, organization, or corporation. The bid is genuine and not collusive or sham. The Bidder has not directly or indirectly induced or solicited any other Bidder to put in a false or sham bid. The Bidder has not directly or indirectly colluded, conspired, connived, or agreed with any Bidder or anyone else to put in a sham bid, or to refrain from bidding. The Bidder has not in any manner, directly or indirectly, sought by agreement, communication, or conference with anyone to fix the bid price of the Bidder or any other Bidder, or to fix any overhead, profit, or cost element of the bid price, or of that of any other Bidder. All statements contained in the bid are true. The Bidder has not, directly or indirectly, submitted his or her bid price or any breakdown thereof, or the contents thereof, or divulged information or data relative thereto, to any corporation, partnership, company, association, organization, bid depository, or to any member or agent thereof, to effectuate a collusive or sham bid, and has not paid, and will not pay, any person or entity for such purpose.

Any person executing this declaration on behalf of a Bidder that is a corporation, partnership, joint venture, limited liability company, limited liability partnership, or any other entity, hereby represents that he or she has full power to execute, and does execute, this declaration on behalf of the Bidder.

I declare under penalty of perjury under the laws of the State of California that the foregoing is true and correct and that this declaration is executed on _____ [date], at _____ [city], _____ [state].

(Signature of Declarant)

DISQUALIFICATION QUESTIONNAIRE

The Bidder shall complete, under the penalty of perjury, the following questionnaire:

Has the Bidder, any officer of the Bidder, or any employee of the Bidder who has proprietary interest in the Bidder, ever been disqualified, removed, or otherwise prevented from bidding on, or completing a federal, state, or local government project because of a violation of law or a safety regulation?

Yes _____

No _____

If the answer is yes, explain the circumstances in the following space.

NAME OF BIDDER: _____

SIGNATURE OF BIDDER: _____

TITLE OF BIDDER: _____

DATE: _____

ACKNOWLEDGEMENT OF INSURANCE AND BOND REQUIREMENTS

Included in the Bid Price is full compensation for the requirements set forth in the
INSURANCE BROKER INFORMATION PACKET of the Project Manual.

NAME OF BIDDER: _____

SIGNATURE OF BIDDER: _____

TITLE OF BIDDER: _____

DATE: _____

DISCLAIMER OF WARRANTIES AND ACCURACY OF DATA

Although soil and site investigation reports have been obtained from sources believed to be reliable, no warranty expressed or implied is made regarding accuracy, adequacy, completeness, legality, reliability or usefulness of any information contained therein. These reports are subject to change at any time, may be incomplete, and/or may contain errors. This information is provided for informational purposes only. The City of Roseville provides this information on an “as is” basis. Warranties of any kind, express or implied, or statutory, including but not limited to the implied warranties of merchantability, and fitness for a particular purpose ARE DISCLAIMED to any party viewing these documents or to any third party.

The City of Roseville does not accept and expressly disclaims liability to any party viewing such information, or to any third party whatsoever, for any loss, damage, or injury (including incidental or consequential damages) whether such loss, damage, or injury is the result of negligence, willful or intentional misconduct, or any other cause.

I have read and acknowledged the above disclaimer and agree to hold harmless the City of Roseville on any theory of liability for any loss, damage or injury whether in contract, strict liability or tort arising in any way out of the use or contents of the released information or documents described above or the performance of the work called for herein.

Print Name

Signature

Name of Business/Company/Corporation

Date

Address

Phone

END OF PROPOSAL

A G R E E M E N T

THIS AGREEMENT, is made and entered into this ____ day of _____,
20____, by and between the City of Roseville, a municipal corporation, (“CITY”), and
_____, a _____,
 (“CONTRACTOR”); and

W I T N E S E T H:

WHEREAS, the City Council of the CITY, at a meeting held on the ____day of
_____, 20____, approved plans and specifications for the

and directed the City Clerk to advertise for sealed proposals for doing said work and providing
that bids be submitted on the ____ day of _____, 20____; and

WHEREAS, the City Clerk, thereafter duly and regularly caused a notice to be published
in the manner and for the time prescribed by law; and

WHEREAS, CONTRACTOR, pursuant to the provisions of said notice duly filed a bid
with the City Clerk, a true copy of which bid is now on file in the office of the City Clerk, and is
hereby referred to and by this reference made a part hereof as fully as if set forth at length herein;
and

WHEREAS, all bids received pursuant to said notice were opened and examined and
publicly declared at the time specified in said advertisement for bids and at a meeting of the City
Council held on the ____ day of _____, 20____, the Council found and

declared the bid of CONTRACTOR to be the lowest responsible bid and thereupon awarded a contract to CONTRACTOR to do the work referred to in the aforementioned specifications.

NOW, THEREFORE, the parties agree as follows:

1. THE WORK. CONTRACTOR agrees:

a. To do the work and furnish all the labor, materials, tools, supplies, equipment, superintendence, insurance, and bonds required for the _____

in accordance with the Contract Documents (the Work).

b. To do and perform the Work contemplated hereby in a good and workmanlike manner under the direction of and to the satisfaction of the Director of Public Works of the City of Roseville.

2. PAYMENT. CITY shall pay CONTRACTOR _____ dollars (\$_____) for the Work to be done under this Agreement in accordance with the Contract Documents.

3. CONTRACT DOCUMENTS. The complete Agreement between the parties hereto consists of the following documents:

- a. The advertisement for bids (including the notice to bidders, instructions to bidders and proposals);
- b. The accepted bid;
- c. Plans and specifications (including general conditions, supplemental conditions, special provisions and construction details);
- d. Bonds and insurance required by the specifications; and

e. This contract.

All documents specified above are intended to operate so that any work called for in any one and not mentioned in the other, or vice versa, is to be executed the same as if mentioned in all said documents.

4. LIQUIDATED DAMAGES. In the event CONTRACTOR does not complete the Work within the time specified, CONTRACTOR agrees that CITY will suffer damages. Inasmuch as the actual damages which would result from such breach by CONTRACTOR under this Agreement are uncertain, and would be impractical or extremely difficult to fix, CONTRACTOR agrees that it shall pay, or CITY shall deduct from CONTRACTOR's fee, the amount of \$_____ per day as liquidated damages, in the event of such delay.

5. TIME OF COMPLETION. Time is of the essence of this Agreement. CONTRACTOR shall complete all Work under the Contract Documents within _____ Days of the date of this Contract. CONTRACTOR shall begin work by the date specified in the "Notice to Proceed" letter and shall diligently prosecute all of the Work under this Contract in all parts and requirements as defined in the Contract Documents.

6. SERVICE OF NOTICE. Any notice required or permitted to be given under this Agreement shall be deemed given when (a) personally delivered to the recipient identified below; (b) mailed by registered or certified mail, return receipt requested, postage pre-paid, to the address specified below; or (c) sent by facsimile, with confirmation of receipt, to the facsimile number identified below.

CITY OF ROSEVILLE

CONTRACTOR

CITY may also act through either its architect or construction manager if CITY expressly gives notice to CONTRACTOR, in writing, that CITY's designee has authority to act for CITY in a specific capacity.

7. DISPUTES. Disputes arising from this Agreement will be determined in accordance with the Contract Documents and Public Contract Code Sections 10240-10240.13.

8. GOVERNING LAW. This Agreement shall be governed by and construed in accordance with the laws of the State of California.

9. INDEPENDENT CONTRACTOR. CONTRACTOR shall act as an independent contractor, and covenants and agrees that it will conduct itself consistent with such status, that it will neither hold itself out as, nor claim to be, an officer or employee of CITY by reason of this Agreement.

10. SUCCESSORS IN INTEREST. This Agreement shall be binding upon the heirs, successors, executors, administrators and assigns of the respective parties hereto.

11. MODIFICATION. This Agreement and each provision contained herein may be waived, amended, supplemented or eliminated only by mutual written agreement of the parties.

12. SEVERABILITY. If any of the provisions contained in this Agreement are for any reason held invalid or unenforceable, such holding shall not affect the remaining provisions or the validity and enforceability of the Agreement as a whole.

13. INTEGRATED AGREEMENT. This is an integrated agreement and contains all of the terms, considerations, understanding and promises of the parties. It shall be read as a whole.

14. CONTRACTORS LICENSE LAW. CONTRACTORS ARE REQUIRED BY LAW TO BE LICENSED AND REGULATED BY THE CONTRACTORS' STATE LICENSE

BOARD WHICH HAS JURISDICTION TO INVESTIGATE COMPLAINTS AGAINST CONTRACTORS IF A COMPLAINT REGARDING A PATENT ACT OR OMISSION IS FILED WITHIN FOUR (4) YEARS OF THE DATE OF THE ALLEGED VIOLATION. A COMPLAINT REGARDING A LATENT ACT OR OMISISON PERTAINING TO STRUCUTRAL DEFECTS MUST BE FILED WITHIN TEN (10) YEARS OF THE DATE OF THE ALLEGED VIOLATION. ANY QUESTIONS CONCERNING A CONTRACTOR MAY BE REFERRED TO THE REGISTRAR, CONTRACTORS' STATE LICENSE BOARD, P.O. BOX 26000, SACRAMENTO, CALIFORNIA 95826.

IN WITNESS WHEREOF, the City of Roseville, a municipal corporation, has authorized the execution of this Agreement in duplicate by its City Manager and attestation by its City Clerk under authority of Resolution No. _____, adopted by the Council of the City of Roseville on the ____ day of _____, 20____, and CONTRACTOR has caused this Agreement to be duly executed.

CITY OF ROSEVILLE, a
municipal corporation

_____, a

BY: _____
DOMINICK CASEY
City Manager

BY: _____
its: _____

and

ATTEST:

BY: _____
its: _____

BY: _____
CARMEN AVALOS
City Clerk

APPROVED AS TO FORM:

BY: _____
MICHELLE SHEIDENBERGER
City Attorney

APPROVED AS TO SUBSTANCE:

BY: _____

Print Name: _____

Title: _____

INSURANCE BROKER INFORMATION PACKET

Barton Road Water Treatment Plant East Applied Pipeline Project

TABLE OF CONTENTS for INSURANCE BROKER INFORMATION PACKET

	<u>Page</u>
Notice to Contractor	INS 1
Notice to Insurance Broker	INS 2
Insurance Requirements	INS 3
Public Works Faithful Performance Bond	INS 10
Public Works Payment Bond	INS 15

NOTICE TO CONTRACTOR

For your convenience, this package contains the Requirements for Insurance and Bonds for this project, including the necessary City forms. You are required to return these forms in addition to the executed Contract within fifteen (15) calendar days after the award of the Bid, unless otherwise directed by City in writing. (See the Instructions to Bidders.)

Please insert the dollar amount of your accepted Bid into the blank on page INS-2 and present this entire package to your insurance broker if you are awarded the Bid.

NOTICE TO INSURANCE BROKER

Your client has been awarded a bid by the City Council of the City of Roseville to perform a public works project known as _____. The Contract Conditions for that project require your client (“the Contractor”) to return certain evidence of insurance and bonds to the City Attorney of the City within fifteen (15) days after the Bid award, unless otherwise directed by the City in writing, or else the Bid award may be terminated and awarded to another company.

This package contains the information you will need as an insurance broker to provide the appropriate insurance and bonds to the City. The insurance coverages the Contractor needs are specified in the section entitled “Insurance Requirements.” Please note that, in addition to the insurance certificate itself, copies of several endorsements must be actually furnished.

Please refer to the Supplemental Conditions for modifications of the General Conditions, if any, and the requirements of this insurance packet.

Please use the standard City of Roseville Bond Forms provided in this package.

The Bonds required must each be in the penal amount of: \$_____.

Bonds must be sent to the following staff person:

Insurance documents must be provided using one of the following methods:

- a. By email to roseville@ebix.com and riskmanagement@roseville.ca.us
- b. By fax to (770) 335-5727 and (916) 774-5461

After using one of these methods, please **DO NOT** send the insurance certificate(s) by mail.

When forwarding the documents, please refer to the project name so that the documents can be matched with the Contract for which they are submitted.

Thank you.

INSURANCE REQUIREMENTS

The following sections are quoted from the General Conditions:

5-1.23 INSURANCE COVERAGE.

A. Evidence of Maintenance Required. The Contractor shall, at its expense, procure and at all times maintain in full force and effect at a minimum the insurance required by this section on all of its operations; and the Contractor shall not allow any Subcontractor to commence work until similar insurance required of the Subcontractor has been obtained and filed. An original Certificate of Insurance, and copies of all required endorsements, all in a form approved by the Risk Manager, evidencing all required coverage or policies shall be filed after the award of the bid and prior to approval of the Contract by the City Council. Contractor shall provide ten (10) days prior written notice to the City of any reduction of coverage limits or cancellation of the coverage or policies shall be given to the City of Roseville as Certificate holder.

B. Qualifying Insurers. With the exception of the State Compensation Insurance Fund, all required insurance policies shall be issued by companies acceptable to the City and licensed to do business in the State of California and who hold a current policy holders alphabetic and financial size category rating of not less than AVII according to the most recent issue of Best's Insurance Reports.

C. Insurance Required.

1. **Commercial General Liability (CGL):** Insurance Services Office Form CG 00 01 covering CGL on an “occurrence” basis, including products and completed operations with limits of no less than Two Million Dollars (\$2,000,000) per occurrence for bodily injury,

personal injury and property damage for projects under One Million Dollars (\$1,000,000) and limits of no less than Five Million Dollars (\$5,000,000) per occurrence for bodily injury, personal injury and property damage for projects over One Million Dollars (\$1,000,000). If a general aggregate limit applies, either the aggregate limit shall apply separately to this project or the general aggregate limit shall be twice the required occurrence limit.

The Commercial General Liability insurance shall include the following, copies of which shall be provided:

a. Inclusion of the City of Roseville, and its officers, agents, employees, and volunteers, as additional insureds (except for workers' compensation) as respects services or operations under the Contract. The additional insured endorsement for the general liability policy shall be at least as broad as the ISO CG 2010 10 01 combined with ISO CGL Endorsement CG 2037 10 01. Any other endorsement must be approved in writing by the City. Endorsements must include coverage for on-going and completed operations, which coverage shall be maintained for four (4) years following completion of the Project. Endorsements shall cover the City of Roseville, its officers, agents, employees, and volunteers.

b. The insurance shall provide coverage for claims by one insured against another insured and the policies shall not contain any cross-suits exclusions, cross-liability exclusions, or insured versus insured exclusions. The policies shall not contain any classification exclusions purporting to deny coverage for any work to be performed by Contractor or any of its Subcontractors.

c. Stipulation that the insurance is primary and noncontributory, as evidenced by a separate endorsement (CG 20 01 04 13 or an equivalent) or section of the policy, and that neither the City nor its insurers will be called upon to contribute to a loss.

d. Such insurance shall specifically cover the contractual liability of the Contractor.

e. Any available insurance proceeds in excess of the specified minimum insurance coverage requirements and limits shall be available to the additional insureds. Furthermore, the requirements for coverage and limits shall be: (1) the minimum coverage and limits specified in this Agreement; or (2) the full coverage and maximum limits of any insurance proceeds available to the named insureds, whichever is greater.

f. Waiver of subrogation endorsement.

g. The Contractor shall furnish a certificate for the period covered.

2. **Automobile Liability:** Insurance Services Office Form Number CA 0001 covering Code 1 (any auto), or if Contractor has no owned autos, Code 8 (hired) and Code 9 (non-owned), with limits of no less than One Million Dollars (\$1,000,000) per accident for bodily injury and property damage.

3. **Workers' Compensation:** In accordance with the provisions of the California Labor Code, Contractor is required to be insured against liability for Workers' Compensation or to undertake self-insurance. Statutory Workers' Compensation and Employers' Liability of at least One Million Dollars (\$1,000,000) shall cover all Contractors staff while performing any work incidental to the performance of this Agreement.

4. **Professional Liability:** Professional Liability (Errors and Omission) Insurance appropriate to Contractor's profession, with a limit of liability not less than One Million Dollars (\$1,000,000) per occurrence or claim and Two Million Dollars (\$2,000,000) aggregate to cover all design and engineering services rendered by Contractor pursuant to the Agreement. Coverage must commence from the first day that Contractor or any of its

Subcontractors provided any design or engineering services in connection with the Project.

5. **Builder's Risk/Course of Construction Insurance Is X OR Is Not _____ Required by Risk Management:** The Contractor shall be responsible for all loss, damage or destruction whatsoever to the work called for by this Contract until the approval of a Notice of Completion or acceptance of the Work if no Notice of Completion is to be recorded.

The Contractor shall secure "All Risk" type of Builder's Risk Insurance of the type covering one hundred percent (100%) of the value of the work performed under this Contract (the value is presumed to be the Contract amount unless otherwise stated in Supplemental Conditions) and all materials, equipment, or other items to be incorporated therein while the same are located at the construction site, a bonded warehouse, or its place of manufacture. At any time, the policy shall cover the value of the work completed. The policy shall cover hazards including the losses due to fire, explosion, hail, rain, lightning, flood (separate insurance as needed), vandalism, malicious mischief, wind, collapse, aircraft, and smoke.

The policies providing such insurance shall name the City as a loss payee as its respective interests may appear, and certified copies of such policies shall be filed with the City. The maximum deductible allowable under the Builder's All Risk policy shall be five percent (5%) of the Contract amount.

Builder's Risk Insurance is not required for coverage of losses in excess of five percent (5%) of the Contract amount for damages resulting from earthquake in excess of a magnitude of 3.5 on the Richter scale, or tidal waves. Coverage in the amount of five percent (5%) of the Contract amount for such losses is required.

6. **Pollution Coverage:** Contractor shall procure pollution liability coverage or other insurance covering claims for bodily injury or property damage arising out of the

abatement, removal, storage, transportation, or other exposure to hazardous materials or pollutants, in limits not less than Two Million Dollars (\$2,000,000). Contractor shall add the City and all parties required to be indemnified by Contractor as additional insured on all pollution liability policies.

7. **Higher Coverage Limits:** If Contractor maintains higher coverage limits than the amounts shown above, then the City requires and shall be entitled to coverage for the higher coverage limits maintained by Contractor. Any available insurance proceeds in excess of the specified minimum limits of insurance and coverage shall be available to the City.

8. **Claims Made Coverage:** Liability insurance coverage may not be written on a “claims made” or modified occurrence basis. The Certificate of Insurance must clearly provide that the coverage is on an “occurrence” basis.

5-1.24 **OTHER INSURANCE PROVISIONS.**

A. The requirements of the Standard Specifications as to types and limits of insurance coverage to be maintained by the Contractor, and any approval of insurance by the City, are not intended to, and shall not in any manner limit or qualify the liabilities and obligations otherwise assumed by the Contractor pursuant to the Contract, including, but not limited to, the provisions concerning indemnification, nor preclude the City from taking any other action available to it under any other provision of the Contract or law.

B. The City acknowledges that some insurance requirements contained in these Standard Specifications may be fulfilled by self-insurance on the part of the Contractor. However, this shall not in any way limit liabilities assumed by Contractor under the Contract. Any self-insurance must be approved in writing by the City, in its sole discretion and shall not reduce the limits of liability. Any deductibles or self-insured retentions (“SIR”) must be declared

on the certificate of insurance and approved by City in writing. Policies containing any SIR provision shall provide or be endorsed to provide that the SIR may be satisfied by either the named insured or City. City reserves the right to obtain a full certified copy of any insurance policy and endorsements. The failure to exercise this right shall not constitute a waiver of such right.

C. The Contractor agrees to include in its contracts with all subcontractors the same requirements and provisions of this Contract, including the indemnity and insurance requirements, to the extent they apply to the scope of the subcontractor's work. Furthermore, the Contractor shall require its subcontractors to agree to be bound to the Contractor and the City in the same manner and to the same extent as the Contractor is bound to the City under this Contract. Additionally, the Contractor shall obligate its subcontractors to comply with these same provisions with respect to any tertiary subcontractor, regardless of tier. A copy of the City's indemnity and insurance provisions will be furnished to the subcontractor or tertiary subcontractor upon request. Alternatively, the Contractor may insure subcontractor(s) under its own policy.

D. The City, its officers, agents, employees, and volunteers are to be covered as insureds with respect to liability arising out of automobiles owned, leased, hired or borrowed by or on behalf of the Contractor; and with respect to liability arising out of work or operations performed by or on behalf of the Contractor including materials, parts or equipment furnished in connection with such work or operations. Coverage shall not extend to any indemnity coverage for the active negligence of the additional insured in any case where an agreement to indemnify the additional insured would be invalid under California Insurance Code Section 11580.04.

E. The limits of insurance required in this Contract may be satisfied by a

combination of primary and excess insurance. Any excess insurance shall contain or be endorsed to contain a provision that such coverage shall also apply on a primary and noncontributory basis for the benefit of the City (if agreed to in a written contract) before the City's own insurance shall be called upon to protect it as a named insured.

F. The insurance procured by Contractor shall be subject to the approval of the City, but any acceptance of insurance certificates by the City shall in no way limit or relieve Contractor of its duties and responsibilities under the Agreement.

G. Contractor shall be responsible for all premiums, deductibles, and self-insured retention applicable to the insurance it is required to procure under the Contract. All deductibles or self-insured retentions over five hundred thousand dollars (\$500,000) must be approved by the City, in writing. Contractor shall be responsible for all deductibles, self-insured retention payments, and/or increased premiums incurred if the City's policies of insurance are forced to cover damages or respond to claims for which Contractor or its Subcontractors were obligated to provide insurance under the Contract.

H. Failure of the City to enforce in a timely manner any of the requirements of these insurance provisions shall not act as a waiver to enforcement of any of these provisions at a later date.

I. Contractor's indemnity obligations shall not be limited by these insurance provisions and shall survive the expiration of the Contract and the insurance provisions of the Contract shall likewise not be limited by the indemnity provisions of the Contract.

**J. THE CITY RESERVES THE RIGHT TO WITHHOLD ANY
PROGRESS PAYMENTS TO THE CONTRACTOR IN THE EVENT OF
NONCOMPLIANCE WITH ANY INSURANCE REQUIREMENTS.**

Bond No. _____
Premium \$ _____

PUBLIC WORKS
FAITHFUL PERFORMANCE BOND

(Project: _____)

WHEREAS, the City of Roseville ("CITY") has awarded a bid and contract to _____
as contractor ("PRINCIPAL") for the public work described as _____
_____ (the "WORK"). The
contract ("AGREEMENT"), for the public work described above, and all of its terms and
conditions are incorporated by reference and made a part hereof; and

WHEREAS, the PRINCIPAL is required to furnish a bond in connection with the
AGREEMENT guaranteeing its faithful performance; and

NOW, THEREFORE, we the undersigned PRINCIPAL and _____
_____, a _____, admitted
and duly authorized to transact business under the laws of the State of California, as
SURETY ("SURETY"), are held and firmly bound unto the CITY or its successors and
assigns in the sum of _____
dollars (\$ _____) (which amount is not less than 100% of the

AGREEMENT price) to be paid to the CITY or its successors and assigns; and for which payment, well and truly to be made, we bind ourselves, our heirs, executors and administrators, successors or assigns jointly and severally, firmly by these presents.

The condition of this obligation is such that if the PRINCIPAL, or its heirs, executors, administrators, successors or assigns, shall abide by, and in all respects promptly and faithfully perform the covenants, conditions and provisions in said AGREEMENT and any alteration thereof made as therein provided, notice of which alterations to Surety being hereby waived, on its part to be kept and performed at the time and in the manner therein specified, and in all respects according to their true intent and meaning, and shall indemnify and save harmless CITY, its officers, agents, employees, volunteers as therein stipulated, then this obligation shall be null and void; otherwise, this obligation shall be and remain in full force and effect.

As condition precedent to the satisfactory completion of the contract, the obligation of the PRINCIPAL and SURETY under this Bond shall remain in effect for a period of one (1) year after the completion and acceptance of the WORK. During that time, if the PRINCIPAL, its heirs, executors, administrators, successors or assigns fails to make full, complete and satisfactory repair and replacement or totally protect the CITY from any loss or damage made evident during that year which results from or is caused by either defective materials or faulty workmanship in the prosecution of the WORK, then the obligation shall remain in full force and effect. However, anything in this paragraph to the contrary notwithstanding, the obligation of the SURETY shall

continue so long as any obligation of the PRINCIPAL remains.

No prepayment or delay in payments, and no change, extension, addition or alteration of any provision of the AGREEMENT or in the specifications agreed to between the PRINCIPAL and the CITY, or any forbearance on the part of the CITY shall operate to relieve the SURETY. The SURETY hereby waives the provisions of Section 2819 of the California Civil Code. The SURETY waives all rights of subrogation against the CITY or any person employed by the CITY. If the contract price increases by the issuance of change orders, the amount specified in this bond shall increase by the same amount.

Whenever PRINCIPAL shall be and declared by CITY to be in default under the AGREEMENT, SURETY shall promptly remedy the default, or shall promptly do one of the follow at CITY's election:

1. Undertake through its agents or independent contractors, reasonably acceptable to CITY, to complete the AGREEMENT in accordance with its terms and conditions and to pay and perform all obligations of PRINCIPAL under the AGREEMENT, including without limitation, all obligations with respect to warranties, guarantees, and the payment of liquidated damages.
2. Reimburse CITY for all costs CITY incurs in completing the AGREEMENT, and in correcting, repairing or replacing defects in materials or workmanship

and/or materials and workmanship which do not conform to the specifications in the AGREEMENT.

SURETY's obligations hereunder are independent of the obligations of any other surety for the performance of the AGREEMENT, and suit may be brought against SURETY and such other sureties, jointly and severally, or against any one or more of them, or against less than all of them without impairing CITY's rights against the others.

No right of action shall accrue on this bond to or for the use of any person or corporation other than CITY or its successors or assigns.

As part of the obligation secured hereby and in addition to the face amount specified therefore, there shall be included costs and reasonable expenses and fees, including reasonable attorneys' fees, incurred by CITY in successfully enforcing such obligation, all to be taxed as costs and included in any judgment rendered.

[SIGNATURES NEXT PAGE]

IN WITNESS WHEREOF, this instrument has been duly executed by the
PRINCIPAL and SURETY above-named, on the ____ day of _____,
20____.

PRINCIPAL:

SURETY:

BY: _____

BY: _____

PRINT NAME: _____

PRINT NAME: _____

PRINT TITLE: _____

PRINT TITLE: _____

AND

MAILING ADDRESS:

BY: _____

PRINT NAME: _____

PRINT TITLE: _____

*(Notarization by Surety and copy of
Power of Attorney required.)*

APPROVED AS TO FORM:

BY: _____

City Attorney

Bond No. _____
Premium \$ _____

PUBLIC WORKS

LABOR AND MATERIALS PAYMENT BOND

(Project: _____)

WHEREAS, the City of Roseville ("CITY"), has awarded a bid and contract to _____
as contractor ("PRINCIPAL"), for the public work described as _____
_____ (the "WORK"). The
contract ("AGREEMENT"), for the public work described above, and all of its terms and
conditions are incorporated by reference and made a part hereof; and

WHEREAS, the PRINCIPAL is required to furnish a bond in connection with the
AGREEMENT guaranteeing payment of persons who provide labor and material; and

NOW, THEREFORE, we the undersigned PRINCIPAL and _____
_____, a _____, admitted
and duly authorized to transact business under the laws of the State of California, as
SURETY ("SURETY"), are held and firmly bound unto the CITY or its successors and
assigns in the sum of _____
dollars (\$ _____) (which amount is not less than 100% of the
AGREEMENT price) to be paid to the CITY or its successors and assigns; and for which

payment, well and truly to be made, we bind ourselves, our heirs, executors and administrators, successors or assigns jointly and severally, firmly by these presents.

The condition of the obligation is such that if the PRINCIPAL, its subcontractors, heirs, executors, administrators, successors or assigns fails to pay any of the persons named in Section 8004 or 9100 of the Civil Code of the State of California, or the amounts due under the Unemployment Insurance Code of the State of California, or any amounts required to be deducted, withheld and paid over to the Employment Development Department from the wages of employees of the PRINCIPAL and its subcontractors pursuant to Section 13020 of the Unemployment Insurance Code, with respect to work or labor performed by any such claimant, that the SURETY will pay for the same, in an amount not exceeding the sum specified in this bond, and also, in case suit is brought upon the bond, shall pay reasonable attorneys' fees, to be fixed by the Court.

This bond shall inure to the benefit of any and all persons, companies, and corporations entitled to file a Stop Payment Notice pursuant to the provisions of Section 9350 et seq. of the Civil Code of the State of California, so as to give a right of action to them or their assigns in any suit brought upon this bond.

No prepayment or delay in payments, and no change, extension, addition or alteration of any provision of the AGREEMENT or in the specifications agreed to between the PRINCIPAL and the CITY, or any forbearance on the part of the CITY shall

operate to relieve the SURETY. The SURETY hereby waives the provisions of Section 2819 of the California Civil Code. The SURETY waives all rights of subrogation against the CITY or any person employed by the CITY. If the contract price increases by the issuance of change orders, the amount specified in this bond shall increase by the same amount.

As part of the obligation secured hereby and in addition to the face amount specified therefore, there shall be included costs and reasonable expenses and fees, including reasonable attorneys' fees, incurred by CITY in successfully enforcing such obligation, all to be taxed as costs and included in any judgment rendered.

[SIGNATURES NEXT PAGE]

IN WITNESS WHEREOF, this instrument has been duly executed by the
PRINCIPAL and SURETY above-named, on the _____ day of _____,
20__.

PRINCIPAL:

SURETY:

BY: _____

BY: _____

PRINT NAME: _____

PRINT NAME: _____

PRINT TITLE: _____

PRINT TITLE: _____

AND

MAILING ADDRESS:

BY: _____

PRINT NAME: _____

PRINT TITLE: _____

***(Notarization by Surety and copy of
Power of Attorney required.)***

APPROVED AS TO FORM:

BY: _____

City Attorney

GENERAL CONDITIONS
FOR BUILDINGS AND GROUNDS

TABLE OF CONTENTS

SECTION 1: DEFINITIONS AND TERMS GC-1:1

1-1.01	GENERAL	GC-1:1
1-1.02	ACCEPTANCE	GC-1:1
1-1.03	ADDENDUM	GC-1:1
1-1.04	AS-BUILT DOCUMENTS, AS-BUILT DRAWINGS AND RECORD	
	DOCUMENTS.....	GC-1:1
1-1.05	ASSESSMENT	GC-1:2
1-1.06	BENEFICIAL OCCUPANCY	GC-1:2
1-1.07	BID GUARANTY.....	GC-1:2
1-1.08	BIDDER.....	GC-1:2
1-1.09	BIDDING DOCUMENTS	GC-1:2
1-1.10	CHANGE ORDER.....	GC-1:2
1-1.11	CITY	GC-1:2
1-1.12	CITY ATTORNEY	GC-1:2
1-1.13	CITY CLERK	GC-1:2
1-1.14	CLAIM.....	GC-1:2
1-1.15	CONSTRUCTION SCHEDULE	GC-1:3
1-1.16	CONTRACT OR AGREEMENT	GC-1:3
1-1.17	CONTRACT CONDITIONS.....	GC-1:3

1-1.18	CONTRACT DOCUMENTS	GC-1:3
1-1.19	CONTRACT DRAWINGS.....	GC-1:3
1-1.20	CONTRACT PRICE	GC-1:4
1-1.21	CONTRACT TIME.....	GC-1:4
1-1.22	CONTRACTOR.....	GC-1:4
1-1.23	DAY OR DAYS	GC-1:4
1-1.24	DEPARTMENT	GC-1:4
1-1.25	DIRECT COSTS	GC-1:4
1-1.26	DIRECTOR.....	GC-1:6
1-1.27	EMERGENCY.....	GC-1:6
1-1.28	ENGINEER OR ARCHITECT	GC-1:7
1-1.29	FINAL COMPLETION	GC-1:7
1-1.30	FORCE ACCOUNT.....	GC-1:7
1-1.31	GENERAL NOTES	GC-1:7
1-1.32	INSTALLATION, INSTALL	GC-1:7
1-1.33	LABORATORY	GC-1:7
1-1.34	LEGAL HOLIDAYS	GC-1:7
1-1.35	LIQUIDATED DAMAGES.....	GC-1:8
1-1.36	NOTICE OF COMPLETION.....	GC-1:8
1-1.37	NOTICE TO PROCEED	GC-1:8
1-1.38	NOTICE OF TERMINATION.....	GC-1:8
1-1.39	OVERHEAD.....	GC-1:8
1-1.40	PREMISES.....	GC-1:9

1-1.41	PROFESSIONAL ENGINEER.....	GC-1:9
1-1.42	PROJECT MANUAL	GC-1:9
1-1.43	PROPOSAL FORMS.....	GC-1:9
1-1.44	REQUEST FOR INFORMATION (RFI).....	GC-1:9
1-1.45	SAFETY.....	GC-1:9
1-1.46	SCHEDULE OF VALUES.	GC-1:10
1-1.47	SHOP DRAWINGS	GC-1:10
1-1.48	SPECIFICATIONS.....	GC-1:10
1-1.49	SUBCONTRACTOR.....	GC-1:10
1-1.50	SUBMITTALS.....	GC-1:10
1-1.51	SUPPLEMENTAL CONDITIONS	GC-1:10
1-1.52	SUPPLIER	GC-1:10
1-1.53	WORK	GC-1:11
1-1.54	WORK SITE	GC-1:11
1-1.55	WORKING DRAWINGS	GC-1:11
SECTION 2: CONTROL AND SCOPE OF THE WORK		GC-2:1
2-1.01	AUTHORITY OF DIRECTOR.....	GC-2:1
2-1.02	INTENT OF CONTRACT DOCUMENTS	GC-2:1
2-1.03	EXAMINATION AND VERIFICATION OF CONTRACT	
	DOCUMENTS.....	GC-2:2
2-1.04	CONTRACT DRAWINGS.....	GC-2:3
2-1.05	COORDINATION AND INTERPRETATION OF CONTRACT	
	DOCUMENTS.....	GC-2:3

2-1.06	INDEPENDENT CONTRACTOR STATUS	GC-2:5
2-1.07	ORDER OF WORK	GC-2:5
2-1.08	SUBMITTALS.....	GC-2:5
2-1.08A	SHOP DRAWINGS	GC-2:6
2-1.08B	DESCRIPTIVE DATA	GC-2:7
2-1.08C	SAMPLES.....	GC-2:7
2-1.08D	MANUALS, INSTRUCTIONS AND AFFIDAVIT	GC-2:7
2-1.08E	ALTERNATIVES	GC-2:10
2-1.09	DISPOSAL OF MATERIAL OUTSIDE THE WORK SITE.....	GC-2:12
2-1.10	ACCESS TO THE WORK.....	GC-2:12
2-1.11	TEMPORARY UTILITIES	GC-2:12
2-1.12	UTILITY FACILITIES.....	GC-2:13
2-1.13	PRESERVATION AND CLEANING	GC-2:14
2-1.14	LIMITATIONS ON WORK SITE AND PREMISES.....	GC-2:14
2-1.15	DUST CONTROL.....	GC-2:15
2-1.16	SANITATION	GC-2:15
2-1.17	NIGHT WORK AND NORMAL WORKING HOURS	GC-2:15
2-1.18	LINES AND GRADES	GC-2:16
2-1.19	ARCHEOLOGICAL DISCOVERIES	GC-2:17
2-1.20	PRESERVATION OF MONUMENTS	GC-2:17
2-1.21	CONFORMITY WITH CONTRACT DOCUMENTS	GC-2:18
2-1.22	FINAL CLEANUP	GC-2:18
2-1.23	AS-BUILT DOCUMENTS AND DRAWINGS	GC-2:18

2-1.24	SUPERINTENDENCE	GC-2:19
2-1.25	CHARACTER OF WORKER	GC-2:20
2-1.26	INSPECTION	GC-2:20
2-1.27	REMOVAL OF REJECTED AND UNAUTHORIZED WORK.....	GC-2:21
SECTION 3: CHANGES IN THE WORK		GC-3:1
3-1.01	CHANGES.....	GC-3:1
3-1.02	PROPOSED CHANGE ORDERS	GC-3:2
3-1.03	EMERGENCY AND INDETERMINATE TYPE CHANGE ORDERS	GC-3:3
3-1.04	EXECUTED CHANGE ORDER.....	GC-3:3
3-1.05	CONTRACT PRICE ADJUSTMENT	GC-3:3
3-1.06	FORCE ACCOUNT PAYMENT.....	GC-3:6
3-1.06A	LABOR.....	GC-3:6
3-1.06B	MATERIALS.....	GC-3:6
3-1.06C	EQUIPMENT.....	GC-3:7
3-1.06D	MARKUPS	GC-3:8
3-1.06E	RECORDS.....	GC-3:10
3-1.07	COST REDUCTION PROPOSALS	GC-3:11
SECTION 4: CONTROL OF MATERIALS.....		GC-4:1
4-1.01	MATERIALS.....	GC-4:1
4-1.02	PRODUCT AND REFERENCE STANDARDS	GC-4:2
4-1.03	SAMPLING AND TESTING OF MATERIALS.....	GC-4:2
4-1.04	CERTIFICATES OF COMPLIANCE	GC-4:7

SECTION 5: LEGAL RELATIONS AND RESPONSIBILITY	GC-5:1
5-1.01 LAWS TO BE OBSERVED	GC-5:1
5-1.02 HOURS OF LABOR.....	GC-5:1
5-1.03 NONDISCRIMINATION.....	GC-5:2
5-1.04 PREVAILING WAGE.....	GC-5:3
5-1.05 REGISTRATION REQUIRED AS QUALIFICATION TO BID	GC-5:7
5-1.06 PAYROLL RECORDS	GC-5:7
5-1.07 SAFETY REQUIREMENTS.....	GC-5:10
5-1.08 SUBSURFACE EXCAVATIONS, NOTIFICATION.....	GC-5:15
5-1.09 PUBLIC SAFETY.....	GC-5:16
5-1.10 EMERGENCIES.....	GC-5:18
5-1.11 APPRENTICES	GC-5:18
5-1.12 FAIR LABOR STANDARDS ACT.....	GC-5:19
5-1.13 WORKERS' COMPENSATION	GC-5:19
5-1.14 AIR POLLUTION CONTROL AND ASBESTOS.....	GC-5:19
5-1.15 USE OF PESTICIDES	GC-5:20
5-1.16 SOUND AND LIGHT CONTROL REQUIREMENTS	GC-5:21
5-1.17 WEIGHT LIMITATIONS	GC-5:21
5-1.18 ENVIRONMENTAL CLEARANCES; MITIGATION MONITORING	
PROGRAMS; AND REGULATORY AGENCY PERMIT	
REQUIREMENTS.....	GC-5:21
5-1.19 PERMITS AND LICENSES	GC-5:22
5-1.20 WATER POLLUTION	GC-5:23

5-1.21	PROTECTION AND USE OF PROPERTY	GC-5:23
5-1.22	RESPONSIBILITY FOR DAMAGE AND INDEMNIFICATION.....	GC-5:24
5-1.23	INSURANCE COVERAGE	GC-5:27
5-1.24	OTHER INSURANCE PROVISIONS	GC-5:31
5-1.25	THIRD PARTY BENEFICIARY	GC-5:34
5-1.26	COORDINATION AND ACCESS.....	GC-5:34
5-1.27	OCCUPANCY BY THE DEPARTMENT PRIOR TO ACCEPTANCE	GC-5:35
5-1.28	RIGHT TO OPERATE UNSATISFACTORY FACILITIES AND EQUIPMENT.....	GC-5:36
5-1.29	CONTRACTOR'S RESPONSIBILITY FOR THE WORK.....	GC-5:36
5-1.30	RESPONSIBILITY FOR UTILITIES	GC-5:37
5-1.31	PROPERTY RIGHTS IN MATERIALS	GC-5:39
5-1.32	COURT ORDERED DELAY	GC-5:40
5-1.33	NO PERSONAL LIABILITY	GC-5:40
5-1.34	RIGHTS IN LAND AND IMPROVEMENTS.....	GC-5:40
5-1.35	ANTITRUST CLAIMS.....	GC-5:40
5-1.36	RIGHTS TO DRAWINGS, TECHNICAL DATA PATENTS	GC-5:41
5-1.37	PAYMENT OF TAXES.....	GC-5:42
5-1.38	GRATUITIES AND CONFLICT OF INTEREST.....	GC-5:43
5-1.39	COOPERATION	GC-5:43
5-1.40	DIGGING TRENCHES OR OTHER EXCAVATIONS	GC-5:44
5-1.41	CONTRACTOR REGISTRATION.....	GC-5:45
5-1.42	CITY OF ROSEVILLE ENCROACHMENT PERMITS AND	

RIGHTS-OF-WAY	GC-5:45
SECTION 6: PROSECUTION AND PROGRESS	GC-6:1
6-1.01 SUBLETTING AND SUBCONTRACTING	GC-6:1
6-1.02 ASSIGNMENT	GC-6:2
6-1.03 BEGINNING OF WORK.....	GC-6:3
6-1.04 PROGRESS SCHEDULE.....	GC-6:3
6-1.05 SCHEDULE OF VALUES	GC-6:9
6-1.06 CITY’S RIGHT TO STOP WORK	GC-6:10
6-1.07 TIME OF COMPLETION	GC-6:11
6-1.08 LIQUIDATED DAMAGES.....	GC-6:13
6-1.09 DELAYS AND EXTENSIONS TO THE WORK	GC-6:14
6-1.10 TERMINATION	GC-6:18
6-1.10A TERMINATION OF AGREEMENT – CONVENIENCE OF CITY.....	GC-6:18
6-1.10B TERMINATION OF AGREEMENT - FOR CAUSE	GC-6:21
SECTION 7: ACCEPTANCE AND PAYMENT	GC-7:1
7-1.01 ACCEPTANCE	GC-7:1
7-1.02 SCOPE OF PAYMENT	GC-7:2
7-1.03 NOTICE OF POTENTIAL CLAIM	GC-7:2
7-1.04 CLAIMS	GC-7:5
7-1.05 DISPUTE RESOLUTION PROCEDURE.....	GC-7:7
7-1.06 STOP PAYMENT NOTICES	GC-7:7
7-1.07 PROGRESS PAYMENTS	GC-7:7
7-1.08 PAYMENT FOR MATERIALS AND EQUIPMENT ON HAND.....	GC-7:9

7-1.09	RETENTION ON PROGRESS PAYMENTS	GC-7:11
7-1.10	FINAL PAYMENT	GC-7:12
7-1.11	CLERICAL ERRORS.....	GC-7:14
7-1.12	WARRANTY.....	GC-7:14
7-1.13	WARRANTY OF TITLE	GC-7:16

SECTION 1

DEFINITIONS AND TERMS

1-1.01 **GENERAL.** When the following abbreviations and terms or pronouns in place of them appear in the Contract Documents, the intent and meaning shall be interpreted as provided in this Section 1.

1-1.02 **ACCEPTANCE.** Formal Acceptance by resolution by the Roseville City Council of the Contract when completed in all respects in accordance with the Contract Documents and any modifications previously approved.

1-1.03 **ADDENDUM.** Written interpretation or revision to any of the Contract Documents issued by the City before the bid opening.

1-1.04 **AS-BUILT DOCUMENTS, AS-BUILT DRAWINGS AND RECORD DOCUMENTS.** As-Built Documents, As-Built Drawings and Record Documents are all contract documents modified to reflect changes during the construction phase. Specifically, As-Built Documents/Drawings are a revised set of drawings submitted by the Contractor upon Final Completion of a project. They reflect changes made in the Specifications and Working Drawings during the construction process, and show the exact dimensions, geometry, and location of all elements of the work completed under the Contract. Record Documents, on the other hand, are compiled by the Engineer or Architect based on the As-Built Documents/Drawings submitted by the Contractor. They reflect the Engineer or Architect's concurring review of what changes were denoted, why they were made and where they occurred and create a record set of drawings.

- 1-1.05 **ASSESSMENT.** A cost imposed on the Contractor for non-compliance with certain contractual requirements.
- 1-1.06 **BENEFICIAL OCCUPANCY.** The taking possession of a portion of the Work by the City for its use and/or occupancy on other than a temporary or emergency basis.
- 1-1.07 **BID GUARANTY.** The cashier's, certified check, irrevocable standby letter of credit, deposit of securities, or Bidder's Bond, accompanying the bid submitted by the Bidder, as a guaranty that the Bidder will enter into an agreement with the City for the performance of the Work, if the Agreement is awarded to Bidder, and the Bidder will submit the required Contract Bonds and Certificate of Insurance. Also referred to as the Bidder's Security.
- 1-1.08 **BIDDER.** Individual, firm, partnership, limited liability company, corporation, joint venture, or any combination thereof, submitting a Proposal for the Work, acting directly, or through a duly authorized representative.
- 1-1.09 **BIDDING DOCUMENTS.** Includes the Notice to Bidders, Bidding Requirements, Contract Conditions, Drawings, and Addenda.
- 1-1.10 **CHANGE ORDER.** Any written order to the Contractor directing an addition, deletion, or modification of the Work, or an adjustment in the Contract Price or Contract Time provided in the Contract Documents and issued after the Agreement has been signed.
- 1-1.11 **CITY.** The City of Roseville.
- 1-1.12 **CITY ATTORNEY.** The City Attorney of the City.
- 1-1.13 **CITY CLERK.** The City Clerk of the City.
- 1-1.14 **CLAIM.** A separate demand by Contractor sent by registered mail or certified mail with return receipt requested, for one or more of the following: (a) a time

extension, including, without limitation, for relief for damages or penalties for delay assessed by the City; (b) payment by the City of money or damages arising from work done by, or on behalf of, Contractor pursuant to the Contract Documents and payment for which is not otherwise expressly provided or to which Contractor is not otherwise entitled; and (c) payment of an amount that is disputed by the City.

1-1.15 **CONSTRUCTION SCHEDULE.** A list or graphic display of construction activities required for completing the Work, in a format required by the Contract Documents. The duration, start and finish date, and sequence of significant activities, critical path, float and milestones must be indicated in the Construction Schedule.

1-1.16 **CONTRACT OR AGREEMENT.** The written agreement relating to the Work to be performed, the labor, materials, and equipment to be furnished, and the payment to be made therefor. The Agreement/Contract is part of and incorporates all of the Contract Documents.

1-1.17 **CONTRACT CONDITIONS.** Includes the General Conditions, Supplemental Conditions, and Specifications.

1-1.18 **CONTRACT DOCUMENTS.** Includes those documents that form the basis of the Contract, including but not limited to, Bidding Documents, the Bid or Proposal, Contract Bonds, the Contract, all required insurance certificates or endorsements, all bonds, all required certifications or statements, Change Orders, any Contract Amendment, any City Standard which is incorporated by reference and these City of Roseville General Conditions for Buildings and Grounds.

1-1.19 **CONTRACT DRAWINGS.** The official drawings including plans, elevations, sections, detail drawings, diagrams, plated, General Notes, information and schedules

thereon, or exact reproductions thereof, showing the location, character, dimension, and details of the Work. The Contract Drawings include any drawings or plates bound within the Supplemental Conditions.

1-1.20 **CONTRACT PRICE.** The total compensation to be paid to the Contractor in accordance with the terms of the Agreement.

1-1.21 **CONTRACT TIME.** The number of Days, or portion thereof, allowed for completion of the Work, including all authorized time extensions. The effective date for commencement of the Work specified in the Notice to Proceed shall define the beginning of the Contract Time.

1-1.22 **CONTRACTOR.** Individual, firm, partnership, limited liability company, corporation, joint venture, or any combination thereof, who has entered into the Agreement with City.

1-1.23 **DAY OR DAYS.** Unless otherwise designated, Day or Days as used in the Contract Documents will be understood to mean calendar Day or Days.

1-1.24 **DEPARTMENT.** The Department for Contract Administration, as identified in the Supplemental Conditions.

1-1.25 **DIRECT COSTS.** Those cost items (including labor, materials, equipment and any subcontractor's work) that are used in the actual performance of, and are specifically and uniquely attributable to the Work or changed Work. Direct Costs do not include Overhead. Direct Costs only include the following:

A. Payroll costs for employees in the direct employ of Contractor in the performance of the Work under schedules of job classifications agreed upon by City and Contractor. Payroll costs for employees not employed full time on the Work shall be apportioned

on the basis of their time spent on the Work. Payroll costs shall include salaries and wages plus the cost of fringe benefits which shall include social security contributions, unemployment, excise and payroll taxes, workers' compensation, health and retirement benefits, sick leave, vacation and holiday pay applicable thereto. Such employees may include superintendents and foremen at the site. The expenses of performing work after regular working hours, on Saturday, Sunday or legal holidays shall be included in the above only to the extent authorized by City in writing.

B. Cost of all materials and equipment furnished and incorporated in the Work, including costs of transportation and storage thereof, and suppliers' field services required in connection therewith. All trade discounts, rebates and refunds and all returns from sale of surplus materials and equipment shall accrue to City, and Contractor shall make provisions so that they may be obtained.

C. Payments made by Contractor to the subcontractors for work performed by subcontractors. If required by City, Contractor shall obtain competitive bids from subcontractors acceptable to Contractor and shall deliver such bids to City who will then determine which bids will be accepted. If a subcontract provides that the subcontractor is to be paid on the basis of cost of the work plus a fee, the subcontractor's cost of the work shall be determined in the same manner as Contractor's cost of the work. All subcontracts shall be subject to the other provisions of the Contract Documents insofar as applicable.

D. Costs of special consultants (including engineers, architects, testing laboratories, surveyors, and accountants) employed for services specifically, and only, related to the Work.

E. Supplemental costs including the following:

1. The proportion of necessary transportation, travel and subsistence expenses of Contractor's employees incurred in discharge of duties connected with the Work.
2. Cost, including transportation and maintenance, of all materials, supplies, equipment, machinery, appliances, office and temporary facilities at the site and hand tools not owned by the workers, which are consumed in the performance of the Work, and cost, less market value of such items used but not consumed which remain the property of Contractor.
3. Rentals of all construction equipment and machinery and the parts thereof whether rented from Contractor or others in accordance with rental agreements approved by City, and the costs of transportation, loading, unloading, installation, dismantling and removal thereof, all in accordance with terms of said rental agreements. The rental of any such equipment, machinery or parts shall cease when the use thereof is no longer necessary for the Work.
4. Sales, consumer, use or similar taxes related to the Work, and for which Contractor is liable, imposed by laws and regulations.
5. The cost of utilities (including the meter and all associated installation costs), fuel and sanitary facilities at the site.
6. Cost of premiums for additional bonds and insurance required because of changes in the Work.

1-1-26 **DIRECTOR.** Director of the Department for Contract Administration or his or her designee.

1-1.27 **EMERGENCY.** Any sudden generally unforeseen occurrence (such as a fire, flood, storm, earthquake, civil disorder, or other natural and/or man-made disaster) that has

the potential to adversely affect the safety of life, the Work, and/or adjacent property; to interrupt contracts essential to the performance of the Work; and/or to cause catastrophic failure of City equipment and/or facilities.

1-1.28 **ENGINEER OR ARCHITECT.** Professional Engineer or Architect designated for a particular project responsible for signing and sealing the permit drawings, interpretation of the drawings where ambiguities exist, review of requests for information, design Change requests and Shop Drawings, resolution of errors and omissions, and finalization of Record Documents.

1-1.29 **FINAL COMPLETION.** When the project has been completed according to the terms and conditions set forth in the Contract Documents. Final Completion is not the same as Acceptance.

1-1.30 **FORCE ACCOUNT.** Payment by force account shall mean payment on the basis of the Contractor's time and materials.

1-1.31 **GENERAL NOTES.** The written instructions, provisions, conditions or other requirements appearing on the Contract Drawings and so identified thereon, which pertain to the performance of the Work.

1-1.32 **INSTALLATION, INSTALL.** Completely assembling, erecting, and/or connecting materials, parts, components, supplies, and related equipment specified or required for the completion of the Work.

1-1.33 **LABORATORY.** Established professional laboratories authorized by the City to test materials and Work involved in the Contract.

1-1.34 **LEGAL HOLIDAYS.** Those days designated as Federal holidays or declared by the City, or otherwise specified in the Contract Documents.

1-1.35 **LIQUIDATED DAMAGES.** The amount prescribed in the Contract Documents to be paid to the City or to be deducted from any payments due or to become due the Contractor for each day's delay in completing the whole or any specified portion of the Work beyond the time allowed in the Supplemental Conditions.

1-1.36 **NOTICE OF COMPLETION.** A legal notice filed by the City with the Placer County Recorder's Office stating that construction has been completed and accepted by the City.

1-1.37 **NOTICE TO PROCEED.** A written notice given by the City to the Contractor fixing the date on which the Contract Time will commence to run.

1-1.38 **NOTICE OF TERMINATION.** Written notice from the City to the Contractor and/or its Surety terminating the Agreement, or a portion thereof, either for convenience of the City or for default due to the Contractor's failure to perform its contractual obligations.

1-1.39 **OVERHEAD.** Business or administrative expenses (including but not limited to office expenses, administrative staff, rent, insurance, utilities) not chargeable to a particular part of the Work. The term "Overhead" shall include all of the following:

A. Payroll costs and other compensation of Contractor's officers, executives, principals (of partnerships and sole proprietorships), general managers, engineers, architects, estimators, attorneys, auditors, accountants, purchasing and contracting agents, expeditors, timekeepers, clerks, and other personnel employed by Contractor whether at the Work Site or in Contractor's principal or a branch office for general administration of the Work and not specifically included in the agreed upon schedule of job classifications, all of which are to be considered administrative costs covered by the Contractor's fee.

- B. Expenses of Contractor's principal and branch offices other than Contractor's office at the site.
- C. Any part of Contractor's capital expenses, including interest on Contractor's capital employed for the Work and charges against Contractor for delinquent payments.
- D. Cost of premiums for all bonds and for all insurance whether or not Contractor is required by the Contract Documents to purchase and maintain the same, except as provided in section 1-1.25.

E. Other overhead or general expense costs of any kind.

1-1.40 **PREMISES.** Shall mean the area within construction easements, easements, rights of entry and City owned property which surrounds the Work Site, limited by the property lines thereof. In some cases Premises may coincide with the Work Site.

1-1.41 **PROFESSIONAL ENGINEER.** An engineer licensed by the Board of Registration for Professional Engineers, State of California.

1-1.42 **PROJECT MANUAL.** A book containing all Contract Documents.

1-1.43 **PROPOSAL FORMS.** The approved forms upon which the City requires that each Bidder submit its bid with regard to the Agreement.

1-1.44 **REQUEST FOR INFORMATION (RFI).** A document issued by the Contractor requesting information concerning the Contract Documents.

1-1.45 **SAFETY.** Includes the practice of identifying potential hazards, assessing their risk, taking corrective action where possible, including and providing control measures such as engineering design, written procedures, and the personal protective equipment for workers in order to eliminate or reduce the risk for exposure in the workplace.

1-1.46 **SCHEDULE OF VALUES.** The breakdown of the Contract Price that will serve as the basis for Contractor's Applications of Payment. Any lump sum bid item included within the Contract Price will be apportioned among values relating to specific components of the Work covered by said lump sum.

1-1.47 **SHOP DRAWINGS.** Drawings, plans, diagrams, schedules, and other data specifically prepared and submitted to the City by the Contractor, showing in detail: (a) the proposed fabrication and assembly of a special component of the Work; and (b) the Installation (form, fit and attachment details) of a special component of the Work. Shop Drawings shall be deemed to include Working Drawings, Product Data, literature, and applicable performance and test data.

1-1.48 **SPECIFICATIONS.** The technical Specifications for the Work prepared by the Director or an Engineer or Architect describing in detail the nature of the Work, its components, any performance standards, and how the Work is to be constructed.

1-1.49 **SUBCONTRACTOR.** Any individual, firm, partnership, limited liability company, corporation, joint venture, or combination thereof, other than employees of the Contractor, engaged by the Contractor to furnish services, labor, equipment and materials for a portion of the Work.

1-1.50 **SUBMITTALS.** Those documents required to be submitted by the Contractor for review by the City in accordance with the Contract Documents.

1-1.51 **SUPPLEMENTAL CONDITIONS.** The Supplemental Conditions are specific clauses modifying or supplementing these General Conditions.

1-1.52 **SUPPLIER.** Any individual, firm, partnership, limited liability company, corporation, joint venture, or combination thereof, other than employees of the Contractor, that

supplies a tangible product as a portion of the Work, with services usually limited to delivery and/or required testing, and with manufacturing, fabrication, or production facilities located off the Work Site.

1-1.53 **WORK.** The furnishing of all labor, and the furnishing and Installing of all materials, articles, supplies and equipment as specified, designated, or required by the Contract Documents.

1-1.54 **WORK SITE.** All or portion of the Premises that the Work is limited to as shown on the Contract Drawings or designated by the Director. Public streets are not included unless Work is being done within the street right-of-way.

1-1.55 **WORKING DRAWINGS.** Original drawings prepared by the Contractor and/or its Subcontractors or Suppliers, of any tier, illustrating Work required for construction that will not become an integral part of the completed Work. This includes, but is not limited to, drawings for temporary structures such as decking, bulkheads, excavation supports, utility support, groundwater control, forming, falsework, access roads, staging areas, staging plans, and diversion plans. A Working Drawing is one type of a Shop Drawing.

SECTION 2

CONTROL AND SCOPE OF THE WORK

2-1.01 **AUTHORITY OF DIRECTOR.** The Contract shall be performed in a manner satisfactory to the Director who shall decide all questions which may arise as to the quality or acceptability of materials furnished and Work performed and as to the manner of performance and rate of progress of the Work; all questions which may arise as to the interpretation of the Contract Documents; all questions as to the acceptable fulfillment of the Contract on the part of the Contractor; and all questions as to compensation. The Director shall have authority to enforce and make effective such decisions and orders in the event the Contractor fails to promptly carry out the same.

2-1.02 **INTENT OF CONTRACT DOCUMENTS.** The Contract Documents are complementary, and what is called for by one shall be as binding as if called for by all. The intent of the Contract Documents is to describe the details for the construction and completion of the Work. Where the Contract Documents describe portions of the Work in general terms, but not in complete detail, it is understood that only the best general practice shall be followed and that only materials and workmanship of the best quality are to be used. Any Work, materials, or equipment that are customarily provided, or that are reasonably inferable from the Contract Documents as being required to produce the intended result, shall be supplied, whether or not specifically called for. When words, which have a well-known technical or trade meaning are used to describe work, materials, or equipment, such words shall be interpreted in accordance with that meaning. Unless otherwise specified, the Contractor shall furnish all labor, materials, tools, equipment, and incidentals, and do all the Work involved in executing the Contract in a

satisfactory and workmanlike manner.

Reference to standard specifications, manuals or codes of any technical society, organization or association, or to the laws or regulations of any governmental authority, whether such reference be specific or by implication, shall mean the latest standard specification, manual, code, laws, or regulations in effect on the first published date of the Notice to Contractors, except as may be otherwise specifically stated. However, no provision of any referenced standard specification, manual or code (whether or not specifically incorporated by reference in the Contract Documents) shall be effective to change the duties and responsibilities of City or Contractor, or any of their consultants, agents, or employees from those set forth in the Contract Documents, nor shall it be effective to assign to City, or City's designated representative, any duty or authority to supervise or direct the furnishing or performance of the Work or any duty or authority to undertake responsibility contrary to other provisions of the Contract Documents.

The Contract Documents are divided into parts, divisions, sections and articles for convenience, organization and reference. Generally, there has been no attempt to divide the Specifications sections into work performed by the various building trades, work by separate Subcontractors, or work required for separate facilities in the project.

2-1.03 **EXAMINATION AND VERIFICATION OF CONTRACT**

DOCUMENTS. The Contractor shall thoroughly examine and become familiar with all of the various parts of the Contract Documents and shall determine the nature and location of the Work, the general and local conditions (including applicable laws) and all other matters which can in any way affect the cost, progress or performance of the Work under this Agreement. Failure to make an examination necessary for this determination shall not release the Contractor from the obligations of the Agreement. No oral agreement or conversation with any officer, or employee

of the City, or with the City's designated representative either before or after the execution of the Agreement, shall affect or modify any of the terms or obligations contained in the Contract Documents.

2-1.04 **CONTRACT DRAWINGS.** The Contract Drawings consist of general drawings and show such plans, elevations, sections, details and schedules as are necessary to give a graphic and pictorial description of the contemplated construction. All authorized alterations affecting the requirements and information given on the Contract Drawings shall be in writing.

2-1.05 **COORDINATION AND INTERPRETATION OF CONTRACT DOCUMENTS.** All Contract Documents are essential parts of the Contract, and a requirement occurring in one is as binding as though occurring in all. They are intended to be complementary, and to describe and provide for a complete Work.

In the event of inconsistencies between requirements contained in different components of the Contract Documents, the precedence of the Contract Documents shall be as follows to resolve conflicts:

1. Change Orders
2. The Contract (including Addenda)
3. The Supplemental Conditions
4. Specifications
5. Contract Drawings
6. The General Conditions

Should it appear that the Work to be done or any of the matters relative thereto are not sufficiently detailed or explained in the Contract Documents, the Contractor shall submit a

Request for Information (“RFI”) to the Director for such further explanations as may be necessary and shall conform to the written explanation given as if part of the Contract Documents. The decisions of the Director shall be final.

Contractor shall anticipate that it will be necessary to prepare and submit RFIs regarding the Contract Documents. The City will respond to each RFI by no later than fourteen (14) Days after receipt of the RFI, unless the RFI is of significant complexity. Furthermore, in the event that there are numerous RFIs pending, Contractor shall cooperate with the City in establishing a priority for responding to the RFIs, and potentially some RFIs may be responded to beyond the fourteen (14) Day period.

Each RFI prepared by Contractor shall be full and complete. Contractor shall prepare RFIs so as to not cause any delay to the progress of the Work and to not cause any impact to Contractor’s labor productivity in the field. Contractor shall not assert any Claims for delay or interference against the City if Contractor fails to timely submit any RFI to the City, after consideration of the response period allowed for by the City.

The response to an RFI shall not, by itself, constitute a writing that authorizes Contractor to perform any Work that causes an adjustment to either the Contract Price or the Contract Time. If Contractor believes that any response to any RFI should constitute a compensable change, Contractor shall provide a Notice of Potential Claim as provided in Section 7-1.03, below. Contractor’s failure to provide the required written notice shall constitute a waiver of the Contractor’s right to seek a compensable change based on the RFI response.

The Contractor shall examine all Contract Documents; shall verify all figures in the Contract Documents before laying out the Work; shall promptly notify the City of all errors, inconsistencies, and/or omissions that it discovers; and, in instances where such

non-conformities are discovered, shall obtain specific instructions in writing from the City before proceeding with the Work. Contractor's performance of any Work affected by such non-conformities prior to the City's decision shall be at the Contractor's risk. Any Work that is customarily provided or that is reasonably inferable shall not relieve the Contractor from performing such work at no additional expense and/or delay, and such Work shall be performed as if fully set forth in the Contract Documents.

2-1.06 **INDEPENDENT CONTRACTOR STATUS.** The Contractor shall independently perform all Work required by the Contract Documents and shall not be considered as an agent or employee of the City, nor shall the Contractor's Subcontractors or employees be considered as subagents of the City.

The Contractor and Contractor's Subcontractors shall be licensed in accordance with the laws of the State of California and as more particularly described in the bidding documents or elsewhere in the Contract Documents.

2-1.07 **ORDER OF WORK.** When required by the Contract Documents, the Contractor shall follow the sequence of operations set forth therein. Full compensation for conforming to such requirements will be considered as included in the prices paid for the various Contract items of work, and no additional compensation will be allowed therefor.

2-1.08 **SUBMITTALS.** It shall be the Contractor's responsibility to timely submit, so as to cause no delay in the Work, all Shop Drawings, descriptive data, manuals, instructions, affidavits, samples for the various trades as required by the Supplemental Conditions and Specifications, and offers of alternatives, if any. Such Submittals shall be checked and coordinated by the Contractor with the Work of other trades involved before they are submitted to the Director for examination.

The Contractor shall deliver at least one (1) electronic copy of the Submittals to the Director, and one (1) hard copy if requested. Work requiring the submittal of working drawings, descriptive data or samples shall not begin prior to approval of said Submittal by the Director.

The time allowed for review of each Submittal will be as indicated in the Supplemental Conditions. Review time will start upon receipt of the Submittal by the Director and will end upon the Director's mailing of the Submittals to the Contractor. Defective, incomplete or partial Submittals will be returned to the Contractor unreviewed.

Submittals shall be made by a letter of transmittal that shall contain a list of all matter submitted and identification of all variations from the Contract Documents contained in the Submittal. The letter and all items accompanying the same shall be fully identified as to project name and location, Contractor's name, district, county, and Contract number, with ample cross-references to the Contract Documents, to facilitate identification of items and their location in the Work.

All Shop Drawings and supporting data, catalogs, schedules, shall be submitted as the instruments of the Contractor, who shall be responsible for their accuracy and completeness. These Submittals may be prepared by the Contractor, Subcontractors, or Suppliers, but the Contractor shall ascertain that Submittals meet all of the requirements of the Contract Documents, while conforming to structural, space, and access conditions at the point of Installation. The Contractor shall check all Submittals before submitting them to the Director.

2-1.08A **SHOP DRAWINGS.** The Contractor shall submit an electronic copy (searchable PDF) of all Shop Drawings required by the Supplemental Conditions or Specifications, and one (1) hard copy, if requested by the Director. Shop Drawings shall also be provided separately in AutoCAD format using the latest version of AutoCAD. An electronic

copy will be returned to the Contractor either approved for use, as demonstrated by a stamp, or returned for correction and resubmittal. Materials, colors and/or samples will not be returned to the Contractor. Shop Drawings include any drawing, which requires execution by a draftsman as distinguished from printed matter. The size of Shop Drawings shall not exceed twenty-four inches (24”) by thirty-six inches (36”).

2-1.08B **DESCRIPTIVE DATA.** The Contractor shall submit an electronic copy (searchable PDF) of each set of manufacturer's brochures or other data required by the Supplemental Conditions or Specifications, and one (1) hard copy, if requested by the Director. The City will examine such Submittals and return either an electronic copy or a hard copy approved for use or returned for correction and resubmittal.

2-1.08C **SAMPLES.** The Contractor shall submit samples of articles, materials or equipment as required by the Supplemental Conditions or Specifications. The Work shall be in accordance with the approved samples. Samples shall be removed from City property when directed or may be incorporated in the Work if approved by the Director. Samples not removed by the Contractor will become the property of the City or, at the City's option, will be removed or disposed of by the City at the Contractor's expense.

2-1.08D **MANUALS, INSTRUCTIONS AND AFFIDAVIT.**

A. **Manuals and Instructions.** Where operation and maintenance manuals are required by the Supplemental Conditions, the Contractor shall submit two (2) sets of manuals, suitably bound, along with two (2) electronic copies in an approved format, to the Director within forty-five (45) Days after favorable review of the equipment or facilities. If operation and maintenance manuals are approved to be provided in PDF format, text shall be provided in searchable PDF format, making proper use of PDF for headings and heading levels,

paragraphs, tables, and lists. Submitted operation and maintenance manuals shall be a collected, organized, and indexed set of bookmarked PDF documents comprising each operation and maintenance manual that corresponds to a hardcopy binder. All manuals shall be marked to indicate the specific equipment furnished for this project and shall include at a minimum:

1. Equipment summary form
2. Cover/Title page
3. Table of contents
4. Operating procedures including start-up, shutdown, normal operation, all operating modes, emergency shutdown, and safety precautions
5. Lubrication instructions (if required)
6. Preventative maintenance procedures
7. Troubleshooting and corrective maintenance procedures
8. Reinstallation instructions
9. Overhaul instructions (if applicable)
10. Parts identification list with exploded view and associated cross references
11. Recommended spare parts list
12. Operator safety requirements
13. Electrical and control system wiring drawings, including panel wiring control (ladder) diagrams, logic diagrams, loop diagrams, and interconnection diagrams
14. Panel layout and assembly drawings

15. Mechanical drawings
16. Printouts of all software programs and configuration files
17. Factory and field test procedures and results

Operation and maintenance manuals for complex equipment shall also include:

18. Alternate specified operating modes
19. Emergency shutdown instructions
20. Normal shutdown instructions
21. Long term shutdown instructions

Operation and maintenance manuals for systems comprised of separate pieces of equipment shall include a system explanation of items 4, 7, 18, 19, 20, and 21 as well as the instructions for the separate pieces of equipment.

B. Affidavits. Where required in the Supplemental Conditions or Specifications, manufacturers of equipment shall provide field service as a part of this project. Equipment shall not be considered ready for full time operation until after the authorized factory-trained and qualified manufacturer's representative for the specific equipment has checked and adjusted the equipment and certified by written affidavit that the equipment has been properly Installed, tested, adjusted, lubricated, and calibrated, and is ready for full time operation. Acceptable affidavits shall be submitted prior to completion of the Work. Affidavits shall contain the following specific wording:

“The (Name of Equipment) has been properly installed, tested, adjusted, lubricated, and calibrated, and is ready for full time operation. The installation has been inspected and has been found to be in conformance with our (the manufacturer's) standards and requirements.”

No amplification, dilution, or modification of this specific wording will be permitted.

2-1.08E **ALTERNATIVES.** For convenience in designation in the Contract Documents, certain materials, articles, or equipment may be designated by a brand or a trade name or the name of the manufacturer together with catalog designation or other identifying information, hereinafter referred to generically as “designated by brand name.” Except in those instances where the product is designated to match others in use in a particular improvement, either completed or in the course of completion, an alternative material, article, or equipment which is of equal quality and of the required characteristics for the purpose intended may be proposed for use provided the Contractor complies with the following requirements:

A. The Contractor shall submit its proposal for an alternative in writing. Such request shall be made in ample time to permit review and approval without delaying the Work. The Contractor shall not be entitled to an adjustment of the Contract Time or an increase in the Contract Price based on any Contractor-proposed substitution.

B. No such proposal will be considered unless accompanied by complete information and descriptive data, necessary to determine the equality of the offered materials. The Contractor shall satisfy the Director as to the comparative quality, suitability, or performance of the offered material, articles, or equipment. In the event that the Director rejects the use of such alternative materials, articles, or equipment, then one of the particular products designated by brand name shall be furnished.

C. The burden of proof as to the quality and suitability of alternatives shall be upon the Contractor and it shall furnish all information necessary as required by the Director. The Director shall be the sole judge as to the quality and suitability of alternative articles or materials and such decisions shall be final. Where use of an alternative material

involves redesign of, or changes to, other parts of the Work, the cost and time required to effect such redesign or changes will be considered in evaluating the suitability of the alternative material. Cost of redesign by the City will be borne by the Contractor.

D. Whenever classification, rating or other certification by a body such as Underwriters Laboratories (UL) or the National Electrical Manufacturers Association (NEMA) is a part of the specification for any material, Contractor's request for use of alternative articles or materials shall be accompanied by reports from the listed or equivalent independent testing Laboratory indicating compliance with the Contract Documents. The cost of all testing required to prove equality of the material proposed shall be borne by the Contractor. Approval of an alternative shall be only for the characteristics or use named in such approval, and shall not be used to change or modify any requirement of the Contract Documents.

E. At its election, the City reserves the right to consider any Contractor proposed substitution as a Cost Reduction Proposal under Section 3-1.07 of these General Conditions in the event that there is a significant savings resulting from the substitution.

The Director will examine, with reasonable promptness, such Submittals, and return of Submittals to the Contractor shall not relieve the Contractor from responsibility for deviations and alternatives from the Contract Documents, nor shall it relieve the Contractor from responsibility for errors in the Submittals. A failure by the Contractor to identify in its letter of transmittal material deviations from the Contract Documents shall void the Submittal and any action taken thereon by the Director. When specifically requested by the Director, the Contractor shall resubmit such Shop Drawings, descriptive data and samples as may be required.

If any mechanical, electrical, structural, or other changes are required for the proper Installation and fit of alternative materials, articles, or equipment, or because of deviations from

the Contract, such changes shall not be made without the approval of the Director and shall be made without additional cost to the City.

2-1.09 **DISPOSAL OF MATERIAL OUTSIDE THE WORK SITE.** Unless otherwise stated elsewhere in the Contract Documents, the Contractor shall, at its own cost and expense, make its own arrangements for disposing of materials outside the Work Site.

Except when material is to be disposed of at a landfill or recycling center, when any material is to be disposed of outside the Work Site, the Contractor shall first obtain written permission from the City to dispose of the material at the intended location. The City's approval will be contingent upon the Contractor obtaining a written permit from the property owner on whose property the disposal is to be made. Prior to the disposal of any material at the intended location, the Contractor shall submit such permit or a certified copy thereof to the City, together with a written release from the property owner absolving the City from any and all responsibility related to the disposal of material on said property.

Disposal of Hazardous Materials must be done in accordance with all laws and regulations. Copies of all required regulatory documentation including copies of final manifests shall be supplied to the City.

2-1.10 **ACCESS TO THE WORK.** The Contractor shall satisfy itself that the jurisdictions through which its operations and haul routes pass will permit such operations with respect to the type of vehicle, laden weights, frequency and dimensions of loads, hours of operation and required traffic control. All necessary permits, licenses or bonds shall be obtained and paid for by the Contractor.

2-1.11 **TEMPORARY UTILITIES.** The Contractor shall make its own arrangements with utility companies for any temporary services it may require in performance of

the Work and shall pay all costs of these services directly to these utility organizations.

2-1.12 **UTILITY FACILITIES.** The Contractor shall protect from damage those utility facilities that are to remain in place, be Installed, relocated or otherwise arranged.

The Contractor's attention is directed to the possible existence of facilities not shown, and of facilities in a location different from that, which is indicated. The Contractor shall take steps to ascertain the exact location of all facilities prior to doing any Work, which may damage such facilities or interfere with their service. Where the location of a facility is indicated or inferred from the presence of visible facilities such as buildings, meters, and junction boxes, the Contractor shall make such excavations and explorations as are necessary to ascertain the correct location. Unless provided for elsewhere in the Contract Documents, the cost of such excavations and explorations will be considered as a part of the cost of other items of Work and no additional payment will be made. Such excavations and exploratory Work shall not entitle the Contractor to an extension of time.

If the Contractor discovers underground facilities not indicated or inferred from the Contract Documents, the Contractor shall immediately give the Director written notification of the existence of those facilities. The Contractor shall determine the exact location of the underground facilities and the cost of the work will be paid for in accordance with the Contract Documents. The underground facilities shall be protected from damage as directed by the Director and the cost of that work will be paid for as extra work. The Contractor shall, if directed by the Director, repair any damage, which may occur to the underground facilities. The cost of that repair work, not due to the failure of the Contractor to exercise reasonable care, will be paid for as extra work. Damage due to the Contractor's failure to exercise reasonable care shall be repaired at the Contractor's cost and expense.

Where it is determined by the City that the rearrangement of an underground facility, the existence of which is not shown on the Contract Drawings, is essential in order to accommodate the Work, the City will provide for the rearrangement of such facility by other forces or, when so ordered by Change Order, such rearrangement shall be performed by the Contractor and will be paid for as provided under a Change Order.

The Contractor shall be responsible for the maintenance of all utility facilities placed by the Contractor in temporary locations, and all utilities within the construction area not required to be relocated but which are required to be shored or supported during the construction period. The cost of such maintenance shall be borne by the Contractor, and no other compensation shall be due the Contractor for this Work.

The cost of providing and maintaining all necessary or required temporary structures, of making any necessary repairs, replacements, or similar operations, or furnishing indemnity or other bonds, if required, and all costs required by this Section shall be paid by the Contractor and shall be included in the prices bid in the schedule for other items of work.

2-1.13 **PRESERVATION AND CLEANING.** The Contractor shall clean up the Work at frequent intervals and at other times when directed by the Director. While finish Work is being accomplished, floors, Work areas and finished areas shall be kept clean, free of dust, construction debris and trash. Upon completion of the Work, the Contractor shall remove from the Premises its construction equipment and any waste materials not previously disposed of, leaving the Premises thoroughly clean and ready for final inspection.

2-1.14 **LIMITATIONS ON WORK SITE AND PREMISES.** The Contractor shall limit its construction operations to the Work Site unless otherwise shown on the Contract Drawings or specified. The Contractor shall perform no operation of any nature over or on the

Premises except such operations as are authorized by the Contract Documents or as authorized by the Director.

2-1.15 **DUST CONTROL.** During the performance of all Work under this Contract, the Contractor shall assume all responsibility for dust control and shall furnish all labor, equipment, and means required to carry out proper and efficient measures wherever and whenever dust control is necessary to prevent the operations from producing dust damage and nuisance to persons and property. Any claims resulting from dust damage or nuisance shall be borne solely by the Contractor. The Contractor shall comply with all applicable Air Quality Act requirements.

2-1.16 **SANITATION.** The Contractor shall provide sanitary facilities for all persons working on the Work.

2-1.17 **NIGHT WORK AND NORMAL WORKING HOURS.** Normal working hours at the construction site shall be between the hours of 7:00 a.m. and 7:00 p.m. Monday through Friday. Legal holidays are excluded. Certain utility connections and street operations are anticipated to require night Work by the Contractor during low usage periods. The Contractor may also be required to prosecute the Work at night if, at any time, the Director shall deem it necessary for the progress of the Work, or if emergencies arise. The Contractor shall promptly comply with any such requirements made in writing by the Director. The Contractor will also be permitted to Work at night if Contractor satisfies the Director of the need therefor, in order to maintain the required progress or protect the Work from the elements. Certain activities are required to be performed at night for nominal progress of the Work and/or are specified to be performed at night by other portions of the Supplemental Conditions. When required, ordered, or permitted to Work at night, the Contractor shall provide sufficient and satisfactory lighting and

other facilities therefor. The Contractor shall receive no extra payment for night Work, if specified or if required to be performed during the normal progress of the Work, but compensation shall be considered as having been included in the price stipulated for the Work.

If Contractor performs work during weekends, holidays or any non-normal work hours, Contractor shall pay for required City Inspectors.

2-1.18 **LINES AND GRADES.** Unless otherwise provided in the Supplemental Conditions, the Contractor shall lay out all Work, including structures and pipelines, and shall be responsible for any errors resulting therefrom. In all questions arising as to proper location of lines and grades, the Director's decision will be final.

As part of the bid price for the construction of the improvements, the Contractor shall provide and be responsible for the layout of all Work on this project. The Contractor shall provide all necessary surveys, field staking, and positioning for the construction of all components at the proper alignment, elevations, grades, and positions, as indicated on the Contract Drawings and as required for the proper operation and function. The Contractor shall stake its Work area limits. Contractor shall perform all construction staking using a land surveyor licensed in the State of California. Contractor shall provide a staking plan prior to commencement of Work for the City's review and maintain monuments, stakes, and marks, and shall update the plan as necessary. Director, or Director's designated representative, may verify the field condition. Errors or inconsistencies in the Contract Documents discovered by the Contractor shall be reported to the Director within twenty-four (24) hours and prior to constructive forms or related improvements. Any work Installed with this requirement shall be subject to removal and replacement at the Contractor's expense.

The Contractor's lay-out shall be based on existing structures, property lines, survey control, and bench marks established by the City. All structures and pipeline connections shall be Installed based on actual elevation of existing structures to which connections are made.

The Contractor shall supply such labor as required, at no extra charge, to aid and assist the Director in checking location and grades of the Work as set by the Contractor if the Director desires to perform this checking. This shall include moving materials and equipment located between monuments and the construction Work.

2-1.19 **ARCHEOLOGICAL DISCOVERIES.** Upon discovery of prehistoric or historic artifacts, or other indicators or examples of cultural resources discovered during the course of site preparation, grading, excavation, construction or other development activities, all operations within fifty feet (50') of the find shall cease until such time as the City provides the services of a qualified archeologist to evaluate the finds and recommend appropriate action.

Prehistoric materials can include flaked stone tools (e.g., projectile points, knives and choppers) or tool making debris of obsidian, chert, quartzite and other materials, culturally darkened soil (i.e., midden, which often contains heat affected rock, ash and charcoal, shellfish remains, and cultural materials), and stone milling equipment such as mortars, pestles and hand stones. Historic material may include wood, stone, concrete or adobe footings, walls and other structural remains; debris filled wells or privies; and deposits of wood, metal, glass, ceramics and other refuse.

2-1.20 **PRESERVATION OF MONUMENTS.** Any monuments or bench marks disturbed by construction operations shall be repaired per the City's standard and promptly re-established by a registered land surveyor or civil engineer. A plat for each monument shall be furnished to the Director after the plat has been recorded with the Placer

County Recorder's Office at no additional cost to the City. The recorded plat shall serve as a record of the re-establishment of said existing survey points.

2-1.21 **CONFORMITY WITH CONTRACT DOCUMENTS.** Work and materials shall conform to the lines, grades, cross sections, dimensions and material requirements, including tolerances, required by the Contract Documents. Although measurement, sampling and testing may be considered evidence as to such conformity, the City shall be the sole judge as to whether the Work or materials deviate from the Contract Documents. At its option, the City may elect to accept deviations from the Contract Documents with appropriate backcharge Assessments against the Contractor, and, if such an election is made, the City will provide written notice to the Contractor of such acceptance.

2-1.22 **FINAL CLEANUP.** Prior to final Acceptance of the Work, the Contractor shall thoroughly clean the Premises, remove all temporary structures built by or for the Contractor, and remove all equipment and surplus construction material and debris from the area. The entire project, before Acceptance by the City, shall be left in a neat and clean condition. All Work areas and temporary construction areas shall be returned to essentially the same conditions existing before the commencing of project construction.

2-1.23 **AS-BUILT DOCUMENTS AND DRAWINGS.** The Contractor shall maintain one set of the full size prints furnished by the City and mark thereon in color any deviations from plan dimensions, elevations, or orientations. Also, the Contractor shall locate on said prints, all underground facilities, such as piping, conduits and tanks by accurate field measurement from structure walls, corners, etc. The Contractor shall submit the prints and an electronic CD (searchable PDF or source file format such as AutoCAD) in good condition to the Director upon completion of the job as a condition of Acceptance of the project. Marked prints

shall be updated at least once each week and shall be available to the Director for review as to currency prior to developing partial payment estimates. After the completion of testing, but prior to Acceptance, the Contractor shall submit As-Built electrical drawings in color and an electronic CD showing all components and their wiring, and as specified in the Supplemental Conditions.

2-1.24 **SUPERINTENDENCE.** The Contractor shall supervise and direct the Work, which shall be performed in accordance with the requirements of the Contract Documents. The Contractor shall be solely responsible for implementation of all construction means, methods, techniques, sequences, and procedures and for coordination of all portions of the Work under the Agreement. The Contractor shall be solely responsible for the safety of its employees, Subcontractors of any tier, Suppliers, visitors to the Contractor, and other third parties associated with the Contractor.

The Contractor shall designate in writing before starting Work, an authorized representative who shall have the authority to represent and act for the Contractor.

When the Contractor is comprised of two (2) or more persons, firms, partnerships, or corporations functioning on a joint venture basis, said Contractor shall designate in writing before starting Work, the name of one authorized representative who shall have the authority to represent and act for the Contractor. Instances of misconduct, contract non-compliance, unsatisfactory performance, or incompetence by these personnel shall be grounds for the City to direct Contractor to dismiss them from the Project. Contractor shall immediately comply with the City's request for dismissal, at no cost to the City, and shall designate a replacement, which shall be subject to approval by the City.

Said authorized representative shall be present at the site of the Work at all times while Work is actually in progress on the Contract. When Work is not in progress and during periods

when Work is suspended, arrangements acceptable to the Director shall be made for any Emergency Work that may be required.

Whenever the Contractor or its authorized representative is not present on any particular part of the Work where it may be desired to give direction, orders will be given by the Director, which shall be received and obeyed by the superintendent or foremen who may have charge of the particular Work in reference to which the orders are given.

Any order given by the Director, not otherwise required by the Supplemental Conditions to be in writing, will on request of the Contractor, be given or confirmed by the Director in writing.

2-1.25 **CHARACTER OF WORKER.** If any Subcontractor or person employed by the Contractor shall appear to the Director to be incompetent or to act in a disorderly or improper manner, he or she shall be removed immediately on the requisition of the Director, and such person shall not again be employed on the Work.

2-1.26 **INSPECTION.** The Contractor shall at all times permit the Director to inspect the Work or any part thereof. The Contractor shall maintain proper facilities and provide safe access for such inspection by the Director to all parts of the Work, and to the shops where the Work is in preparation. Work shall not be covered up until authorized by the Director and the Contractor shall be solely responsible for notifying the Director where and when such Work is in readiness for inspection and testing. Should any such Work be covered without authorization, it shall, if so ordered, be uncovered at the Contractor's expense.

Unless otherwise designated as normal working hours, whenever the Contractor intends to perform Work on Saturday, Sunday, or a Legal Holiday, the Contractor shall give notice to the Director of such intention forty-eight (48) hours prior to performing such Work, or such longer

period as may be specified so that the Director may make necessary arrangements.

The observation and/or approval of the workmanship or materials by the City shall not relieve the Contractor of any obligations to fulfill the requirements of the Contract Documents. Workmanship and materials not meeting such requirements shall be corrected and unsuitable Work or material may be rejected, notwithstanding that such Work or materials have been previously observed and/or approved by the City, or payment therefor has been included in a progress estimate.

The City may order re-examination of questioned Work at any time before final Acceptance. If so ordered, the Contractor shall uncover the Work. If such work is found to be in accordance with the Contract Documents, the City will pay for the cost of uncovering, removing, recovering and replacing the parts removed; but if such Work so exposed or examined is not in accordance with the Contract Documents, the uncovering, removal, recovering and replacement shall be at the Contractor's expense. Work that has been covered prior to observation by the City does not qualify as re-examined work; the City may order such work uncovered for observation without payment of any costs.

2-1.27 **REMOVAL OF REJECTED AND UNAUTHORIZED WORK.** All

Work which has been rejected shall be remedied, or removed and replaced by the Contractor in a manner acceptable to the Director and no compensation will be allowed the Contractor for such removal, replacement, or remedial Work.

Any Work done beyond the lines shown on the Contract Drawings or established by the Director, or any Work done without written authority will be considered as unauthorized Work and will not be paid for. Upon order of the Director, unauthorized Work shall be remedied, removed, or replaced at the Contractor's expense.

Upon failure of the Contractor to comply promptly with any order of the Director made under this section, the Director may cause rejected or unauthorized Work to be remedied, removed, or replaced, and the costs thereof will be deducted from any moneys due or to become due the Contractor.

SECTION 3

CHANGES IN THE WORK

3-1.01 **CHANGES.** The Director, without invalidating this Agreement and without notice to Contractor's surety, may order changes in the Work, consisting of additions or deletions, or other revisions. The Contract Price and the Contract Time shall be adjusted accordingly. All such changes in the Work, including in the Contract Price and the Contract Time, shall be authorized only by Contract Change Order, signed by the Director.

If Contractor claims that performance of any work entitles it to additional compensation or to an extension of time for performance of the Work, Contractor shall provide written notice to the City of any such claim prior to undertaking such work. Contractor shall provide written notice of any anticipated impacts to the Contract Price or Contract Time within three (3) Days of discovering such impact, by submitting a Notice of Potential Claim described in Section 7-1.03 below, or notice of delay as described in Section 6-1.09 below. If the Director refuses to issue a Change Order for such work, Contractor shall perform that work if directed or obligated to do so and shall submit a complete and specific Claim for additional compensation and/or extension of time for performance within fifteen (15) Days after such work is performed, as described in Section 7-1.03 below. Failure to provide written notice of claims prior to undertaking such work, failure to provide a timely Notice of Potential Claim, or failure to submit timely a complete and specific Claim for additional compensation and/or extension of the time for performance, shall be deemed a waiver and abandonment of any such Claim. No Claim, dispute or controversy shall interfere with the progress or performance of the Work and the Contractor shall proceed with the Work as directed by the Director. Failure to so proceed shall amount to a default under this

Agreement.

3-1.02 **PROPOSED CHANGE ORDERS.** The Contractor will be notified in writing of a proposed Change Order describing the intended change. Within fifteen (15) Days after receipt of a written request, the Contractor shall submit its proposed price to be added or deducted from the Contract Price due to the change and its estimate of the extent of the adjustment in the Contract Time, if any. The Contractor's proposed price to be added to or deducted from the Contract Price shall be supported by a detailed estimate of cost prepared by the Contractor, vendor or Supplier. The Contractor's proposed price submittal shall be accompanied by a statement of the time necessary for the changed Work, together with a description of how this time will be incorporated into the current Construction Schedule. The Contractor shall upon request by the Director permit inspection of its original Contract estimate, subcontract agreements or purchase orders relating to the change.

If agreement is reached on the adjustment in compensation as provided in Section 3-1.05, "Contract Price Adjustment," of these General Conditions, the Contractor shall proceed with the Work as changed at the agreed price.

If the Contractor and the Director fail to agree as to the adjustment in compensation for the performance of the changed Work, the Contractor, upon written order from the Director, shall proceed immediately with the changed Work and the Contract Price shall be adjusted in accordance with Section 3-1.06, "Force Account Payment," of these General Conditions.

If the Contractor fails to submit its cost estimate within such fifteen (15) Day period, the Contractor shall commence the Work as changed immediately upon receipt of written order of the Director, and the Contract Price will be adjusted in accordance with the Director's cost estimate for the changed Work.

3-1.03

EMERGENCY AND INDETERMINATE TYPE CHANGE

ORDERS. Changes in the Work made necessary by an Emergency, as determined by the Director, or changes of a kind where the extent of the Work cannot be determined until completed, may be authorized by the Director in writing. The Change Order shall state that it is issued pursuant to this Section 3-1.03. Upon receipt of an authorized Change Order or other written order of the Director, the Contractor shall proceed with the ordered Work and the Director will maintain a daily job record containing a detailed summary of all labor, materials and equipment required for the changed Work.

Within fifteen (15) Days after receiving a written request, the Contractor shall submit a detailed estimate of cost for the change and any requested change in Contract Time in the same manner as required for proposed Change Orders in Section 3-1.02 of these General Conditions.

3-1.04

EXECUTED CHANGE ORDER.

A Contract Change Order signed by both the Director and the Contractor is an “executed Contract Change Order.” By signing the Contract Change Order, the Contractor agrees that the specified compensation constitutes full compensation for the changed Work, including payment for interruption, disruption, acceleration, extended Overhead, delay or any other “impact” claim or “ripple effect” claim. The Contractor specifically understands and agrees that its execution of the Contract Change Order shall constitute a waiver of any right for the Contractor to claim any additional compensation with respect to the subject matter of the Contract Change Order.

3-1.05

CONTRACT PRICE ADJUSTMENT.

If a Contract Change Order provides for an adjustment to the Contract Price, the amount of such adjustment shall be determined by one of the following methods, or a combination thereof, as determined by the City

and in its sole discretion:

A. Lump sum. The Contractor and the City may agree on a lump sum amount for the Change Order. At the City's request, the Contractor will provide pricing for the work. Maximum markups for Contract Change Orders paid for using lump sum pricing shall be paid for in the same manner and in the same amounts as markups for Force Account work, as described in Section 3-1.06 below.

B. Unit Prices. The unit prices set forth in the Contractor's Schedule of Bid Prices will be utilized where they are applicable and acceptable to the City. The Contractor's unit prices shall remain firm and shall not be subject to adjustment unless and until the actual quantity of work is increased or decreased by Contract Change Order in an amount greater than twenty-five percent (25%) from the estimated quantity indicated for such item. No markups will be given for Contract Change Orders paid for using unit prices.

Unit prices for new items included in the Contract Change Order but not included in the original bid shall be as mutually agreed upon or, in the absence of agreement, as determined by the City in the same manner as if the work were to be paid for on a Force Account basis, as described in Section 3-1.06 below.

C. Force Account. Where the City and the Contractor are unable to agree on lump sum pricing and if the City does not elect to utilize the unit prices in Contractor's bid, or such unit prices are not applicable, the changed work will be performed and tracked by the Contractor as Force Account work, as described in Section 3-1.06 below. The City will pay for such work, including markups, properly attributable to the change in accordance with those Force Account provisions.

D. Eliminated Items. The City reserves the right to delete any bid item of Work in its entirety. The City makes no representation that any work under a bid item of Work will be performed, and all work may be subject to a Contract Change Order that deletes such work. Bid items are distinct and severable from the other bid items, and the Contractor shall not be entitled to any anticipated profit, unabsorbed Overhead, or other indirect expense attributable to the deleted item, except as provided immediately below with regard to Force Account mark-ups on the direct and verifiable costs incurred prior to the City's order that deletes the work.

Should any bid item of Work be eliminated in its entirety and not accounted for as described immediately above and, in the absence of an executed Contract Change Order covering such elimination, payment will be made to the Contractor for actual direct and verifiable costs incurred in connection with such eliminated bid item if incurred prior to the date of notification in writing by the City of such elimination. If acceptable material is ordered by the Contractor for the eliminated item prior to the date of notification of such elimination by the City, and if orders for such material cannot be canceled, it will be paid for at the actual direct and verifiable cost to the Contractor. Actual direct costs shall include documented vendor shipping fees, Supplier restocking fees, if applicable, and Contractor handling costs directly related to the eliminated item(s). In such case, the material paid for shall become the property of the City and the actual cost of any further handling will be paid for by the City. If the material is returnable to the vendor and if the City so directs, the material shall be returned and the Contractor will be paid for the actual direct cost of charges made by the vendor for returning the material. The actual direct cost of handling returned materials will also be paid for by the City. The actual direct and verifiable costs to be paid by the City as provided herein will be computed in the same manner as

if the work were to be paid for on a Force Account basis, including the application of Force Account mark-ups to said costs.

3-1.06 **FORCE ACCOUNT PAYMENT.** When Work performed pursuant to a Change Order is to be paid for on a Force Account basis, the Contractor's labor, materials and equipment used in the performance of such Work shall be subject to the approval of the City, and the compensation will be determined as set forth below in this section.

3-1.06A **LABOR.** The Contractor will be paid an amount based on the actual cost for the workers (including foremen when authorized by the Director) used in the actual and direct performance of the Work. All labor costs associated with Overhead, whether field or home office, are specifically excluded herein, as those labor costs are covered by the below mark-ups. The cost of labor, whether the employer is the Contractor, Subcontractor or other forces, shall include employer payments; assessment of benefits required by lawful labor union collective bargaining agreements; compensation insurance payments; contributions made to the State pursuant to the Unemployment Insurance Code; and for taxes paid to the Federal Government pursuant to the Social Security Act of August 14, 1935, as amended. No labor cost will be recognized at a rate in excess of the wages prevailing in the locality at the time the Work is performed, nor will the use of a labor classification, which would increase the cost, be permitted unless the Contractor establishes to the complete satisfaction of the Director the necessity for payment at a higher rate.

3-1.06B **MATERIALS.** Only materials furnished by the Contractor and necessarily used in the performance of the Work will be paid for. Such cost of materials may include the costs of procurement, transportation and delivery if necessarily incurred. If a cash or trade discount by the actual supplier is available to the Contractor, it shall be credited to the City.

If materials are procured by the purchaser by any method which is not a direct purchase from and a direct billing by the actual supplier to such purchaser, the cost of such materials shall be deemed to be the price paid to the actual supplier plus the actual costs, if any, incurred in the handling of such materials. If the materials are obtained from a supply or source owned wholly or in part by the purchaser, the cost of such materials shall not exceed the price paid by the purchaser for similar materials furnished from said source on Bid items or the current wholesale price for such materials delivered to the job site, less any discounts as provided herein, whichever is lower. If, in the opinion of the Director, the cost of materials is excessive, or if the Contractor fails to furnish satisfactory evidence of the cost to it from the actual supplier within sixty (60) Days after the date of delivery of the materials or within fifteen (15) Days after Acceptance of the Agreement, whichever occurs first, the cost of the materials shall be deemed to be the lowest current wholesale price at which similar materials are available in the quantities required, less any discounts provided herein. The Department reserves the right to furnish such materials required by the Change Order as it deems advisable, and the Contractor shall have no claim for cost or markups on material furnished by the Department.

3-1.06C **EQUIPMENT.** The Contractor will be paid an amount based on the actual cost for the use of equipment directly required and approved by the Director in the performance of the changed Work. No payment will be made for time while equipment is inoperative due to breakdowns or on Days when no Work is performed. In addition, the rental time shall include the time required to move the equipment to the Work from the nearest available source of such equipment, and to return it to the source. If such equipment is not moved by its own power, then loading and transportation costs will be paid. Moving time, loading and transportation costs will only be paid if the equipment is used exclusively on the

changed Work during the time between move in and move out. Individual pieces of equipment having a replacement value of One Thousand Dollars (\$1000) or less shall be considered to be tools or small equipment, and no payment will be made therefore. For equipment owned, furnished, or rented by the Contractor, no cost therefore shall be recognized in excess of the equipment rental rates published by Caltrans at the following website address:

<http://www.dot.ca.gov/hq/construc/equipmnt.html>. Equipment located at a Work Site and utilized on non-Force Account work shall not be eligible for standby payment, and shall be charged on a Force Account basis only when solely performing pre-approved Force Account work tasks.

3-1.06D **MARKUPS.** When a Change Order increases the cost of the Work, the Contractor may add the following maximum markups to its actual costs of labor, materials, or equipment rental:

- 15 percent for labor;
- 10 percent for materials; and
- 5 percent for equipment rental.

The above markups include full compensation, covering the costs of all supervision, bonds, profit, Overhead, and other general expenses not specifically designated as a direct cost in Sections 3-1.06A through 3-1.06C above. The total payment (i.e., direct cost plus applicable markups) shall be deemed to be the actual cost of such work and shall constitute full compensation therefor. The Contractor specifically understands and agrees that such payment shall include any Contractor costs for interruption, disruption, and acceleration, extended Overhead, Change Order management, delay or other “impact” claim or “ripple effect” claim.

When work paid for on a Force Account basis is performed by forces other than the Contractor’s own forces, the maximum allowable mark-ups for the Subcontractors’ costs shall be

fifteen percent (15%) for the cost of labor, ten percent (10%) for the cost of materials, and five percent (5%) for the cost of rented equipment. In these situations where the work is being performed by Subcontractors, the Contractor will only be entitled to an additional five percent (5%) mark-up and will not be entitled to receive the additional mark-ups specified in this section.

When a Change Order decreases the cost of the Work, the reduction in cost shall include a five percent (5%) markup on the estimated cost for furnishing the labor, materials and equipment, which would have been used on such Work, had the Change Order not been issued.

When a Change Order involves both added Work and deleted Work, the markup or markups to be used shall be as follows:

The actual costs of labor, materials, and equipment rental for added and deleted Work shall be calculated separately without adding markups. If the difference between the calculated costs for labor results in an increased cost, a markup of fifteen percent (15%) shall be applied to the increased cost. If the difference between the calculated costs of materials or equipment rental results in an increased cost, a markup of ten percent (10%) and five percent (5%) respectively, shall be applied to the increased costs of materials or equipment rental, as the case may be. If the difference between the calculated costs for labor, materials or equipment rental results in a decreased cost, a markup of five percent (5%) shall be applied to the decreased costs of labor, materials or equipment rental, as the case may be.

Contractor shall not add mark-ups on work performed and billed by City staff nor add mark-ups to successive iterations of proposed Change Order cost proposals returned to Contractor by the City due to incomplete or inaccurate information being originally submitted by the Contractor. If the Contract Price increases by the issuance of Change Orders, the penal amounts of the bonds required shall increase accordingly.

3-1.06E **RECORDS.** The Contractor shall maintain its records in such a manner as to provide a clear distinction between the direct costs of extra work paid for on a Force Account basis and the costs of other operations.

From the above records, the Contractor shall furnish the City completed daily extra work reports, on forms acceptable to the City, for each Day's extra work to be paid for on a Force Account basis. The daily extra work reports shall itemize the materials used, and shall cover the direct cost of labor and the charges for equipment rental, whether furnished by the Contractor, Subcontractor, or other forces. The daily extra work reports shall provide names and identifications and classifications of workers, the hourly rate of pay and hours worked, and also the size, type, and identification number of equipment, and hours operated. Daily extra work and Force Account reports (actual or claimed) shall be signed by both the City's and the Contractor's representatives within twenty-four (24) hours of the performance of the work.

Valid copies of vendor's invoices shall substantiate material charges. Such invoices shall be submitted with the daily extra work reports, or if not available, they shall be submitted with subsequent daily extra work reports. Should said vendor's invoices not be submitted within sixty (60) Days after the date of delivery of the material or within fifteen (15) Days after the Acceptance of the Agreement, whichever occurs first, the City reserves the right to establish the cost of such materials at the lowest current wholesale prices at which said materials were available in the quantities, less any discounts.

The City will compare its records with the completed daily extra work reports furnished by the Contractor and make any necessary adjustments. When these daily extra work reports are agreed upon and signed by both parties, said reports shall become the basis of payment for the work performed, but shall not preclude subsequent adjustment based on a later audit by the City.

The Contractor's cost records pertaining to Work paid for on a Force Account basis shall be open to inspection or audit by representatives of the City during the life of the Agreement and for a period of not less than three (3) years after the date of Agreement completion and the Contractor shall retain such records for that period. Where payment for materials or labor is based on the cost thereof to forces other than the Contractor, the Contractor shall make every reasonable effort to insure that the cost records of such other forces will be open to inspection and audit by representatives of the City on the same terms and conditions as the cost records of the Contractor. If an audit is to be commenced more than sixty (60) Days after the date of Acceptance of the Agreement, the Contractor will be given fifteen (15) Days' notice of the time when such audit is to begin.

3-1.07 **COST REDUCTION PROPOSALS.** The City encourages the Contractor to submit Cost Reduction Proposals whenever the Contractor identifies areas and/or instances in which there can be savings to the Work. Contractor may submit to the City, in writing, proposals for modifying the plans, Specifications or other requirements of the Agreement for the sole purpose of reducing the total cost of construction, including the time for completion of the Work. The City may consider such Cost Reduction Proposals and, if accepted, the Agreement will be equitably adjusted. The City has no obligation to consider or accept Cost Reduction Proposals.

SECTION 4

CONTROL OF MATERIALS

4-1.01 **MATERIALS.** The Contractor shall furnish all materials required to complete the Work, except materials that are designated in the Supplemental Conditions to be furnished by the City and materials furnished by the City in accordance with Section 3, “Changes in the Work,” of these General Conditions.

Unless otherwise specified in the Supplemental Conditions, materials furnished by the Contractor for incorporation into the Work shall be new. When the quality or kind of materials, articles, or equipment is not particularly indicated, then the quality or kind thereof shall be similar to those that are indicated.

Articles or materials to be incorporated in the Work shall be stored in such a manner as to insure the preservation of their quality and fitness for the Work, and to facilitate inspection.

All materials which do not conform to the requirements of the Contract Documents as determined by the Director, will be rejected whether in place or not. Rejected material shall be removed immediately from the site of the Work, unless otherwise permitted by the Director. No rejected material, the defects of which have been subsequently corrected, shall be used in the Work, unless approval in writing has been given by the Director. Upon failure of the Contractor to comply promptly with any order of the Director made under these provisions, the Director shall have the authority to cause the removal and replacement of rejected material and to deduct the cost thereof from any moneys due or to become due the Contractor.

Manufacturer's warranties, guaranties, instruction sheets and parts lists, which are furnished with certain materials incorporated in the Work, shall be delivered to the Director

before Acceptance of the Contract.

Unless otherwise designated in the Supplemental Conditions or Specifications, materials furnished by the City will be delivered to the job site. Materials furnished by the City that are designated in the Supplemental Conditions as available at locations other than the job site shall be hauled to the site of the Work by the Contractor at its expense, including any necessary loading and unloading that may be involved.

The Contractor will be held responsible for all materials furnished to it, and shall pay all demurrage and storage charges. City-furnished materials lost or damaged from any cause whatsoever shall be replaced by the Contractor. The Contractor will be liable to the Department for the cost of replacing City-furnished material and such costs may be deducted from any moneys due or to become due the Contractor.

4-1.02 **PRODUCT AND REFERENCE STANDARDS.** When descriptive catalog designations, including manufacturer's name, product brand name, or model number are referred to in the Contract Documents, such designations shall be considered as being those found in industry publications in effect on the day the Notice to Contractors for the Work is dated, except as may be otherwise stated.

When standards or test designations of the Federal Government, trade societies, or trade associations are referred to in the Contract Documents by specific date of issue, these shall be considered as part of the Contract. When such references do not bear a date of issue, the edition in effect on the day the Notice to Contractors for the Work is dated shall be considered as part of the Contract.

4-1.03 **SAMPLING AND TESTING OF MATERIALS.** Unless otherwise specified, all tests shall be performed in accordance with the methods used by the State

Department of Transportation (Caltrans) and shall be made by the Director or his or her designated representative.

The State Department of Transportation has developed test methods for testing the quality of materials and Work. These test methods are identified by a California Test followed by the serial number. Copies of individual tests are available at the State Department of Transportation Laboratory, Sacramento, California, and will be furnished to interested persons upon request.

Whenever a reference is made in the Supplemental Conditions to a California Test by number, it shall mean the California test in effect on the day the Notice to Contractors for the Work is dated.

Whenever the Supplemental Conditions provide an option between two (2) or more test methods, the Director will determine the test method to be used.

Whenever a Supplemental Condition, manual, or test designation provides for test reports (such as certified mill test reports) from the manufacturer, copies of such reports, identified as to the lot of material, shall be furnished to the Director. The manufacturer's test reports shall supplement the inspection, sampling and testing provisions of this Section 4-1.03 and shall not constitute a waiver of the City's right to inspect. When material which cannot be identified with specific test reports is proposed for use, the Director may at his or her discretion, select random samples from the lot for testing. Testing specimens from the random samples, including those required for retest, shall be prepared in accordance with the referenced Supplemental Conditions and furnished by the Contractor at its expense. The number of such samples and test specimens shall be entirely at the discretion of the Director.

When requested by the Director, the Contractor shall furnish, without charge, samples of all material entering into the Work, and no material shall be used prior to approval by the Director, except as provided in Section 4-1.04, "Certificates of Compliance," of these General Conditions.

A. Inspection and Access for Testing. The Contractor shall provide safe access for the Director and his or her inspectors to adequately inspect the quality of Work and conformance with the General and Supplemental Conditions. The Contractor shall provide adequate lighting, ventilation, ladders and other protective facilities as may be necessary for the safe performance of inspections.

The Contractor shall submit samples or specimens of such materials to be furnished or used in the Work as the Director may require. The Contractor shall furnish the Director all necessary labor and facilities for such things as excavation in the compacted fill to depths required to take samples.

Inspections, tests, or favorable review by the Director or others shall not relieve the Contractor from its obligations to perform the Work in accordance with the requirements of the Contract Documents.

Work covered without the favorable review or consent of the Director shall, if required by the Director, be uncovered for examination at the Contractor's expense.

If the Engineer, Architect, or Director considers it necessary or advisable that covered Work be inspected or tested by others, the Contractor, at the Director's request, will uncover, expose or otherwise make available for observation, inspection or testing as the Director may require, that portion of the Work in question, furnishing all necessary labor, materials, tools, and equipment. If it is found that such Work is defective, the Contractor will

bear all the expenses of such uncovering, exposure, observation, inspection and testing and of satisfactory reconstruction. If, however, such Work is not found to be defective and the Work was not covered without favorable review of the Director, the Contractor will be allowed an increase in the Contract Price or an extension of the Contract Time, or both, to cover its costs directly attributable to such uncovering, exposure, observation, inspection, testing, and reconstruction and an appropriate Change Order shall be issued.

Whenever the Contractor varies the period during which Work is carried on each Day, the Contractor shall give due notice to the Director so that proper inspection may be provided. Any Work done in the absence of the Director may be subject to rejection. Proper facilities for safe access for inspection to all parts of the Work shall at all times be maintained for the necessary use of the Director and other agents of the City. Authorized representatives and agents of the Director shall be permitted access to inspect all Work and materials wherever it is required for preparation of progress reports, and the Contractor shall provide proper facilities for such access and inspection.

It is the Contractor's responsibility to supervise the Work and complete the project in accordance with the Contract Documents. In the course of managing that effort, the Contractor shall generate its own punch lists as deemed necessary. The Director may prepare punch lists for the Director's own use in communicating with the Contractor; however, the Director shall be under no obligation to prepare punch lists for the Contractor. In general, the Director will prepare punch lists only after the Contractor has given the Director written notice that the subject Work is completed and tested in accordance with the Contract Documents and is ready for operation and/or use and/or occupancy. Failure of the Director to include an item in a punch list shall not relieve the Contractor of its duty to satisfactorily complete all Work required by the Contract

Documents.

Upon Final Completion of the construction Work and request by the Contractor, the Director will conduct a final inspection as a basis for recommending to the City that the Work be accepted.

B. Field and Materials Testing. Where the Supplemental Conditions require Work to be specially field tested or approved, it shall be tested only in the presence of the Director after timely notice of its readiness for inspection and test, and the Work after testing shall be covered up only upon the consent thereto of the Director.

The results of any tests made are for the information of the Director. Regardless of any test results, the Contractor is solely responsible for the quality of workmanship and materials and for compliance with the requirements of the Contract Drawings and Supplemental Conditions.

Except as specifically required under the Supplemental Conditions, all tests by the Director of materials furnished by the Contractor will be done in accordance with commonly recognized standards of national organizations. The Contractor shall furnish such samples of all materials as required by the Director without charge. No material shall be used unless it has been favorably reviewed by the Director.

Where such inspection and testing are to be conducted by an independent Laboratory or agency, the sample or samples of materials to be tested shall be selected by such Laboratory or agency, or the Director, and not by the Contractor.

C. Costs of Testing.

1. Initial Services: The City shall furnish and pay for all initial testing services required by the Contract Documents. When initial tests indicate non-compliance with

the Contract Documents, the cost of initial tests associated with that non-compliance will be deducted by the City from the balance owed the Contractor. The Contractor shall furnish samples of materials for testing as may be required by the Director. Such samples shall be furnished without cost to the City.

2. Retesting: When initial tests indicate non-compliance with the Contract Documents, all subsequent retesting occasioned by the non-compliance shall be performed by the same testing Laboratory and the cost thereof will be deducted by the City from the balance owed the Contractor. Contractor shall be billed for each additional test.

3. Contractor Convenience Testing: Inspection or testing performed exclusively for the Contractor's convenience shall be the sole responsibility of the Contractor.

4. Additional Tests and Inspections: When in the opinion of the Director additional tests or inspections are required because of the manner in which the Contractor executes its Work, such tests and inspections shall be paid for by the City, but will be deducted from the Contract Price. Examples of such tests and inspections are tests of materials substituted for previously accepted materials or substituted for specified materials, retests made necessary by failure of material to comply with the requirements of the Specifications, load tests made necessary because of portions of the structure not fully meeting Specifications or plan requirements, etc.

4-1.04 **CERTIFICATES OF COMPLIANCE.** A Certificate of Compliance shall be furnished prior to the use of any materials for which the Supplemental Conditions require that such a Certificate be furnished. In addition, the Director may permit the use of certain materials or assemblies prior to sampling and testing if accompanied by a Certificate of Compliance. The Certificate shall be signed by the manufacturer of the material or the

manufacturer of assembled materials and shall state that the materials involved comply in all respects with the requirements of the Supplemental Conditions. A Certificate of Compliance shall be furnished with each lot of such materials delivered to the Work and the lot so certified shall be clearly identified in the Certificate.

All materials used on the basis of a Certificate of Compliance may be sampled and tested at any time. The fact that material is used on the basis of a Certificate of Compliance shall not relieve the Contractor of responsibility for incorporating material in the Work which conforms to the requirements of the Contract Documents and any such material not conforming to such requirements will be subject to rejection whether in place or not.

The Department reserves the right to refuse to permit the use of material on the basis of a Certificate of Compliance.

The form of the Certificate of Compliance and its disposition shall be as directed by the Director.

SECTION 5

LEGAL RELATIONS AND RESPONSIBILITY

5-1.01 **LAWS TO BE OBSERVED.** The Contractor shall keep informed of and observe, and comply with and cause all of its agents and employees to observe and comply with, all prevailing Federal and State laws, and rules and regulations made pursuant to said Federal and State laws, and county and municipal ordinances, and regulations, which in any way affect the conduct of the Contract. If any conflict arises between provisions of the Contract and any such law above referred to, the Contractor shall notify the Director at once in writing. To the fullest extent allowed by law, the Contractor shall defend, indemnify, and save and hold harmless the City or any of its officers, agents, employees, and volunteers against any claim or liability arising from or based on the violation of any such law, rule, or regulation, whether by itself or its agents or employees.

5-1.02 **HOURS OF LABOR.** Eight (8) hours labor constitutes a legal Day's work. The Contractor or Subcontractor shall, as a penalty to City, forfeit Twenty-five Dollars (\$25) for each worker employed in the execution of the contract by the respective Contractor or Subcontractor for each calendar day during which such worker is required or permitted to work more than eight (8) hours in any one (1) calendar day and forty (40) hours in any one (1) calendar week in violation of the provisions of the Labor Code, and in particular, Section 1810 to Section 1815, thereof, inclusive, except that Work performed by employees of Contractors in excess of eight (8) hours per day, and forty (40) hours during any one (1) week, shall be permitted upon public work upon compensation for all hours worked in excess of eight (8) hours per day at not less than one and one-half (1-1/2) times the basic rate of pay, as provided in said

Section 1815. In addition, Contractor and/or its Subcontractors may be required to pay double the basic rate of pay for all hours worked in excess of twelve (12) hours in any workday and under other circumstances. (See California Code of Regulations, Title 8, Sections 16100(c)(6) and (16200(a)(3)(F) and applicable Department of Industrial Relations prevailing wage determinations.)

5-1.03 **NONDISCRIMINATION.**

A. Attention is directed to Labor Code Section 1735, which reads as follows:

“A contractor shall not discriminate in the employment of persons upon public works on any basis listed in subdivision (a) of Section 12940 of the Government Code, as those bases are defined in Sections 12926 and 12926.1 of the Government Code, except as otherwise provided in Section 12940 of the Government Code. Every Contractor for public works who violates this section is subject to all the penalties imposed for a violation of this chapter.”

B. During the performance of this Contract, Contractor and its Subcontractors shall not unlawfully discriminate against any employee or applicant for employment because of race, religious creed, color, national origin, ancestry, physical disability, mental disability, medical condition, genetic information, marital status, sex, gender, gender identity, gender expression, age, sexual orientation, or military and veteran status. The Contractor and Subcontractors shall insure that the evaluation and treatment of their employees and applicants for employment are free of such discrimination. The Contractor and Subcontractors shall comply with the provisions of the California Fair Employment and Housing Act (Government Code §12900, et seq.) and the applicable regulations promulgated thereunder (California Code of Regulations, Title 2, §7285.0 et seq.) and other applicable State and Federal regulations and City

policies pertaining to nondiscrimination and affirmative action which are incorporated into this Agreement by reference and made a part hereof as if set forth in full. The Contractor and its Subcontractors shall give written notice of their obligations under this clause to labor organizations with which they have a collective bargaining or other agreement.

C. Contractor shall include the nondiscrimination and compliance provisions of this clause in all subcontracts to perform Work under the agreement.

5-1.04 **PREVAILING WAGE.** The Contractor and any Subcontractor shall comply with Labor Code Sections 1770 et seq. In accordance with said Section 1775 the Contractor and any Subcontractor under the Contractor shall, as a penalty, forfeit to the state or City not more than \$200 for each calendar day or portion thereof, for each worker paid less than the prevailing rate as determined by the Director of Industrial Relations for the work or craft in which such worker is employed for under the Contract by the Contractor or by any Subcontractor under the Contractor.

The amount of the penalty shall be determined by the Labor Commissioner based on consideration of both of the following: (a) whether the failure to pay the correct rate of per diem wages was a good-faith mistake and, if so, whether the error was promptly and voluntarily corrected when brought to the attention of the Contractor or Subcontractor; and (b) whether the Contractor or Subcontractor has a prior record of failing to meet its prevailing wage obligations.

The penalty may not be less than forty dollars (\$40) for each calendar day, or portion thereof, for each worker paid less than the prevailing wage rate, unless the failure of the Contractor or Subcontractor to pay the correct rate of per diem wages was a good faith mistake and, if so, the error was promptly and voluntarily corrected when brought to the attention of the Contractor or Subcontractor.

The penalty may not be less than eighty dollars (\$80) for each calendar day, or portion thereof, for each worker paid less than the prevailing wage rate, if the Contractor or Subcontractor has been assessed penalties within the previous three (3) years for failing to meet its prevailing wage obligations on a separate contract, unless those penalties were subsequently withdrawn or overturned.

The penalty may not be less than one hundred twenty dollars (\$120) for each calendar day, or portion thereof, for each worker paid less than the prevailing wage rate, if the Labor Commissioner determines that the violation was willful, as defined in subdivision (c) of Section 1777.1 of the Labor Code.

If the amount due under this section is collected from the Contractor or Subcontractor, any outstanding wage claim under Chapter 1 (commencing with Section 1720) of Part 7 of Division 2 of the Labor Code against the Contractor or Subcontractor shall be satisfied before applying that amount to the penalty imposed on that Contractor or Subcontractor pursuant to this section.

The determination of the Labor Commissioner as to the amount of the penalty shall be reviewable only for an abuse of discretion.

In addition to said penalty, the difference between such stipulated prevailing wage rates and the amount paid to each worker for each calendar day or portion thereof for which each worker was paid less than the stipulated prevailing wage shall be paid to each worker by the Contractor or Subcontractor.

If a worker employed by a Subcontractor on a public works project is not paid the general prevailing per diem wages by the Subcontractor, the Contractor is not liable for any penalties described above unless the Contractor had knowledge of that failure of the Subcontractor to pay

the specified prevailing rate of wages to those workers or unless the Contractor fails to comply with all of the following requirements:

1. The contract executed between the Contractor and the Subcontractor for the performance of work on the public works project shall include a copy of the provisions of Sections 1771, 1776, 177.5, 1813, and 1815 of the Labor Code.
2. The Contractor shall monitor the payment of the specified general prevailing rate of per diem wages by the Subcontractor to the employees, by periodic review of the certified payroll records of the Subcontractor.
3. Upon become aware of the Subcontractor's failure to pay its workers the specified prevailing rate of wages, the Contractor shall diligently take corrective action to halt or rectify the failure, including, but not limited to, retaining sufficient funds due the Subcontractor for work performed on the public works project.
4. Prior to making final payment to the Subcontractor for work performed on the public works project, the Contractor shall obtain an affidavit signed under penalty of perjury from the Subcontractor that the Subcontractor has paid the specified general prevailing rate of per diem wages to its employees on the public works project and any amount due pursuant to 1813 of the Labor Code.

Pursuant to Section 1775 of the Labor Code, the Division of Labor Standards Enforcement shall notify the Contractor on a public works project within fifteen (15) Days of the receipt by the Division of Labor Standards Enforcement of a complaint of the failure of a Subcontractor on that public works project to pay workers the general prevailing rate per diem wages.

Pursuant to the provisions of California Labor Code Section 1773, the City has obtained the general prevailing rate of wages applicable to the categories of workers the City anticipates will be utilized for this project for straight time, overtime, Saturday, Sunday, and holiday Work. The holiday wage rate listed shall be applicable to all holidays recognized in the collective bargaining agreement of the particular craft, classification or type of worker concerned or, if no collective bargaining applies, those holidays identified in Government Code Section 6700. These wage rates may be obtained from the State Department of Industrial Relations and/or the following website address: <http://www.dir.ca.gov/dlsr/DPreWageDetermination.htm>, which is incorporated herein as a part of this Contract.

Pursuant to Labor Code Section 1773.2, the general prevailing wage rates set forth above, which forms a part of this Contract, shall be posted by the Contractor at a prominent place at the site of the Work.

Pursuant to Labor Code Section 1773.6 and California Code of Regulations Section 16204, Title 8, changes in general prevailing wage determinations shall apply to the project only if issued by the Director of Industrial Relations prior to the City's bid issuance date.

The City will not recognize any claim for additional compensation because of the payment by the Contractor of any wage rate in excess of the prevailing wage rate set forth in the Contract. The possibility of wage increases is one of the elements to be considered by the Contractor in determining its Bid, and will not under any circumstances be considered as the basis of a claim against the City or Contract.

When both California and Federal prevailing wage rates apply, the Contractor and any Subcontractors shall pay their workers the higher of the two rates. The Contractor and any Subcontractors shall insert this clause in any lower tier contract.

5-1.05 **REGISTRATION REQUIRED AS QUALIFICATION TO BID.**

Pursuant to Labor Code Section 1771.1(b), notice is hereby given that a Contractor or Subcontractor shall not be qualified to bid on, be listed in a bid proposal, subject to the requirements of Section 4104 of the Public Contract Code, or engage in the performance of any contractor for public work, as defined in Labor Code Sections 1720, et seq., unless currently registered and qualified to perform public work pursuant to Labor Code Section 1725.5. It is not a violation of Labor Code Section 1771.1 for an unregistered contractor to submit a bid that is authorized by Section 7029.1 of the Business and Professions Code or by Section 10164 or 20103.5 of the Public Contract Code, provided the contractor is registered to perform public work pursuant to Section 1725.5.

5-1.06 **PAYROLL RECORDS.** The Contractor's attention is directed to the following provisions of Labor Code Section 1776. The Contractor shall be responsible for the compliance with these provisions by its Subcontractors.

A. The Contractor and each Subcontractor shall keep accurate and current payroll records, showing the name, address, social security number, work classification, straight time and overtime hours worked each day and week, and the actual per diem wages paid to each journeyman, apprentice, worker, or other employee employed by it in connection with the public work. Each payroll record shall contain or be verified by a written declaration that is made under penalty of perjury, stating both of the following:

1. The information contained in the payroll record is true and correct.
2. The employer has complied with the requirements of Section 1771, 1811, and 1815 for any work performed by his or her employees on the public works project.

B. The payroll records enumerated under subdivision (A) shall be available for inspection at all reasonable hours at the principal office of the Contractor on the following basis:

1. A certified copy of an employee's payroll record shall be made available for inspection or furnished to such employee or his or her authorized representative on request.

2. A certified copy of all payroll records enumerated in subdivision (A) shall be made available for inspection or furnished upon request to a representative of the City, the Division of Labor Standards Enforcement, and the Division of Apprenticeship Standards of the Department of Industrial Relations. The City reserves the right to withhold any progress payments to the Contractor in the event of noncompliance with the subsection.

3. A certified copy of all payroll records enumerated in subdivision (A) shall be made available upon request by the public for inspection or for copies thereof. However, a request by the public shall be made through either the City, the Division of Apprenticeship Standards, or the Division of Labor Standards Enforcement. The public shall not be given access to such records at the principal office of the Contractor.

C. The certified payroll records shall be on forms provided by the Division of Labor Standards Enforcement or shall contain the same information as the forms provided by the Division.

D. Each Contractor shall file a certified copy of the records enumerated in subdivision (A) with the entity that requested the records within ten (10) Days after receipt of a written request.

E. Any copy of the records made available for inspection as copies and furnished upon request to the public or any public agency by the City, the Division of Apprenticeship Standards or the Division of Labor Standards Enforcement shall be marked or obliterated to prevent disclosure of an individual's name, address and social security number. The name and address of the Contractor awarded the Contract or Subcontractor performing the Contract shall not be marked or obliterated. Any copy of records made available for inspection by, or furnished to, a joint labor-management committee established pursuant to the federal Labor Management Cooperation Act of 1978 (Section 175a of Title 29 of the United States Code) shall be marked or obliterated only to prevent the disclosure of an individual's name and social security number. A joint labor-management committee may maintain an action in a court of competent jurisdiction against an employer who fails to comply with Section 1774. The court may award restitution to an employee for unpaid wages and may award the joint labor-management committee reasonable attorneys' fees and costs incurred in maintaining the action. An action under this subdivision may not be based on the employer's misclassification of the craft of a worker on its certified payroll records. Nothing in this subdivision limits any other available remedies for a violation of this section.

F. The Contractor shall inform the City of the location of the records enumerated under subdivision (A), including the street address, city and county, and shall, within five (5) business days, provide a notice of a change of location and address.

G. The Contractor shall have ten (10) Days in which to comply subsequent to receipt of written notice requesting the records enumerated in subdivision (A). In the event that the Contractor or Subcontractor fails to comply within the ten (10) Day period, the Contractor shall, as a penalty to the State or City, forfeit twenty-five (\$25) Dollars for each calendar day, or

portion thereof, for each worker, until strict compliance is effectuated. Upon the request of the Division of Apprenticeship Standards or the Division of Labor Standards Enforcement, these penalties shall be withheld from any progress payment or final payment then due. A contractor is not subject to a penalty assessment pursuant to this section due to the failure of a Subcontractor to comply with this section.

5-1.07 **SAFETY REQUIREMENTS.** It is the intent of the parties that the City is not an exposing, creating, controlling, or correcting employer under California Labor Code Section 6400. In accordance with generally accepted construction practices and State law, the Contractor shall have the authority and be solely and completely responsible for conditions on the Work Site, including safety of all persons and property during performance of the Work. Moreover, the Contractor shall be the controlling employer and has the authority and responsibility to enforce Work Site safety. The Contractor shall be responsible for conducting daily safety inspections and assuring all hazards and violations are abated. The Contractor is responsible for assuring that all Subcontractors adhere to the minimum Cal/OSHA safety requirements and that each Subcontractor has an effective Cal/OSHA IIPP (Illness and Injury Prevention Program) in place that specifically addresses all potential exposures, such as, but not limited to, fall protection, confined space, and trenching/shoring. These requirements shall apply continuously and not be limited to normal working hours. The Contractor shall be responsible for any delay costs or damages in the event the progress of Work is slowed or stopped due to a safety violation.

The Contractor shall designate a safety officer and have in place a health and safety plan in accordance with the laws of State of California and conduct safety meetings and document them in accordance with the law. The Contractor shall have the safety record available for

inspection during working hours and shall submit job site safety meeting reports with each Application for Payment.

Prior to Contractor commencing construction project work on City property, Contractor shall make available copies of its Health and Safety Plan (HASP) that meets or exceeds applicable Cal/OSHA regulations. The Contractor's HASP shall also meet or exceed the requirements of any applicable City-wide or departmental specific Injury and Illness Prevention Programs (IIPP) and other HASP programs, procedures, and plans. Potentially applicable HASP programs, procedures, and plans include, but are not limited to, the following:

1. Bloodborne Pathogens Exposure Control Plan;
2. Confined Space Entry Procedure;
3. Electrical Safety Program (Lockout/Tagout);
4. Emergency Action Plans (Site Specific);
5. Fire Prevention Plans (Site Specific);
6. Hazardous Waste Operations Emergency Response Plan (or Equivalent);
7. Hazard Communication Program (SDS's and Right-to-Know training);
8. Heat Illness & Prevention Plan;
9. Hearing Conservation Program;
10. Hot Work/Welding Procedure;
11. Job Hazard Analyses/Standard Operating Procedures;
12. Traffic Control & Flagging;
13. Excavation/Dig Safe Procedure;
14. Fall Protection Plan;
15. Personal Protective Equipment Plan;

16. Respirable Crystalline Silica Exposure Control Plan;
17. Respirator Program;
18. Soils Management Plan (for contaminated soils); and
19. Transite (Asbestos) Pipe Work Procedure.

Additionally, Contractor shall be responsible for complying with all City-wide and departmental specific safety requirements as identified in the Supplemental Conditions or presented at a pre-construction meeting.

Contractor shall inform City in advance of the quantity of chemical(s) to be used for the project and the total quantity of chemical(s) that will be brought onto City property. In addition, Contractor shall provide City with one copy of the Safety Data Sheet (SDS) for each chemical expected to be used to complete the project and for each chemical brought to the Work Site, regardless of whether such chemicals are ultimately used for the project.

The services of the Director in conducting construction review of the Contractor's performance is not intended to include review of the adequacy of the Contractor's Work methods, equipment, bracing or scaffolding, or safety measures, in, on, or near the construction site. If a City employee observes a safety violation, the City employee will report the violation to the Contractor who is then responsible for assuring the violation is abated.

The Contractor is hereby informed that Work on this project could be hazardous. The Contractor shall carefully instruct all personnel working in potentially hazardous Work areas as to potential dangers and shall provide such necessary safety equipment and instructions as are necessary to prevent injury to personnel and damage to property. Special care shall be exercised relative to Work underground.

All Work and materials shall be in strict accordance with all applicable State, City, County, and Federal Rules, Regulations, and Codes, and attention is drawn to the requirements of Cal/OSHA. The Contractor shall be solely responsible for compliance with all City, County and State blasting requirements and for any damages caused by its operations.

To ensure compliance with California Labor Code Section 6705, the Contractor shall submit to the City, at least five (5) Days in advance of excavation of any trench five feet (5') or more in depth, Working Drawings to the Director showing the design of shoring, bracing, sloping and other provisions to be made for worker protection from the hazard of caving ground during the excavation of such trench or trenches. If such Working Drawings vary from the shoring system standards established by the Cal/OSHA Construction Safety Orders of the Division of Industrial Safety, the plan shall be prepared and signed by a registered civil or structural engineer in the State of California. This in no way relieves the Contractor from the requirement of maintaining safety in all operations performed by the Contractor or the Contractor's Subcontractors and nothing in this section shall be deemed to allow the use of a shoring, sloping or protective system less effective than that required by the Cal/OSHA Construction Safety Orders of the Division of Industrial Safety Contractor's Working Drawings shall be subject to approval insofar as the details affect the character of the finished Work and for compliance with design requirements applicable to the construction when specified or called for, but details of the design will be left to Contractor who shall be responsible for the successful construction of the Work. The City shall approve Working Drawings before any Work involving such drawings is performed. Approval and/or acceptance by the City or its designated agent only constitutes acknowledgment of the submission and does not constitute review or approval of the designs, design assumptions or criteria, completeness of submissions, applicability to areas of

intended use, nor implementation of the plans, which are solely the responsibility of the Contractor and its registered engineer.

The Contractor shall perform its Work as not to expose personnel to, or to discharge into the atmosphere from any source whatever, smoke, dust, asbestos, toxic chemicals or other air contaminants in violation of the laws, rules, and regulations of the governmental entities having jurisdiction and shall bear full and exclusive responsibility for any release of hazardous or non-hazardous chemicals or substances during the course of the Work. The Contractor shall immediately report any such release to the City. The Contractor shall be solely responsible for all claims and expenses associated with the response to, removal and remediation of the release, including, without limitation, payment of any fines or penalties levied against the City by any agency as a result of such release and shall defend, indemnify, and save and hold harmless the City, its officers, agents, employees, and volunteers from any claims arising from such release. For purposes of this section only, the term “claims” shall include:

1. All notices, orders, directives, administrative or judicial proceedings, fines, penalties, fees, or charges imposed by any governmental agency with jurisdiction; and
2. Any claim, cause of action, or administrative or judicial proceeding brought against the City, its officers, agents, employees, and volunteers for any loss, cost (including reasonable attorneys’ fees), damage or liability, sustained or suffered by any person or entity, including the City.

If the performance of the Work creates any hazardous wastes, those wastes shall be properly disposed of according to federal, state, and local laws, at the expense of the Contractor. The Contractor shall dispose of the wastes under its own EPA Generator Number. In no event

shall the City be identified as the generator. The Contractor shall notify the City of any such hazardous wastes and the City reserves the right to a copy of the results of any tests conducted on the wastes, and, at its cost, to perform additional tests or examine those wastes, prior to disposition. The Contractor shall defend, indemnify, and save and hold harmless the City, its officers, agents, employees, and volunteers from any claims arising from the disposal of the hazardous wastes, regardless of the absence of negligence or other malfeasance by the Contractor. Disposal of all Hazardous Materials must be done in accordance with all laws and regulations. Copies of required regulatory documentation including copies of final manifests shall be supplied to the City.

Contractors or Subcontractors removing one hundred or more square feet (100') of asbestos must be "Certified" in accordance with State law. All Work involving exposure to asbestos and all other hazardous materials shall be performed with protection of personnel in compliance with all applicable regulations and safety requirements including, but not limited to, California Code of Regulations Section 1529, Title 8.

Nothing in these General Conditions is to be construed to permit Work not conforming to governing codes. When Contract Documents differ from governing codes, the Contractor shall furnish and Install the higher standards called for without extra charge.

5-1.08 **SUBSURFACE EXCAVATIONS, NOTIFICATION.** The Contractor shall contact the regional notification center, "Underground Service Alert," and schedule its Work to allow ample time for the center to notify its members and, if necessary, for any member to field locate and mark its facilities. Without limiting the foregoing, the Contractor's attention is directed to Government Code Sections 4216 to 4216.9, and in particular Section 4216.2.

5-1.09 **PUBLIC SAFETY.** The Contractor shall assume all responsibility for public safety during the performance of its Work, and all costs arising therefrom shall be included in the Contract Price. Whenever the Contractor's operations create a condition hazardous to traffic or to the public, it shall furnish, erect and maintain, at its expense, such fences, barricades, lights, signs, and other devices and take such other protective measures as are necessary to prevent accidents or damage or injury to the public. The Contractor shall establish the pedestrian detours with comparable lighting to the original pedestrian areas. The Contractor shall arrange for such flaggers as are necessary to give adequate warning to traffic or to the public of any dangerous conditions affecting traffic. For Work in a public right-of-way, the Contractor shall comply with the rules and regulations of the State, County, or local agency that owns the right-of-way.

The Contractor shall promptly and fully comply with and carry out, and shall without separate charge therefor to the City, all safety and first aid requirements prescribed by all applicable Federal, State, and local laws and regulations, rules, and orders. The Work shall be done in a safe manner; and the Contractor shall safeguard the safety and health of its employees, Subcontractors, and the people of local communities. The Contractor shall also be reasonable for ensuring that its Subcontractors comply with the provisions of this section.

Upon the failure of the Contractor to comply with any of the requirements of this section, the City shall have the authority, but not the duty, to stop the Work until such failure is remedied. The Contractor shall not be entitled to an adjustment of the Contract Time or an increase in the Contract Price due to any such suspensions.

When required by the Contract Documents, the Contractor shall construct, maintain, and remove detours for use of public traffic, without additional cost to the City, unless separate

payment is specified in the Special Provisions.

The failure or refusal of the Contractor to construct and maintain detours at the proper time shall be sufficient cause for closing down the work until such detours are in satisfactory condition for use by public traffic.

Due care shall be exercised to avoid injury to existing improvements or facilities, utility facilities, adjacent property and trees, shrubs, and other plants that are not to be removed.

Trees, shrubs and other plants that are not to be removed, and pole lines, fences, signs, survey markers and monuments, buildings and structures, conduits, pipe lines, sewer and waterlines, highway facilities, and any other improvements or facilities, under or above ground, that are within or adjacent to the work limit line shall be protected from injury or damage, and the Contractor shall provide and Install suitable safeguards to protect such objects from injury or damage. If such objects are injured or damaged by reason of the Contractor's operations, they shall be replaced or restored at the Contractor's expense. The facilities shall be replaced or restored to a condition as good as when the Contractor entered upon the Work Site, or as good as required by the Contract Documents if any such objects are part of the Work. The City may make or cause to be made such temporary repairs as are necessary to restore to service any damaged facility. The cost of such repairs shall be borne by the Contractor, and the costs may be deducted from any monies due or to become due to the Contractor under the Agreement.

The fact that any underground facilities is not shown on the Contract Drawings shall not relieve the Contractor of its responsibility pursuant to "Utility Facilities" in Section 2-1.12 elsewhere in the Contract Documents. It shall be the Contractor's responsibility, pursuant thereto, to ascertain the location of such underground improvements or facilities, which may be subject to damage by reason of its operations.

Full compensation for furnishing all labor, materials, tools, equipment and incidentals, and for doing all the Work involved in protecting or repairing property as specified in this section, shall be considered as included in the prices paid for the various Contract items of work and no additional compensation will be allowed therefor.

5-1.10 **EMERGENCIES.** In an Emergency affecting the safety of life, the Work, or adjoining property, the Contractor, without special instructions or authorization from the City, shall act at its discretion to prevent such threatened loss or injury. In such an Emergency, the Contractor may perform such additional work as is reasonably required. Any compensation claimed by the Contractor on account of Work performed to an Emergency shall be determined in accordance with the provisions relating to Force Account payment contained elsewhere in the Contract Documents.

5-1.11 **APPRENTICES.** Attention is directed to Labor Code Sections 1777.5, 1777.6 and 1777.7 and Title 8, California Code of Regulations Section 200 et seq. In accordance with Section 1777.5, the Contractor shall secure the necessary certificates and shall contribute to the apprenticeship fund or funds, as provided therein. The Contractor shall require each Subcontractor who will perform work or labor or render service to the Contractor in or about the construction of the work to fully comply with Sections 1777.5 and 1777.6 of the Labor Code. To insure compliance and complete understanding of the law regarding apprentices, and specifically the required ratio thereunder, each Contractor or Subcontractor should, where some questions exist, contact the Division of Apprenticeship Standards, , or one of its branch offices prior to commencement of Work on the public works Contract. Responsibility for compliance with this section lies with the prime Contractor.

It is State and City policy to encourage the employment and training of apprentices on public works Contracts as may be permitted under local apprenticeship standards.

5-1.12 **FAIR LABOR STANDARDS ACT.** Attention is invited to the fact that the City has been advised by the Wage and Hour Division, U.S. Department of Labor, that Contractors engaged in construction Work are required to meet the provisions of the Fair Labor Standards Act of 1958 and as amended (52 Stat. 1060).

5-1.13 **WORKERS' COMPENSATION.** Pursuant to the requirements of Labor Code Section 1860, the Contractor will be required to secure the payment of workers' compensation to its employees in accordance with the provisions of Labor Code Section 3700.

Prior to the commencement of Work, the Contractor shall sign and file with the Director a certification in the following form:

“I am aware of the provisions of Labor Code Section 3700 which require every employer to be insured against liability for workers' compensation or to undertake self-insurance in accordance with the provisions of that code, and I will comply with such provisions before commencing the performance of the Work of this Contract.”

5-1.14 **AIR POLLUTION CONTROL AND ASBESTOS.** The Contractor shall comply with all air pollution control rules, regulations, ordinances and statutes which apply to any Work performed pursuant to the Contract, including any air pollution control rules, regulations, ordinances and statutes, specified in Government Code Section 11017.

In the absence of any applicable air pollution control rules, regulations, ordinances or statutes governing solvents, all solvents, including but not limited to the solvent portions of paints, thinners, curing compounds, and liquid asphalt used on the project shall comply with the

applicable material requirements of the applicable Air Quality Management District. All containers of solvent, paint, thinner, curing compound, or liquid asphalt shall be labeled to indicate that the contents fully comply with said requirements.

Unless otherwise provided in the Supplemental Conditions, material to be disposed of shall not be burned, either inside or outside the Premises.

The Contractor shall also comply with all rules, regulations, statutes and ordinances regarding asbestos removal and disposal, including but not limited to, 42 U.S.C. Sections 7401, 7412 and 7601, 40 C.F.R. Part 61, Subpart M, and California Code of Regulations Section 1529, Title 8.

If the Contractor discovers that a building to be demolished or renovated contains asbestos containing material, the Contractor shall immediately cease Work and notify the City.

5-1.15 **USE OF PESTICIDES.** The Contractor shall comply with all local, state and federal rules and regulations of the Department of Food and Agriculture, the Department of Health, the Department of Industrial Relations and all other agencies which govern the use of pesticides required in the performance of the Work.

Pesticides shall include but shall not be limited to herbicides, insecticides, fungicides, rodenticides, germicides, nematocides, bactericides, inhibitors, fumigants, defoliants, desiccants, soil sterilants, and repellents.

Any substance or mixture of substances intended for preventing, repelling, mitigating, or destroying weed, insects, diseases, rodents, or nematodes and any substance or mixture of substances intended for use as a plant regulator, defoliant or desiccant shall be considered as pesticide.

5-1.16 **SOUND AND LIGHT CONTROL REQUIREMENTS.** The Contractor shall comply with all local sound control, light control, and noise level rules, regulations and ordinances which apply to any Work performed pursuant to the Contract. Work shall not begin before 7 a.m. nor occur after 7 p.m., unless otherwise permitted by the City.

Each internal combustion engine, used for any purpose on the Work or related to the Work, shall be equipped with a muffler, in good working order, of a type recommended by the manufacturer. No internal combustion engine shall be operated on the project without said muffler.

5-1.17 **WEIGHT LIMITATIONS.** Unless expressly permitted elsewhere in the Contract Documents, the Contractor shall not operate construction equipment or vehicles of any kind which, laden or unladen, exceed the maximum weight limits set forth in Division 15 of the Vehicle Code over completed or existing base, surfacing, pavement or structures.

5-1.18 **ENVIRONMENTAL CLEARANCES; MITIGATION MONITORING PROGRAMS; AND REGULATORY AGENCY PERMIT REQUIREMENTS.** The Department will obtain all environmental clearances and other authorizations necessary for this project as set forth in the Contract Documents. The Contractor shall comply with the provisions, including giving notices during construction when required, of said authorizations. In the event the obtaining of said authorizations delays completion of all or any portion of the Work, an extension of time determined pursuant to the provisions in Section 6-1.08, "Liquidated Damages," of these General Conditions will be granted.

Contractor shall comply with: (1) all mitigation identified in the mitigation monitoring program (attached to and adopted as a component of the mitigated negative declaration or Environmental Impact Report) to mitigate impacts to protected natural resources; and (2) all

related permit requirements issued by the regulatory agencies authorizing the project. Contractor shall defend, indemnify, and save and hold harmless the City, its officers, agents, employees, and volunteers from any fines, claims, suits, actions or regulatory sanctions of every name, kind and description brought forth, or on account of, damage to protected natural resources from or arising out of Contractor's negligence or willful misconduct in the performance of this Agreement.

5-1.19 **PERMITS AND LICENSES.** The Contractor acknowledges and agrees that, prior to the submission of its bid for the Work, it fully familiarized itself with the requirements of all applicable federal, state, county and municipal laws, codes, rules, and regulations, as well as the conditions of any required licenses and permits.

The Contractor shall procure all permits and licenses, including any applicable building permits (except those procured or to be procured by the City which are listed elsewhere in the Contract Documents), in coordination with the Director, pay all charges and fees, and give all notices necessary and incident to the due and lawful prosecution of the Work. Contractor shall be responsible for applying, paying all fees, and coordination for obtaining all permits for completion of the Work. All permits and licenses shall be obtained in sufficient time to prevent delays to the Work. Contractor will apply to the City for reimbursement for such permits costs. Accordingly, Contractor should not include the anticipated costs for permits in its bid, as the necessary permit costs will be reimbursed by the City.

The California Environmental Quality Act (Public Resources Code, Section 21000 to 21177) may be applicable to permits, licenses and other authorizations which the Contractor must obtain from State or local agencies in connection with performing the Work. The Contractor shall comply with the provisions of that Act in obtaining such permits, licenses and other authorizations, and all permits, licenses and other authorizations shall be obtained in

sufficient time to prevent delays to the Work.

The Contractor shall maintain the applicable Contractor's license as identified in the Notice to Contractors and City business license for the duration of the Work.

5-1.20 **WATER POLLUTION.** The Contractor shall comply with all water pollution control rules, regulations, ordinances and statutes which apply to any Work performed pursuant to the Contract, including any water pollution control rules, regulations, and statutes, specified by the most current State of California NPDES General Permit for Stormwater Discharges Associated with Construction Activity.

The Contractor shall take all necessary precaution to protect streams, vernal pools, ponds, reservoirs, and lakes from pollution with fuels, oils, bitumen, calcium chloride, and other harmful materials as consistent with the law. Also, the Contractor shall conduct and schedule operations so as to avoid discharging pollutants, such as but not limited to: sediment and silt to the storm drain system. The storm drain system consists of all facilities that are designed to convey stormwater to the Waters of the State as defined in the California Water Code. The storm drain system includes, but is not limited to, all streets, gutters, drain inlets, roadside ditches, streams, vernal pools, ponds, and lakes. Care shall be exercised to preserve roadside vegetation beyond the limits of construction.

5-1.21 **PROTECTION AND USE OF PROPERTY.** The Contractor shall be responsible for and provide and maintain all proper temporary walkways, covered walkways, barriers, roads, guards, railings, lights, warning signs, and take precaution at all times to avoid injury or damage to any person or any property, and upon completion of the Work, or at other times as directed, restore Premises and adjacent property to a proper condition. In the event of such injury or damage, Contractor shall report such injury and damage to City within

forty-eight (48) hours of occurrence.

The Contractor shall protect adjoining property and nearby buildings, including City buildings, City roads, and public streets or roads, from dust, dirt, debris, or the nuisance arising out of the Contractor's operations or storage practices, and, if ordered by the Director, the Contractor shall provide and Install suitable safeguards, approved by the Director, to protect such objects from damage. If such objects are damaged by reason of the Contractor's operations, they shall be replaced or restored at the Contractor's expense.

If the Contractor damages any buildings, roads, utilities, or other property which belong to the City, or any Department or agency thereof, then the Director, at his or her option, may retain from the money due under the Contract an amount sufficient to insure repair of the damage.

The Director may make or cause to be made such temporary repairs as are necessary to restore to service any such damaged facility. The cost of such repairs shall be borne by the Contractor and may be deducted from any moneys due or to become due the Contractor under the Contract.

5-1.22 **RESPONSIBILITY FOR DAMAGE AND INDEMNIFICATION.** The City of Roseville, its officers, agents, employees, and volunteers, including but not limited to the Director and his or her designee, shall not be answerable or accountable in any manner: for any loss or damage that may happen to the Work or any part thereof; for any loss or damage to any of the materials or other things used or employed in performing the Work; for injury to or death of any person, either workers or the public; or for damage to property from any cause which might have been prevented by the Contractor, its workers, or anyone employed by the Contractor or the Contractor's Subcontractors.

The Contractor shall be responsible for any liability imposed by law and for injuries to, or death of, any person including, but not limited to, workers and the public, or damage to property resulting from defects or obstructions, or from any cause whatsoever during the progress of the Work or at any time before its completion and final Acceptance.

To the fullest extent allowed by law, the Contractor shall defend (through counsel acceptable to the City), indemnify, and save and hold harmless the City, and its respective officers, agents, Subcontractors, employees, and volunteers, and the successors and assigns of any of them, (hereinafter referred to as “Indemnitees”) from and against all claims, demands, liability, suits, actions, costs or expenses for any and all loss or damage, including but not limited to, personal injury, property damage, or economic loss, arising out of or resulting from allegations of (1) Contractor’s use of the City’s property or any activities or Work performed hereunder by the Contractor; (2) the Contractor’s performance of the Work under the Agreement; or (3) the Contractor’s breach of any provision of the Agreement. The duty of the Contractor to indemnify and save harmless includes the duties to defend as set forth in Civil Code Section 2778. The only exception to these provisions is that the Contractor’s obligations under this section will not apply to the extent that the claims, demands, liability, suits, actions, costs or expenses are caused by Indemnitees’ active negligence, willful misconduct, criminal acts, or for defects in design furnished by the Indemnitees, misconduct, criminal acts, or for defects in design furnished by the Indemnitees.

The Contractor waives any and all rights to any type of express or implied indemnity against the City, its officers, agents, employees, or volunteers.

The Contractor’s responsibility for such defense and indemnity obligations shall survive the termination or completion of this Contract for the full period of time allowed by law. The

defense and indemnity obligations of this Contract are undertaken in addition to, and shall not in any way be limited by, the insurance obligations contained in this Contract. The parties intend that the defense and indemnity obligations in this Contract shall be broadly construed.

Any person, firm or corporation that Contractor authorizes to Work on the City's property including Subcontractors, shall be deemed to be an agent of the Contractor for purposes herein, shall be subject to all the applicable terms herein, and shall be within the scope of the Contractor's indemnity obligation described herein.

In addition to any remedy authorized by law, so much of the money due the Contractor under and by virtue of the Contract as shall be considered necessary by the Department may be retained by the City until disposition has been made of such suits or claims for damages.

The retention of money due the Contractor shall be subject to the following:

A. The City will give the Contractor thirty (30) Days' notice of its intention to retain funds from any partial payment which may become due to the Contractor prior to Acceptance of the Contract. Retention of funds from any payment made after Acceptance of the Contract may be made without such prior notice to the Contractor.

B. No retention of additional amounts out of partial payments will be made if the amount to be retained does not exceed the amount being withheld from partial payments pursuant to Section 7-1.07, "Progress Payments," of these General Conditions.

C. If the City has retained funds and it is subsequently determined that the City is not entitled to be indemnified and saved harmless by the Contractor in connection with matter for which such retention was made, the Department shall be liable for interest on the amount retained at the legal rate of interest for the period of such retention.

5-1.23 **INSURANCE COVERAGE.**

A. Evidence of Maintenance Required. The Contractor shall, at its expense, procure and at all times maintain in full force and effect at a minimum the insurance required by this section on all of its operations; and the Contractor shall not allow any Subcontractor to commence work until similar insurance required of the Subcontractor has been obtained and filed. An original Certificate of Insurance, and copies of all required endorsements, all in a form approved by the Risk Manager, evidencing all required coverage or policies shall be filed after the award of the bid and prior to approval of the Contract by the City Council. Contractor shall provide ten (10) days prior written notice to the City of any reduction of coverage limits or cancellation of the coverage or policies shall be given to the City of Roseville as Certificate holder.

B. Qualifying Insurers. With the exception of the State Compensation Insurance Fund, all required insurance policies shall be issued by companies acceptable to the City and licensed to do business in the State of California and who hold a current policy holders alphabetic and financial size category rating of not less than AVII according to the most recent issue of Best's Insurance Reports.

C. Insurance Required.

1. Commercial General Liability (CGL): Insurance Services Office Form CG 00 01 covering CGL on an “occurrence” basis, including products and completed operations with limits of no less than Two Million Dollars (\$2,000,000) per occurrence for bodily injury, personal injury and property damage for projects under One Million Dollars (\$1,000,000) and limits of no less than Five Million Dollars (\$5,000,000) per occurrence for bodily injury, personal injury and property damage for projects over One Million Dollars (\$1,000,000). If a

general aggregate limit applies, either the aggregate limit shall apply separately to this project or the general aggregate limit shall be twice the required occurrence limit.

The Commercial General Liability insurance shall include the following, copies of which shall be provided:

a. Inclusion of the City of Roseville, and its officers, agents, employees, and volunteers, as additional insureds (except for workers' compensation) as respects services or operations under the Contract. The additional insured endorsement for the general liability policy shall be at least as broad as the ISO CG 2010 10 01 combined with ISO CGL Endorsement CG 2037 10 01. Any other endorsement must be approved in writing by the City. Endorsements must include coverage for on-going and completed operations, which coverage shall be maintained for four (4) years following completion of the Project. Endorsements shall cover the City of Roseville, its officers, agents, employees, and volunteers.

b. The insurance shall provide coverage for claims by one insured against another insured and the policies shall not contain any cross-suits exclusions, cross-liability exclusions, or insured versus insured exclusions. The policies shall not contain any classification exclusions purporting to deny coverage for any work to be performed by Contractor or any of its Subcontractors.

c. Stipulation that the insurance is primary and noncontributory, as evidenced by a separate endorsement (CG 20 01 04 13 or an equivalent) or section of the policy, and that neither the City nor its insurers will be called upon to contribute to a loss.

d. Such insurance shall specifically cover the contractual liability of the Contractor.

e. Any available insurance proceeds in excess of the specified minimum insurance coverage requirements and limits shall be available to the additional insureds. Furthermore, the requirements for coverage and limits shall be: (1) the minimum coverage and limits specified in this Agreement; or (2) the full coverage and maximum limits of any insurance proceeds available to the named insureds, whichever is greater.

f. Waiver of subrogation endorsement.

g. The Contractor shall furnish a certificate for the period covered.

2. Automobile Liability: Insurance Services Office Form Number CA 0001 covering Code 1 (any auto), or if Contractor has no owned autos, Code 8 (hired) and Code 9 (non-owned), with limits of no less than One Million Dollars (\$1,000,000) per accident for bodily injury and property damage.

3. Workers' Compensation: In accordance with the provisions of the California Labor Code, Contractor is required to be insured against liability for Workers' Compensation or to undertake self-insurance. Statutory Workers' Compensation and Employers' Liability of at least One Million Dollars (\$1,000,000) shall cover all Contractors staff while performing any work incidental to the performance of this Agreement.

4. Professional Liability: Professional Liability (Errors and Omission) Insurance appropriate to Contractor's profession, with a limit of liability not less than One Million Dollars (\$1,000,000) per occurrence or claim and Two Million Dollars (\$2,000,000) aggregate to cover all design and engineering services rendered by Contractor pursuant to the Agreement. Coverage must commence from the first day that Contractor or any of its Subcontractors provided any design or engineering services in connection with the Project.

5. Builder's Risk/Course of Construction Insurance (If Required by Risk Management): The Contractor shall be responsible for all loss, damage or destruction whatsoever to the work called for by this Contract until the approval of a Notice of Completion or acceptance of the Work if no Notice of Completion is to be recorded.

The Contractor shall secure "All Risk" type of builder's Risk Insurance of the type covering one hundred percent (100%) of the value of the work performed under this Contract (the value is presumed to be the Contract amount unless otherwise stated in Supplemental Conditions) and all materials, equipment, or other items to be incorporated therein while the same are located at the construction site, a bonded warehouse, or its place of manufacture. At any time, the policy shall cover the value of the work completed. The policy shall cover hazards including the losses due to fire, explosion, hail, rain, lightning, flood (separate insurance as needed), vandalism, malicious mischief, wind, collapse, aircraft, and smoke.

The policies providing such insurance shall name the City as a loss payee as its respective interests may appear, and certified copies of such policies shall be filed with the City. The maximum deductible allowable under the Builder's All Risk policy shall be five percent (5%) of the Contract amount.

Builder's Risk Insurance is not required for coverage of losses in excess of five percent (5%) of the Contract amount for damages resulting from earthquake in excess of a magnitude of 3.5 on the Richter scale, or tidal waves. Coverage in the amount of five percent (5%) of the Contract amount for such losses is required.

6. Pollution Coverage: Contractor shall procure pollution liability coverage or other insurance covering claims for bodily injury or property damage arising out of the abatement, removal, storage, transportation, or other exposure to hazardous materials or

pollutants, in limits not less than Two Million Dollars (\$2,000,000). Contractor shall add the City and all parties required to be indemnified by Contractor as additional insured on all pollution liability policies.

7. Higher Coverage Limits: If Contractor maintains higher coverage limits than the amounts shown above, then the City requires and shall be entitled to coverage for the higher coverage limits maintained by Contractor. Any available insurance proceeds in excess of the specified minimum limits of insurance and coverage shall be available to the City.

8. Claims Made Coverage: Liability insurance coverage may not be written on a “claims made” or modified occurrence basis. The Certificate of Insurance must clearly provide that the coverage is on an “occurrence” basis.

5-1.24 **OTHER INSURANCE PROVISIONS.**

A. The requirements of the Standard Specifications as to types and limits of insurance coverage to be maintained by the Contractor, and any approval of insurance by the City, are not intended to, and shall not in any manner limit or qualify the liabilities and obligations otherwise assumed by the Contractor pursuant to the Contract, including, but not limited to, the provisions concerning indemnification, nor preclude the City from taking any other action available to it under any other provision of the Contract or law.

B. The City acknowledges that some insurance requirements contained in these Standard Specifications may be fulfilled by self-insurance on the part of the Contractor. However, this shall not in any way limit liabilities assumed by Contractor under the Contract. Any self-insurance must be approved in writing by the City, in its sole discretion and shall not reduce the limits of liability. Any deductibles or self-insured retentions (“SIR”) must be declared on the certificate of insurance and approved by City in writing. Policies containing any SIR

provision shall provide or be endorsed to provide that the SIR may be satisfied by either the named insured or City. City reserves the right to obtain a full certified copy of any insurance policy and endorsements. The failure to exercise this right shall not constitute a waiver of such right.

C. The Contractor agrees to include in its contracts with all subcontractors the same requirements and provisions of this Contract, including the indemnity and insurance requirements, to the extent they apply to the scope of the subcontractor's work. Furthermore, the Contractor shall require its subcontractors to agree to be bound to the Contractor and the City in the same manner and to the same extent as the Contractor is bound to the City under this Contract. Additionally, the Contractor shall obligate its subcontractors to comply with these same provisions with respect to any tertiary subcontractor, regardless of tier. A copy of the City's indemnity and insurance provisions will be furnished to the subcontractor or tertiary subcontractor upon request. Alternatively, the Contractor may insure subcontractor(s) under its own policy.

D. The City, its officers, agents, employees, and volunteers are to be covered as insureds with respect to liability arising out of automobiles owned, leased, hired or borrowed by or on behalf of the Contractor; and with respect to liability arising out of work or operations performed by or on behalf of the Contractor including materials, parts or equipment furnished in connection with such work or operations. Coverage shall not extend to any indemnity coverage for the active negligence of the additional insured in any case where an agreement to indemnify the additional insured would be invalid under California Insurance Code Section 11580.04.

E. The limits of insurance required in this Contract may be satisfied by a combination of primary and excess insurance. Any excess insurance shall contain or be endorsed

to contain a provision that such coverage shall also apply on a primary and noncontributory basis for the benefit of the City (if agreed to in a written contract) before the City's own insurance shall be called upon to protect it as a named insured.

F. The insurance procured by Contractor shall be subject to the approval of the City, but any acceptance of insurance certificates by the City shall in no way limit or relieve Contractor of its duties and responsibilities under the Agreement.

G. Contractor shall be responsible for all premiums, deductibles, and self-insured retention applicable to the insurance it is required to procure under the Contract. All deductibles or self-insured retentions over five hundred thousand dollars (\$500,000) must be approved by the City, in writing. Contractor shall be responsible for all deductibles, self-insured retention payments, and/or increased premiums incurred if the City's policies of insurance are forced to cover damages or respond to claims for which Contractor or its Subcontractors were obligated to provide insurance under the Contract.

H. Failure of the City to enforce in a timely manner any of the requirements of these insurance provisions shall not act as a waiver to enforcement of any of these provisions at a later date.

I. Contractor's indemnity obligations shall not be limited by these insurance provisions and shall survive the expiration of the Contract and the insurance provisions of the Contract shall likewise not be limited by the indemnity provisions of the Contract.

J. THE CITY RESERVES THE RIGHT TO WITHHOLD ANY PROGRESS PAYMENTS TO THE CONTRACTOR IN THE EVENT OF NONCOMPLIANCE WITH ANY INSURANCE REQUIREMENTS.

5-1.25 **THIRD PARTY BENEFICIARY.** No provisions in the Contract

Documents shall in any way inure to the benefit any third party (including the public at large or any member thereof) so as to constitute such person a third party beneficiary of the Contract, or of any term or condition or other provision of the Contract or otherwise give rise to any cause of action in any person not a party to the Agreement, except as expressly provided elsewhere in the Contract Documents.

5-1.26 **COORDINATION AND ACCESS.** The Contractor acknowledges that the City may award, or has already awarded, other construction contracts for additional work or may perform additional work with its own forces and that such work may affect the Work under this Agreement. Additionally, the Contractor acknowledges that the State and other public and private agencies may be granted a right-of-entry by the City for the purpose of constructing facilities within and adjacent to the Work Site. It is the obligation of the Contractor to coordinate its Work with the work of others working within or adjacent to the City's property.

During performance of its Work, the Contractor shall not have exclusive access to or use of the work areas. The City may also require that certain facilities and areas be used concurrently by the Contractor and by other contractors working in the area. When two (2) or more contractors are employed on related or adjacent City work, each shall conduct its operations in such a manner as not to cause any unnecessary delay or hindrance to the other. Each contractor shall be responsible to the other for all damage to any work, to persons or property caused to the other by its operations, and for loss caused the other due to any unnecessary delays or failure to finish the work within the time specified for completion.

If any party of the Contractor's Work depends on the work of any other contractor and/or the City for proper execution and/or results, the Contractor shall promptly notify the City of any

discrepancies and/or defects in said other work that would render its work unsuitable for proper execution and/or results prior to proceeding with the Contractor's own Work. If it becomes necessary, the City will resolve coordination and access problems.

The Contractor and its representative in charge of the Work shall familiarize themselves with the City's property and Work Site, and adjacent surroundings in the vicinity of said Work, and any private or public operations on adjoining properties.

5-1.27 **OCCUPANCY BY THE DEPARTMENT PRIOR TO**

ACCEPTANCE. The City may at any time notify the Contractor in writing that it intends to take Beneficial Occupancy of any portion of the Work even though the Work may not be substantially complete. Unless the reason for the City's taking Beneficial Occupancy is that the Contractor has not completed the Work (or portions thereof) in accordance with the Contract Time, the City's Beneficial Occupancy shall relieve the Contractor from its responsibility for maintenance, loss or damage to that portion of the Work for which the City has taken Beneficial Occupancy other than that resulting from the Contractor's act or omission, negligence, willful misconduct or breach of warranty.

Should the Work (or portion thereof) not be completed in accordance with the Construction Schedule within the Contract Time (as adjusted under the terms of the Contract Documents), the City shall have the right, but not the obligation, to take Beneficial Occupancy of the Work. In such event, the Contractor shall not be entitled to any additional compensation on account of said occupancy by the City, nor shall the Contractor be relieved of any of its responsibilities under the Contract Documents, including, without limitation, Contractor's obligation to complete the Work in accordance with the Construction Schedule.

Beneficial Occupancy shall not be deemed an Acceptance by the City either of the Work or of any portion thereof, nor will it relieve the Contractor of full responsibility for correcting defective Work or materials found at any time before the formal written Acceptance of the entire Contract by the Director or during the full warranty period after such Acceptance, as provided in Section 7-1.12, "Warranty," of these General Conditions.

The City's Beneficial Occupancy shall not relieve the Contractor of its responsibility to maintain all insurance and bonds required under the Contract Documents until the entire project is accepted by the City.

5-1.28 **RIGHT TO OPERATE UNSATISFACTORY FACILITIES AND EQUIPMENT.** If, after Installation, the operation or use of the facilities or equipment to be furnished under this Contract proves to be unsatisfactory to the Director, the City shall have the right to operate and use such facilities or equipment until they can, without damage to the City, be taken out of service for correction or replacement. Such period of use of the defective facilities or equipment, pending correction or replacement, shall in no way decrease the warranty period required for the acceptable corrected or replaced facilities or equipment.

5-1.29 **CONTRACTOR'S RESPONSIBILITY FOR THE WORK.** Except as otherwise provided herein, the Contractor shall have the charge and care of the Work and shall bear the risk of injury or damage to any part of the Work by the action of the elements or from any other cause whether arising from the execution or from the nonexecution of the Work until the Acceptance of the Contract by the Director. The Contractor shall rebuild, repair, restore, and make good all injuries or damages to any portion of the Work occasioned by any cause before its completion and Acceptance, and shall bear the expense thereof. In case of suspension of Work from any cause whatever, the Contractor shall be responsible for the Work and it shall also be

responsible for all materials, and shall properly store them if necessary, and shall provide suitable drainage and erect temporary structures where necessary.

The Contractor will be relieved of responsibility for any injury or damage to the Work caused by the following:

A. An earthquake in excess of a magnitude of 3.5 on the Richter Scale or a tidal wave, when the effect of such has been proclaimed a disaster or state of emergency by the Governor of the State of California or by the President of the United States, or was of such magnitude at the site of the Work as to have been sufficient to have caused a proclamation of disaster or state of emergency, had it occurred in a populated area.

B. Occupancy and use by the Department or the public prior to the completion of the entire project.

C. Acts of the Federal Government or the public enemy.

5-1.30 **RESPONSIBILITY FOR UTILITIES.** The Contractor shall be responsible at its own cost for any and all Work, expense or special precautions caused or required by the existence or proximity of utilities encountered in performing the Work, including without limitation, repair of any or all damage and all hand or exploratory excavation required. The Contractor is cautioned that such utilities may include communication cables or electrical cables which may be high voltage, and when working or excavating in the vicinity of such cables, or the ducts enclosing such cables, the Contractor shall undertake at its own cost any special precautions required. Suitable warning signs, barricades, and safety devices shall be erected as necessary or required.

However, if during the course of the Work the Contractor encounters utility Installations which are not shown or indicated in the Contract Documents or which are found in a location

substantially different from that shown, and such utilities are not reasonably apparent from visual examination, then the Contractor shall promptly notify the Director in writing. Where necessary for the Work of the Contract, the Director shall issue a written order to the Contractor to make such adjustments, rearrangement, repair, removal, alteration, or special handling of such utility, including repair of the damaged utility. The Contractor shall perform the Work described in such written order, and compensation therefor will be made in accordance with Section 3 of these General Conditions relating to changes in the Work. Except for the items of cost specified in said Section 3, the Contractor shall receive no compensation for any other cost, damage, delay, interference, or hindrance to him or her due to the presence of such utility. If the Contractor fails to give the notice specified above and thereafter acts without instructions for the Director, then the Contractor shall be liable for any or subsequent to discovery thereof, and the Contractor shall repair and make good such damage at its own cost.

The precise location of underground facilities can only be determined by careful probing or hand digging in compliance with Article 6 of the Cal/OSHA Construction Safety Orders which states in part:

“Prior to opening an excavation, effort shall be made to determine whether underground installations, i.e., sewer, water, fuel, electric lines, etc., will be encountered, and if so, where such underground installations are located. When the excavation approaches the approximate location of such an installation, the exact location shall be determined by careful probing or hand digging, and, when it is uncovered, adequate protection shall be provided for the existing installation.”

The location of known existing utilities and pipelines are shown on the Contract Drawings in their approximate locations. Some of the locations include multiple conduits. The

Contractor shall exercise care in avoiding damage to those facilities which are to remain in service subsequent to the construction of the particular new facility involved and the Contractor will be held responsible for any repairs if damaged. The Contractor shall also exercise care in maintaining those pipes and facilities required for continuing operation of the existing facilities until such time as they can be abandoned. There is no guarantee that all utilities or obstructions are shown on the Contract Drawings or that the locations indicated are accurate.

The Contractor shall exercise extreme caution in working in the area adjacent to the existing pipelines and utility services. It is essential that all the existing facilities be maintained in service. Construction of the connections between the existing facilities and the new facilities shall be at times and during periods acceptable to the City. The Contractor shall advise the Director in writing of its proposed Construction Schedule for these connections at least forty-eight (48) hours in advance.

The Contractor shall uncover all piping and conduits, to a point one foot (1') below the pipe, where crossings, interferences, or connections are shown on the Contract Drawings, prior to trenching or excavating for any pipe or structures, to determine actual elevations. New pipelines shall be laid to such grade as to clear all existing facilities which are to remain in service. If the Contractor does not expose all required utilities, it shall not be entitled to additional compensation for Work necessary to avoid interferences nor for repair to damaged utilities. Excavations around underground electrical ducts and conduits shall be performed using extreme caution to prevent injury or damage to workers and to the electrical ducts or conduits.

5-1.31 **PROPERTY RIGHTS IN MATERIALS.** Nothing in the Contract shall be construed as vesting in the Contractor any right of property in the materials used after they have been attached or affixed to the Work or soil or after partial payment has been made as

provided in Section 7-1.07, “Progress Payments,” of these General Conditions for material delivered on the ground or stored subject to or under the control of the City and unused. All such material shall become the property of the City upon being so attached or affixed or upon payment for materials delivered on the ground or stored subject to or under the control of the City and unused, as provided in said Section 7-1.07.

5-1.32 **COURT ORDERED DELAY.** If, pursuant to court order, the Department temporarily suspends performance of all or any portion of the Work, an extension of time determined pursuant to the provisions in Section 6-1.08, “Liquidated Damages,” of these General Conditions will be granted.

5-1.33 **NO PERSONAL LIABILITY.** Neither the Director, nor any other officer or authorized employee of the City, shall be personally responsible for any liability arising under or by virtue of the Contract.

5-1.34 **RIGHTS IN LAND AND IMPROVEMENTS.** The Contractor shall make no arrangements with any person or entity to permit occupancy or use of any land, structure or building within the limits of the Work, for any purpose whatsoever, either with or without compensation, in conflict with any agreement between the City and any third party owner, former owner, or tenant of such land, structure or buildings. The Contractor shall not occupy City-owned property outside the limit of the Work shown on the Contract Drawings unless it obtains prior approval.

5-1.35 **ANTITRUST CLAIMS.** The Contractor’s attention is directed to the following provision of Public Contract Code Section 7103.5(b), which is applicable to the Contractor and its Subcontractors:

“ In entering into a public works contract or a subcontract to supply

goods, services, or materials pursuant to a public works contract, the contractor or subcontractor offers and agrees to assign to the awarding body all rights, title, and interest in and to all causes of action it may have under Section 4 of the Clayton Act (15 U.S.C. Sec. 15) or under the Cartwright Act (Chapter 2 [commencing with Section 16700] of Part 2 of Division 7 of the Business and Professions Code), arising from purchases of goods, services, or materials pursuant to the public works contract or the subcontract. This assignment shall be made and become effective at the time the awarding body tenders final payment to the contractor, without further acknowledgement by the parties.”

5-1.36 **RIGHTS TO DRAWINGS, TECHNICAL DATA PATENTS.** Shop Drawings and Working Drawings submitted to the City by the Contractor, Subcontractor or any lower tier Subcontractor pursuant to the Agreement, are the property of the City and the City may use, and disclose in any manner and for any purpose, Shop Drawings and Working Drawings delivered under the Contract.

Technical Data including manuals or instructional materials, computer or microprocessor software which are delivered or submitted to the City by the Contractor, Subcontractor, or any lower tier Subcontract pursuant to the Contract are the property of the City, and the City may use or disclose same in any manner and for any purpose.

The Contractor shall assume all costs arising from the use of patented materials, equipment, devices, or processes used on or incorporated in the Work, and shall defend, indemnify and save and hold harmless the City, and its duly authorized representatives, from all

suits at law, or in equity, and actions of every nature for, or on account of the use of any patented materials, equipment, devices or processes. In case some materials, equipment, devices or processes are held to constitute an infringement and their use enjoined, the Contractor, at its expense, shall:

1. Secure for the City the right to continue using said materials, equipment, devices or processes by suspension of the injunction or by procuring a license or licenses; or
2. Replace such materials, equipment, devices, processes; or
3. Modify them so that they become non-infringing or remove the enjoined materials, equipment, devices or processes and refund the sums paid therefor without prejudice to any other rights of the City.

5-1.37 **PAYMENT OF TAXES.** Contractor shall pay all taxes and duties applicable to and assessable against any Work, equipment, materials, services, processes, and operations incidental to or involved in the Agreement, including but not limited to, retail sales and use, transportation, export, import, business, and special taxes. The Contractor is responsible for ascertaining and acquainting itself with such taxes and making all necessary arrangements to pay them. The Contractor will maintain records that are auditable records, and these records shall be subject to the City's review to verify that Contractor's tax payments are current at all times.

The Contract Price paid for the Work shall include full compensation for all taxes which the Contractor is required to pay, whether imposed by Federal, State or local government, including, without being limited to, Federal excise tax. No tax exemption certificate nor any document designed to exempt the Contractor from payment of any tax will be furnished to the Contractor by the Department, as to any tax on labor, services, materials, transportation, or any other items furnished pursuant to the Contract.

The Contractor shall withhold and pay any and all sales and use taxes, withholding taxes, whether Federal, State, or local, Social Security taxes, State Unemployment Insurance charges and all other taxes which are now or hereafter may be required to be paid or withheld under any laws.

5-1.38 **GRATUITIES AND CONFLICT OF INTEREST.** The Contractor shall not offer or provide gratuities in the form of gifts, entertainment, loans, meals, rewards, and/or services to representatives of the City, including but not limited to, officers, employees, agents, Engineering Service Consultants, Consulting Engineers and Architects, Inspectors and/or Testing Agencies retained by the City. If it is found that the Contractor has violated this provision, the Contract may be subject to termination for default as defined elsewhere in these General Conditions.

During the term of the Contract and until the final payment has been made to the Contractor, the Contractor shall not employ or compensate in any manner whatsoever, the City's officers, employees and authorized representatives, agents, and any Engineering Service Consultants, Consulting Engineers and Architects, Inspectors, and/or Testing Agencies retained by the City. Any exception to the employment or compensation to any of the above named parties must be made in writing by the City. If the Contractor offers or provides employment or compensation to those named above during the term of the Contract, the Contract may be subject to termination for default.

5-1.39 **COOPERATION.** Should construction be under way by City forces or other forces or by other Contractors within or adjacent to the limits of the Work or should Work of any other nature be under way by such forces within or adjacent to said limits, the Contractor shall cooperate with all such forces to the end that any delay, interference or hindrance to their

Work will be avoided. The right is reserved to perform other or additional Work at or near the site at any time, by the use of such forces.

5-1.40 **DIGGING TRENCHES OR OTHER EXCAVATIONS.** In the event any work involves digging trenches or other excavations that extend deeper than four feet (4') below the surface, City and Contractor shall comply with the following:

A. The Contractor shall promptly, and before the following conditions are disturbed, notify City in writing of any:

1. Material that the Contractor believes may be material that is hazardous waste, as defined in Section 25117 of the Health and Safety Code, that is required to be removed to a Class I, Class II, or Class III disposal site in accordance with provisions of existing law.

2. Subsurface or latent physical conditions at the site differing from those made available to Contractor for inspection as provided in the project proposal.

3. Unknown physical conditions at the site of any unusual nature, different materially from those ordinarily encountered and generally recognized as inherent in Work of the character provided for in the Contract.

B. The City shall promptly investigate the conditions, and if it finds that the conditions do materially so differ, or do involve hazardous waste, and cause a decrease or increase in the Contractor's cost of, or the time required for, performance of any part of the Work shall issue a Change Order under the procedures described in the Contract.

C. In the event that a dispute arises between the City and the Contractor whether the conditions materially differ, or involve hazardous waste, or cause a decrease or increase in the Contractor's cost of, or time required for, performance of any part of the Work,

the Contractor shall not be excused from any scheduled completion date provided for by the Contract, but shall proceed with all work to be performed under the Contract. The Contractor shall retain any and all rights provided either by contract or by law which pertain to the resolution of disputes and protests between the contracting parties. However, no claim of the Contractor under this clause shall be allowed unless the Contractor has given the notice required by this Section. No claim by the Contractor for an equitable adjustment hereunder shall be allowed if asserted after final payment under this Contract.

5-1.41 **CONTRACTOR REGISTRATION.** No contractor or subcontractor may work on a public works project unless registered with the Department of Industrial Relations pursuant to Labor Code section 1725.5. During the performance of this Contract, the Contractor and its subcontractors shall have a continuing legal obligation to maintain current registration with the Department of Industrial Relations. The Contractor is hereby notified that this project is subject to compliance monitoring and enforcement by the Department of Industrial Relations.

5-1.42 **CITY OF ROSEVILLE ENCROACHMENT PERMITS AND RIGHTS-OF-WAY.** The Contractor need not obtain a separate encroachment permit from the City prior to construction within street rights-of-way or other City rights-of-way. Execution of the Contract by the City shall be deemed an encroachment permit for work required by the Contract within rights-of-way. All work shall conform to the rules and regulations of encroachment permits and shall be subject to the inspection and approval of the Director and City Engineer.

To the extent indicated in the Contract Drawings, the City will provide the rights-of-way over private lands or the site to enable the Contractor to perform its work. The Contractor shall

be solely responsible for securing any additional rights-of-way desired by the Contractor. The City will not be a party to nor assume any liability for any separate agreements reached between the Contractor and any third parties with respect to these additional rights-of-way. The Contractor shall procure evidence that agreements are in place with said third parties before the Contractor uses those areas covered by the agreements. Any damage to such private lands caused by the Contractor's operations shall be the sole responsibility of the Contractor.

SECTION 6

PROSECUTION AND PROGRESS

6-1.01 **SUBLETTING AND SUBCONTRACTING.** The Contractor shall be responsible for all Work performed under the Contract. The Contractor shall give its personal attention to the fulfillment of the Contract and shall keep the Work under its control. Nothing in the Contract Documents shall create any contractual relationship between the City and any Subcontractor. The Contractor is fully responsible to the City for the acts and omissions of its Subcontractors of any tier. When any Subcontractor fails to prosecute a portion of the Work in a manner satisfactory to the Director, that Subcontractor shall not again be employed on the Work. Although the sections of the Contract may be arranged according to various trades, or general grouping of the Work, the Contractor is not obligated to sublet the Work in such manner. The Director will not arbitrate disputes among Subcontractors or between Contractor and one or more Subcontractors concerning responsibility for performing any part of the Work.

The on-site production of materials produced by other than the Contractor's own forces shall be considered as subcontracted. The erection, establishment or reopening of on-site plants for production of materials and the operation thereof in the production of materials for use on the Work shall conform to the requirements relating to labor set forth in the Contract Documents.

The Contractor shall also be responsible for coordinating the Work performed by Subcontractors and Suppliers.

The Contractor shall not substitute any person as Subcontractor in place of a Subcontractor listed on its bid proposal without the written approval of the Director.

Substitutions must be in accordance with the provisions of the “Subletting and Subcontracting Fair Practices Act” beginning with Public Contract Code Section 4100. Violations of this Act by the Contractor may subject it to penalties which may include cancellation of Contract, Assessment of ten percent (10%) of the Subcontractor's bid, and disciplinary action by the Contractors State License Board.

The Contractor shall pay any Subcontractors approved by the City for work that has been satisfactorily performed no later than seven (7) Days from the date of Contractor’s receipt of progress payments by the City. Within seven (7) Days after receipt from the City of funds attributable to work performed by a Subcontractor, Contractor shall release any retainage payments withheld to the Subcontractor. In the event Contractor does not make progress payments or release retention to Subcontractors in accordance with the time period specified herein, Contractor may be subject to prompt payment penalties per statute.

6-1.02 **ASSIGNMENT.** The performance of this Contract may not be assigned, except upon the written consent of the City Council of the City of Roseville. Consent will not be given to any proposed assignment which would relieve the original Contractor or its surety of their responsibilities under the Contract nor will the City consent to any assignment of a part of the Work under the Contract.

The Contractor may assign moneys due or to become due to it under the Contract and such assignment will be recognized by the City, if given proper notice thereof, to the extent permitted by law, but any assignment of moneys shall be subject to all proper set-offs in favor of the City and to all deductions provided for in the Contract and particularly all money withheld, whether assigned or not, shall be subject to being used by the City for the completion of the Work in the event that the Contractor should be in default therein.

6-1.03 **BEGINNING OF WORK.** After the execution of the Contract by both parties, the City will issue the Notice to Proceed upon its determination that it is appropriate for the Contract Time to commence.

The Contractor shall begin Work within fifteen (15) Days after receiving the Notice to Proceed from the Director, subject to the requirements stated elsewhere in the Contract Documents regarding, among other things, the submittal of Baseline Schedule, and shall diligently prosecute the same to completion within the time limit provided in the Supplemental Conditions. Contractor shall also achieve any and all Contract milestones as described elsewhere in the Contract Documents.

The Contractor shall notify the Director, in writing, of its intent to begin Work at least seventy-two (72) hours before Work is begun. The notice shall be delivered to the Director and shall specify the date the Contractor intends to start. If the project has more than one (1) location of Work, a separate notice shall be given for each location.

The Contractor is not authorized to perform any Work until it has received a Notice to Proceed from the City. Should the Contractor begin Work in advance of receiving notice that the Contract has been approved as above provided, any Work performed by it in advance of the said date of approval shall be considered as having been done by the Contractor at its own risk and as a volunteer unless said Contract is so approved thereafter.

6-1.04 **PROGRESS SCHEDULE.**

A. **Preliminary Progress Schedule.** The Contractor shall submit to the Director, within twenty (20) Days after date of the Notice to Proceed, a Preliminary Progress Schedule covering the Contractor's activities over the first three (3) months of operation in detail and the remainder of the project in summary. The Preliminary Progress Schedule shall schedule

the project within the Contract Time for completion of the Work, and shall be subject to favorable review by the Director.

B. CPM Schedule. The Contractor shall submit an acceptable Critical Path Method (CPM) Schedule to the Director within thirty (30) Days after the receipt of the Notice to Proceed. Subsequent revisions to said schedule shall be submitted as set forth hereinafter. The requirement for the CPM schedule is included to allow for adequate planning and execution of the Work, to determine the critical nature of delays, and to assist the Director in appraising the reasonableness of the proposed schedule and evaluating progress of the Work. The CPM schedule submitted under this Section shall utilize a CPM format, either the precedence or arrow diagramming method. The definitions of CPM terms and functions shall be as provided in the Associated General Contractors of America book *CPM in Construction, A Manual for General Contractors*, or a favorably reviewed alternative publication or reference. No progress payment will be made prior to submission and acceptance of the CPM Schedule.

1. The CPM schedule system shall consist of diagrams and accompanying mathematical analyses. The diagrams shall show elements of the project in detail and an entire project summary. Diagrams shall show the order and interdependence of activities and sequence in which the Work is to be accomplished as planned by the Contractor. The basic concept of a network analysis diagram shall be followed to show how the start of a given activity is dependent on the completion of preceding activities and its completion restricts the start of following activities. Detailed network activities shall include, in addition to construction activities, the submittal and favorable review of samples of material and Shop Drawings, the procurement of critical materials and equipment, fabrication of special material and equipment, and their Installation and testing. All activities of the City and the Director that affect progress

and required Contract dates for completion of all or parts of the Work shall be shown. The selection and number of activities shall be subject to favorable review by the Director. Summary networks shall be time scaled. Durations shall be in Days and shall not exceed fifteen (15) Days, except for submittal and delivery items. Where the duration of continuous Work exceeds fifteen (15) Days, Work items in the Construction Schedule shall be subdivided by location, approximate stationing or other sub-element of the Work.

The graphic network diagram shall include for each activity, the description, activity number, the estimated duration in Days, and all activity relationship lines. The network diagram shall be drawn for the early start of activities. All significant Submittals shall be scheduled along with manual Submittals and training on all large or critical pieces of equipment. If the precedence technique is utilized, the schedule project shall include a calendar in Work Days, a network report sorted by early start and a logic table report sorted by preceding Work item. If the arrow technique is utilized, the schedule report shall include a calendar in Work Days, a network report sorted by early start, a network report sorted by I-J numbers, and a network sorted by slack time and I-J numbers.

2. The critical path shall be shown on all reports and on the graphic network diagram. The activities which constitute the critical path shall be identified.

3. The mathematical analysis of the network diagram shall include a tabulation of each activity. The following information shall be furnished as a minimum for each activity:

- (a) preceding and following event numbers
- (b) activity description and number
- (c) estimated duration of activities

- (d) earliest start date (by calendar date)
- (e) earliest finish date (by calendar date)
- (f) actual start date (by calendar date)
- (g) actual finish date (by calendar date)
- (h) latest start date (by calendar date)
- (i) latest finish date (by calendar date)
- (j) slack or float
- (k) percentage of activity completed

4. The program shall be capable of accepting revised completion dates as modified by approved time adjustments and recomputations of all tabulation dates and float accordingly.

5. Submission and review of the system shall be as follows:

(a) The complete network analysis system, consisting of the detailed network mathematical analysis and network diagrams, shall be submitted within thirty (30) Days after receipt of the Notice to Proceed.

(b) The Contractor shall participate in a review and evaluation of the proposed network diagrams and analysis by the Director. Any revisions necessary as a result of this review shall be resubmitted for review by the Director within ten (10) Days. When completed, the favorably reviewed schedule shall then be the schedule to be used by the Contractor for planning, organizing and directing the Work and for reporting progress. If the Contractor thereafter desires to make significant changes in its method of operating and scheduling, the Contractor shall notify the Director in writing stating the reasons for the change.

(c) The Contractor shall submit at monthly intervals a report of the actual construction progress. Each monthly report shall cover a period of approximately thirty (30) Days ending around the 20th of each month. The monthly reports shall be submitted within ten (10) Days of the end of the reporting period.

(1) If the project is proceeding on schedule, the monthly update report may consist of a marked-up copy of the graphical network diagram. This submittal shall clearly indicate the status of any minor shifts in sequence or schedule and the estimated completion date or percent complete of all activities currently in progress. The Contract completion date shall also be indicated. The Contractor shall submit a narrative report relating to status of construction, the schedule, and factors which may affect the remainder of the schedule. The report shall show the activities or portions of activities completed during the reporting period. The report shall state the percentage of the Work actually completed and scheduled as of the report date and the progress along the critical path in terms of Days ahead or behind the allowable dates.

(2) If, in the opinion of the Director, the project is behind schedule, the monthly report shall include a revised network diagram and/or mathematical analysis showing the Contractor's proposed revised schedule. An analysis of the effect that the delay has on progress along other paths shall also be included in the report. The Contractor shall also submit a narrative report with each updated analysis which shall include but not to be limited to a description of current and anticipated problem areas, delaying factors and their impact, and an explanation of corrective actions taken or proposed.

(3) Periodic report shall be submitted in sufficient copies to cover Contractor needs plus five (5) copies and an available electronic copy to be retained by the Director.

6. To the extent that the favorably reviewed initial Construction Schedule, or revisions thereto, indicate anything not jointly agreed upon, it shall be deemed to be not favorably reviewed by the Director. Any omission of Work from the detailed schedule, otherwise required for Contract compliance, will not excuse the Contractor from completing such Work within any applicable completion date. The CPM schedule shall be generated by computer methods.

C. Schedule Review. Once each month, on a date mutually agreed upon, but no later than seven (7) business days after the monthly schedule progress report date, a Work Site meeting will be held to review the Construction Schedule and job progress. The Contractor shall also attend weekly meetings scheduled by the Director to review the progress of the Work in the preceding week and in the subsequent week, coordinate the Work with public agencies or other Contractors as required, and allow the Director to plan his or her activities for testing, inspection, etc.

D. Schedule Revisions. The conditions under which the Director will require revisions of the Construction Schedule include the following:

1. When delay in completion of any Work item or sequence of Work items results in an estimated extension of project completion by either twenty (20) business days or by ten percent (10%) of the remaining duration of time to complete the Contract, whichever is less.

2. When delays in Submittals or deliveries make replanning or rescheduling of the Work necessary.
3. When the schedule does not represent actual prosecution and progress of the Work.
4. When any change to the sequence of activities, the completion date for major portions of the Work, or when changes occur which affect the critical path.
5. When Contract Amendments or a Change Order necessitates schedule revision, the Contractor shall submit a schedule analysis of all Change Order Work with its proposal.

E. Cash Flow Projection. A cash flow projection shall be submitted with the Construction Schedule. This cash flow projection shall be revised and resubmitted when revisions of the Construction Schedule will result in changes to the projected cash flow.

F. Schedules showing project completion dates earlier than specified in the Supplemental Conditions will be rejected unless justification can be provided for early completion.

6-1.05 **SCHEDULE OF VALUES.** Prior to preparation of the first estimate for a progress payment, the Contractor shall submit for favorable review by the Director a detailed Schedule of Values or cost breakdown of the Work under each bid item awarded. The breakdown will then become the basis for partial payment determination. Elements of Work shall be grouped by structure, pipeline, system, etc. Within each grouping, Work should be itemized by readily measurable quantities of Work complete in place. For example, concrete should be in units of cubic yards including form Work and reinforcing steel. Move-on costs, bond and insurance costs, and Overhead costs shall not be considered an item of cost for this purpose but

shall be prorated over items of Work. In the event the Schedule of Values is not favorable reviewed by the Director, another Schedule of Values shall be submitted that is mutually acceptable to the Contractor and the Director.

6-1.06 **CITY’S RIGHT TO STOP WORK.** The Director shall have the authority to order the Contractor, in writing, to suspend the Work wholly or in part, for such period as the Director may deem necessary due to the failure on the part of the Contractor to correct Work that is not in accordance with the requirements of the Contract Documents or if Contractor persistently fails to carry out Work in accordance with the Contract Documents.

The Contractor shall immediately comply with the written order of the Director to suspend the Work wholly or in part. The suspended Work shall be resumed when conditions are favorable and methods are corrected, as ordered or approved in writing by the Director.

Any stoppage of work under this section shall be at the Contractor’s sole expense, and the Contractor shall have no claim against the City based on the Contractor’s failure to perform the Work in accordance with the Contract Documents.

In addition to the City’s right to stop Work, the City may order the Contractor to submit to the City at no additional cost to the City, additional information concerning Contractor’s planned Work if the Contractor fails to promptly correct Work that is not in accordance with the requirements of the Contract Documents or persistently fails to carry out Work in accordance with the Contract Documents. The additional information ordered by the City may include, but is not limited to, preparation of Submittals or Working Drawings not otherwise required to be submitted under the Contract Documents.

In the event the City discovers that the Contractor has created an unsafe condition the City may arrange for other work forces to remedy the condition. Such remedial work shall be at

the sole discretion of the City. If this action is required, the City may unilaterally terminate Work under the Contract, and will pay only for the quantities of Work actually performed, less the cost of the City's remedial Work. In the event that Work is not halted, the Contractor must take immediate steps to correct the situation. There will be no extra payment for Work required to correct unsafe conditions.

The right of the City to suspend the Work shall not give rise to a duty on the part of the City to exercise this right for the benefit of the Contractor or any other person or entity. This right shall be in addition to and not in restriction or derogation of the City's other rights under the Contract Documents.

In the event of a suspension of Work under any of the conditions set forth in this Section 6-1.06, such suspension of Work shall not relieve the Contractor of its legal responsibilities as set forth in these General Conditions.

6-1.07 **TIME OF COMPLETION.** The Contractor shall complete the entire Work, including Installation, repairs, startup, troubleshooting, painting, and touchup, training, submittal or record drawings, and manuals, cleanup, demobilization, and all other Work within the number of Days set forth in the Supplemental Conditions. The time for completion includes an allowance for working time lost due to normal inclement weather.

Extensions of time may be allowed for unusual inclement weather under the provisions hereinafter described. Unusual inclement weather is weather which adversely affects "controlling" operations or the critical path of construction and which meets one of the following criteria:

A. For the particular calendar month in question, the number of individual Days with rainfall exceeding 0.10 inches exceeds the average number of such Days for that

month over the immediately preceding five (5) years of record by at least three (3) Days.

B. For the particular calendar month in question, the total cumulative rainfall for that month exceeds the average cumulative rainfall for that month over the immediately preceding five (5) years of record by at least two inches (2”).

Rainfall shall be measured at a publicly operated, maintained, and reported station in reasonable proximity to the construction site. A claim for delay shall indicate the period of rainfall which is claimed as “unusual,” the specific dates during which the unusual rainfall and subsequent wet soil conditions prevented Work, and the specific critical path tasks adversely affected by such unusual weather. A claim for delay due to unusual inclement weather shall be filed within ten (10) Days of the apparent end of the unusual inclement rainfall period, whether or not the monthly totals are available at that time. The burden of proof that weather meets the criteria for unusual weather shall be solely the responsibility of the Contractor.

It is the responsibility of the Contractor to order materials required for the Work properly and promptly on a Notice to Proceed. If evidence presented demonstrates that, in spite of the Contractor's efforts, government-established priorities controls delay material deliveries, suitable extension of time will be made.

If performance of extra Work ordered by the City or failure of the City to provide the necessary site for Installation affects construction tasks which are “controlling” or which are on the “critical path” of the Construction Schedule, suitable extensions of time will be made.

The Contractor shall not be entitled to a time extension for delays in activities on non-critical paths of the favorably reviewed schedule unless the duration of the excusable delay exceeds the total float of the activities being delayed. If the duration of an excusable delay does exceed the total float of the activities affected by the delay, the Contractor shall be entitled to an

extension equal to the difference.

C. Determination that a day is a non-working day by reason of inclement weather or conditions resulting immediately therefrom, shall be made by the Director.

6-1.08 **LIQUIDATED DAMAGES.** It is agreed by the parties to the Contract that in case all the Work called for under the Contract in all parts and requirements is not completed within the number of Days as set forth in the Supplemental Conditions, damage will be sustained by the City and that it is and will be impracticable and extremely difficult to ascertain and determine the actual damage which the City will sustain in the event of and by reason of such delay; and it is therefore agreed that the Contractor will pay to the City, the monetary amount indicated in the Supplemental Conditions in dollars (U.S.) per day for each and every calendar day of delay in completing the Work in excess of the number of Days prescribed and the number of additional calendar days, if any, authorized by Contract Change Order; and the Contractor agrees to pay said Liquidated Damages herein provided for, and further agrees that the City may deduct the amount thereof from any moneys due or that may become due the Contractor under the Contract.

It is further agreed that in case the Work is not finished and completed in all parts and requirements within the number of Days specified, the City shall have the right to increase the number of Days or not, as it may deem best to serve the interest of the City, and if it decides to increase the said number of Days, it shall further have the right to charge to the Contractor, its heirs, assigns or sureties and to deduct from the final payment for the Work all of any part, as it may deem proper, of the actual cost of engineering, inspection, superintendence, and other Overhead expenses which are directly chargeable to the Contract, and which accrue during the period of such extension, except that cost of preparation of final statement shall not be included

in such charges.

6-1.09 **DELAYS AND EXTENSIONS TO THE WORK.** The Contractor must complete all Work within the time specified in the Agreement. The Contractor will be granted an extension of time and will not be assessed with liquidated damages or the cost of engineering and inspection for any delay in substantially completing the Work (or parts thereof) beyond the time set forth in the Agreement, provided that such delay was caused by unforeseeable causes beyond the control and without the fault or negligence of the Contractor. Examples of such causes include acts of public enemy, fire, floods, abnormal weather (as described below), earthquakes, epidemics, quarantine restrictions, strikes, labor disputes and freight embargoes, fire, changes made pursuant to the provisions of “Changes in the Work” under Section 3 of these General Conditions or acts or neglect of the City not contemplated by the Contract Documents. In all cases, any extension of time is conditioned on the following:

1. That the cause is not due to the fault or negligence of the Contractor, and the Contractor has taken reasonable precautions to prevent and minimize the effects thereof; and
2. That the Contractor notifies the Director in writing within three (3) Days from the beginning of such delay specifying the nature of the delay and the measures that have been or will be taken to prevent or minimize the delay. Failure to submit written notice within this time period shall constitute an absolute waiver of any claim for a time extension.

No extension of time will be granted for a delay caused by a shortage of materials, unless the Contractor furnishes to the City documentary proof that it has diligently made every effort to obtain such materials from all known sources within reasonable reach of the work and further

proof, as acceptable to the Director, that the inability to obtain such materials when originally planned did in fact cause a delay in Final Completion of the entire Work which could not be compensated for by revising the sequence of the Contractor's operations. Only the physical shortage of material will be considered as a cause for extension of time, and no consideration will be given to any claim that material could not be obtained at a reasonable, practical or economical cost or price, unless it is shown to the satisfaction of the City that such material could have been obtained only at exorbitant prices entirely out of line with current rates, taking into account the quantities involved and the usual practices in obtaining such quantities.

No extension of time will be granted for a delay caused by Contractor's staff turnovers, understaffing or insufficient quantity of qualified staff able to perform the necessary work.

The term "shortage of materials," as used in this section, shall apply only to materials, articles, parts or equipment which are standard items and shall not apply to materials, parts, articles or equipment which are processed, made, constructed, fabricated or manufactured to meet the specific requirements of the Contract Documents.

No extensions of time will be granted for delays that have no measurable impact on the completion of the Work (or parts thereof) under the Contract Documents. When extensions of time are granted, they will be limited to the period equivalent to the actual number of Days lost on the critical path or controlling operations of the Construction Schedule, taking into account the extent to which that delay could be decreased by reasonable mitigation measures by the Contractor. All requests for extensions of time must be supported with a critical path analysis showing the critical path and impacts to it. Contractor's failure to submit this analysis will be sufficient cause for denial of any request for a time extension.

Within a reasonable period of time after the Contractor submits the notice and information required by this section, the City will determine whether an extension of time is justified and, if so, the number of days for the extension.

Abnormal weather may be a valid basis for a time extension under the Agreement. “Abnormal Weather” occurs when the number of days of rain above 0.5 inches in a 24 hour period exceeds the average for such rainfall in a particular month as determined by the National Weather Service. The Contractor will only be entitled to, at most, a time extension for the number of days of rain exceeding the average for that month in the locale where the Work is to be performed. If delays are caused by the Contractor or those for whom the Contractor is responsible, the Contractor will only be entitled to, at most, a time extension for the number of rain days exceeding the average for the month when the Work should have been performed.

In addition, before a time extension may be granted for abnormal weather, the Contractor must establish that the rain either significantly impacted at least sixty percent (60%) of the planned work of the controlling operations for a particular day or prohibited at least five (5) hours of work on the controlling operations planned for that day. Contractor shall employ reasonably methods to mitigate the impact of abnormal weather (i.e., dewatering, protection of site, etc.) The occurrence of rain during non-work hours or having minimal impact to work on the controlling operation shall not constitute a day of abnormal weather.

In the event that the project experiences favorable weather for a particular month (e.g., the number of actual rain days in a month less than that indicated above for allowable rain days per months), the additional float resulting from such favorable weather shall accrue to the project.

Any Contractor claim for damages or additional compensation based on delay shall be limited to only those circumstances where the Contractor has fulfilled each of the following three (3) requirements:

1. Contractor has established its entitlement to a time extension pursuant to the provisions described above regarding delay and extensions to the Work.
2. The delay was caused solely by the City's issuance of changes made pursuant to the provisions of "Changes in the Work" under Section 3 of these General Conditions or by acts or neglect of the City.
3. The delay was unreasonable under the circumstances and not within the contemplation of the parties.

It is expressly understood and agreed that delays caused by the City will be non-compensable when there are concurrent delays caused by the Contractor. Also, the Contractor shall have no entitlement to additional compensation for any delay where there have been concurrent delays caused by non-compensable delays, including, but not limited to, fire, floods, earthquakes, epidemics, quarantine restrictions, strikes, labor disputes, and freight embargoes.

Contractor's damages and/or additional compensation for delays will consist solely of the extended costs of maintaining the Contractor's Work Site presence. The Contractor will not be entitled to any extended home office overhead.

Compensation for idle time of equipment will be determined in the same manner as determinations are made for equipment used in the performance of extra work paid for on a Force Account basis with the following exceptions:

1. The time for which compensation will be paid will be the actual normal working hours during which such delay conditions exists, but in no case will exceed

eight (8) hours in any one day.

2. The days for which compensation will be paid will be each calendar day of the work week (defined elsewhere in the Contract Documents) and Legal Holidays, during the existence of such delay, except that when rental of the equipment is paid for under the provisions in Section 3-1.06C, “Force Account Payment – Equipment,” of these General Conditions, no payment will be made for delays in accordance with the provisions of this section.

Actual loss shall be understood to include no items of expense other than idle time of personnel, cost of extra moving of equipment, and cost of longer hauls. Compensation for idle time of equipment will be determined as provided in this section and compensation for idle time of personnel will be determined pursuant to Section 3-1.06A, “Force Account Payment – Labor,” of these General Conditions. No markup will be added in either case for Overhead and profit. The cost of extra moving of equipment and the cost of longer hauls will be paid for as extra work as provided pursuant to “Changes to the Work” elsewhere in the Contract Documents.

6-1.10 **TERMINATION.**

6-1.10A **TERMINATION OF AGREEMENT – CONVENIENCE OF**

CITY. The Department reserves the right to terminate the Contract at any time and for any reason if the Director determines that to do so would be in the best interest of the City. Any termination which is not based on the circumstances set forth in Section 6.1-10B below shall be effected by delivery to the Contractor of a Notice of Termination specifying the extent to which performance of Work under the Contract is terminated, and the date upon which such termination becomes effective.

Upon the Contractor's receipt of a written Notice of Termination for convenience, the Contractor shall cease Work as to those portions of the project so terminated and shall undertake the steps outlined in Section 6-1.10B below.

1. Acceptance of the Contract as hereinafter specified shall not relieve the Contractor of responsibility for damage to materials except as follows:
 - a. The Contractor's responsibility for damage to materials for which partial payment has been made as provided in Section 7-1.07, "Progress Payments," of these General Conditions and for materials furnished by the City for use in the Work and unused shall terminate when the Director certifies that such materials have been stored in the manner and at the locations he or she has directed.
 - b. The Contractor's responsibility for damage to materials purchased by the City subsequent to the issuance of the notice that the Contract is to be terminated shall terminate when title and delivery of such materials has been taken by the City.
 - c. When the Director determines that the Contractor has completed the Work under the Contract directed to be completed prior to termination and such other Work as may have been ordered to secure the project for termination, the Contractor will recommend that the City formally accept the Work, and immediately upon and after such Acceptance by the City, the Contractor will not be required to perform any further Work thereon and shall be relieved of its contractual responsibilities for injury to persons or damage to property which occurs after the formal Acceptance of the

project by the City.

2. The total compensation to be paid to the Contractor shall be determined by the Director on the basis of the following:

- a. The reasonable cost to the Contractor, without profit, for all Work performed under the Contract, including mobilization, demobilization and Work done to secure the project for termination. Reasonable cost will include a reasonable allowance for project Overhead and general administrative Overhead not to exceed a total of seven percent (7%) of Direct Costs of such Work.
- b. A reasonable allowance for profit on the cost of the Work performed as determined under subsection (a), provided the Contractor establishes to the satisfaction of the Director that it is reasonably probable that it would have made a profit had the Contract be completed and provided further, that the profit allowed shall in no event exceed four percent (4%) of said cost.
- c. The reasonable cost to the Contractor of handling material returned to the vendor, delivered to the Department or otherwise disposed of as directed by the Director.
- d. A reasonable allowance for the Contractor's administrative costs in determining the amount payable due to termination of the Contract.

All records of the Contractor and the Contractor's Subcontractors, necessary to determine compensation in accordance with this Section, shall be open to inspection or audit by representatives of the Department at all times after issuance of the notice that the Contract is to be terminated and for a period of three (3) years, and such records shall be retained for that

period.

After Acceptance of the Work by the Director, the Director may make payments on the basis of interim estimates pending issuance of the Final Statement, when in his or her opinion the amount thus paid, together with all amounts previously paid or allowed, will not result in total compensation in excess of that to which the Contractor will be entitled. All payments, including payment upon the Final Statement, shall be subject to deduction for prior payments and amounts, if any, to be kept or retained under the provisions of the Contract.

In the event that the City terminates this Contract under Section 6-1.10B below and it is determined for any reason that there was not sufficient cause to do so, the City's termination automatically will convert to a termination for convenience under this section and the terms and conditions outlined in this section automatically will be applied to effectuate the Contract termination. Thus, damages to which a Contractor may be entitled as a result of an improper default termination will be limited to the amounts provided for in this section.

The provisions of this section shall be included in all subcontracts.

6-1.10B **TERMINATION OF AGREEMENT - FOR CAUSE.** An

“Event of Default” as referred to in this section shall occur if the Contractor:

1. Fails to maintain progress of the Work in accordance with the requirements of the Contract Documents; or
2. Fails to prosecute the Work or any of its components in accordance with the Contract Documents; or
3. Persistently or repeatedly fails or refuses to supply sufficient properly skilled workers or proper material to permit the performance of the Work in accordance with the Contract Documents; or

4. Fails to make prompt payment to Subcontractors or Suppliers in accordance with the respective agreements between the Contractor and the Subcontractor and Contractor and Supplier; or
5. Fails to comply with applicable laws, ordinances or rules, regulations or orders of a public authority having jurisdiction over the Work; or
6. Abandons, assigns or sublets the Contract without approval of the City; or
7. Becomes bankrupt or is subject to appointment of a receiver on behalf of the Contractor; or
8. Otherwise is guilty of a substantial breach of a provision of the Contract Documents.

Upon the City's reasonable belief that there has been an Event of Default by the Contractor, the City may elect to give the Contractor written notice thereof. The Contractor thereafter shall cure the default as soon as possible and in no event after ten (10) Days from the Contractor's receipt of the City's written notice.

If the Contractor does not timely cure its default, the City may, without waiver of any of its other rights and remedies, elect to terminate the Contract, or portion thereof.

Upon the City's election to terminate the Contract, or portion thereof, the City shall have the right to complete the Work, or portion involved, by whatever means and methods it deems expedient, including the hiring of others on such terms as the City deems advisable. The City shall have the right to take possession of the Contractor's materials, plant, tools, equipment and property of any kind provided by or on behalf of the Contractor for the purpose of the Work, or a portion of them, without being responsible to the Contractor for wear and tear. The Contractor shall have no rights in such property during its use by the City. The City shall not be required to obtain the lowest prices for completing the Work or a portion of it but shall make such

expenditures as, in the City's sole judgment, best accomplish such completion.

The expense of completing such Work or portion thereof, together with a reasonable charge for engineering, managerial and administrative services, as certified by the City, shall be charged to the Contractor, and the expense so charged shall be deducted by the City out of such monies as may be due or may at any time thereafter become due to the Contractor. In case such expense is more than the sum which otherwise would have been payable to the Contractor under the Agreement, then the Contractor or its surety or sureties shall promptly pay the amount of such excess so due. When the City terminates the Contract under this section, the Contractor shall not be entitled to receive any further payments until the Work is completed and there has been a final settlement of costs of completing the Work covered by such notice of default.

The City will issue to the Contractor a written notice specifying that the Contract, or portion thereof, is terminated. Upon receipt of said written notice and, except as otherwise directed in writing by the City, the Contractor shall:

1. Stop all Work under the Contract; or if partial termination, stop Work relating to the terminated portion of the Agreement;
2. Perform Work the City deems necessary to secure the Work Site for termination including measures to leave the Work Site in a safe condition;
3. Remove equipment from the site of Work, as specified by the City;
4. Take such action as is reasonably necessary to protect materials from damage;
5. Notify all Subcontractors and Suppliers that the Contract or portion thereof is being terminated and that their contracts or orders are not to be further performed unless otherwise authorized in writing by the City;

6. Provide the City with an inventory list of all materials previously produced, purchased or ordered from Suppliers for use in the Work and not yet used in the Work, including its storage location, and such other information as the City may request;
7. Dispose of materials not used in the Work as directed by the Director. It shall be the Contractor's responsibility to provide the City (a) with good title to all materials purchased by the City hereunder, including materials for which partial payment has been made by the City and (b) with bills of sale or other documents of title for such materials;
8. Subject to the prior written approval of the City, settle all outstanding liabilities and all claims arising out of Subcontractors or orders for materials terminated hereunder. To the extent directed by the City, the Contractor shall assign to the City all rights, title and interests of the Contractor under subcontracts or orders for materials terminated hereunder. The City shall be at liberty to negotiate with and engage any Subcontractors who had contracted with the Contractor for the Work;
9. Furnish the City with the documentation required to be furnished by the Contractor under the provisions of the Contract Documents, including, on projects as to which Federal funds are involved, all documentation required under the Federal requirements included in the Agreement; and
10. Take such other actions as the City may direct.

If only a portion of the Work has been terminated, the Contractor shall perform the remainder of the Work in conformity with the Contract Documents and in such a manner as not to interfere with the City or others in their performance and completion of the portion of the

Work which was terminated.

The City may recover from the Contractor the amount of any loss or damage, including consequential damages, suffered or incurred as a result of the Contractor's default.

SECTION 7

ACCEPTANCE AND PAYMENT

7-1.01 **ACCEPTANCE.** When the Contractor believes that the entire Work is fully and finally completed, including the satisfactory completion of inspections, tests, and documentation specified in the Contract Documents and completion of all punch list and clean-up items, the Contractor shall submit to the City a written request for final Acceptance within fifteen (15) Days thereafter, specifying that the Work is fully and finally completed and the date on which it was completed. Within thirty (30) Days after receipt of the request for final Acceptance, the City will inspect the Work and will either:

1. Reject the request for final Acceptance, specifying the defective and/or uncompleted portions of the Work; or
2. Notify the Contractor that the Work will be accepted by Resolution of the City Council of the City of Roseville, and a Notice of Completion will be caused to be recorded by the City Clerk; or
3. Notify the Contractor that the Work has been accepted by the City but no Notice of Completion will be recorded.

If the City rejects the request for final Acceptance, the Contractor shall promptly remedy the defective and/or uncompleted portions of the Work. Thereafter, the Contractor shall again submit a written request for final Acceptance of the Work, specifying a new date based on the date the defective and/or uncompleted portions of the Work were corrected. Thereafter, the foregoing procedure shall apply successively until the City has verified that the Work is fully and finally completed and accepted the Work by Resolution of the City Council or by written

notification from the Director. Immediately upon such Acceptance, the Contractor shall be relieved of the duty of maintaining the Work as a whole.

All warranties commence upon final Acceptance of the Work. The City's final Acceptance of the Work shall not be construed as an acceptance by the City of any latent defects discovered with regard to the Contractor's work. Furthermore, Contractor's obligations under Section 5-1.22 "Responsibility for Damage and Indemnification" shall still remain applicable after the City's grant of final Acceptance of the Work.

Prior to final Acceptance, the Contractor shall submit to the City the Record Documents and Operation and Maintenance Manuals as specified in the Contract Documents.

7-1.02 **SCOPE OF PAYMENT.** The Contractor shall accept the compensation provided in the Contract as full payment for furnishing all labor, materials, tools, equipment, and incidentals necessary to the completed Work and for performing all Work contemplated and embraced under the Contract; also for loss or damage arising from the nature of the Work, or from the action of the elements, or from any unforeseen difficulties which may be encountered during the prosecution of the Work until the Acceptance by the Director and for all risks of every description connected with the prosecution of the Work, also for all expenses incurred in consequence of the suspension or discontinuance of the Work as provided in the Contract; and for completing the Work according to the Contract. Neither the payment of any estimate nor of any retained percentage shall relieve the Contractor of any obligation to make good any defective Work or material.

No compensation will be made in any case for loss of anticipated profits.

7-1.03 **NOTICE OF POTENTIAL CLAIM.** The Contractor shall not be entitled to the payment of any additional compensation for any act or failure to act by the City,

including failure or refusal to issue a Change Order, or for the happening of any event, thing, occurrence or other cause unless the Contractor has given the City due written Notice of Potential Claim as hereinafter specified, provided, however, that compliance with this Section 7-1.03 shall not be a prerequisite as to matters within the scope of the notice provisions in Section 6-1.07, "Time of Completion," or the notice provisions in Section 6-1.08, "Liquidated Damages," of these General Conditions, nor to any claim which is based on differences in measurement or errors of computation as to correct quantities.

The written Notice of Potential Claim shall set forth the reasons for which the Contractor believes additional compensation will or may be due, the nature of the costs involved, and, insofar as possible, the amount of the potential claim. The said Notice as above required must have been given to the Director prior to the time that the Contractor shall have performed the Work giving rise to the potential claim for additional compensation, if based on an act or failure to act by the Director, or in all other cases within seven (7) Days after the happening of the event, thing, occurrence or other cause giving rise to the potential claim.

If the Notice of Potential Claim does not include complete information about the claim or the parties do not execute a Contract Change Order in connection with the Notice of Potential Claim, Contractor shall submit complete information about its claim for additional compensation and/or extension of time for performance within fifteen (15) Days after such work is performed. Failure to provide written notice of claim prior to undertaking such work or failure to timely submit a complete and specific information about the claim for additional compensation and/or extension of the time for performance shall be deemed a waiver and abandonment of such claim.

If there is a dispute over any claim, the Contractor shall continue to Work during the dispute resolution process in a diligent and timely manner as directed by the City, and shall be

governed by all applicable provision of the Agreement.

The Contractor shall maintain cost records of all Work that is the basis of any dispute. On a daily basis, Contractor shall submit to City completed daily forms, the format of which will be acceptable to the City, with respect to the Contractor's costs of performing the disputed work. These daily forms shall itemize all of Contractor's costs in performing the disputed work, including, but not limited to, all costs relating to materials, labor and equipment with respect to the disputed work. These daily forms shall provide names or identification and classification of affected workers, the hourly rate of pay and hours worked, and also the size, type, and identification number of equipment and hours operated. Said daily work forms shall be duly signed and verified by the Contractor or its authorized representative. The City's receipt of the Contractors' daily forms shall not constitute an approval of the Contractor's claim. Contractor's failure to submit the daily forms on a daily basis shall constitute a waiver of the Contractor's right to claim any additional compensation for the disputed work.

Each Contractor claim shall include full and complete information concerning the Claim. Contractor shall provide a clear, concise recital of the basis, upon which the claim is asserted, including a designation of the provisions of the Contract Documents upon which the claim is based. Contractor shall also include a statement as to the amount of time and/or compensation sought pursuant to the claim; if Contractor's claim arises from an ongoing occurrence, Contractor shall so state in its claim, including a description of the specific Work activities affected by the claim. All costs, expenses or damages and extensions of time claimed shall be described in reasonable detail under the circumstances together with complete supporting documentation.

The City will review any timely Notice of Potential Claim and supporting information submitted by Contractor. In conducting this review, the City shall have the right to require the Contractor to submit such additional or supporting documents, data and other information as the City may require.

If an agreement can be reached which resolves the Contractor's claim, the parties will execute a Contract Change Order to document the resolution of the claim. If the parties cannot reach agreement with respect to the Contractor's claim, the Contractor shall still be obligated to comply with the claim identification provisions identified in these General Conditions, including but not limited to Section 7-1.04.

It is the intention of this Section 7-1.03 that differences between the parties arising under and by virtue of the Contract be brought to the attention of the Director at the earliest possible time in order that such matters may be settled, if possible, or other appropriate action promptly taken. The Contractor hereby agrees that it shall have no right to additional compensation for any Claim that may be based on any such act, failure to act, event, thing or occurrence for which no timely written Notice of Potential Claim as herein required was filed.

7-1.04 **CLAIMS.** Contractor must submit all Claims, for which it has previously submitted a Notice of Potential Claim, prior to Acceptance of the Work. Each such Claim must be sent to the City by registered mail or certified mail with return receipt requested and must contain reasonable documentation to support the Claim.

Upon receipt of a Claim, the City shall conduct a reasonable review of the Claim and, within a period not to exceed forty-five (45) Days, or such further time as mutually agreed upon or necessary pursuant to Public Contract Code Section 9204, the City shall provide the Contractor a written statement identifying what portion of the Claim is disputed and what portion

is undisputed. If the City does not respond to a Claim from the Contractor within the time specified herein, such Claim shall be deemed rejected in its entirety.

Any payment due on an undisputed portion of the Claim shall be processed and made within sixty (60) Days after the City issues its written statement.

If the Contractor disputes the City's written response, or if the City does not respond within the time specified herein, the Contractor may demand in writing an informal conference to meet and confer for settlement of the issues in dispute. Upon receipt of a demand in writing sent by registered mail or certified mail, return receipt requested, the City shall schedule a meet and confer conference within thirty (30) Days for settlement of the dispute.

Within ten (10) business days following the conclusion of the meet and confer conference, if the claim or any portion of the claim remains in dispute, the City shall provide the Contractor a written statement identifying the portion of the Claim that remains in dispute and the portion that is undisputed. Any payment due on an undisputed portion of the Claim shall be processed and made within sixty (60) Days after the City issues its written statement. Any disputed portion of the Claim, as identified by the Contractor in writing, shall be submitted to nonbinding mediation, with the City and the Contractor sharing the associated costs equally. The City and the Contractor shall mutually agree to a mediator within ten (10) business days after the disputed portion of the Claim has been identified in writing. If the parties cannot agree upon a mediator, each party shall select a mediator and those mediators shall select a qualified neutral third party to mediate with regard to the disputed portion of the Claim. Each party shall bear the fees and costs charged by its respective mediator in connection with the selection of the neutral mediator. If mediation is unsuccessful, the parts of the Claim remaining in dispute shall be resolved in accordance with Section 7-1.05 below.

7-1.05 **DISPUTE RESOLUTION PROCEDURE.** All Claims not resolved pursuant to Section 7-1.04, shall be resolved pursuant to Public Contract Code Section 10240, et seq.

7-1.06 **STOP PAYMENT NOTICES.** The City, by and through the Department or other appropriate office or officers, may at its option and at any time retain out of any amounts due the Contractor, sums sufficient to cover claims, filed pursuant to Civil Code Section 9350, et seq., including an amount to provide for the reasonable cost of any litigation thereunder.

7-1.07 **PROGRESS PAYMENTS.** Within fifteen (15) Days after the effective date in the Notice to Proceed, but in any event prior to Contractor's first Application for Payment, the Contractor shall submit to the City a detailed Schedule of Values.

Upon its approval, the Schedule of Values will form a basis for determining the compensation payable to the Contractor based on its actual progress of Work with respect to each Lump Sum bid item. The City, prior to any progress payment being made, must approve the Schedule of Values.

At the Director's discretion the approved Schedule of Values may be used as the basis for calculating the adjustment in compensation for a lump sum bid item due to changes ordered by the Director. When an ordered change increases or decreases the quantities shown in an approved Schedule of Values, at the Director's discretion, the adjustment in compensation may be determined in the same manner specified for increases and decreases in the quantity of a bid item of work in accordance with Section 3-1.05(B), "Contract Price Adjustment," of these General Conditions.

The Contractor once in each month shall submit an Application for Payment, for approval by the Director. Contractor's Applications shall be based on the Schedule of Values submitted to

the City. These applications shall be supported by: (1) documentation requested by the City to substantiate the payment request; (2) statutory releases from Contractor and all Subcontractors and suppliers pursuant to Civil Code Sections 8132 and 8138; and (3) certified payroll records for the period for which payment is requested. Specifically, the Contractor will submit conditional waivers upon progress payment executed by all contractors and suppliers that will be receiving sums sought in the instant payment request and also submit unconditional waivers upon progress payment executed by all contractors and suppliers that have been paid to the date of the payment request. The Contractor shall certify that the Work for which payment is requested has been accomplished. When requested by the City, the Contractor shall submit receipts, invoices and other documentation that the City requires to be furnished for purpose of evaluating the application.

The City will pay the Contractor within thirty (30) Days after its receipt of an undisputed and properly submitted Application for Payment, after deducting all previous payments, retention, and other sums as described in the Contract Documents. Within seven (7) Days of its receipt of the Contractor's Application for Payment, the City will determine whether it complies with the provisions of the Contract Documents. As appropriate, the City will return the application to the Contractor accompanied by a document prepared by the City setting forth the reasons for the rejection. Thereafter, the Contractor shall correct and resubmit the Application for Payment. Progress payments may be withheld for Work that is not performed in accordance with the Contract Documents.

The City may deduct the following from each progress payment:

1. An amount equal to one hundred and twenty-five percent (125%) of the amount claimed under any stop payment notice or other lien filed against the Contractor,

which includes an amount to provide for the reasonable cost of any litigation thereunder.

2. Any Liquidated Damages or Assessments that have accrued as of the date of the Application for Payment.
3. Any sums expended by the City in performing any of the Contractor's obligations under the Agreement that the Contractor has failed to perform.
4. Any other sums that the City is entitled to recover from the Contractor under the terms of the Contract including damages to the City's property.
5. The failure of the City to deduct any of the above identified sums from a progress payment shall not constitute a waiver of the City's right to such sums.

No such estimate or payment shall be construed to be an acceptance of any defective Work or improper materials.

Under no circumstances will the City make payment to unlicensed Contractors. As a condition of payment, the Contractor is required to maintain the applicable Contractor's license as identified in the Notice to Contractors for the duration of the Work.

7-1.08 **PAYMENT FOR MATERIALS AND EQUIPMENT ON HAND.**

Partial payments may be made to the extent of seventy-five percent (75%) of the cost of materials and equipment plus delivery to be incorporated in the Work, provided that such materials and equipment meet the requirements of the Contract Documents and are delivered to acceptable sites on the plant site or at other sites in the vicinity that are acceptable to the City and only with the prior written approval by the City. Such delivered costs of stored or stockpiled materials and equipment may be included in the next progress payment after the following

conditions are met:

- A. Equipment and materials will only be eligible if given conditional or final Acceptance by the Director and are in apparent compliance with favorably reviewed Submittals.
- B. Only equipment or materials which have received favorable review of Shop Drawings will qualify.
- C. The material or equipment has been stored or stockpiled adequately protected against damage in a manner acceptable to the Director at an approved site.
- D. The Contractor has furnished the Director with acceptable evidence of the quantity and the quality of such stored or stockpiled materials or equipment with identification of where they will be incorporated into the project with Specification reference.
- E. The Contractor has furnished the Director with satisfactory evidence that the material or equipment and transportation costs have been paid.
- F. The Contractor has furnished the City legal title (free of liens or encumbrances of any kind) and lien releases to the material or equipment so stored or stockpiled.
- G. The Contractor has furnished the City evidence that the material or equipment so stored or stockpiled is insured against loss by damage to or disappearance of such materials at any time prior to use in the Work.

It is understood and agreed that the transfer of title and the City payment for such stored or stockpiled materials or equipment shall in no way relieve the Contractor of its responsibility for furnishing and placing such materials or equipment in accordance with the requirements of the Contract Documents.

In no case will the amount of progress payments for materials or equipment on hand exceed the Contract Price for such materials or equipment or the Contract Price for the

Contract item in which the material is intended to be used.

No partial payment will be made for stored or stockpiled living or perishable plant materials.

The Contractor shall bear all costs associated with the progress payment of stored or stockpiled materials or equipment in accordance with the provisions of this Section.

7-1.09 **RETENTION ON PROGRESS PAYMENTS.** From each progress payment estimate, five percent (5%) will be deducted and held in retention by the City. The remainder, less any deductions described in Section 7-1.07, "Progress Payments," of these General Conditions, will be paid to the Contractor as progress payments.

Pursuant to Public Contract Code Section 22300, the successful Bidder may submit Securities in lieu of retention payments by the City. Upon the Contractor's request, the City will make payment of funds withheld from progress payments, pursuant to the requirements of California Public Contract Code Section 22300, if the Contractor deposits in escrow with the City or with a bank acceptable to the City, securities eligible for investment under California Government Code Section 16430, bank or savings and loan certificates of deposit, interest bearing demand deposit accounts, standby letters of credit, or any other security mutually agreed to by the Contractor and the City, upon the following conditions:

1. The Contractor shall bear the expenses of the City and the escrow agent in connection with the escrow deposit made.
2. Securities or certificates of deposit to be placed in escrow shall be of a value at least equivalent to the amounts of retention to be paid to the

Contractor pursuant to this section.

3. Contractor shall enter into an escrow agreement satisfactory to the City, which agreement shall be substantially similar to the form provided in California Public Contract Code section 22300.

4. The Contractor shall obtain the written consent of the surety to such agreement.

7-1.10 **FINAL PAYMENT.** Final payment will be made only after Contractor has achieved Final Completion of the Work pursuant to the provisions of Section 7-1.01, “Acceptance,” of these General Conditions. Before final payment can be made, the Contractor shall have furnished the City with the following:

1. All Record Documents, catalogues, instruction sheets and information as required by the Contract Documents.
2. Conditional Waivers and Releases Upon Final Payment executed by Contractor and all Subcontractors and Suppliers, as provided by Civil Code Section 8136. Unconditional Waivers and Releases Upon Final Payment, as provided in Civil Code Section 8138, executed by Contractor and all Subcontractors and Suppliers, must be provided for all Subcontractors and Suppliers that have been paid in full.

Within thirty (30) Days of the date of the City’s Acceptance of the Work, the Contractor shall prepare and submit a Final Invoice, showing the proposed total amount due the Contractor, segregated by Bid item quantities, Change Order Work, and other basis for payments; deductions made or to be made for prior payment; and amounts previously retained. Prior invoices and payments shall be subject to correction in the proposed Invoice for Final Payment. Payments to the Contractor will be made only for actual quantities of the Contract items of work constructed

in accordance with the Contract Documents.

The City will review the Contractor's proposed Final Invoice and necessary changes or corrections will be forwarded to the Contractor. Within ten (10) Days thereafter, the Contractor shall submit a revised proposed Final Invoice incorporating changes or corrections made by the City together with any new claims resulting therefrom. Upon approval by the City, the corrected proposed Final Invoice will become the approval Final Invoice.

If agreements are reached on all questions regarding the Final Invoice, the City will pay the entire sum found due on the approved application. However, the City will withhold sums sufficient to pay all unsettled claims for which stop payment notices have been filed pursuant to Section 9350, et seq. of the California Civil Code, together with the reasonable cost of any litigation thereunder.

Final payment will be made within thirty (30) Days after receipt of an approved Final Invoice and other required Submittals referenced above or within sixty (60) Days after Acceptance of the work by the City, whichever is later, provided, however, that if an approved Final Invoice has not been submitted within sixty (60) Days after Acceptance of the Work by the City, the City may elect to make payment of sums not in dispute without prejudice to the right of either the City or the Contractor in connection with such disputed sums. Notwithstanding the foregoing, if a Notice of Completion is recorded, final payment shall not be made prior to the expiration of the thirty-five (35) calendar day lien period. The start of this lien period is the date the Placer County Recorder's Office records the Notice of Completion.

The City may withhold from the Final Payment an amount not to exceed one hundred fifty percent (150%) of any amount in dispute between the City and the Contractor.

The making of Final Payment shall not operate to release the Contractor or its sureties from obligations arising under the Contract, the Contract bonds and warranties as herein provided. Specifically, the making of final payment shall not constitute a waiver and release of claims by the City arising from:

1. Unsettled or future liens;
2. Failure of the Work to comply with the requirements of the Contract Documents;
3. The terms of any warranties required by or contained in the Contract Documents;
4. The right to any insurance proceeds or the right to make any insurance or bond claims;
5. Any claims with respect to Contractor's obligations of indemnity with respect to claims asserted by third parties; or
6. Any latent deficiencies with the Work or Contractor's fraud.

7-1.11 **CLERICAL ERRORS.** Notwithstanding the provisions of Section 7-1.10, "Final Payment," of these General Conditions, for a period of three (3) years after Acceptance of the Work, all estimates and payments made pursuant to said Section 7-1.10, are subject to correction for clerical errors in the calculations involved in the determination of quantities and payments. The Contractor and the City agree to pay to the other any sum due under the provisions of this Section 7-1.11, provided, however, if the total sum to be paid is less than \$100, no such payment shall be made.

7-1.12 **WARRANTY.** Notwithstanding inspections and Acceptance by the City of Work furnished under the Contract Documents, the Contractor hereby unconditionally

guarantees that all materials and equipment furnished will be of good quality and new, that the Work will be free from defects in workmanship and materials and that the Work will conform to the requirements of the Contract Documents. Work not conforming to these requirements, including substitutions not properly approved and authorized, may be considered defective.

This warranty by the Contractor is in addition to any warranties or guarantees required elsewhere in the Contract Documents. This warranty shall be in effect notwithstanding any disclaimers, or limiting or conditional terms contained in such separate warranties furnished by manufacturers or suppliers.

The Contractor hereby agrees to repair or replace any and all Work, together with any other adjacent Work which may be displaced in so doing, that may prove to be not in accordance with the requirements of the Contract or that may be defective in its workmanship or material during the greater of a period of one (1) year after Acceptance of the Work by the City or the period specified in the Special Conditions, without any expense whatsoever to the City, ordinary wear and tear and unusual abuse or neglect excepted.

The Contractor further agrees, that within ten (10) Days after being notified in writing by the Department of any Work not in accordance with the requirements of the Contract Documents or of any defects in the Work, the Contractor will commence and prosecute with due diligence all Work necessary to fulfill the terms of this warranty, and to complete such Work within a reasonable period of time. In the event Contractor fails to comply, it does hereby authorize the Department to proceed to have such Work done at the Contractor's expense and the Contractor will honor and pay the cost and charges therefore upon demand. The Department shall be entitled to all costs and expenses, including reasonable attorneys' fees, necessarily incurred upon the Contractor's refusal to honor and pay the above costs and charges.

All warranties set forth in the Contract Documents shall be deemed cumulative and not alternative or exclusive. Nothing contained in this section shall be construed to establish a period of limitation with respect to any other obligation, which Contractor has under the Contract Documents or under any separate warranty or guaranty required thereby. The establishment of a specific warranty period relates only to the specific obligation of Contractor to correct defective Work, and it has no relationship to the time within which its obligation to comply with the Contract Documents or applicable provision of law may be sought to be enforced, nor to the time within which proceedings may be commenced to establish Contractor's liability with respect to its obligations other than specifically to correct the Work. Without limiting the foregoing, it is understood and agreed that Contractor shall remain responsible for latent defects with its work, regardless of the expiration of any warranty period set forth in the Contract Documents.

7-1.13 **WARRANTY OF TITLE.** No material, supplies, or equipment for the Work under this Contract shall be purchased subject to any chattel mortgage, security agreement, or under a conditional sale or other agreement by which an interest therein or any part thereof is retained by the seller or supplier. The Contractor warrants good title to all material, supplies, and equipment Installed or incorporated in the Work and agrees upon completion of all Work to deliver the Premises, together with all improvements and appurtenances constructed or placed thereon by it, to the City free from any claim, liens, security interest, or charges, and further agrees that neither the Contractor nor any person, firm, or corporation furnishing any materials or labor for any Work covered by this Contract shall have any right to a lien upon the Premises or any improvement or appurtenances thereon. Provided, that this shall not preclude the Contractor from Installing metering devices and other equipment of utility companies, the title of which is commonly retained by the utility company. In the event of the Installation of any such metering

device or equipment, the Contractor shall advise the City as to the legal owner thereof. Nothing contained in this paragraph, however, shall defeat or impair the right of such persons furnishing materials or labor under any bond given by the Contractor for their protection or any rights under any law permitting such persons to look to funds due the Contractor in the hands of the City. The provisions of this paragraph shall be inserted in all subcontracts and material Contracts, and notice of its provisions shall be given to all persons furnishing materials for the Work when no formal Contract is entered into for such materials.

[END OF GENERAL CONDITIONS]

TEXT OF AB 626

Assembly Bill No. 626

CHAPTER 810

An act to add and repeal Section 9204 of the Public Contract Code, relating to public contracts.

[Approved by Governor September 29, 2016. Filed with Secretary of
State September 29, 2016.]

LEGISLATIVE COUNSEL'S DIGEST

AB 626, Chiu. Public contracts: claim resolution.

Existing law prescribes various requirements regarding the formation, content, and enforcement of state and local public contracts. Existing law applicable to state public contracts generally requires that the resolution of claims related to those contracts be subject to arbitration. Existing law applicable to local agency contracts prescribes a process for the resolution of claims related to those contracts of \$375,000 or less.

This bill would establish, for contracts entered into on or after January 1, 2017, a claim resolution process applicable to any claim by a contractor in connection with a public works project. The bill would define a claim as a separate demand by the contractor for one or more of the following: a time extension for relief from damages or penalties for delay, payment of money or damages arising from work done pursuant to the contract for a public work, or payment of an amount disputed by the public entity, as specified.

This bill would require a public entity, defined to exclude certain state entities, upon receipt of a claim sent by registered or certified mail, to review it and, within 45 days, provide a written statement identifying the disputed and undisputed portions of the claim. The bill would authorize the 45-day period to be extended by mutual agreement. The bill would require any payment due on an undisputed portion of the claim to be processed within 60 days, as specified. The bill would require that the claim be deemed rejected in its entirety if the public entity fails to issue the written statement.

This bill would authorize, if the claimant disputes the public entity's written response or if the public entity fails to respond to a claim within the time prescribed, the claimant to demand to meet and confer for settlement of the issues in dispute. The bill would require any disputed portion of the claim that remains in dispute after the meet and confer conference to be subject to nonbinding mediation, as specified. The bill would provide that unpaid claim amounts accrue interest at 7% per annum. The bill would prescribe a procedure by which a subcontractor or lower tier contractor may make a claim through the contractor.

This bill would require the text of these provisions, or a summary, to be set forth in the plans or specifications for any public work which may give rise to a claim. The bill would specify that a waiver of these rights is void and contrary to public policy, except as specified. The bill would also specify that it does not impose liability on a public entity that makes loans or grants available through a competitive application process, for the failure of an awardee to meet its contractual obligations.

By increasing the duties of local agencies and officials, this bill would impose a state-mandated local program.

This bill would, on January 1, 2020, repeal the provision establishing the claim resolution process.

This bill would specify that these provisions constitute a matter of statewide concern.

The California Constitution requires the state to reimburse local agencies and school districts for certain costs mandated by the state. Statutory provisions establish procedures for making that reimbursement.

This bill would provide that, if the Commission on State Mandates determines that the bill contains costs mandated by the state, reimbursement for those costs shall be made pursuant to these statutory provisions.

The people of the State of California do enact as follows:

SECTION 1. Section 9204 is added to the Public Contract Code, to read:

9204. (a) The Legislature finds and declares that it is in the best interests of the state and its citizens to ensure that all construction business performed on a public works project in the state that is complete and not in dispute is paid in full and in a timely manner.

(b) Notwithstanding any other law, including, but not limited to, Article 7.1 (commencing with Section 10240) of Chapter 1 of Part 2, Chapter 10 (commencing with Section 19100) of Part 2, and Article 1.5 (commencing with Section 20104) of Chapter 1 of Part 3, this section shall apply to any claim by a contractor in connection with a public works project.

(c) For purposes of this section:

(1) "Claim" means a separate demand by a contractor sent by registered mail or certified mail with return receipt requested, for one or more of the following:

(A) A time extension, including, without limitation, for relief from damages or penalties for

delay assessed by a public entity under a contract for a public works project.

(B) Payment by the public entity of money or damages arising from work done by, or on behalf of, the contractor pursuant to the contract for a public works project and payment for which is not otherwise expressly provided or to which the claimant is not otherwise entitled.

(C) Payment of an amount that is disputed by the public entity.

(2) "Contractor" means any type of contractor within the meaning of Chapter 9 (commencing with Section 7000) of Division 3 of the Business and Professions Code who has entered into a direct contract with a public entity for a public works project.

(3) (A) "Public entity" means, without limitation, except as provided in subparagraph (B), a state agency, department, office, division, bureau, board, or commission, the California State University, the University of California, a city, including a charter city, county, including a charter county, city and county, including a charter city and county, district, special district, public authority, political subdivision, public corporation, or nonprofit transit corporation wholly owned by a public agency and formed to carry out the purposes of the public agency.

(B) "Public entity" shall not include the following:

(i) The Department of Water Resources as to any project under the jurisdiction of that department.

(ii) The Department of Transportation as to any project under the jurisdiction of that department.

(iii) The Department of Parks and Recreation as to any project under the jurisdiction of that department.

(iv) The Department of Corrections and Rehabilitation with respect to any project under its jurisdiction pursuant to Chapter 11 (commencing with Section 7000) of Title 7 of Part 3 of the

Penal Code.

(v) The Military Department as to any project under the jurisdiction of that department.

(vi) The Department of General Services as to all other projects.

(vii) The High-Speed Rail Authority.

(4) "Public works project" means the erection, construction, alteration, repair, or improvement of any public structure, building, road, or other public improvement of any kind.

(5) "Subcontractor" means any type of contractor within the meaning of Chapter 9 (commencing with Section 7000) of Division 3 of the Business and Professions Code who either is in direct contract with a contractor or is a lower tier subcontractor.

(d) (1) (A) Upon receipt of a claim pursuant to this section, the public entity to which the claim applies shall conduct a reasonable review of the claim and, within a period not to exceed 45 days, shall provide the claimant a written statement identifying what portion of the claim is disputed and what portion is undisputed. Upon receipt of a claim, a public entity and a contractor may, by mutual agreement, extend the time period provided in this subdivision.

(B) The claimant shall furnish reasonable documentation to support the claim.

(C) If the public entity needs approval from its governing body to provide the claimant a written statement identifying the disputed portion and the undisputed portion of the claim, and the governing body does not meet within the 45 days or within the mutually agreed to extension of time following receipt of a claim sent by registered mail or certified mail, return receipt requested, the public entity shall have up to three days following the next duly publicly noticed meeting of the governing body after the 45-day period, or extension, expires to provide the claimant a written statement identifying the disputed portion and the undisputed portion.

(D) Any payment due on an undisputed portion of the claim shall be processed and made within 60 days after the public entity issues its written statement. If the public entity fails to issue a written statement, paragraph (3) shall apply.

(2) (A) If the claimant disputes the public entity's written response, or if the public entity fails to respond to a claim issued pursuant to this section within the time prescribed, the claimant may demand in writing an informal conference to meet and confer for settlement of the issues in dispute. Upon receipt of a demand in writing sent by registered mail or certified mail, return receipt requested, the public entity shall schedule a meet and confer conference within 30 days for settlement of the dispute.

(B) Within 10 business days following the conclusion of the meet and confer conference, if the claim or any portion of the claim remains in dispute, the public entity shall provide the claimant a written statement identifying the portion of the claim that remains in dispute and the portion that is undisputed. Any payment due on an undisputed portion of the claim shall be processed and made within 60 days after the public entity issues its written statement. Any disputed portion of the claim, as identified by the contractor in writing, shall be submitted to nonbinding mediation, with the public entity and the claimant sharing the associated costs equally. The public entity and claimant shall mutually agree to a mediator within 10 business days after the disputed portion of the claim has been identified in writing. If the parties cannot agree upon a mediator, each party shall select a mediator and those mediators shall select a qualified neutral third party to mediate with regard to the disputed portion of the claim. Each party shall bear the fees and costs charged by its respective mediator in connection with the selection of the neutral mediator. If mediation is unsuccessful, the parts of the claim remaining in dispute shall be subject to applicable procedures outside this section.

(C) For purposes of this section, mediation includes any nonbinding process, including, but not limited to, neutral evaluation or a dispute review board, in which an independent third party or board assists the parties in dispute resolution through negotiation or by issuance of an evaluation. Any mediation utilized shall conform to the timeframes in this section.

(D) Unless otherwise agreed to by the public entity and the contractor in writing, the mediation conducted pursuant to this section shall excuse any further obligation under Section 20104.4 to mediate after litigation has been commenced.

(E) This section does not preclude a public entity from requiring arbitration of disputes under private arbitration or the Public Works Contract Arbitration Program, if mediation under this section does not resolve the parties' dispute.

(3) Failure by the public entity to respond to a claim from a contractor within the time periods described in this subdivision or to otherwise meet the time requirements of this section shall result in the claim being deemed rejected in its entirety. A claim that is denied by reason of the public entity's failure to have responded to a claim, or its failure to otherwise meet the time requirements of this section, shall not constitute an adverse finding with regard to the merits of the claim or the responsibility or qualifications of the claimant.

(4) Amounts not paid in a timely manner as required by this section shall bear interest at 7 percent per annum.

(5) If a subcontractor or a lower tier subcontractor lacks legal standing to assert a claim against a public entity because privity of contract does not exist, the contractor may present to the public entity a claim on behalf of a subcontractor or lower tier subcontractor. A subcontractor may request in writing, either on his or her own behalf or on behalf of a lower tier subcontractor, that the contractor present a claim for work which was performed by the subcontractor or by a

lower tier subcontractor on behalf of the subcontractor. The subcontractor requesting that the claim be presented to the public entity shall furnish reasonable documentation to support the claim. Within 45 days of receipt of this written request, the contractor shall notify the subcontractor in writing as to whether the contractor presented the claim to the public entity and, if the original contractor did not present the claim, provide the subcontractor with a statement of the reasons for not having done so.

(e) The text of this section or a summary of it shall be set forth in the plans or specifications for any public works project that may give rise to a claim under this section.

(f) A waiver of the rights granted by this section is void and contrary to public policy, provided, however, that (1) upon receipt of a claim, the parties may mutually agree to waive, in writing, mediation and proceed directly to the commencement of a civil action or binding arbitration, as applicable; and (2) a public entity may prescribe reasonable change order, claim, and dispute resolution procedures and requirements in addition to the provisions of this section, so long as the contractual provisions do not conflict with or otherwise impair the timeframes and procedures set forth in this section.

(g) This section applies to contracts entered into on or after January 1, 2017.

(h) Nothing in this section shall impose liability upon a public entity that makes loans or grants available through a competitive application process, for the failure of an awardee to meet its contractual obligations.

(i) This section shall remain in effect only until January 1, 2020, and as of that date is repealed, unless a later enacted statute, that is enacted before January 1, 2020, deletes or extends that date.

SECTION 2.

The Legislature finds and declares that it is of statewide concern to require a charter city, charter county, or charter city and county to follow a prescribed claims resolution process to ensure there are uniform and equitable procurement practices.

SECTION 3.

If the Commission on State Mandates determines that this act contains costs mandated by the state, reimbursement to local agencies and school districts for those costs shall be made pursuant to Part 7 (commencing with Section 17500) of Division 4 of Title 2 of the Government Code.

SUPPLEMENTAL CONDITIONS

Project: **Barton Road Water Treatment Plant East Applied Pipeline Project**

Table of Contents for Special Provisions

	<u>SC</u>
Scope of Supplemental Conditions	1
Section 1: Definitions and Terms	2
Section 2: Control and Scope of the Work	3
Section 3: Changes in the Work	4
Section 4: Control of Materials	5
Section 5: Legal Relations and Responsibility	6
Section 6: Prosecution and Progress	7
Section 7: Acceptance and Payment	8

Scope of Supplemental Conditions

1. The Work shall be performed in accordance with the General Conditions and Department Standards, except as the General Conditions may be modified by the following additional City Standards, incorporated herein by this reference, if so indicated.

	COMMUNITY DESIGN GUIDELINES 311 Vernon Street, Roseville, CA 95678
	SPECIFICATIONS FOR COMMERCIAL CONSTRUCTION (ELECTRIC) 2090 Hilltop Circle, Roseville, CA 95747
	PARKS CONSTRUCTION STANDARDS 316 Vernon Street, Suite 400, Roseville, CA 95678
X	DESIGN AND CONSTRUCTION STANDARDS 311 Vernon Street, Roseville, CA 95678
	OTHER

Above documents are available at: www.roseville.ca.us

2. Numbering in these Supplemental Conditions conforms to that in the General Conditions. The existence of a section in these Supplemental Conditions means that the corresponding section in the General Conditions is modified in some respect. Unless otherwise specified, the modified General Condition is deleted entirely and the provisions of these Supplemental Conditions are substituted.

SECTION 1. DEFINITIONS AND TERMS

1-1.21 **CONTRACT TIME.** Section 1-1.21 of the General Conditions is replaced with the following:

The number of Days, or portion thereof, allowed for completion of the Work, including all authorized time extensions. Contract Time is based on calendar Days which includes weekend and Legal Holidays. The effective date for commencement of the Work specified in the Notice to Proceed shall define the beginning of the Contract Time.

1-1.24 **DEPARTMENT.** Section 1-1.24 of the General Conditions is amended to include the following:

The Department for Contract Administration is the Environmental Utilities Department of the City of Roseville.

SECTION 2. CONTROL AND SCOPE OF THE WORK

2-1.08 **SUBMITTALS.** Section 2-1.08 of the General Conditions is amended to include the following:

The Contractor shall submit all material submittals within the timelines included in the Specifications.

The time allowed for review of each submittal is 14 Days after receipt of the submittal by the Director.

SECTION 3. CHANGES IN THE WORK

There are no amendments to the General Conditions.

SECTION 4. CONTROL OF MATERIALS

There are no amendments to the General Conditions.

SECTION 5. LEGAL RELATIONS AND RESPONSIBILITY

5-1.14 **AIR POLLUTION CONTROL AND ASBESTOS.** Section 5-1.14 of the General Conditions is amended to include the following:

To the best of the City's knowledge, asbestos **is not** present in the vicinity of the Project. Additional information shall be made available to Contractor upon request.

SECTION 6. PROSECUTION AND PROGRESS

6-1.04 **PROGRESS SCHEDULE.** Section 6-1.04A of the General Conditions is modified to delete the first sentence and replace with the following:

The Contractor shall submit to the Director, within ten (10) calendar days after date of the Notice to Proceed, a Preliminary Progress Schedule covering the Contractor's activities over the first thirty (30) calendar days of operation in detail and the remainder of the project summary.

6-1.04 **PROGRESS SCHEDULE.** Section 6-1.04F of the General Conditions is amended to include the following:

Progress schedules showing project completion dates more than 30 Days earlier than specified in Section 6-1.07 shall be rejected.

6-1.04 **PROGRESS SCHEDULE.** Amend Section 6-1.04 of the General Conditions to include the following:

G. **3-Week Look-Ahead Schedule.** The Contractor shall prepare and distribute a 3-Week Look Ahead Schedule weekly the day prior to the weekly progress meeting. The schedule shall include the current week as Week 1 and two additional weeks. The 3-Week Look Ahead schedule shall be presented by the Contractor during the weekly construction progress meeting.

6-1.07 **TIME OF COMPLETION.** Section 6-1.07 of the General Conditions is amended to include the following:

The Contractor shall begin Work within 7 business days after receiving a Notice

to Proceed and shall diligently prosecute the Work to completion. The Work shall be completed within 125 business days of the Notice to Proceed.

If landscaping plants require an establishment period, that period will be 60 calendar days. Start of the establishment should be as outlined in the Specifications.

6-1.08 **LIQUIDATED DAMAGES.** Section 6-1.08 of the General Conditions is amended to include the following:

The amount of Liquidated Damages is the sum of **\$1,500** per Day.

SECTION 7: ACCEPTANCE AND PAYMENT

7-1.02 **SCOPE OF PAYMENT.** Section 7-1.02 of the General Conditions is amended to include the following:

Unless special payment is specifically provided in the Measurement and Payment Section, all incidental work and expense in connection with the Completion of Work under the Contract will be considered a subsidiary obligation of the Contractor and all such costs shall be included in the appropriate items in the Schedule of Bid Items in connection with which costs are incurred.

[END OF SUPPLEMENTAL CONDITIONS]

SPECIAL PROVISIONS

Table of Contents for Special Provisions

Section 1: Governor’s Executive Order N-6-22 (EO)

SP
1

SECTION 1. GOVERNOR NEWSOM EXECUTIVE ORDER N-6-22 (EO)



April, 2022

RE: Contractor and Grantee Compliance with Economic Sanctions Imposed in Response to Russia's Actions in Ukraine

Dear Vendor:

On March 4, 2022, Governor Gavin Newsom issued Executive Order N-6-22 (EO) regarding sanctions in response to Russian aggression in Ukraine. The EO is located at <https://www.gov.ca.gov/wp-content/uploads/2022/03/3.4.22-Russia-Ukraine-Executive-Order.pdf>.

The EO directs all agencies and departments that are subject to the Governor's authority to take certain immediate steps, including notifying all contractors and grantees of their obligations to comply with existing economic sanctions imposed by the U.S. government in response to Russia's actions in Ukraine, as well as any sanctions imposed under state law.

This correspondence serves as a notice under the EO that as a contractor or grantee, compliance with the economic sanctions imposed in response to Russia's actions in Ukraine is required, including with respect to, but not limited to, the federal executive orders identified in the EO and the sanctions identified on the U.S. Department of the Treasury website (<https://home.treasury.gov/policy-issues/financial-sanctions/sanctions-programs-and-country-information/ukraine-russia-related-sanctions>). Failure to comply may result in the termination of contracts or grants, as applicable.

Please note that for any agreements or grants valued at \$5 million or more you must report to the City of Roseville your compliance with economic sanctions including steps you have taken in response to Russia's actions in Ukraine, including, but not limited to, desisting from making new investments in, or engaging in financial transactions with, Russian entities, not transferring technology to Russia or Russian entities, and directly providing support to the government and people of Ukraine.

Sincerely,

DocuSigned by:
Shannon Wiest 4/25/2022
61215600A1B747E
Shannon Wiest
City of Roseville
Purchasing and Warehouse Manager

SPECIFICATIONS FOR CONSTRUCTION

**Specifications for the Construction of the City of Roseville
Barton Road Water Treatment Plant East Applied Pipeline Project**

Prepared for



By



June 2023

CITY OF ROSEVILLE
BARTON ROAD WATER TREATMENT PLANT EAST APPLIED PIPELINE PROJECT

TABLE OF CONTENTS

VOLUME 1 OF 2

DIVISION 01 - GENERAL REQUIREMENTS

SECTION NO.	TITLE
01110	SUMMARY OF WORK
01140	WORK RESTRICTIONS
01220	MEASUREMENT AND PAYMENT
01292	SCHEDULE OF VALUES
01312	PROJECT MEETINGS
01321	SCHEDULES AND REPORTS
01330	SUBMITTAL PROCEDURES
01340	PHOTOGRAPHIC AND VIDEOGRAPHIC DOCUMENTATION
01410	REGULATORY REQUIREMENTS
01450	QUALITY CONTROL
01455	REGULATORY QUALITY ASSURANCE
01600	PRODUCT REQUIREMENTS
01738	SELECTIVE ALTERATIONS AND DEMOLITION
01770	CLOSEOUT PROCEDURES
01783	WARRANTIES AND BONDS
01850	DESIGN CRITERIA

DIVISION 02 - SITE CONSTRUCTION

SECTION NO.	TITLE
02050	SOILS AND AGGREGATES FOR EARTHWORK
02200	SITE CLEARING
02260	EXCAVATION SUPPORT AND PROTECTION
02300	EARTHWORK
02312	CONTROLLED LOW STRENGTH MATERIAL (CLSM)

DIVISION 03 - CONCRETE

SECTION NO.	TITLE
03055	ADHESIVE-BONDED REINFORCING BARS AND ALL THREAD RODS IN CONCRETE
03071	EPOXIES
03301	CONCRETE WORK
03600	GROUTING

DIVISION 05 - METALS

SECTION NO.	TITLE
05120	STRUCTURAL STEEL FRAMING
05190	MECHANICAL ANCHORING AND FASTENING TO CONCRETE AND MASONRY
05310	STEEL DECKING

DIVISION 07 - THERMAL AND MOSTURE PROTECTION

SECTION NO.	TITLE
07600	SHEET METAL
07900	JOINT SEALANTS

DIVISION 09 - FINISHES

SECTION NO.	TITLE
09960	HIGH-PERFORMANCE COATINGS

DIVISION 15 - MECHANICAL

SECTION NO.	TITLE
15052	COMMON WORK RESULTS FOR GENERAL PIPING
15121	PIPE COUPLINGS

SECTION 01110
SUMMARY OF WORK

PART 1 GENERAL

1.01 SUMMARY

- A. Section includes: Detailed description of the Work.

1.02 THE WORK

- A. The Work consists of:
1. Pipeline rehabilitation construction of the Barton Road Water Treatment Plant East Applied Pipeline Project, including the dual flexible coupling assembly, canopy and supports as shown on the contract drawings.

1.03 LOCATION OF PROJECT

- A. The Work is located at 9595 Barton Road, Granite Bay, CA 95746.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION (NOT USED)

END OF SECTION

SECTION 01140
WORK RESTRICTIONS

PART 1 GENERAL

1.01 SUMMARY

- A. Section includes: Requirements for sequencing and scheduling the Work affected by existing site and facility, work restrictions, and coordination between construction operations and plant operations.

1.02 SUBMITTALS

- A. Baseline Schedule.
- B. Progress Schedule.

1.03 GENERAL CONSTRAINTS ON WORK AND SCHEDULING OF WORK

- A. Plant access for Contractor will be provided at the gate. The Contractor will be required to check-in at the gate on a daily basis and will be responsible for keeping a record of staff on-site in the event of an emergency.
- B. Time is of the essence for procuring the replacement flexible couplings. Contractor to field verify dimension requirements and condition of existing spool pipe between the existing flexible couplings prior to ordering the replacement flexible couplings.
- C. The East Applied Pipeline may only be out of service between December 1, 2023, and February 29, 2024. Contractor to execute the flexible coupling replacements such that the pipeline may be returned to service before February 29, 2024.
- D. The East Applied Pipeline shall be dewatered by plant staff before the start of the designated construction period.
- E. Perform pipe Work as specified in Section 01738 - Selective Alterations and Demolition.
- F. Water projects:
 - 1. The Barton Road Water Treatment Plant is the Owner's sole source of drinking water.
 - 2. Conduct Work such that the Owner's ability to meet its customer's demands for treated drinking water shall not be impaired or reduced in terms of the required quantity or quality of treated water. Do not impair the operational capabilities of essential elements of the treatment process or reduce treatment capacity below levels sufficient to meet demands for water throughout the contract time.

1.04 COMPLIANCE WITH WATER PERMIT

- A. The existing facility is operating under the terms of a Drinking Water permit issued by the California State Water Resources Control Board.
 - 1. This permit specifies the water quality limits that the plant must meet prior to discharge of finished water.
 - 2. A copy of the most up-to-date permit is on file for review in an electronic copy that will be supplied upon request.
- B. Perform work in a manner that will not prevent the existing facility from achieving the finished water quality requirements established by regulations.
- C. Bear the cost of penalties imposed on the Owner for water quality violations caused by actions of the Contractor.
- D. Conduct the Work and provide temporary facilities required to keep the existing plant continuously operational.
- E. Do not remove or demolish existing facilities required to keep the existing plant operational at the capacities specified until the existing facilities are replaced by temporary, new, or upgraded facilities or equipment.
 - 1. Test replacement facilities to demonstrate operational success prior to removing or demolishing existing facilities.
- F. Bear the costs for exceeding the drinking water standards of \$10,000 per day for each day of the occurrence and each subsequent day of a boil water notice.

1.05 UTILITIES

- A. Provide advance notice to and utilize services of "Underground Service Alert" for location and marking of underground utilities operated by utility agencies other than the Owner.
- B. Maintain electrical, telephone, water, gas, sanitary facilities, and other utilities within existing facilities in service. Provide temporary utilities when necessary.

1.06 WORK BY OTHERS

- A. Where proper execution of the Work depends upon work by others, inspect and promptly report discrepancies and defects.

1.07 WORK RESTRICTIONS

- A. Provide safe, continuous access to process control equipment for plant operations and maintenance personnel.
- B. Maintain truck access to the existing influent lift station, dewatered sludge bins and headworks bins.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION (NOT USED)

END OF SECTION

SECTION 01220
MEASUREMENT AND PAYMENT

PART 1 GENERAL

1.01 SUMMARY

- A. Section includes: Procedures for measurement and payment of Work under this Contract for lump sum items and unit prices.

1.02 REFERENCES

- A. Occupational Safety and Health Administration (OSHA).

1.03 LUMP SUM ITEMS

- A. Item 1: Lump sum Item: Mobilization and demobilization including bonds and insurance, and cleanup.
 - 1. Measurement:
 - a. Includes costs including Contractor's fee for overhead and profit for continuous, full-time management of the Contract as described in the Contract Documents, covering a period of time not less than from the Notice to Proceed through the entire length of the allowable Contract Times specified in the Contract Documents.
 - 2. Payment:
 - a. Lump sum. Lump sum distributed in two payments: 60 percent for mobilization and 40-percent for demobilization.
- B. Item 2: Lump sum Item: Roseville East Applied Pipeline improvements complete as shown and as specified in these Contract Documents.
 - 1. Measurement:
 - a. Includes labor, equipment, and material costs to perform the Work shown on the drawings and specified in the contract documents, including Contractor's fee for overhead and profit for continuous, full-time management of the Contract as described in the Contract Documents, covering a period of time not less than from the Notice to Proceed through the entire length of the allowable Contract Times specified in the Contract Documents.
 - 2. Payment:
 - a. Lump sum.
- C. Item 3: Lump sum Item: Remove and replace the existing flexible couplings.
 - 1. Measurement:
 - a. Includes labor, equipment, and material costs to remove and replace the existing flexible couplings.
 - 2. Payment:
 - a. Lump sum.

- D. Item 4: Lump sum Item: Furnish and install the steel canopy.
 - 1. Measurement:
 - a. Includes labor, equipment, and material costs to install the steel canopy and appurtenances.
 - 2. Payment:
 - a. Lump sum.
- E. Item 3: Temporary Excavation Support:
 - 1. Measurement:
 - a. Sheet piling, shoring, and bracing, or equivalent method for the protection of life and limb in trenches and open excavation, in accordance with California Labor Code §6707. Shoring required to protect existing facilities is also included in this bid item.
 - b. Requirements as specified in Section 02260 - Excavation Support and Protection.
 - c. Measurement for payment will be Lump Sum.
 - 2. Payment:
 - a. Lump sum.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION (NOT USED)

END OF SECTION

SECTION 01292
SCHEDULE OF VALUES

PART 1 GENERAL

1.01 SUMMARY

- A. Section includes: Requirements for preparation, format, and submittal of Schedule of Values.

1.02 PREPARATION

- A. Schedule of Values shall be a listing of all cost loaded, on-site construction activities from the progress schedule, listed in numerical order, showing that the sum total of all cost-loaded activities equal the Contract value.
- B. When the schedule is changed or revised to include added or deleted work, the Schedule of Values shall also be revised such that the sum total of all cost-loaded activities continuously equal the current Contract value.
 - 1. Equate the aggregate of these costs to the Lump Sum Contract Price.
- C. Prepare Schedule of Values identifying costs of Major Items of Work.

1.03 SUBMITTALS

- A. Submit Schedule of Values for the Preliminary Schedule as specified in, Section 01321 - Schedules and Reports.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION (NOT USED)

END OF SECTION

SECTION 01312
PROJECT MEETINGS

PART 1 GENERAL

1.01 SUMMARY

- A. Section includes: Requirements for conducting conferences and meetings for the purposes of addressing issues related to the Work, reviewing and coordinating progress of the Work and other matters of common interest, and includes the following:
1. Qualifications of Meeting Participants.
 2. Basic Meeting Requirements.
 3. Pre-construction Conference.
 4. Pre-construction Safety Conference.
 5. Web Based Construction Document Management Software Training.
 6. Work Site Meetings (Progress Meetings).
 7. Schedule Update Meetings.
 8. Quality Control Meetings.
 9. Pre-Installation Meetings.
 10. Close-out Meeting.
 11. Post Construction Meeting.

1.02 QUALIFICATIONS OF MEETING PARTICIPANTS

- A. Representatives of entities participating in meetings shall be qualified and authorized to act on behalf of entity each represents.

1.03 BASIC MEETING REQUIREMENTS

- A. Attendees:
1. Meeting leader shall require attendance of parties directly affecting, or affected by, Work being discussed at the meeting.
- B. Location:
1. In location convenient for most invitees.
- C. Notification:
1. Meeting leader shall notify attendees of meeting, including an agenda, a minimum of 7 days prior to meeting.
- D. Agenda:
1. Meeting leader shall prepare copies of agenda for participants and distribute at the meeting.
 2. Minimum requirements:
 - a. Meeting purpose:
 - 1) Review minutes of previous meeting.
 - b. Safety and security.

- c. Discuss issues.
 - d. Action items.
 - e. Next meeting.
- E. Meeting minutes:
- 1. Meeting leader shall provide draft minutes within 7 days of meeting and send to all attendees for comment within 7 days.
 - 2. Meeting leader shall incorporate comments from attendees and submit final meeting minutes to attendees within 7 days of receipt of comments.

1.04 PRE-CONSTRUCTION CONFERENCE

- A. Construction Manager leads the meeting.
- B. Timing:
- 1. Upon issuance of Notice to Proceed, or earlier when mutually agreeable.
- C. Required attendees:
- 1. Contractor's project manager and superintendent, Owner, Engineer, representatives of utilities, major subcontractors and others involved in performance of the Work, and others necessary to agenda.
- D. Agenda minimum requirements:
- 1. Meeting purpose:
 - a. To establish working understanding between parties and to discuss Construction Schedule, shop drawing and other submittals, cost breakdown of major lump sum items, processing of submittals and applications for payment, and other subjects pertinent to execution of the Work.
 - b. To establish the format and features of the Construction Schedule.
 - c. Reviewing the entire Project, equipment, schedules, and submittal requirements.
 - d. Review the entire Project, equipment, control philosophy, schedules, and submittal requirements.
 - e. Awareness of requirements by major subcontractors, major suppliers, and major equipment manufacturers.
 - f. Format and procedures for submittals.
 - g. Review of the master submittal schedule.
 - 2. Adequacy of distribution of Contract Documents.
 - 3. Distribution and discussion of list of major subcontractors and suppliers.
 - 4. Proposed progress schedules and critical construction sequencing.
 - 5. Major deliveries and priorities.
 - 6. Project coordination.
 - 7. Designation of responsible personnel.
 - 8. Communication protocol.
 - 9. Procedures and processing of:
 - a. Field decisions.
 - b. Proposal requests.
 - c. Submittals.
 - d. Change Orders.
 - e. Request for Information/Interpretations.

- f. Applications for Payment.
 - g. Record Documents.
- 10. Use of premises:
 - a. Office, construction, and storage areas.
 - b. Owner's requirements.
- 11. Construction facilities, controls, and construction aids.
- 12. Temporary utilities.
- 13. Housekeeping procedures.
- 14. Review proposed photographer submittal.
- 15. Schedule preparation.
- 16. Reporting requirements.
- 17. Updates and revision procedures.
- 18. Schedule delay analysis procedures.
- 19. Schedule methodology.
- 20. Planned sequence of operations.
- 21. Proposed activity coding structure as specified in Section 01321 – Schedules and Reports.
- 22. Naming convention: Name schedule files with the year, month and day of the data date, revision identifier, and a description of the schedule.
 - a. Example 1: 2014_07_30 rev 1 draft baseline schedule.xer.
 - b. Example 2: 2014_09_30 rev 2 sep final update.xer.
- 23. Review submittal schedule.
- 24. Format of submittals.
- 25. Procedures and processing of submittals.
 - a. Review turn-around time.
- 26. Safety, first aid, and security procedures.
- 27. Action items.
- 28. Next meeting.

1.05 PRE-CONSTRUCTION SAFETY CONFERENCE

- A. Construction Manager leads the meeting.
- B. Timing:
 - 1. Upon issuance of Notice to Proceed, or earlier when mutually agreeable.
- C. Required attendees:
 - 1. Contractor's project manager, safety representative, and superintendent; Owner, Engineer, representatives of utilities, major subcontractors and others involved in performance of the Work, and others necessary to agenda.
- D. Agenda minimum requirements:
 - 1. Meeting purpose:
 - a. To establish safety procedures and identify lead participants.
 - 2. Review minutes of previous meeting.
 - 3. Safety and first aid procedures.
 - 4. Review of Experience Modification Rating for Contractor and each subcontractor.
 - 5. Security procedures.
 - 6. Housekeeping procedures.
 - 7. Safety and security.

8. Action items.
9. Next meeting.

1.06 WEB BASED CONSTRUCTION DOCUMENT MANAGEMENT SOFTWARE TRAINING

- A. Contractor can submit a written request to the Engineer to waive the training based on staff having sufficient familiarity with the software and its complete usage. Engineer will lead the meeting.
- B. Timing:
 1. Upon issuance of Notice to Proceed, or earlier when mutually agreeable.
 2. Duration minimum: 2 hours.
- C. Required attendees:
 1. Mandatory attendance.
 - a. Contractor's project manager.
 - b. Contractor's field superintendent.
 - c. Contractor's project engineer.
 2. Other attendees:
 - a. Owner, Engineer, Contractor's quality control manager, Contractor's project scheduler and any other persons involved with preparing and transmitting documents.
- D. Agenda minimum requirements:
 1. Meeting purpose:
 - a. Train construction team on the use of the web-based document management system software.
 2. Safety.
 3. General Items.
 4. Contractor functions.
 5. Owner functions.
 6. Engineer functions.
 7. Action items.

1.07 PROGRESS MEETINGS

- A. Construction Manager will lead the meeting.
- B. Timing:
 1. Hold meetings throughout progress of the Work at maximum weekly intervals.
- C. Required attendees:
 1. Owner, Engineer, Contractor, Contractor's Project Manager, superintendent, quality control manager, project scheduler, major subcontractors and suppliers as appropriate to agenda topics for each meeting.
 2. Additional invitees:
 - a. Owner utility companies when the Work affects their interests, and others necessary to agenda.

- D. Agenda minimum requirements:
 - 1. Meeting purpose:
 - a. Provide the status of the Work.
 - 2. Review minutes of previous meeting.
 - 3. Safety and security.
 - 4. Construction schedule summary.
 - 5. Review of 6 weeks schedule.
 - a. Contractor shall provide printed hard copies for each attendee.
 - 6. Review of off-site fabrication and delivery schedules.
 - 7. Review of submittals schedule and status of submittals.
 - 8. Request for information (RFI's) status.
 - 9. MOP's/shutdown coordination.
 - 10. Change order management status.
 - 11. Maintenance of quality standards (QA/QC).
 - 12. Field observations, problems, and conflicts.
 - 13. Commissioning.
 - 14. Partnering recognition status (optional).
 - 15. General Items.
 - 16. Action items.
 - 17. Next meeting.

1.08 SCHEDULE UPDATE MEETINGS

- A. Contractor leads the meeting.
- B. Timing:
 - 1. Hold meetings throughout progress of the Work at maximum monthly intervals.
- C. Required attendees:
 - 1. Owner, Engineer, Contractor, Contractor's Project Manager, General Superintendent, project scheduler, major subcontractors and suppliers as appropriate to agenda topics for each meeting.
 - 2. Additional invitees:
 - a. Owner utility companies when the Work affects their interests and others necessary to the agenda.
- D. Agenda minimum requirements:
 - 1. Meeting purpose:
 - a. Identify and troubleshoot scheduling issues in a collaborative environment.
 - b. Provide further detail on Work status.
 - 2. Review minutes of previous meeting.
 - 3. Review Monthly Schedule, (Actual Progress and Variance).
 - a. "Activities Started/Completed" this period.
 - b. "Activities Started/Completed" "Variance" Baseline vs. current.
 - c. "Added/Deleted Activities".
 - d. "Revised Activity Descriptions".
 - e. Any significant Proposed Logic Changes.
 - 4. Review milestone "Substantial Completion" Schedule:
 - a. "Critical" Activities - "Critical Area, Float and Vital Statistics".
 - 5. Review "Cumulative and Monthly Costs" graph.

6. Review "Budgeted Cost" indicating the Current Project Budgeted Cost.
7. Safety and security.
8. Action items.
9. Next meeting.

1.09 PRE-INSTALLATION MEETINGS

- A. Contractor leads the meeting.
- B. Timing:
 1. When specified in Technical Sections or requested by Engineer, before commencing Work of specific section.
- C. Required attendees:
 1. Owner, Engineer, Contractor, Contractor's Project Manager, General Superintendent, project scheduler, major subcontractors including electrical instrumentation, and suppliers as appropriate to agenda topics for each meeting.
 2. Additional invitees:
 - a. Owner utility companies when the Work affects their interests and others necessary to the agenda.
- D. Agenda minimum requirements:
 1. Meeting purpose:
 - a. Review conditions of installation, preparation and installation procedures.
 - b. Review coordination with related work.
 2. Review minutes of previous meeting.
 3. Safety and security.
 4. Action items.
 5. Next meeting.

1.10 QUALITY CONTROL MEETINGS

- A. Contractor leads the meeting.
- B. Timing:
 1. Hold meetings throughout progress of the Work at maximum weekly intervals.
- C. Required attendees:
 1. Engineer, Construction Manager and staff, Contractor's Quality Control Manager, and staff.
- D. Agenda minimum requirements:
 1. Meeting purpose:
 - a. Update Contractor's efforts to comply with quality requirements in the Contract Documents.
 2. Review minutes of previous meeting.
 3. Review of Work progress and schedule.
 4. Review of out-of-compliance inspection or test results.
 5. Field observations, problems, and decisions.
 6. Review of offsite fabrication and delivery schedules.

7. Planned progress during succeeding work period.
8. Coordination of required inspections and tests.
9. Review 6-week schedule report with upcoming inspections and special tests.
10. Maintenance of quality and work standards.
11. Other business relating to Work.
12. Safety and security.
13. Action items.
14. Next meeting.

1.11 CLOSE-OUT MEETING

- A. Construction Manager leads the meeting.
- B. Timing:
 1. After punch list items are completed.
- C. Required attendees:
 1. Owner, Engineer, Contractor, Contractor's Project Manager, and Superintendent.
- D. Agenda minimum requirements:
 1. Meeting purpose:
 - a. Coordinate close-out activities.
 2. Review minutes of previous meeting.
 3. Review punch list completion.
 4. Transfer of record documents.
 5. Finalize payment.
 6. Safety and security.
 7. Action items.
 8. Next meeting.

1.12 POST CONSTRUCTION MEETING

- A. Construction Manager leads the meeting.
- B. Required attendees:
 1. Engineer, Contractor, appropriate manufacturers, and installers of major units of constructions, affected subcontractors, and Owner's operations and maintenance staff.
- C. Timing:
 1. About 11 months after date of Substantial Completion.
- D. Location:
 1. Meet in Owner's office or other mutually agreed upon place.
- E. Agenda minimum requirements:
 1. Meeting purpose:
 - a. Review project for compliance with Contract Documents.
 2. Inspect the Work and draft list of items to be completed or corrected.

3. Review service and maintenance contracts and take appropriate corrective action when necessary.
4. Complete or correct defective work and may extend correction period .
5. Safety and security.
6. Action items.
7. Next meeting.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION (NOT USED)

END OF SECTION

SECTION 01321
SCHEDULES AND REPORTS

PART 1 GENERAL

1.01 SUMMARY

- A. Section includes: Schedules and reports.

1.02 SUBMITTAL REQUIREMENTS

- A. Submit preliminary and baseline schedule.
- B. Submit preliminary and baseline schedule of values.
- C. Submit preliminary and baseline schedule of submittals.
- D. Submit, on a monthly basis, updated schedules as specified.
- E. Submit final schedule update as specified.
- F. Submit revised schedules and time impact analyses as specified.
- G. Submit schedules in the media and number of copies as follows:
1. Provide each submittal in PDF format and in other formats specified in this Section.
 2. 3 sets of the CPM network and/or bar chart (as specified by the Owner) on 24-inch by 36-inch sheets.
 3. 3 sets of tabular reports listing all activities sorted numerically identifying duration, early start, late start, early finish, late finish, total float, and all predecessor/successor information.
 4. 2 sets of CPM Schedule data electronic files in a native backed-up file (.xer).

1.03 SCHEDULER

- A. Designate, in writing and within 5 calendar days after Notice of Award, the person responsible for preparation, maintenance, updating, and revision of all schedules.
- B. Qualifications of scheduler:
1. Authority to act on behalf of Contractor.
 2. A minimum of 5 years verifiable experience in preparation of construction schedules for projects of similar value, size, and complexity.
 3. Knowledge of critical path method (CPM) scheduling utilizing Primavera P6 Professional or Asta Powerproject software.
- C. Owner reserves the right to disapprove scheduler when submitted by Contractor if not qualified. Owner reserves the right to remove the scheduler from the project if found to be incompetent.

1.04 SCHEDULING FORMAT

- A. Utilize critical path method (CPM) format.
- B. Engineer approval of the format is required.

1.05 PRE-CONSTRUCTION SCHEDULING MEETING

- A. As specified in Section 01312 - Project Meetings.

1.06 REVIEW AND ACCEPTANCE OF SCHEDULES

- A. Engineer will review Baseline Schedule, Schedule Updates, Schedule Revisions and Time Impact Analyses to ascertain compliance with specified project constraints, compliance with milestone dates, durations and sequence, accurate inter-relationships, and completeness.
- B. Engineer and Owner will issue written comments following completion of review of Baseline Schedule within 21 calendar days after receipt.
- C. Written comments on review of Schedule Updates and Schedule Revisions and Time Impact Analyses will be returned to Contractor within 14 calendar days after receipt by Engineer.
- D. Revise and resubmit schedule in accordance with Engineer's comments within 7 calendar days after receipt of such comments or request joint meeting to resolve objections.
- E. If Engineer requests a meeting, the Contractor and all major subcontractors must participate in the meeting with Engineer.
 - 1. Revise and resubmit schedule within 7 calendar days after meeting.
- F. Use accepted schedule for planning, organizing, and directing the work and for reporting progress.
- G. Engineer's submittal review response:
 - 1. When schedule reflects Owner's and Contractor's agreement of project approach and sequence, schedule will be accepted by Owner.
 - 2. Engineer's submittal review response for schedule submittal will be "Receipt Acknowledged - Filed for Record" including applicable comments.
 - 3. Acceptance of the schedules by the Owner is for general conformance with the Contract Documents and for Owner's planning information and does not relieve the Contractor of sole responsibility for planning, coordinating, and executing the Work within the contract completion dates.
 - a. Omissions and errors in the accepted schedules shall not excuse performance less than that required by the Contract Documents.
 - b. Acceptance by the Owner in no way constitutes an evaluation or validation of the Contractor's plan, sequence or means, methods, and techniques of construction.

1.07 SCHEDULE UPDATES

- A. Any update:
 - 1. Prepare update using most recent accepted version of schedule including:
 - a. Actual start dates of activities that have been started.
 - b. Actual finish dates of activities that have been completed.
 - c. Percentage of completion of activities that have been started but not finished.
 - d. Actual dates on which milestones were achieved.
 - e. Update activities by inputting percent complete figures with actual dates.
 - f. Use retained logic in preparing Schedule Updates.
 - g. When necessary, input remaining durations for activities whose finish dates cannot be calculated accurately with a percent complete figure only.
 - h. Revisions to the schedule may be included that have been previously approved as specified in this Section under Revisions to Schedule.
- B. Monthly updates:
 - 1. Submit written narrative report in conjunction with each Schedule Update including descriptions of the following:
 - a. Activities added to or deleted from the schedule are to adhere to cost and other resource loading requirements.
 - 1) Identify added activities in manner distinctly different from original activity designations.
 - b. Changes in sequence or estimated duration of activities.
 - c. Current or anticipated problems and delays affecting progress, impact of these problems and delays and measures taken to mitigate impact.
 - d. Assumptions made and activities affected by incorporating change order work into the schedule.
 - 2. Submit updated schedule and materials specified under Submittal of Progress Schedules, 5 calendar days before the monthly schedule update meeting.
 - 3. Submittal and acceptance of the monthly Schedule Update is a condition precedent to the making of any progress payments.
- C. Weekly progress meeting:
 - 1. Update the schedule prior to weekly progress meeting.
 - a. Identify overall progress of each Major Item of Work in the Summary Schedule.
 - b. If there are significant changes to the schedule, submit a written report at the weekly progress meeting.
 - 2. Should monthly Schedule Update show project completion earlier than current Contract completion date, show early completion time as schedule activity, identified as "Project Float".
 - 3. Should monthly Schedule Update show project completion later than current Contract completion date, prepare and submit a Schedule Revision in accordance with the Revisions to Schedule.

1.08 REVISIONS TO SCHEDULE

- A. Submit Revised Schedule within 5 days:
 - 1. When delay in completion of any activity or group of activities indicates an overrun of the Contract Time or milestone dates by 20 working days or 5 percent of the remaining duration, whichever is less.
 - 2. When delays in submittals, deliveries, or work stoppages are encountered making necessary the replanning or rescheduling of activities.
 - 3. When the schedule does not represent the actual progress of activities.
 - 4. When any change to the sequence of activities, the completion date for major portions of the Work, or when changes occur which affect the critical path.
 - 5. When Contract modification necessitates schedule revision, submit schedule analysis of change order work with cost proposal.
- B. Create a separate submittal for Schedule Revisions.
 - 1. Comply with schedule updates as specified in this Section.
 - 2. Do not submit with Schedule Updates.
- C. Schedule Revisions will not be reflected in the schedule until after the revision is accepted by the Owner.
 - 1. This includes Schedule Revisions submitted for the purpose of mitigating a Contractor-caused project delay (Recovery Schedule).

1.09 ADJUSTMENT OF CONTRACT TIME OR PRICE

- A. Contract Time will be adjusted only for causes specified in Contract Documents.
 - 1. Non-excusable delay:
 - a. Non-excusable delays include actions or inactions of the Contractor, or events for which the Contractor has assumed contractual responsibility (including actions or inactions of subcontractors, suppliers, or material manufacturers at any tier) that would independently delay the completion of the Work beyond the current Contract completion date).
 - b. No time extensions will be granted for non-excusable delays.
 - 2. Excusable delay:
 - a. Events which are unforeseeable, outside the control of, and without the fault or negligence of either the Owner or the Contractor (or any party for whom either is responsible), which would independently delay the completion of the Work beyond the current Contract completion date.
 - b. The Contractor may be entitled to a time extension only.
 - c. No other damages will be approved.
 - 3. Compensable delay:
 - a. Actions or inactions of the Owner, or events for which the Owner has assumed contractual responsibility, which would independently delay the completion of the Work beyond the current Contract completion date.
 - b. The Contractor may be entitled to a time extension and delay damages.
 - 4. Concurrent delay:
 - a. Concurrent delay is any combination of the above 3 types of delay occurring on the same calendar date.
 - b. Exception to concurrent delay:
 - 1) Cases where the combination consists of 2 or more instances of the same type of delay occurring on the same calendar date.

- 2) When one cause of delay is Owner-caused or caused by an event which is beyond the control and without the fault or negligence of either the Owner or the Contractor and the other Contractor-caused, the Contractor may be entitled only to a time extension and no delay damages.

CONTRACTOR'S ELIGIBILITY FOR TIME AND/OR EXTENDED OVERHEAD				
DELAY TYPE	NONCONCURRENT DELAY	DELAY CONCURRENT WITH		
Nonexcusable	X	X	T	T
Compensable	TEO	T	TEO	T
Noncompensable	T	T	T	T
ELIGIBILITY X: No Time and No Extended Overhead T: Time EO: Extended Overhead				

- B. If the Contractor believes that the Owner has impacted its work, such that the project completion date will be delayed, the Contractor must submit proof demonstrating the delay to the critical path.
1. This proof, in the form of a Time Impact Analysis, may entitle the Contractor to an adjustment of Contract Time or Contract Price.
- C. Time Impact Analysis:
1. Use the accepted schedule update that is current relative to the time frame of the delay event (change order, third party delay, or other Owner-caused delay). Represent the delay event in the schedule by:
 - a. Inserting new activities associated with the delay event into the schedule.
 - b. Revising activity logic.
 - c. Revising activity durations.
 2. If the project schedule's critical path and completion date are impacted as a result of adding this delay event to the schedule, a time extension equal to the magnitude of the impact may be warranted.
 3. The Time Impact Analysis submittal must include the following information:
 - a. A fragment of the portion of the schedule affected by the delay event.
 - b. A narrative explanation of the delay issue and how it impacted the schedule.
 - c. A schedule file used to perform the Time Impact Analysis.
- D. When a delay to the project as a whole can be avoided by revising preferential sequencing or logic, and the Contractor chooses not to implement the revisions, the Contractor will be entitled to a time extension and no compensation for extended overhead.

- E. Indicate clearly that the Contractor has used, in full, all project float available for the Work involved in the request, including any float that may exist between the Contractor's planned completion date and the Contract completion date.
 - 1. Utilize the latest version of the Schedule Update accepted at the time of the alleged delay, and all other relevant information, to determine the adjustment of the Contract Time.
- F. Adjustment of the Contract Times will be granted only when the Contract Float has been fully utilized and only when the revised date of completion of the Work has been pushed beyond the Contract completion date.
 - 1. Adjustment of the Contract Times will be made only for the number of days that the planned completion of the work has been extended.
- G. Actual delays in activities which do not affect the critical path Work or which do not move the Contractor's planned completion date beyond the Contract completion date will not be the basis for an adjustment to the Contract Time.
- H. If completion of the project occurs within the specified Contract Time, the Contractor is not entitled to job-site or home office overhead beyond the Contractor's originally planned occupancy of the site.
- I. Notify Engineer of a request for Contract Time adjustment.
 - 1. Submit request as specified in the Contract Documents.
 - 2. In cases where the Contractor does not submit a request for Contract Time adjustment for a specific change order, delay, or Contractor request within the specified period of time, then it is mutually agreed that the particular change order, delay, or Contractor request has no time impact on the Contract completion date and no time extension is required.
- J. The Engineer will, within 30 calendar days after receipt of a Contract Time adjustment, request any supporting evidence, review the facts, and advise the Contractor in writing.
 - 1. Include the new Progress Schedule data, if accepted by the Owner, in the next monthly Schedule Update.
 - 2. When the Owner has not yet made a final determination as to the adjustment of the Contract Time, and the parties are unable to agree as to the amount of the adjustment to be reflected in the Progress Schedule, reflect that amount of time adjustment in the Progress Schedule as the Engineer may accept as appropriate for such interim purpose.
 - 3. It is understood and agreed that any such interim acceptance by the Engineer shall not be binding and shall be made only for the purpose of continuing to schedule the Work, until such time as a final determination as to any adjustment of the Contract Time acceptable to the Engineer has been made.
 - 4. Revise the Progress Schedule prepared thereafter in accordance with the final decision.

1.10 SCHEDULE PREPARATION

- A. Preparation and submittal of Progress Schedule represents Contractor's intention to execute the Work within specified time and constraints.

- B. All costs associated with schedule requirements are included in the Contract Price.
- C. During preparation of the preliminary Progress Schedule, Engineer will facilitate Contractor's efforts by answer questions regarding sequencing issues, scheduling constraints, interface points, and dependency relationships.
- D. Prepare schedule utilizing Precedence Diagramming Method (PDM).
- E. Prepare schedule utilizing activity durations in terms of working days.
 - 1. Do not exceed 15 working day duration on activities except concrete curing, submittal review, and equipment fabrication and deliveries.
 - 2. Where duration of continuous work exceeds 15 working days, subdivide activities by location, stationing, or other sub-element of the Work.
 - 3. Coordinate holidays to be observed with the Owner and incorporate them into the schedule as non-working days.
- F. Failure to include an activity required for execution of the Work does not excuse Contractor from completing the Work and portions thereof within specified times and at price specified in Contract.
 - 1. Contract requirements are not waived by failure of Contractor to include required schedule constraints, sequences, or milestones in schedule.
 - 2. Contract requirements are not waived by Owner's acceptance of the schedule. In event of conflict between accepted schedule and Contract requirements, terms of Contract govern at all times, unless requirements are waived in writing by the Owner.
- G. Reference schedule to working days with beginning of Contract Time as Day "1".
- H. Baseline Schedule and Project Completion:
 - 1. Should Contractor submit a Baseline Schedule showing project completion more than 20 working days prior to Contract completion date, Owner may issue Change Order, at no cost to Owner, revising time of performance of Work and Contract completion date to match Contractor's schedule completion date.
 - 2. Adjust accordingly any Contract milestone dates.
- I. Imposed dates and hidden logic are prohibited.
- J. Interim milestone dates, operational constraints:
 - 1. In event there are interim milestone dates and/or operational constraints set forth in Contract, show them on schedule.
 - 2. Do not use Zero Total Float constraint or Mandatory Finish Date on such Contract requirements.
- K. Contract float is for the mutual benefit of both Owner and Contractor.
 - 1. Changes to the project that can be accomplished within this available period of float may be made by Owner without extending the Contract Time, by utilizing float.
 - 2. Time extensions will not be granted nor delay damages owed until Work extends beyond currently accepted Contract completion date.

3. Likewise, Contractor may utilize float to offset delays other than delays caused by Owner.
 4. Mutual use of float can continue until all available float shown by schedule has been utilized by either Owner or Contractor, or both. At that time, extensions of the Contract Time will be granted by Owner for valid Owner-caused or third party-caused delays which affect the planned completion date and which have been properly documented and demonstrated by Contractor.
 5. Non-sequestering of float: Pursuant to float sharing requirements of Contract, schedule submittals can be rejected for, use of float suppression techniques such as preferential sequencing or logic, special lead or lag logic restraints, extended activity durations or imposed dates.
- L. Resource loading and leveling:
1. Input labor data on each schedule activity.
 2. Manpower data consists of the man-hours estimated to perform each task, categorized by trade.
 3. Provide leveled manpower requirements.
 - a. Availability of the resources drive activity duration.
- M. Schedule logic:
1. Assembled to show order in which Contractor proposes to carry out Work, indicate restrictions of access, availability of Work areas, and availability and use of manpower, materials, and equipment.
 2. Form basis for assembly of schedule logic on the following criteria:
 - a. Which activities must be completed before subsequent activities can be started?
 - b. Which activities can be performed concurrently?
 - c. Which activities must be started immediately following completed activities?
 - d. What major facility, equipment, or manpower restrictions are required for sequencing these activities?

1.11 NETWORK DETAILS AND GRAPHICAL OUTPUT

- A. Produce a clear, legible, and accurate calendar based, time scaled, and graphical network diagram.
 1. Group activities related to the same physical areas of the Work. Produce the network diagram based upon the early start of all activities.
- B. Include for each activity, the description, activity number, estimated duration in working days, total float, and all activity relationship lines.
- C. Illustrate order and interdependence of activities and sequence in which Work is planned to be accomplished.
 1. Incorporate the basic concept of the precedence diagram network method to show how the start of 1 activity is dependent upon the start or completion of preceding activities and its completion restricts the start of following activities.
- D. Provide schedule showing the critical path for the project.
 1. Critical Path is defined as a sequence of activities that has zero total float.

- E. Provide report of Near Critical Path activities for the project, when required by Engineer.
 - 1. Near Critical Path activities are those with 15 working days or less of float.
- F. Delineate the specified contract duration and identify the planned completion of the Work as a milestone.
 - 1. Show the time period between the planned and Contract completion dates, if any, as an activity identified as project float.
- G. Identify system shutdown dates, system tie-in dates, specified interim completion or milestone dates and contract completion date as milestones.
- H. Include, in addition to construction activities:
 - 1. Submission dates and review periods for major equipment submittals, shoring submittals, and indicator pile program.
 - 2. Any activity by the Owner or the Engineer that may affect progress or required completion dates.
 - 3. Equipment and long-lead material deliveries over 8 weeks.
 - 4. Approvals required by regulatory agencies or other third parties.
- I. Produce network diagram on 22-inch by 34-inch sheets with grid coordinate system on the border of all sheets utilizing alpha and numeric designations.
- J. Identify the execution of the following:
 - 1. Mobilization.
 - 2. All required submittals and submittal review times showing 30 calendar day duration for such activities and equal amount of time for re-submittal reviews.
 - 3. Equipment and materials procurement/fabrication/delivery.
 - 4. Excavation.
 - 5. Backfill and compaction.
 - 6. Metal fastenings, framing, structures, and fabrications.
 - 7. Finishes including coating and painting.
 - 8. Trench backfill and compaction.
 - 9. Substantial completion.
 - 10. Punch list work.
 - 11. Demobilization.

1.12 WEATHER DAY ALLOWANCE

- A. Definition:
 - 1. Weather conditions that prevent or inhibit the Contractor's performance of the Work and affect the Critical Path indicated on the Schedule shall be referred to as a Weather Day.
 - 2. A Weather Day is defined as the Contractor being unable to perform at least 4 hours of work on the Critical Path.
- B. Allowance:
 - 1. Include as a separate identifiable activity on the critical path, an activity labeled "Weather Days Allowance".

- C. Actual weather day:
 - 1. Insert a weather delay activity in critical path to reflect actual weather day occurrences when weather days are experienced and accepted by Engineer.
 - 2. Reduce duration of Weather Days Allowance activity as weather delays are experienced and inserted into the Schedule. Remaining weather days in Weather Day Allowance at completion of project is considered float.
 - 3. The Contractor shall provide a written notice to the Engineer of the occurrence of a weather day within 2 days after the onset of such weather and shall describe in reasonable detail the type of weather encountered and the Work interfered with or interrupted.
 - a. A schedule update will not suffice as a written notice.
 - b. The Engineer will determine if the weather day constitutes a use of a portion of the Weather Day Allowance.
 - c. After use of all the Weather Day Allowance, the Engineer will determine if the Contractor is entitled to an extension of the Contract Time due to weather conditions.
 - d. Weather days are considered excusable delay as defined in this Section.

1.13 PRELIMINARY SCHEDULE

- A. Procedure:
 - 1. Submit proposed Preliminary Schedule within 14 calendar days after Notice to Proceed.
 - 2. Meet with Engineer within 7 calendar days after receipt of Preliminary Schedule to review and make necessary adjustments.
 - 3. Submit revised Preliminary Schedule within 5 calendar days after meeting.
 - 4. Update Preliminary Schedule monthly until the Baseline Schedule is accepted.
- B. Format:
 - 1. Simplified Gantt chart.
- C. Activities:
 - 1. Define activities to be completed in the first 30 calendar days of Work.
 - 2. Actualize activities performed during the first 30 days into the first monthly schedule update.

1.14 PRELIMINARY SCHEDULE OF VALUES

- A. Preliminary Schedule of Values as specified in Section 01292 - Schedule of Values.
- B. Procedure:
 - 1. Submit proposed Preliminary Schedule of Values within 14 calendar days after Notice to Proceed.
 - 2. Meet with Engineer within 7 calendar days after receipt of Preliminary Schedule of Values to review and make necessary adjustments.
 - 3. Submit revised Preliminary Schedule of Values within 5 calendar days after meeting.

1.15 WORK WITHIN THE FIRST 30 DAYS

- A. Proceed with Work after Preliminary Schedule and Preliminary Schedule of Values have been accepted by Owner.
- B. Submittal and acceptance of Preliminary Schedule and Preliminary Schedule of Values is condition precedent to making of progress payments and payments for mobilization costs otherwise provided for in the Contract.

1.16 SCHEDULE OF SUBMITTALS

- A. Schedule of Submittals shall include submittals required in the Contract Documents but not limited to test plans, training plans, test procedures, operation and maintenance manuals, shop drawings, samples, record documents, and specifically required certificates, warranties, and service agreements.
 - 1. Data for "Or Equals" or substitutions shall be submitted with the Schedule of Submittals.
- B. Preliminary Schedule of Submittals:
 - 1. Due date: Within 14 calendar days after Notice to Proceed.
 - 2. Format:
 - a. Include submittals anticipated in the first 30 calendar days after award of contract using early start dates.
 - b. Indicate week and month anticipated for submittal to Engineer.
 - c. Indicate "Priority" submittals where review time can impact Contractor's schedule.
 - 1) "Priority" indication will not alter review times specified in Section 01330 - Submittal Procedures.
 - 2) Engineer will endeavor to provide early review of "Priority" submittals where possible.
 - d. List of "Or Equals" or substitutions.
 - 3. Submittal of Preliminary Schedule of Submittals shall be a condition precedent to Owner making progress payments during the first 90 calendar days after award of contract.
- C. Final Schedule of Submittals:
 - 1. Due date: 7 days after Baseline Schedule has been submitted and accepted by Owner.
 - 2. Format:
 - a. Include submittals using early start dates.
 - b. Include all submittals, including those required in the Preliminary Schedule of Submittals.
 - c. Indicate week and month anticipated for submittal to Engineer.
 - d. Indicate "Priority" submittals where review time can impact Contractor's schedule.
 - 1) "Priority" indication will not alter review times specified in Section 01330 - Submittal Procedures.
 - 2) Engineer will endeavor to provide early review of "Priority" submittals where possible.
 - e. Data for "Or Equals" or substitutions.

3. Submittal of Final Schedule of Submittals shall be a condition precedent to Owner making progress payments after the first 60 calendar days after Notice to Proceed.
- D. Provide updated Schedule of Submittals with updated schedules if schedule revisions change listing and timing of submittals.

1.17 BASELINE SCHEDULE AND BASELINE SCHEDULE OF VALUES

- A. Due date: No more than 30 calendar days after Notice to Proceed.
- B. Format:
 1. Schedule: Show sequence and interdependence of all activities required for complete performance of all Work, beginning with date of Notice to Proceed and concluding with date of final completion of Contract.
 2. Schedule of Values: As specified in Section 01292 - Schedule of Values.

1.18 SUMMARY SCHEDULE

- A. Due date: At weekly progress meetings and after each Schedule Update or Schedule Revision.
- B. Format:
 1. Consolidate groups of activities associated with Major Items of Work shown on Baseline Schedule.
 2. Intended to give an overall indication of the project schedule without a large amount of detail.

1.19 PROGRESS SCHEDULE AND UPDATED SCHEDULE OF VALUES

- A. Due date: Submit on a monthly basis.
- B. Format: Schedule of Values: As specified in Section 01292 - Schedule of Values.

1.20 WEEKLY SCHEDULE

- A. Due date: At every weekly progress meeting.
- B. Format:
 1. Contractor and Engineer must agree on the format.
 2. 6-Week Schedule showing the activities completed during the previous week and the Contractor's schedule of activities following 5 weeks.
 3. Use the logic and conform to the status of the current progress schedule when producing a Weekly Schedule in CPM schedule or a bar chart format.
 - a. In the event that the Weekly Schedule no longer conforms to the current schedule, Contractor may be required to revise the schedule as specified in this Section.
 4. The activity designations used in the Weekly Schedule must be consistent with those used in the Baseline Schedule and the monthly Schedule Updates.

1.21 LABOR HISTOGRAM

- A. Due date:
 - 1. With progress payments after Baseline Schedule has been submitted and accepted by Owner.
- B. Format:
 - 1. Labor histogram depicting total craft manpower and craft manpower for Contractor's own labor forces and those of each subcontractor.
 - 2. Submit in electronic format.

1.22 FINAL SCHEDULE

- A. The final Schedule Update becomes the As-Built Schedule.
 - 1. The As-Built Schedule reflects the exact manner in which the project was constructed by reflecting actual start and completion dates for all activities accomplished on the project.
 - 2. Contractor's Project Manager and scheduler sign and certify the As-Built Schedule as being an accurate record of the way the project was actually constructed.
- B. Retainage will not be released until final Schedule Update is provided.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION (NOT USED)

END OF SECTION

SECTION 01330
SUBMITTAL PROCEDURES

PART 1 GENERAL

1.01 SUMMARY

- A. Section includes: Requirements and procedures for submittals to confirm compliance with Contract Documents.

1.02 GENERAL INSTRUCTIONS

- A. Contractor is responsible to determine and verify field measurements, field construction criteria, materials, dimensions, catalog numbers and similar data, and check and coordinate each item with other applicable approved shop drawings and Contract Document requirements.
- B. Provide submittals:
 - 1. That are specified or reasonably required for construction, operation, and maintenance of the Work.
 - 2. That demonstrate compliance with the Contract Documents.
- C. Where multiple submittals are required, provide a separate submittal for each specification section.
 - 1. In order to expedite construction, the Contractor may make more than 1 submittal per specification section, but a single submittal may not cover more than 1 specification section:
 - a. The only exception to this requirement is when 1 specification section covers the requirements for a component of equipment specified in another section.
 - b. For example, circuit breakers are a component of switchgear. The switchgear submittal must also contain data for the associated circuit breakers, even though they are covered in a different specification section.
- D. Prepare submittals in the English language. Do not include information in other languages.
- E. Present measurements in customary American units (feet, inches, pounds, etc.).
- F. Must be clear and legible, and of sufficient size for presentation of information.
- G. Page size other than drawings:
 - 1. Minimum page size will be 8 1/2 inches by 11 inches.
 - 2. Maximum page size will be 11 inches by 17 inches.

- H. Drawing sheet size:
 - 1. Maximum sheets size: 24-inch by 36-inch.
 - a. Minimum plan scale: 1/8-inch equals 1 foot-0 inches.
 - b. Minimum font size: 1/8 inch minimum.
 - 2. 11-inch by 17-inch sheet:
 - a. Minimum plan scale: 1/8-inch equals 1 foot-0 inches.
 - b. Minimum font size: 1/8 inch minimum.
- I. Show dimensions, construction details, wiring diagrams, controls, manufacturers, catalog numbers, and all other pertinent details.
- J. Provide submittal information from only 1 manufacturer for a specified product. Submittals with multiple manufacturers for 1 product will be rejected without review.

1.03 SUBMITTAL ORGANIZATION

- A. Organize submittals in exactly the same order as the items are referenced, listed, and/or organized in the specification section.
- B. For submittals that cover multiple devices used in different areas under the same specification section, the submittal for the individual devices must list the area where the device is used.
- C. Bookmarks:
 - 1. Bookmarks shall match the table of contents.
 - 2. Bookmark each section (tab) and heading.
 - 3. Drawings: Bookmark at a minimum, each discipline, area designation, or appropriate division.
 - 4. At file opening, display all levels of bookmarks as expanded.
- D. Where applicable (i.e., except for drawings, figures, etc.) submittal content shall be electronically searchable utilizing the PDF file as submitted.
- E. Thumbnails optimized for fast web viewing.
- F. Sequentially number pages within the tabbed sections:
 - 1. Submittals that are not fully indexed and tabbed with sequentially numbered pages, or are otherwise unacceptable, will be returned without review.
- G. Attachments:
 - 1. Specification section: Include with each submittal a copy of the relevant specification section.
 - a. Indicate in the left margin, next to each pertinent paragraph, either compliance with a check (✓) or deviation with a consecutive number (1, 2, 3).
 - b. Provide a list of all numbered deviations with a clear explanation and reason for the deviation.
 - 2. Drawings: Include with each submittal a copy of the relevant Drawing, including relevant addendum updates.
 - a. Indicate either compliance with a check (✓) or deviation with a consecutive number (1, 2, 3).

- b. Provide a list of all numbered deviations with a clear explanation and reason for the deviation.
 - c. Provide field dimensions and relationship to adjacent or critical features of the Work or materials.
- H. Contractor: Prepare submittal information in sufficient detail to show compliance with specified requirements.
 - 1. Determine and verify quantities, field dimensions, product dimensions, specified design and performance criteria, materials, catalog numbers, and similar data.
 - 2. Coordinate submittal with other submittals and with the requirements of the Contract Documents.
 - 3. Check, verify, and revise submittals as necessary to bring them into conformance with Contract Documents and actual field conditions.
- I. Contractor: Prepare "Or Equal" submittal information.
 - 1. Provide standard submittal requirements.
 - a. In addition, provide in sufficient detail to show reason for variance from specified product and impacts.
 - 2. Provide reason the specified product is not being provided.
 - 3. Explain the benefits to the Owner for accepting the "Or Equal".
 - 4. Itemized comparison of the proposed "Or Equal" with product specified including a list of significant variations:
 - a. Design features.
 - b. Design dimensions.
 - c. Installation requirements.
 - d. Operations and maintenance requirements.
 - e. Availability of maintenance services and sources of replacement materials.
 - 5. Reference projects where the product has been successfully used:
 - a. Name and address of project.
 - b. Year of installation.
 - c. Year placed in operation.
 - d. Name of product installed.
 - e. Point of contact: Name and phone number.
 - 6. Define impacts:
 - a. Impacts to other contracts.
 - b. Impacts to other work or products.
 - 7. Contractor represents the following:
 - a. Contractor bears the burden of proof of the equivalency of the proposed "Or Equal".
 - b. Proposed "Or Equal" is equal or superior to the specified product.
 - c. Contractor will provide the warranties or bonds that would be provided on the specified product on the proposed "Or Equal", unless Owner requires a Special Warranty.
 - d. Contractor will coordinate installation of accepted "Or Equal" into the Work and will be responsible for the costs to make changes as required to the Work.
 - e. Contractor waives rights to claim additional costs caused by proposed "Or Equal" which may subsequently become apparent.

- J. Contractor: Prepare substitution submittal information.
1. Provide standard submittal requirements.
 - a. In addition, provide in sufficient detail to show reason for variance from specified product and impacts.
 2. Provide reason the specified product is not being provided.
 3. Explain the benefits to the Owner for accepting the substitution.
 4. Itemized comparison of the proposed substitution with product specified including a list of significant variations:
 - a. Design features.
 - b. Design dimensions.
 - c. Installation requirements.
 - d. Operations and maintenance requirements.
 - e. Availability of maintenance services and sources of replacement materials.
 5. Reference projects where the product has been successfully used:
 - a. Name and address of project.
 - b. Year of installation.
 - c. Year placed in operation.
 - d. Name of product installed.
 - e. Point of contact: Name and phone number.
 6. Define impacts:
 - a. Impacts to Contract Price.
 - 1) Required license fees or royalties.
 - 2) Do not include costs under separate contracts.
 - 3) Do not include Engineer's costs for redesign or revision of Contract Documents.
 - b. Impacts to Contract Time.
 - c. Impacts to Contract Scope.
 - d. Impacts to other contracts.
 - e. Impacts to other work or products.
 7. Contractor represents the following:
 - a. Contractor shall pay associated costs for Engineer to evaluate the substitution.
 - b. Contractor bears the burden of proof of the equivalency of the proposed substitution.
 - c. Proposed substitution does not change the design intent and will have equal performance to the specified product.
 - d. Proposed substitution is equal or superior to the specified product.
 - e. Contractor will provide the warranties or bonds that would be provided on the specified product on the proposed substitution, unless Owner requires a Special Warranty.
 - f. Contractor will coordinate installation of accepted substitution into the Work and will be responsible for the costs to make changes as required to the Work.
 - g. Contractor waives rights to claim additional costs caused by proposed substitution which may subsequently become apparent.

1.04 SUBMITTAL IDENTIFICATION NUMBERING

A. Number each submittal using the format defined below:

	Spec Section Number	Dash	Initial Submittal - Sequential Number	Decimal Point	Subsequent Submittal Revisions Sequential Number
<i>Example 1 Description</i>	<i>Cast-In-Place Concrete</i>		<i>8th initial submittal</i>		
	03300	-	0008		
<i>Example 2 Description</i>	<i>Cast-In-Place Concrete</i>		<i>8th initial submittal</i>		<i>First revision to the 8th initial submittal</i>
	03300	-	0008	.	1

1.05 SUBMITTALS IN ELECTRONIC MEDIA FORMAT

- A. General: Provide all information in PC-compatible format using Windows® operating system as utilized by the Owner and Engineer.
- B. Text: Provide text documents and manufacturer's literature in Portable Document Format (PDF).
- C. Graphics: Provide graphic submittals (drawings, diagrams, figures, etc.) utilizing Portable Document Format (PDF).

1.06 SUBMITTAL PROCEDURE

- A. Engineer: Review submittal and provide response:
 - 1. Review description:
 - a. Engineer will be entitled to rely upon the accuracy or completeness of designs, calculations, or certifications made by licensed professionals accompanying a particular submittal whether or not a stamp or seal is required by Contract Documents or Laws and Regulations.
 - b. Engineer's review of submittals shall not release Contractor from Contractor's responsibility for performance of requirements of Contract Documents. Neither shall Engineer's review release Contractor from fulfilling purpose of installation nor from Contractor's liability to replace defective work.
 - c. Engineer's review of shop drawings, samples, or test procedures will be only for conformance with design concepts and for compliance with information given in Contract Documents.
 - d. Engineer's review does not extend to:
 - 1) Accuracy of dimensions, quantities, or performance of equipment and systems designed by Contractor.

- 2) Contractor's means, methods, techniques, sequences, or procedures except when specified, indicated on the Drawings, or required by Contract Documents.
 - 3) Safety precautions or programs related to safety which shall remain the sole responsibility of the Contractor.
 - e. Engineer can Approve or Not Approve any exception at their sole discretion.
- 2. Review timeframe:
 - a. Except as may be provided in technical specifications, a submittal will be returned within 14 days.
 - b. When a submittal cannot be returned within the specified period, Engineer will, within a reasonable time after receipt of the submittal, give notice of the date by which that submittal will be returned.
 - c. Engineer's acceptance of progress schedule containing submittal review times less than those specified or agreed to in writing by Engineer will not constitute Engineer's acceptance of review times.
 - d. Critical submittals:
 - 1) Contractor will notify Engineer in writing that timely review of a submittal is critical to the progress of Work.
- 3. Schedule delays:
 - a. No adjustment of Contract Times or Contract Price will be allowed due to Engineer's review of submittals, unless all of the following criteria are met:
 - 1) Engineer has failed to review and return first submission within the agreed upon time frame.
 - 2) Contractor demonstrates that delay in progress of Work is directly attributable to Engineer's failure to return submittal within time indicated and accepted by Engineer.
- 4. Review response will be returned to Contractor with one of the following dispositions:
 - a. Approved:
 - 1) No Exceptions:
 - a) There are no notations or comments on the submittal and the Contractor may release the equipment for production.
 - 2) Make Corrections Noted - See Comments:
 - a) The Contractor may proceed with the Work, however, all notations and comments must be incorporated into the final product.
 - b) Resubmittal not required.
 - 3) Make Corrections Noted - Confirm:
 - a) The Contractor may proceed with the Work, however, all notations and comments must be incorporated into the final product.
 - b) Submit confirmation specifically addressing each notation or comment to the Engineer within 15 calendar days of the date of the Engineer's transmittal requiring the confirmation.
 - b. Not approved:
 - 1) Correct and resubmit:
 - a) Contractor may not proceed with the Work described in the submittal.
 - b) Contractor assumes responsibility for proceeding without approval.

- c) Resubmittal of complete submittal package is required within 30 calendar days of the date of the Engineer's submittal review response.
 - 2) Rejected - See Remarks:
 - a) Contractor may not proceed with the Work described in the submittal.
 - b) The submittal does not meet the intent of the Contract Documents. Resubmittal of complete submittal package is required with materials, equipment, methods, etc. that meet the requirements of the Contract Documents.
 - c. Receipt acknowledged - Filed for record:
 - 1) This is used in acknowledging receipt of informational submittals that address means and methods of construction such as schedules and work plans, conformance test reports, health and safety plans, etc.
 - d. Receipt acknowledged with comments - Resubmit:
 - 1) This is used in acknowledging receipt of informational submittals that address means and methods of construction such as schedules and work plans, conformance test reports, health and safety plans, etc. Feedback regarding missing information, conflicting information, or other information that makes it incomplete can be made with comments.
- B. Contractor: Prepare resubmittal, if applicable:
 - 1. Clearly identify each correction or change made.
 - 2. Include a response in writing to each of the Engineer's comments or questions for submittal packages that are resubmitted in the order that the comments or questions were presented from the first and subsequent submittals and numbered consistent with the Engineer's numbering.
 - a. Acceptable responses to Engineer's comments are listed below:
 - 1) "Incorporated" Engineer's comment or change is accepted and appropriate changes are made.
 - 2) "Response" Engineer's comment not incorporated. Explain why comment is not accepted or requested change is not made. Explain how requirement will be satisfied in lieu of comment or change requested by Engineer.
 - b. Reviews and resubmittals:
 - 1) Contractor shall provide resubmittals which include responses to all submittal review comments separately and at a level of detail commensurate with each comment.
 - 2) Contractor responses shall indicate how the Contractor resolved the issue pertaining to each review comment:
 - a) Responses such as "acknowledged" or "noted" are not acceptable.
 - 3) Resubmittals which do not comply with this requirement may be rejected and returned without review.
 - 4) Contractor shall be allowed no extensions of any kind to any part of their contract due to the rejection of non-compliant submittals.
 - 5) Submittal review comments not addressed by the Contractor in resubmittals shall continue to apply whether restated or not in subsequent reviews until adequately addressed by the Contractor to the satisfaction of the reviewing and approving authority.

- c. Any resubmittal that does not contain responses to the Engineer's previous comments shall be returned for Revision and Resubmittal. No further review by the Engineer will be performed until a response for previous comments has been received.
- 3. Resubmittal timeframe:
 - a. Contractor shall provide resubmittal within 15 days.
 - b. When a resubmittal cannot be returned within the specified period, Contractor shall notify Engineer in writing.
- 4. Review costs:
 - a. Costs incurred by Owner as a result of additional reviews of a particular submittal after the second time it has been reviewed shall be borne by Contractor.
 - b. Reimbursement to Owner will be made by deducting such costs from Contractor's subsequent progress payments.

1.07 PRODUCT DATA

- A. Edit submittals so that the submittal specifically applies to only the product furnished.
- B. Neatly cross out all extraneous text, options, models, etc. that do not apply to the product being furnished, so that the information remaining is only applicable to the product being furnished.

1.08 SHOP DRAWINGS

- A. Contractor to field verify elevation, coordinates, and pipe material for pipe tie-in to pipeline or structure prior to the preparation of shop drawings.
- B. Indicate project designated equipment tag numbers for submittal of devices, equipment, and assemblies.

1.09 SAMPLES

- A. Details:
 - 1. Submit labeled samples.
 - 2. Samples will not be returned.
 - 3. Provide number of sample submittals as below:
 - a. Total: 3 minimum.
 - 1) Owner: 1.
 - 2) Engineer: 2.
 - 3) Contractor: None.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION (NOT USED)

END OF SECTION

ATTACHMENT A - CONTRACTOR SUBMITTAL TRANSMITTAL FORM

CONTRACTOR SUBMITTAL TRANSMITTAL FORM

Owner:	<u>Click here to enter text.</u>	Date:	<u>MM/DD/YYYY</u>
Contractor:	<u>Click here to enter text.</u>	Project No.:	<u>XXXXX.XX</u>
Project Name:	<u>Click here to enter text.</u>	Submittal Number:	<u>000</u>
Submittal Title:	<u>Click here to enter text.</u>		
To:	<u>Click here to enter text.</u>		
From:	<u>Click here to enter text.</u>	<u>Click here to enter text.</u>	
	<u>Click here to enter text.</u>	<u>Click here to enter text.</u>	

Specification No. and Subject of Submittal / Equipment Supplier			
Spec ##:	Spec ##.	Subject:	Click here to enter text.
Authored By:	Click here to enter text.		Date Submitted: XX/XX/XXXX

Submittal Certification		
Check Either (A) or (B):		
☐	(A)	We have verified that the equipment or material contained in this submittal meets all the requirements specified in the project manual or shown on the contract drawings with no exceptions.
☐	(B)	We have verified that the equipment or material contained in this submittal meets all the requirements specified in the project manual or shown on the contract drawings except for the deviations listed.
Certification Statement: By this submittal, I hereby represent that I have determined and verified all field measurements, field construction criteria, materials, dimensions, catalog numbers and similar data, and I have checked and coordinated each item with other applicable approved shop drawings and all Contract requirements.		
General Contractor's Reviewer's Signature:		
Printed Name:		
In the event, Contractor believes the Submittal response does or will cause a change to the requirements of the Contract, Contractor shall immediately give written notice stating that Contractor considers the response to be a Change Order.		
Firm:	Signature:	Date Returned:
Click here to enter text.		XX/XX/XXXX

PM/CM Office Use	
Date Received GC to PM/CM:	
Date Received PM/CM to Reviewer:	
Date Received Reviewer to PM/CM:	
Date Sent PM/CM to GC:	

SECTION 01340

PHOTOGRAPHIC AND VIDEOGRAPHIC DOCUMENTATION

PART 1 GENERAL

1.01 SUMMARY

- A. Section includes:
 - 1. Requirements for photographs and videos.
- B. The purpose of the photographs and videos is to document the condition of the facilities prior to the Contractor beginning work at the Project site, the progress of the Work, and the Project site after Substantial Completion of the Work.
- C. The scope of the photographic and videographic documentation shall be the sole responsibility of the Contractor but shall be acceptable to the Engineer.

1.02 SUBMITTALS

- A. Photographer qualifications.
- B. Pre-construction photographs and videos: Submit prior to beginning work at the Project site or prior to the Preconstruction Conference specified in Section 01312 - Project Meetings, whichever occurs earlier.
- C. Construction photographs and videos: Submit with each application for payment.
- D. Post-construction photographs and videos: Submit with project closeout documents as specified in Section 01770 - Closeout Procedures.

1.03 PHOTOGRAPHER

- A. Photographer qualified and equipped to photograph either interior or exterior exposures, with lenses ranging from wide angle to telephoto.
- B. Submit example work of previous photographs and video recording meeting the requirements of this Section.
 - 1. Provide to Engineer no later than the pre-construction conference.
 - 2. Provide photographs used for site examination.
 - 3. Provide video of site examination.
 - 4. Provide samples that used same camera and lighting equipment proposed for the Work.
 - 5. Engineer will review work examples to determine if the quality of the images is acceptable.
 - 6. Contractor is responsible for modifications to equipment and/or inspection procedures to achieve report material of acceptable quality.
 - 7. Do not commence Work prior to approval of the material by the Engineer.
 - 8. Once accepted, the standard report material shall serve as a standard for the remaining work.

1.04 KEY PLAN

- A. Submit key plan of Project site with notation of vantage points marked for location and direction of each photograph.
- B. Include the same label information as the corresponding set of photographs.

1.05 PHOTOGRAPHS

- A. Provide prints of each photograph for each area of Work.
- B. Provide a digital copy of each photograph for each area of Work.
 - 1. Monthly: Indexed digital flash drive.
 - 2. Project record documents:
 - a. Catalog and index prints in chronological sequence.
 - b. Include typed table of contents.

1.06 PRE-CONSTRUCTION PHOTOGRAPHS AND VIDEOS

- A. Provide photographs and video of the condition entire site including each area of Work prior to the start of Work.
 - 1. Areas to be photographed and videoed shall include the site of the Work and all existing facilities, either on or adjoining the Project site, including the interior of existing structures that could be damaged as a result of the Contractor's Work.
 - 2. Include general condition, structures, vegetation, staging, storing, working, parking areas and excavation areas.

1.07 CONSTRUCTION PHOTOGRAPHS AND VIDEOS

- A. Provide photographs and videos of construction in each area of Work throughout progress of Work including a key plan designating where each photograph was taken.
- B. Take site and interior photographs and videos from differing directions of building demolition, pre-excavation, footing excavation, soil testing, utility crossings, installation of bypass piping, excavation of access pits, installation of lining system in pipes, rehabilitation of manholes, building modifications, utilities, electrical and instrumentation modifications, and other applicable activities indicating relative progress of the work.
- C. Take photos a maximum of 7 calendar days prior to Submittal.

1.08 POST-CONSTRUCTION PHOTOGRAPHS AND VIDEOS

- A. Provide photographs of the entire site including each area of Work at the completion of Work.
 - 1. Include general condition, structures, vegetation, staging, storing, working, parking areas and excavation areas.
 - 2. Take photos and video from same points in same direction as pre-construction examination.
- B. Submittal of photos and videos is a condition of final payment.

PART 2 PRODUCTS

2.01 MEDIA

- A. Paper media:
 - 1. Commercial grade, glossy surface, acid-free photographic paper.
 - 2. Submit 3 prints of each photographic view within 7 days of taking photographs.
 - 3. Format:
 - a. Ground photos: Color, matte finish, 8-1/2-inch by 11-inch size, mounted on soft card stock.
 - b. Aerial photos: Color, matte finish, 11-inch by 17-inch size, mounted on soft card stock.
 - c. Mount each print in a separate, archival type, non-glare, 3-hole punched protector.
 - 4. Identification: On photograph, provide the following information:
 - a. Name of project.
 - b. Date stamp: Unless otherwise indicated, date and time stamp each photograph as it is being taken so stamp is integral to photograph.
 - c. Description of vantage point, indicating location and direction by compass point.
 - 5. Provide a suitably sized 3-ring binder for each set of prints.
 - a. Furnish binders in sufficient quantities to hold entire set of prints taken for the duration of the Contract.
 - b. Label binder spine and front with project name.
- B. Digital media:
 - 1. Flash drive compatible with current Microsoft Windows.
 - 2. Provide photos as individual, indexed JPG files with the following characteristics:
 - a. Compression shall be set to preserve quality over file size.
 - b. Highest resolution JPG images shall be submitted. Resizing to a smaller size when high resolution JPGs are available shall not be permitted.
 - c. JPG image resolution shall be 5 megapixels at 2,400 by 1,800 or higher.
 - d. Images shall have rectangular, clean images. Artistic borders, beveling, drop shadows, etc., are not permitted.
 - 3. Identification: On photograph, provide the following information:
 - a. Name of project.
 - b. Date stamp: Unless otherwise indicated, date and time stamp each photograph as it is being taken so stamp is integral to photograph.
 - c. Description of vantage point, indicating location and direction by compass point.
- C. Videos:
 - 1. Video quality shall be 720p HD or greater in MPG, AVCHD, AVI, or MP4 format.
 - 2. Digital color video format.
 - 3. Provide audio portion of the composite video sufficiently free from electrical interference and background noise to provide complete intelligibility of oral report.
 - 4. Identification: On each copy provide a label with the following information:
 - a. Name of project.
 - b. Date video was recorded.
 - 5. Submit 1 copy of each video within 7 days of recording.

6. Display continuous running time.
7. At start of each video recording, record weather conditions from local newspaper or television and the actual temperature reading at Project site.

PART 3 EXECUTION (NOT USED)

END OF SECTION

SECTION 01410
REGULATORY REQUIREMENTS

PART 1 GENERAL

1.01 SUMMARY

- A. Section includes: Regulatory authorities and codes.

1.02 AUTHORITIES HAVING JURISDICTION (AHJ)

- A. Also referred to as the permitting agency.
- B. Building Department: City of Roseville.
- C. Fire Department: South Placer Fire District.

1.03 APPLICABLE CODES

- A. Products in contact with drinking water:
1. Materials in contact with drinking waters: In accordance with NSF 61 and NSF 372.
 - a. Certification by an independent ANSI accredited third party, including, but not limited to, NSF International, as being lead free.
 2. Materials in contact with drinking waters: In accordance with California Health and Safety Code, Section 116875.
- B. California Code of Regulations (CCR), California Building Standards Code, CCR Title 24:
1. Building code:
 - a. California Building Code (CBC), Title 24, Part 2 – 2019.
 2. Electrical code:
 - a. California Electrical Code (CEC), Title 24, Part 3 – 2019.
 3. Mechanical code:
 - a. California Mechanical Code (CMC), Title 24, Part 4 – 2019.
 4. Plumbing code:
 - a. California Plumbing Code (CPC), Title 24, Part 5 – 2019.
 5. Energy code:
 - a. California Energy Code (CEC), Title 24, Part 6 – 2019.
 6. Historical building code:
 - a. California Historical Building Code (CHBC), Title 24, Part 8 – 2019.
 7. Fire code:
 - a. California Fire Code (CFC), Title 24, Part 9 – 2019.
 8. Existing building code:
 - a. California Existing Building Code (CEBC), Title 24, Part 10 – 2019.
 9. Green building standards code:
 - a. California Green Building Standards Code (CALGreen), Title 24, Part 11 – 2019.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION (NOT USED)

END OF SECTION

SECTION 01450
QUALITY CONTROL

PART 1 GENERAL

1.01 SUMMARY

- A. Section includes:
 - 1. Quality control and control of installation.
 - 2. Tolerances.
 - 3. References.
 - 4. Mock-up requirements.
 - 5. Authority and duties of Owner's representative or inspector.
 - 6. Sampling and testing.
 - 7. Testing and inspection services.
 - 8. Contractor's responsibilities.

1.02 QUALITY CONTROL AND CONTROL OF INSTALLATION

- A. Monitor quality control over suppliers, manufacturers, products, services, site conditions, and workmanship, to produce Work of specified quality.
- B. Comply with manufacturers' instructions, including each step in sequence.
- C. When manufacturers' instructions conflict with Contract Documents, request clarification from Engineer before proceeding.
- D. Comply with specified standards as minimum quality for the Work except where more stringent tolerances, codes, or specified requirements indicate higher standards or more precise workmanship.
- E. Perform Work by persons qualified to produce required and specified quality.
- F. Verify field measurements are as indicated on Shop Drawings or as instructed by manufacturer.
- G. Secure products in place with positive anchorage devices designed and sized to withstand stresses, vibration, physical distortion, or disfigurement.
- H. When specified, products will be tested and inspected either at point of origin or at Work site:
 - 1. Notify Engineer in writing well in advance of when products will be ready for testing and inspection at point of origin.
 - 2. Do not construe that satisfactory tests and inspections at point of origin is final acceptance of products. Satisfactory tests or inspections at point of origin do not preclude retesting or re-inspection at Work site.
- I. Do not ship products which require testing and inspection at point of origin prior to testing and inspection.

1.03 TOLERANCES

- A. Monitor fabrication and installation tolerance control of products to produce acceptable Work. Do not permit tolerances to accumulate.
- B. Comply with manufacturers' tolerances. When Manufacturers' tolerances conflict with Contract Documents, request clarification from Engineer before proceeding.
- C. Adjust products to appropriate dimensions; position before securing products in place.

1.04 REFERENCES

- A. ASTM International (ASTM):
 - 1. E329 - Standard for Agencies Engaged in Construction Inspection, Testing or Special Inspection.
- B. National Institute of Standards and Technology (NIST).

1.05 PRODUCT REQUIREMENTS

- A. For products or workmanship specified by association, trade, or other consensus standards, comply with requirements of standard, except when more rigid requirements are specified or are required by applicable codes.
- B. Conform to reference standard by date of issue current on date of Contract Documents, except where specific date is established by code.
- C. Obtain copies of standards where required by product specification sections.
- D. When specified reference standards conflict with Contract Documents, request clarification from Engineer before proceeding.

1.06 AUTHORITY AND DUTIES OF OWNER'S REPRESENTATIVE OR INSPECTOR

- A. Owner's Project Representative employed or retained by Owner is authorized to inspect the Work.
- B. Inspections may extend to entire or part of the Work and to preparation, fabrication, and manufacture of products for the Work.
- C. Deficiencies or defects in the Work which have been observed will be called to Contractor's attention.
- D. Inspector will not:
 - 1. Alter or waive provisions of Contract Documents.
 - 2. Inspect Contractor's means, methods, techniques, sequences, or procedures for construction.
 - 3. Accept portions of the Work, issue instructions contrary to intent of Contract Documents, or act as foreman for Contractor. Supervise, control, or direct Contractor's safety precautions or programs; or inspect for safety conditions

on Work site, or of persons thereon, whether Contractor's employees or others.

- E. Inspector will:
 - 1. Conduct on-site observations of the Work in progress to assist Engineer in determining when the Work is, in general, proceeding in accordance with Contract Documents.
 - 2. Report to Engineer whenever Inspector believes that Work is faulty, defective, does not conform to Contract Documents, or has been damaged; or whenever there is defective material or equipment; or whenever Inspector believes the Work should be uncovered for observation or requires special procedures.

1.07 SAMPLING AND TESTING

- A. General:
 - 1. Prior to delivery and incorporation in the Work, submit listing of sources of materials, when specified in sections where materials are specified.
 - 2. When specified in sections where products are specified:
 - a. Submit sufficient quantities of representative samples of character and quality required of materials to be used in the Work for testing or examination.
 - b. Test materials in accordance with standards of national technical organizations.
- B. Sampling:
 - 1. Furnish specimens of materials when requested.
 - 2. Do not use materials which are required to be tested until testing indicates satisfactory compliance with specified requirements.
 - 3. Specimens of materials will be taken for testing whenever necessary to determine quality of material.
 - 4. Assist Engineer in preparation of test specimens at site of work, such as soil samples and concrete test cylinders.

1.08 TESTING AND INSPECTION SERVICES

- A. Contractor will employ and pay for specified services of an independent firm to perform Contractor quality control testing as required in the technical specifications for various work and materials.
- B. The qualifications of laboratory that will perform the testing, contracted by the Contractor, shall be as follows:
 - 1. Has authorization to operate in the state where the project is located.
 - 2. Meets "Recommended Requirements for Independent Laboratory Qualification," published by American Council of Independent Laboratories.
 - 3. Meets requirements of ASTM E329.
 - 4. Laboratory Staff: Maintain full time specialist on staff to review services.
 - 5. Testing Equipment: Calibrated at reasonable intervals with devices of accuracy traceable to NIST or accepted values of natural physical constants.
 - 6. Will submit copy of report of inspection of facilities made by Materials Reference Laboratory of NIST during most recent tour of inspection, with memorandum of remedies of deficiencies reported by inspection.

- C. Testing, inspections, and source quality control may occur on or off project site. Perform off-site testing inspections and source quality control as required by Engineer or Owner.

1.09 CONTRACTOR'S RESPONSIBILITIES

- A. Cooperate with testing firm or laboratory personnel and provide access to construction and manufacturing operations.
- B. Secure and deliver to testing firm or laboratory adequate quantities of representative samples of materials proposed to be used and which require testing.
- C. Provide to testing firm or laboratory and Engineer preliminary mix design proposed to be used for concrete, and other materials mixes which require control by testing laboratory.
- D. Submit product test reports electronically.
- E. Furnish incidental labor and facilities:
 - 1. To provide access to construction to be tested.
 - 2. To obtain and handle samples at Work site or at source of product to be tested.
 - 3. To facilitate inspections and tests.
 - 4. For storage and curing of test samples.
- F. Notify testing firm or laboratory 48 hours in advance of when observations, inspections and testing is needed for laboratory to schedule and perform in accordance with their notice of response time.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION (NOT USED)

END OF SECTION

SECTION 01455
REGULATORY QUALITY ASSURANCE

PART 1 GENERAL

1.01 SUMMARY

- A. Section includes: This Section describes project regulatory requirements for quality assurance that includes special inspections, special certification, and structural observation.

1.02 REFERENCES

- A. American Concrete Institute (ACI):
1. 318 – Building Code Requirements for Structural Concrete.
 2. 530 – Building Code Requirements for Masonry Structures.
 3. 530.1 – Specification for Masonry Structures.
- B. American Institute of Steel Construction (AISC):
1. 360 – Specification for Structural Steel Buildings.
- C. American Society of Civil Engineers (ASCE):
1. 7 – Minimum Design Loads for Buildings and Other Structures.
- D. American Welding Society (AWS):
1. D1.3 – Structural Welding Code - Sheet Steel.
 2. D1.4 – Structural Welding Code - Reinforcing Steel.
- E. ASTM International (ASTM):
1. A706 – Standard Specification for Deformed and Plain Low-Alloy Steel Bars for Concrete Reinforcement.
 2. C31 – Standard Practice for Making and Curing Concrete Test Specimens in the Field.
 3. C172 – Standard Practice for Sampling Freshly Mixed Concrete.
 4. C1611 – Standard Test Method for Slump Flow of Self-Consolidating Concrete.
- F. California Building Code – 2022.
- G. The Masonry Society (TMS):
1. 402 – Building Code for Masonry Structures.
 2. 602 – Specifications for Masonry Structures.

1.03 DEFINITIONS

- A. Special Certification: Certification for designated seismic systems that demonstrates compliance with performance requirements.

- B. Special Inspection: Inspection of the materials, installation, fabrication, erection, or placement of components and connections requiring special expertise to ensure compliance with approved construction documents and referenced standards.
- C. Special Inspection, Continuous: The full-time observation of work requiring special inspection by an approved special inspector who is present in the area where the work is being performed.
- D. Special Inspection, Periodic: The part-time, or intermittent observation of work requiring special inspection by an approved special inspector who is present in the area where the work is being performed and at the completion of the work.

1.04 DESCRIPTION

- A. This Section describes special inspections, special certification and structural observation of structural assemblies and components to be performed in compliance with the building code specified in Section 01410 - Regulatory Requirements.
- B. The special certification and special inspections specified in this Section are in addition to the requirements specified in Section 01450 - Quality Control, and by the individual Sections.

1.05 SUBMITTALS

- A. Contractor shall submit special certifications for designated seismic systems.
- B. Contractor shall schedule and coordinate the submittal of Special Inspection reports and test results prepared by others.

1.06 SPECIAL INSPECTION

- A. Owner will employ 1 or more special inspectors who will provide special inspections during construction.
- B. Special inspector(s) shall be qualified for inspection of the particular type of materials or operations requiring special inspection.
- C. Testing laboratory: Testing that is required to satisfy the requirements of special inspection will be performed by the Owner's testing laboratory as specified in Section 01450 - Quality Control.
- D. Duties of Special Inspector:
 - 1. General: Required duties of the special inspector(s) shall be as described in Chapter 17 of the building code specified in Section 01410 - Regulatory Requirements.

2. Reporting: Special inspector(s) shall provide reports of each inspection to the Owner and shall distribute copies of inspection reports to the Engineer and Contractor as required.
 - a. Reports shall, at a minimum, include the following items:
 - 1) Date and time of inspection, and name(s) of individual(s) performing the inspection.
 - 2) Structures and areas of the structure where work or testing was observed.
 - 3) Discrepancies between the requirements of the Contract Documents and the work or testing observed.
 - 4) Other areas of deficiency in the Work.
- E. Special inspections shall not be construed as fulfilling the requirements for structural observation.
- F. Owner or special inspector are responsible to select materials for special inspection.
 1. It is not acceptable for Contractor to select materials for special inspection.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION

3.01 SPECIAL INSPECTIONS

- A. The Owner will provide special inspection of following types of work as described in in Section 1705 of the building code as specified in Section 01410 - Regulatory Requirements wherever such work occurs unless otherwise specified.
 1. Attachment A - Concrete Special Inspection Schedule.
 2. Attachment B - Structural Steel Special Inspection Schedule.
 3. Attachment C - Structural Steel Bolting Special Inspection Schedule.
 4. Attachment D - Steel Construction - Steel Deck, Open Web Steel Joists and Joist Girders, and Cold Formed Steel Trusses - Special Inspection Schedule.

3.02 SPECIAL CERTIFICATION

- A. Special inspector shall examine the designated seismic system(s) specified and determine whether the designated system components, including anchorage, are consistent with the evidence of compliance submitted for special certification.

3.03 STRUCTURAL OBSERVATION

- A. The following work requires structural observation in accordance with Section 1704.5 of the building code specified in Section 01455 - Regulatory Requirements.
 1. All structures in all areas:
 - a. Foundations.
 - b. Elevated slabs.

3.04 SCHEDULE

- A. Contractor shall allow time necessary for special inspections and structural observation specified herein.
- B. Sufficient notice shall be given so that the special inspections and structural observations can be performed. Contractor shall allow time for individuals performing special inspection and structural observation to travel to the site.

3.05 PROCEDURE

- A. The special inspector will immediately notify the Engineer of any corrections required and follow notification with appropriate documentation.
- B. Contractor shall not proceed until the work is satisfactory to the Engineer.

END OF SECTION

ATTACHMENT A - CONCRETE SPECIAL INSPECTION SCHEDULE

CONCRETE SPECIAL INSPECTION SCHEDULE
(Includes: cast-in-place, precast, prestressed, precast-prestressed, and shotcrete.)

Verification and Inspection	Reference Standard ACI 318-14 AWS D1.4-18 IBC 2018	Frequency of Inspection ⁽¹⁾ (During Task Listed)	
		Continuous	Periodic
1. Inspect reinforcement, including prestressing tendons, and verify placement.	ACI 318: 20, 25.2, 25.3, 26.6.1-26.6.3 IBC: 1908.4		●
2. Reinforcing bar welding:			
a. Verify weldability of reinforcing bars other than ASTM A706;	AWS D1.4 ACI 318: 26.6.4		●
b. Inspect single-pass fillet welds, maximum 5/16"; and	AWS D1.4 ACI 318: 26.6.4		●
c. Inspect all other welds.	AWS D1.4 ACI 318: 26.6.4	●	
3. Inspect anchors cast in concrete.	ACI 318: 17.8.2		●
4. Inspect anchors post-installed in hardened concrete members.			
a. Adhesive anchors installed in horizontally or upwardly inclined orientations to resist sustained tension loads.	ACI 318: 17.8.2.4	●	
b. Mechanical anchors and adhesive anchors not defined in 4.a.	ACI 318: 17.8.2		●
5. Verify use of required design mix.	ACI 318: 19, 26.4.3, 26.4.4 IBC: 1904.1, 1904.2, 1908.2, 1908.3		●
6. Prior to concrete placement, fabricate specimens for strength tests, perform slump and air content tests, and determine the temperature of the concrete.	ASTM C172 ASTM C31 ACI 318: 26.5, 26.12 IBC: 1908.10	●	
7. Inspect concrete and shotcrete placement for proper application techniques.	ACI 318: 26.5 IBC: 1908.6, 1908.7, 1908.8	●	

Verification and Inspection	Reference Standard ACI 318-14 AWS D1.4-18 IBC 2018	Frequency of Inspection ⁽¹⁾ (During Task Listed)	
		Continuous	Periodic
8. Verify maintenance of specified curing temperature and techniques.	ACI 318: 26.5.3-26.5.5 IBC: 1908.9		●
9. Inspect prestressed concrete for:			
a. Application of prestressing forces; and	ACI 318: 26.10	●	
b. Grouting of bonded prestressing tendons.	ACI 318: 26.10	●	
10. Inspect erection of precast concrete members.	ACI 318: 26.9		●
11. Verify in-situ concrete strength, prior to stressing of tendons in post-tensioned concrete and prior to removal of shores and forms from beams and structural slabs.	ACI 318: 26.11.2		●
12. Inspect formwork for shape, location and dimensions of the concrete member being formed.	ACI 318: 26.11.1.2.(b)		●
Notes:			
(1) The "●" represents a required inspection activity for the project where it occurs.			

ATTACHMENT B - STRUCTURAL STEEL SPECIAL INSPECTION SCHEDULE

STRUCTURAL STEEL SPECIAL INSPECTION SCHEDULE

Verification and Inspection	Referenced Standard	Frequency of Inspection ⁽¹⁾ (During Task Listed)	
		Continuous	Periodic
Inspection Tasks Prior to Welding	AISC 360, Table N5.4-1		
1. Welding procedure specifications (WPSs) available.		●	
2. Manufacturer certifications for welding consumables available.		●	
3. Material identification (type/grade).			●
4. Welder identification system.			●
5. Fit-up groove welds (including joint geometry): - Joint preparation. - Dimensions (alignment, root opening, root face, bevel). - Cleanliness (condition of steel surfaces). - Tacking (tack weld quality and location). - Backing type and fit (if applicable).			●
5. Configuration and finish of access holes.			●
6. Fit-up of fillet welds: - Dimensions (alignment, gaps at root). - Cleanliness (condition of steel surfaces). - Tacking (tack weld quality and location).			●
7. Check welding equipment.			●
Inspection Tasks During Welding	AISC 360, Table N5.4-2		
8. Use of qualified welders.			●
9. Control and handling of welding consumables: - Packaging. - Exposure control.			●
10. No welding over cracked tack welds.			●
11. Environmental conditions: - Wind speed within limits. - Precipitation and temperature.			●

Verification and Inspection	Referenced Standard	Frequency of Inspection ⁽¹⁾ (During Task Listed)	
		Continuous	Periodic
12. WPS followed: - Settings on welding equipment. - Travel speed. - Selected welding materials. - Shielding gas type/flow rate. - Preheat applied. - Interpass temperature maintained (min/max). - Proper position (F, V, H, OH).	AISC 360-10		●
13. Welding techniques: - Interpass and final cleaning. - Each pass within profile limitations. - Each pass meets quality requirements.			●
Inspection Tasks After Welding	AISC 360, Table N5.4-3		
14. Welds cleaned.			●
15. Size, length, and location of welds.		●	
16. Welds meet visual acceptance criteria: - Crack prohibition. - Weld/base-metal fusion. - Crater cross section. - Weld profiles. - Weld size. - Undercut. - Porosity.		●	
17. Arc strikes.		●	
18. k-area.		●	
19. Backing removed and weld tabs removed (if required).		●	
20. Repair activities.		●	
21. Document acceptance or rejection of welded joint or member.		●	
Notes: (1) The "●" represents a required inspection activity for the project where it occurs.			

ATTACHMENT C - STRUCTURAL STEEL BOLTING SPECIAL INSPECTION SCHEDULE

STRUCTURAL STEEL BOLTING SPECIAL INSPECTION SCHEDULE

Verification and Inspection	Referenced Standard	Frequency of Inspection ⁽¹⁾ (During Task Listed)	
		Continuous	Periodic
Inspection Tasks Prior to Bolting	AISC 360, Table N5.6-1		
1. Manufacturer's certifications available for fastener materials.		●	
2. Fasteners marked in accordance with ASTM requirements.			●
3. Proper fasteners selected for the joint detail (grade, type, bolt length if threads are to be excluded from shear plane).			●
4. Proper bolting procedure selected for joint detail.			●
5. Connecting elements, including the appropriate faying surface condition and hole preparation, if specified, meet applicable requirements.			●
6. Pre-installation verification testing by installation personnel observed and documented for fastener assemblies and methods used.			●
7. Proper storage provided for bolts, nuts, washers and other fastener components.			●
Inspection Tasks During Bolting	AISC 360, Table N5.6-2		
8. Fastener assemblies, of suitable condition, placed in all holes and washers (if required) are positioned as required.			●
9. Joint brought to the snug-tight condition prior to the pretensioning operation.			●
10. Fastener component not turned by the wrench prevented from rotating.			●
11. Fasteners are pretensioned in accordance with the RCSC Specification, progressing systematically from the most rigid point toward the free edges.			●
Inspection Tasks After Bolting	AISC 360, Table N5.6-3		
12. Document acceptance or rejection of bolted connections.		●	
Notes: (1) The "●" represents a required inspection activity for the project where it occurs.			

**ATTACHMENT D - STEEL CONSTRUCTION – STEEL DECK; OPEN WEB STEEL JOISTS
GIRDERS; AND COLD-FORMED STEEL TRUSSES AND JOIST SPECIAL INSPECTION
SCHEDULE**

**STEEL CONSTRUCTION – STEEL DECK; OPEN WEB STEEL JOISTS AND JOIST
GIRDERS; AND COLD-FORMED STEEL TRUSSES
SPECIAL INSPECTION SCHEDULE**

Verification and Inspection	Referenced Standard IBC 2018	Frequency of Inspection ⁽¹⁾ (During Task Listed)	
		Continuous	Periodic
1. Cold-formed steel deck:			
a. Materials: Identification markings conform to ASTM standards specified in the approved construction documents.	Applicable ASTM material standards		●
b. Materials: Manufacturer's certified test reports.			●
c. Welding: Floor and roof deck welds.	AWS D1.3		●
1. Open web steel joints and joist girders:			
a. End connections – welded or bolted	SJI specs		●
b. Bridging – horizontal or diagonal	SJI specs		●
2. Cold-formed steel:			
a. Trusses: Inspect temporary and permanent installation restraints/bracing conform to approved truss submittal.	IBC 1705.2.4		●
Notes:			
(1) The "●" represents a required inspection activity for the project where it occurs.			

SECTION 01600
PRODUCT REQUIREMENTS

PART 1 GENERAL

1.01 SUMMARY

- A. Section includes:
 - 1. Requirements for tangible materials, raw or manufactured, that become part of the project.

1.02 REFERENCES

- A. International Organization for Standardization (ISO):
 - 1. 9001 - Quality Management Systems - Requirements.
- B. NSF International (NSF).
- C. Underwriters Laboratories, Inc. (UL).

1.03 TERMINOLOGY

- A. The words and terms listed below, are not defined terms that require initial capital letters, but, when used in this Section have the indicated meaning.
 - 1. Calculations:
 - a. Documentation of the process of transforming the design and prescriptive criteria into a design meeting the performance criteria.
 - 2. Certificates:
 - a. An official document that attests a fact is in accordance with the Contract Documents.
 - 3. Manufacturer's instructions:
 - a. Stipulations, directions, and/or recommendations issued form by the manufacturer of the product addressing handling, installation, erection, and/or application of the product.
 - 4. Products:
 - a. Raw materials, finished goods, equipment, systems, and shop fabrications that will become part of the Work.
 - 5. Product data:
 - a. Public information about the product which is found in the manufacturer's catalogs or on their web site including catalog pages, data sheets, bulletins, layout drawings, exploded views, and brochures.
 - 6. Samples:
 - a. Physical examples of materials, equipment, or workmanship that are representative of some portion of the Work and that establish the standards by which such portion of the Work will be judged.
 - b. Full-size actual products or pieces of products intended to illustrate the products to be incorporated into the project. Sample submittals are often

necessary for such characteristics as colors, textures, and other appearance issues.

7. Schedules:
 - a. Product parts and materials lists.
8. Shop Drawings:
 - a. As defined in the General Conditions and Supplementary Conditions.
 - b. Shop Drawings are prepared specifically for the project to illustrate details, dimensions, and other data necessary for satisfactory fabrication or construction that are not shown completely in the Drawings.
 - c. Shop Drawings could include graphic line-type drawings and single-line diagrams.
9. Spare parts and materials:
 - a. Duplicate parts necessary to replace a damaged or worn part of the product.
 - b. Consumables such as operating fluids.
10. Special tools:
 - a. Special wrenches, gauges, circuit setters, and other similar devices required for the proper operation or maintenance of a system that would not normally be in the Owner's tool kit and that have been specifically made for use on a product for assembly, disassembly, repair, or maintenance.
11. Submittals:
 - a. As defined in the General Conditions and Supplemental Conditions.
 - b. Samples, product data, Shop Drawings, and others that demonstrate how Contractor intends to conform to the Contract Documents.

PART 2 PRODUCTS

2.01 GENERAL REQUIREMENTS

- A. Provide products as Engineer has approved by the Submittal process or by other written documents.
- B. Provide products by same manufacturer when units are of similar nature, unless otherwise specified.
- C. Provide like parts of duplicate units that are interchangeable.
- D. Provide equipment or product that has not been in service prior to delivery, except as required by tests.
- E. Provide products produced by manufacturers regularly engaged in the production of these products.
- F. Provide products that bear approvals and labels as specified such as Factory Mutual (FM), Underwriters Laboratory (UL), or National Sanitation Foundation (NSF International).

2.02 MATERIAL

- A. Dissimilar metals:
 - 1. Separate contacting surfaces with dielectric material.
 - 2. Neoprene, bituminous impregnated felt, heavy bituminous coatings, nonmetallic separators or washers, or other materials as specified.
- B. Edge grinding:
 - 1. Sharp projections of cut or sheared edges of ferrous metals which are not to be welded shall be ground to a radius required to ensure satisfactory paint adherence.
- C. Use anti-galling compound on threads of stainless steel fasteners during factory assembly.
- D. Provide anti-galling compound with stainless steel fasteners shipped for field assembly.
- E. Aluminum in contact with concrete or masonry: Apply epoxy mastic system EPX-M-5.

2.03 PRODUCT SELECTION

- A. When products are specified without named manufacturers, provide products that meet or exceed the Specifications.
- B. When products are specified with names of manufacturers but no model numbers or catalog designations, provide products by one of named manufacturers that meet or exceed specifications.
- C. When products are specified with names of manufacturers and model numbers or catalog designations, provide products with model numbers or catalog designations by one of the named manufacturers.
- D. When products are specified with names of manufacturers, but with brand or trade names, model numbers, or catalog designations by one manufacturer only, provide:
 - 1. Products specified by brand or trade name, model number, or catalog designation.
 - 2. Products by another named manufacturers proven, in accordance with requirements for an "or equal", including Engineer's approval, to meet or exceed quality, appearance and performance of specified brand or trade name, model number, or catalog designation.
- E. When products are specified with only one manufacturer followed by "or Equal," provide:
 - 1. Products meeting or exceeding Specifications by specified manufacturer.
 - 2. Engineer deemed "or equal" evidenced by an approved Shop Drawing or other written communication.

2.04 SPARE PARTS, MAINTENANCE PRODUCTS, AND SPECIAL TOOLS

- A. Provide spare parts and maintenance products as required by Technical Sections.
 - 1. Submit completed Attachment A – Spare Parts, Maintenance Products, and Special Tools Inventory List.
- B. Provide one set of special tools required to install or service the equipment.
- C. Box, tag, and clearly mark items.
- D. Contractor is responsible for spare parts, maintenance products, and special tools until acceptance by Owner.

PART 3 EXECUTION

3.01 SHIPMENT

- A. Requirements prior to shipment of equipment:
 - 1. Engineer approved Submittals or other written documentation.
 - 2. Engineer approved Manufacturer's Certificate of Source Testing as specified in the Technical Sections.
- B. Transport products by methods that avoid product damage.
- C. Deliver products in undamaged condition in manufacturer's unopened containers or packaging.

3.02 DELIVERY AND HANDLING

- A. Handle equipment in accordance with manufacturer's instructions.
- B. Deliver products in undamaged condition in manufacturer's unopened containers or packaging.
- C. Provide construction equipment and personnel to handle products by methods in accordance with manufacturer's instructions.
- D. Upon delivery, promptly inspect shipments:
 - 1. Verify compliance with Contract Documents, correct quantities, and undamaged condition of products.
 - 2. Acceptance of shipment does not constitute final acceptance of equipment.
- E. Spare parts, maintenance products, special tools.
 - 1. Immediately store in accordance with the manufacturer's instructions.
 - 2. Store spare parts, maintenance products, and special tools in enclosed, weather-proof, and lighted facility during the construction period.
 - a. Protect parts subject to deterioration, such as ferrous metal items and electrical components with appropriate lubricants, desiccants, or hermetic sealing.

3. With Owner's written request for advanced delivery of spare parts, maintenance products, and special tools.
 - a. Deliver requested items and deduct them from the inventory list.
 - b. Provide transmittal documentation.
4. Store large items individually:
 - a. Weight: Greater than 50 pounds.
 - b. Size: Greater than 24 inches wide by 18 inches high by 36 inches long.
 - c. Clearly labeled:
 - 1) Equipment tag number.
 - 2) Equipment manufacturer.
 - 3) Subassembly component, if appropriate.
 - 4) Store smaller items in spare parts box.
 - d. Weight: Less than 50 pounds.
 - e. Size: Less than 24 inches wide by 18 inches high by 36 inches long.
 - f. Clearly labeled:
 - 1) Equipment tag number.
 - 2) Equipment manufacturer.
 - 3) Subassembly component, if appropriate.
 - 4) Spare parts and special tools box.
 - g. Box material: Waterproof, corrosion resistant.
 - h. Hinged cover:
 - 1) Locking hasp.
 - i. Spare parts inventory list taped to underside of cover.
 - j. Clearly labeled:
 - 1) The words "Spare Parts and/or Special Tools".
 - 2) Equipment tag number.
 - 3) Equipment manufacturer.
 - 4) Subassembly component, if appropriate.

3.03 STORAGE AND PROTECTION DURING STORAGE

- A. Storage of equipment to be in accordance with the manufacturer's instructions.
 1. Including connection of motor heaters, lubrication, manually rotating shafts, etc.
 2. The Contractor shall furnish a copy of the manufacturer's instructions for storage to the Engineer prior to storage of equipment and materials.
- B. Immediately store and protect products until installed in Work.
- C. Furnish covered, weather-protected storage structures providing a clean, dry, noncorrosive environment for mechanical equipment, valves, architectural items, electrical and instrumentation equipment and special equipment to be incorporated into this project.
- D. Store products with seals and legible labels intact.
- E. Protect painted or coated surfaces against impact, abrasion, discoloration, and damage.
- F. Storage of spare parts, maintenance products, special tools.
 1. Immediately store in accordance with the manufacturer's instructions.

2. Store spare parts, maintenance products, and special tools in enclosed, weather-proof, and lighted facility during the construction period.
 3. Protect parts subject to deterioration, such as ferrous metal items and electrical components with appropriate lubricants, desiccants, or hermetic sealing.
 4. Store large items individually:
 - a. Weight: Greater than 50 pounds.
 - b. Size: Greater than 24 inches wide by 18 inches high by 36 inches long.
 - c. Clearly labeled:
 - 1) Equipment tag number.
 - 2) Equipment manufacturer.
 - 3) Subassembly component, if appropriate.
 5. Store smaller items in spare parts boxes:
 - a. Weight: Less than 50 pounds.
 - b. Size: Less than 24 inches wide by 18 inches high by 36 inches long.
 - c. Clearly labeled:
 - 1) Equipment tag number.
 - 2) Equipment manufacturer.
 - 3) Subassembly component, if appropriate.
 6. Spare parts and special tools box:
 - a. Box material: Waterproof, corrosion resistant.
 - b. Hinged cover with locking hasp:
 - c. Inventory list taped to underside of cover.
 - 1) Clearly labeled:
 - 2) The words "Spare Parts and/or Special Tools".
 - 3) Equipment tag number.
 - 4) Equipment manufacturer.
 - 5) Subassembly component, if appropriate.
- G. Exterior storage of fabricated products:
1. Place on aboveground supports that allow for drainage.
 2. Cover products subject to deterioration with impervious sheet covering.
 3. Provide ventilation to prevent condensation under covering.
- H. Store moisture sensitive products in watertight enclosures.
- I. Store loose granular materials on solid surfaces in well-drained area.
1. Prevent materials mixing with foreign matter.
 2. Provide access for inspection.
- J. Provide an equipment log and stored products log with monthly pay applications.
1. Data includes as a minimum: The storage location, equipment or product identification, date stored, date of inspection/maintenance, date removed from storage, copy of manufacturer's recommended storage guidelines, description of inspection/maintenance activities performed, and signature of party performing inspection/maintenance.
- K. When needed and approved by the Engineer, offsite storage location shall be within 20 miles of the project site.
1. Provide proof of insurance coverage for products stored offsite.

- L. Payment will not be made for equipment and materials improperly stored or stored without providing Engineer with the manufacturer's instructions for storage.

3.04 INSTALLATION

- A. Inspect equipment or product prior to product installation.
- B. Repaint or recoat damaged painted or coated surfaces.
- C. Use anti-galling compound on stainless steel threads used for field assembly.

3.05 PROTECTION AFTER INSTALLATION

- A. Provide substantial coverings as necessary to protect installed products from damage from traffic and subsequent construction operations.
 - 1. Remove covering when no longer needed.
 - 2. Replace corroded, damaged, or deteriorated equipment, product, or parts before acceptance of the project.
- B. Update equipment log with monthly pay applications.
 - 1. Data includes as a minimum: Description of maintenance activities performed in accordance with the manufacturer's recommendation and industry standards and signature of party performing maintenance.

END OF SECTION

SECTION 01738

SELECTIVE ALTERATIONS AND DEMOLITION

PART 1 GENERAL

1.01 SUMMARY

- A. Section includes:
 - 1. Cutting or modifying of existing and new work.
 - 2. Partial demolition of structures.

1.02 REFERENCES

- A. American National Standards Institute (ANSI):
 - 1. A10.6 - Safety and Health Program Requirements for Demolition Operations.
- B. International Concrete Repair Institute (ICRI):
 - 1. Guideline No. 310.2R - Selecting and Specifying Concrete Surface Preparation for Sealers, Coatings, Polymer Overlays, and Concrete Repair.
 - 2. Guideline No. 310.3R - Guide for the Preparation of Concrete Surfaces for Repair Using Hydrodemolition Methods.

1.03 DEFINITIONS

- A. Chipping hammer: A hand-operated electrical or pneumatic demolition device for removal of hardened concrete or masonry materials having a weight of less than 15 pounds and an impact frequency of greater than 2,000 blows/minute.
- B. Concrete breaker: A hand-operated electrical or pneumatic demolition device for removal of hardened concrete or masonry materials having a weight greater or impact frequency less than the limits defined for a chipping hammer.
- C. Coring equipment: Non-impact rotary drill with diamond cutting edges.
- D. Heavy abrasive blast: Cleaning procedure by which various abrasives materials, or steel shot, are forcibly propelled by high pressure against a surface to remove loose material and produce a concrete surface roughened to ICRI Surface Profile CSP-7, or higher, as specified in ICRI 301.3R.

1.04 DESCRIPTION OF WORK

- A. The work includes partial demolition, cutting, and modifying of existing facilities, utilities, and/or structures.
- B. These facilities may be occupied and/or operational. Satisfactory completion of the work will require that the Contractor plan activities carefully to work around unavoidable obstacles and to maintain overall stability of structures and structural elements. It will further require restoration of existing facilities, utilities, and

structures that are to remain in place and that are damaged by demolition or removal operations.

1.05 SUBMITTALS

- A. General:
 - 1. Submit specified in Section 01330 - Submittal Procedures.
- B. Shop drawings: Include:
 - 1. The location of all embedded items shall be documented using diagrams and/or other media that clearly show dimensions and locations of existing structural elements, existing embedded items and any new embedded items and their relationship to each other.
- C. Submittals for information only:
 - 1. Permits and notices authorizing demolition.
 - 2. Permit for transport and disposal of debris.
 - 3. Selective Demolition Plan.
- D. Project record documents.

1.06 QUALITY ASSURANCE

- A. Qualifications:
 - 1. Assign relocation, removal, cutting, coring and patching to trades and workers qualified to perform the Work in manner that causes the least damage and that provides means of returning surfaces to an appearance at least equal to that of the surrounding areas unaffected by the Work.

1.07 SEQUENCING

- A. Perform Work in sequences and within times specified in Section 01140 - Work Restrictions.
- B. If the facility or utility to be modified cannot be removed from service, coordinate with Engineer for scheduling Work to be performed while the facility is in operation using procedures and equipment that do not jeopardize operation or materially reduce the efficiency of that facility.
- C. Coordinate the Work with operation of the facility:
 - 1. Do not begin alterations of designated portions of the Work until specific permission for activities in each area has been granted by Owner in writing.
 - 2. Engineer will coordinate the planned procedure with facility manager.
 - 3. Complete Work as quickly and with as little delay as possible.
- D. Operational functions of the facility that are required to be performed to facilitate the Work will be performed by facility personnel only.
- E. Owner will cooperate to assist in expediting the Work.

- F. When necessary for the proper operation or maintenance of portions of the facility, reschedule operations so the Work will not conflict with required operations or maintenance.

1.08 REGULATORY REQUIREMENTS

- A. Dispose of debris in accordance with governing regulatory agencies.
- B. Comply with applicable air pollution control regulations.
- C. Obtain permits for building demolition, transportation of debris to disposal site and dust control.

1.09 PROJECT CONDITIONS

- A. Do not interfere with use of adjacent structures and elements of the facility not subject to the Work described in this Section. Maintain free and safe passage to and from such facilities.
- B. Provide, erect, and maintain barricades, lighting, guardrails, and protective devices as required to protect building occupants, general public, workers, and adjoining property:
 - 1. Do not close or obstruct roadways without permits.
- C. Prevent movement, settlement, or collapse of structures and adjacent services:
 - 1. Provide and place bracing or shoring.
 - 2. Cease operations and notify Engineer immediately when safety of structures appears to be endangered. Take precautions to properly support structure. Do not resume operations until safety is restored.
 - 3. Assume liability for movement, settlement, or collapse. Promptly repair damage.
- D. Unknown conditions:
 - 1. The drawings may not represent all conditions at the site and adjoining areas. Compare actual conditions with drawings before commencement of Work.
 - 2. Existing utilities and drainage systems below grade are located from existing documents and from surface facilities such as manholes, valve boxes, area drains, and other surface fixtures.
 - 3. If existing active services encountered are not indicated or otherwise made known to the Contractor and interfere with the permanent facilities under construction, notify the Engineer in writing, requesting instructions on their disposition. Take immediate steps to ensure that the service provided is not interrupted, and do not proceed with the Work until written instructions are received from the Engineer.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION

3.01 EXAMINATION

- A. Prior to beginning selective demolition operations, perform a thorough inspection of the facility and site.
 - 1. Report to the Engineer defects, structural damage, and deterioration of existing construction to remain in place.
- B. Examine areas affected by the Work and verify the following conditions prior to commencing demolition:
 - 1. Disconnection of utilities as required.
 - 2. Verify that utilities serving occupied or active portions of surrounding facilities will not be disturbed, except as otherwise indicated.
- C. If unsatisfactory conditions exist, notify the Engineer, and do not begin demolition operations until such conditions have been corrected.

3.02 PREPARATION

- A. Plan and organize Work to minimize inconvenience to adjacent buildings and to plant operations.
- B. Selective Demolition Plan:
 - 1. Prepare and submit a comprehensive selective demolition plan for the Work including the following elements, at a minimum:
 - a. Proposed sequence, methods, temporary support, and equipment for demolition, removal, and disposal of portions of structure(s).
 - b. Provisions and procedures for salvage and delivery to Owner of salvaged items, if required.
 - 2. Submit plan a minimum of 4 weeks before demolition is scheduled to begin.
- C. Protection:
 - 1. Erect weatherproof closures to protect the interior of facilities and elements or equipment that are not designed for exposure to the weather.
 - 2. Repair damaged surfaces to match adjacent surfaces.
 - 3. Provide and maintain protective devices to prevent injury from falling objects.
 - 4. Protect the following from damage or displacement during Work.
 - a. Benchmarks and survey points.
 - b. Existing construction that will remain in place.
 - c. Trees and landscaping designated to remain in place.
 - 5. Carefully remove designated materials and equipment to be salvaged by Owner or reinstalled.
 - 6. Store and protect materials and equipment to be reinstalled.
- D. Layout:
 - 1. The limits of selective demolition are indicated on the Drawings. Confine demolition operations within the limits indicated on the Drawings.

2. Lay out demolition and removal work at the site and coordinate with related Work for which demolition and removal is required.
3. Clearly mark the extent of structural elements to be removed on the actual surfaces that will be removed.
4. Arrange for Engineer's inspection of the lay out extents.
5. Do not begin demolition/removal operations until the lay out markings have been reviewed by the Engineer.

3.03 DEMOLITION

A. General:

1. Perform demolition work in accordance with ANSI A10.6.
2. Demolish designated portions of structures and appurtenances in orderly and careful manner in accordance with the Selective Demolition Plan.
3. Conduct demolition and removal work in a manner that will minimize dust and flying particles.
 - a. Use water or dust palliative when necessary to prevent airborne dust.
 - b. Provide and maintain hoses and connections to water main or hydrant.
4. Remove materials carefully, to the extent indicated and as required.
 - a. Provide neat and orderly junctions between existing and new materials.
 - b. Use methods that terminate surfaces in straight lines at natural points of division.
5. Do not remove anything beyond the limits of Work indicated without prior written authorization from the Engineer.
 - a. If in doubt about whether to remove an item, obtain written authorization from the Engineer prior to proceeding.
6. Perform work so as to provide the least interference and most protection to existing facilities to remain.
7. Demolished materials:
 - a. Assume possession of materials unless otherwise indicated on the Drawings or specified.
 - b. Remove demolished materials from site at least weekly and dispose of them in accordance with Laws and Regulations.
 - c. Do not burn or bury materials on site.

B. Demolition of concrete and masonry:

1. Demolish concrete and masonry in small sections.
 - a. Perform demolition with small tools as much as possible.
 - b. Blasting with explosive charges is not permitted.
2. Sawcut concrete to establish the edges of demolition, wherever possible.
 - a. Do not use a concrete breaker within 6 inches of reinforcing or structural metals that are designated to remain in place.
 - b. At edges that are not sawcut, remove the final 6 inches of material with a chipping hammer as defined herein. At surfaces where material is removed with a chipping hammer, follow with a heavy abrasive blast to remove all loose material and microcracking.
 - c. Alternate techniques to remove concrete may be used if acceptable to the Engineer; however, techniques other than those deemed by ICRI Guideline No. 310.2R to provide a low risk of introducing microcracking

will require a subsequent procedure to remove loose material and microcracked.

- d. Provide final surface preparation for repairs as specified on the Drawings.
- C. Backfill open pits and holes caused by demolition as specified in Section 02300 - Earthwork.
- D. Rough grade areas affected by demolition.
- E. Remove demolished materials, tools, and equipment upon completion of demolition.

3.04 RESTORATION

- A. General:
 - 1. Repair damage caused by demolition to conditions equal to those that existed prior to beginning of demolition.
 - a. Patch and replace portions of existing finished surfaces that are damaged, lifted, and discolored. Refinish patched portion surfaces in a manner which produces uniform color and texture to entire surface, and that matches color and texture of adjacent surfaces.
 - b. When existing finish cannot be matched, refinish entire surface to nearest change of plane where angle of change exceeds 45 degrees.
 - 2. The cost of repairs shall be at the Contractor's expense at no increase in the Contract Price.
 - 3. When new construction abuts or finishes flush with existing construction, make smooth transitions. Match finish of existing construction.
 - 4. Match patched construction with adjacent construction in texture and appearance so that patch or transition is invisible at 5-foot distance.
 - 5. When finished surfaces are cut so that smooth transition is impossible, terminate existing surface in neat manner along straight line at natural line of division and provide appropriate trim.

3.05 FIELD QUALITY CONTROL

- A. Do not proceed with demolition without Engineer's inspection of lay out.
- B. Do not deviate from the submitted demolition plan without notifying the Engineer prior to Work.

END OF SECTION

SECTION 01770
CLOSEOUT PROCEDURES

PART 1 GENERAL

1.01 SUMMARY

- A. Section includes: Contract closeout requirements.

1.02 REFERENCES

- A. American Water Works Association (AWWA).

1.03 FINAL CLEANING

- A. Perform final cleaning prior to inspections for Final Completion.
- B. Employ skilled workers who are experienced in cleaning operations.
- C. Use cleaning materials which are recommended by manufacturers of surfaces to be cleaned.
- D. Prevent scratching, discoloring, and otherwise damaging surfaces being cleaned.
- E. Clean roofs, gutters, downspouts, and drainage systems.
- F. Remove dust, cobwebs, and traces of insects and dirt.
- G. Clean grease, mastic, adhesives, dust, dirt, stains, fingerprints, paint, blemishes, sealants, plaster, concrete, and other foreign materials from sight-exposed surfaces, and fixtures and equipment.
- H. Remove non-permanent protection and labels.
- I. Polish waxed woodwork and finish hardware.
- J. Polish glossy surfaces to clear shine.

1.04 WASTE DISPOSAL

- A. Arrange for and dispose of surplus materials, waste products, and debris off-site:
 - 1. Prior to making disposal on private property, obtain written permission from Owner of such property.
- B. Do not fill ditches, washes, or drainage ways which may create drainage problems.
- C. Do not create unsightly or unsanitary nuisances during disposal operations.

- D. Maintain disposal site in safe condition and good appearance.
- E. Complete leveling and cleanup prior to Final Completion of the Work.

1.05 TOUCH-UP AND REPAIR

- A. Touch-up or repair finished surfaces on structures, equipment, fixtures, and installations that have been damaged prior to inspection for Final Completion.
- B. Refinish or replace entire surfaces which cannot be touched-up or repaired satisfactorily.

1.06 CLOSEOUT DOCUMENTS

- A. Submit the following Closeout Submittals before Substantial Completion:
 - 1. Punch list of items to be completed or corrected with the request for issuance of Substantial Completion.
 - 2. Evidence of Compliance with Requirements of Governing Authorities.
 - 3. Project Record Documents.
 - 4. Approved Operation and Maintenance Manuals.
 - 5. Approved Warranties and Bonds.
- B. Submit the following Closeout Submittals before final completion of the Work and at least 7 days prior to submitting Application for Final Payment:
 - 1. Punch list of items have been completed and Engineer and Owner are satisfied that all deficiencies are corrected.
 - 2. Evidence of Payment and Release of Liens or Stop Payment Notices as outlined in Conditions of the Contract.
 - 3. Release of claims as outlined in Conditions of the Contract.
 - 4. Submit certification of insurance for products and completed operations, as specified in the General Conditions.
 - 5. Final statement of accounting.
 - 6. Submit Final (As-Built) Schedule as specified in Section 01321 - Schedules and Reports.

1.07 PROJECT RECORD DOCUMENTS

- A. Maintain at Project site, available to Owner and Engineer, 1 copy of the Contract Documents, shop drawings, and other submittals in good order:
 - 1. Mark and record field changes and detailed information contained in submittals and change orders.
 - 2. Record actual depths, horizontal and vertical location of underground pipes, duct banks, and other buried utilities. Reference dimensions to permanent surface features.
 - 3. Identify specific details of pipe connections, location of existing buried features located during excavation, and the final locations of piping, equipment, electrical conduits, manholes, and pull boxes.
 - 4. Identify location of spare conduits including beginning, ending, and routing through pull boxes and manholes. Record spare conductors, including number and size, within spare conduits and filled conduits.

5. Provide schedules, lists, layout drawings, and wiring diagrams.
6. Make annotations in electronic format conforming to the following color code:

Additions:	Red
Deletions:	Green
Comments	Blue
Dimensions:	Graphite

- B. Maintain documents separate from those used for construction:
 1. Label documents "RECORD DOCUMENTS."
- C. Keep documents current:
 1. Record required information at the time the material and equipment is installed and before permanently concealing.
 2. Engineer will review Record Documents weekly to ascertain that changes have been recorded.
- D. Affix civil engineer's or professional land surveyor's signature and registration number to Record Drawings to certify accuracy of information shown.
- E. Deliver Record Documents with transmittal letter containing date, Project title, Contractor's name and address, list of documents, and signature of Contractor.
- F. Record Documents will be reviewed monthly to determine the percent complete for the monthly pay application.
- G. Updated Record Documents are a condition for Engineer's recommendation for progress payment.
- H. Final Schedule Submittal as specified in Section 01321 - Schedules and Reports.

1.08 MAINTENANCE SERVICE

- A. Maintenance service as specified in technical specifications.

1.09 SUBSTANTIAL COMPLETION

- A. Obtain Certificate of Substantial Completion.

1.10 FINAL COMPLETION

- A. When Contractor considers the Work is complete, submit written certification that:
 1. Work has been completed in accordance with the Contract Documents.
 2. Punch list items have been completed or corrected.
 3. Work is ready for final inspection.

- B. Engineer will make an inspection to verify the status of completion with reasonable promptness.
- C. Should the Engineer consider that the Work is incomplete or defective:
 - 1. Engineer will promptly notify the Contractor in writing, listing the incomplete or defective work.
 - 2. Contractor shall take immediate steps to remedy the stated deficiencies and send a second written certification to the Engineer that the Work is complete.
 - 3. Engineer shall re-inspect the Work.

1.11 FINAL ADJUSTMENT OF ACCOUNTS

- A. Submit a final statement of accounting to the Engineer at least 7 days prior to final Application for Payment.
- B. Statement shall reflect all adjustments to the Contract amount.
 - 1. The original Contract amount.
 - 2. Additions and deductions resulting from:
 - a. Change Orders.
 - b. Units installed and unit prices.
 - c. Set-offs for uncorrected or incomplete Work.
 - d. Set-offs for liquidated damages.
 - e. Set-offs for reinspection payments.
 - f. Extended engineering and/or inspection services and inspection overtime.
 - g. Excessive shop drawings review cost by the Engineer.
 - h. Other adjustments.
 - 3. Total Contract amount, as adjusted.
 - 4. Previous payments.
 - 5. Remaining payment due.
- C. Engineer will prepare a final Change Order reflecting approved adjustments to the Contract amount which were not previously made by Change Orders.

1.12 FINAL APPLICATION FOR PAYMENT

- A. Contractor shall submit the final Application for Payment reflecting the agreed upon information provided in the final statement of accounting.

PART 2 PRODUCTS

2.01 SPARE PARTS

- A. Owner may request advanced delivery of spare parts, maintenance products, and special tools.
 - 1. Deduct the delivered items from the inventory list and provide transmittal documentation.

- B. Prior to Substantial Completion, arrange to deliver spare parts, maintenance products, and special tools to Owner at a location on site chosen by the Owner.
 - 1. Provide an itemized list of spare parts and special tools that matches the identification tag attached to each item.
 - 2. Owner and Engineer will review the inventory and the itemized list to confirm it is complete and in good condition prior to signing for acceptance.

PART 3 EXECUTION (NOT USED)

END OF SECTION

SECTION 01783
WARRANTIES AND BONDS

PART 1 GENERAL

1.01 SUMMARY

- A. Section includes: Warranty and bonds requirements.

1.02 SUBMITTALS

- A. For each item of material or equipment furnished under the Contract:
1. Submit manufacturer's warranty prior to fabrication and shipment of the item from the manufacturer's facility.
 2. Submit manufacturer's special warranty when specified.
- B. Provide consolidated warranties and bonds within 15 calendar days of Substantial Completion.
1. Contents:
 - a. Organize warranty and bond documents:
 - 1) Include Table of Contents organized by specification section number and the name of the product or work item.
 - b. Include each required warranty and bond in proper form, with full information, certified by manufacturer as required, and properly executed by Contractor, or subcontractor, supplier, or manufacturer.
 - c. Provide name, address, phone number, and point of contact of manufacturer, supplier, and installer, as applicable.
 2. Hardcopy format:
 - a. Submit 2 copies.
 - b. Assemble in 3 D-side ring binders with durable cover.
 - c. Identify each binder on the front and spine with typed or printed title "Warranties and Bonds"; Project Name or Title, and the Name Address and Telephone Number of the Contractor.
 3. Electronic copy in PDF format:
 - a. Submit 1 copy.

1.03 OWNER'S RIGHTS

- A. Owner reserves the right to reject warranties.
- B. Owner reserves the right to refuse to accept Work for the project if the required warranties have not been provided.

1.04 RELATIONSHIP TO GENERAL WARRANTY AND CORRECTION PERIOD

- A. Warranties specified for materials and equipment shall be in addition to, and run concurrent with, both Contractor's general warranty and the correction period requirements.

- B. Disclaimers and limitations in specific materials and equipment warranties do not limit Contractor's general warranty, nor does such affect or limit Contractor's performance obligations under the correction period.

1.05 MANUFACTURER'S 1 YEAR WARRANTY MINIMUM REQUIREMENTS

- A. Written warranty issued by item's manufacturer.
- B. Project-specific information, properly executed by product manufacturer, and expressly states that its provisions are for the benefit of the Contractor.
- C. Covers all costs associated with the correction of the defect, including but not limited to removal of defective parts, new parts, labor, and shipping.
- D. Provides a timely response to correct the defect.
 - 1. Manufacturer shall provide, in a timely fashion, temporary equipment as necessary to replace warranted items requiring repair or replacement, when warranted items are in use and are critical to the treatment process, as defined by Owner.
- E. Warranty commence running on the date of substantial completion.
 - 1. For items of Work for which acceptance is delayed beyond Date of Substantial Completion, submit warranty within 10 calendar days after acceptance, listing date of acceptance as beginning of warranty period.
- F. Duration of Warranty: 1 year.

1.06 MANUFACTURER'S SPECIAL WARRANTY

- A. Manufacturer's special warranty is a written warranty published by the manufacturer which includes the requirements as specified in the Technical Section.
 - 1. Project-specific information and requirements.
 - 2. Properly executed by product manufacturer.
 - 3. Expressly states that its provisions are for the benefit of the Contractor or Owner.
 - 4. Manufacturer's special warranties commence on the date that the associated item is certified by Engineer as substantially complete.

1.07 WARRANTY WORK

- A. Contractor's responsibilities:
 - 1. Manufacturer's disclaimers and limitations on product warranties do not relieve the Contractor of the warranty on the work that incorporates the product, nor does it relieve suppliers, manufacturers, and subcontractors required to countersign special warranties with Contractor.

- B. Replacement cost:
 - 1. Upon determination that work covered by warranty has failed, replace or rebuild the work to an acceptable condition complying with requirement of the Contract Documents.
 - a. Contractor is responsible for the cost of replacing or rebuilding defective work regardless of whether Owner has benefited from the use of the work through a portion of its anticipated useful service life.
- C. Related damages and losses:
 - 1. When correcting warranted work that has failed, remove and replace other work that has been damaged as a result of such failure or that must be removed and replaced to provide access for correction of warranted work.
- D. Owner's recourse:
 - 1. Written warranties are in addition to implied warranties, and shall not limit the duties, obligations, rights, and remedies otherwise available under the law, nor shall warranty periods be interpreted as limitation on time in which Owner can enforce such other duties, obligations, rights, or remedies.
- E. Reinstatement of warranty:
 - 1. When work covered by a warranty has failed and has been corrected by replacement or rebuilding, reinstate the warranty by written endorsement.
 - a. The reinstated warranty shall be equal to the original warranty with an equitable adjustment for depreciation.

1.08 IMPLIED WARRANTIES

- A. Warranty of title and intellectual rights:
 - 1. Except as may be otherwise indicated in the Contract Documents, implied warranty of title required by Laws and Regulations is applicable to the Work and to materials and equipment incorporated therein.
 - 2. Provisions on intellectual rights, including patent fees and royalties, are in the General Conditions, as may be modified by the Supplementary Conditions.
- B. Implied warranties: Duration in accordance with Laws and Regulations.

1.09 BONDS

- A. Equipment bond and other bond requirements as specified in the Technical Sections.
- B. Bonds commence running on the date of substantial completion.
 - 1. For items of Work for which acceptance is delayed beyond Date of Substantial Completion, submit warranty within 10 calendar days after acceptance, listing date of acceptance as beginning of bond period.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION (NOT USED)

END OF SECTION

SECTION 01850
DESIGN CRITERIA

PART 1 GENERAL

1.01 SUMMARY

- A. Section includes:
 - 1. Design criteria for use in the selection of equipment and appurtenances specified in Technical Sections of these Specifications and indicated on the Drawings.
 - 2. Criteria for design of systems, components and equipment fabricated off site and shipped to the Work for installation.
 - 3. Criteria for design of anchors to connect equipment and appurtenances to supports and structures.
- B. The criteria in this Section apply throughout the Work, unless additional criteria, or more restrictive criteria, are indicated:
 - 1. Additional criteria and requirements relevant to specific locations, specific materials, and specific equipment are indicated on the Drawings, and in the Technical Sections.

1.02 REFERENCES

- A. American Society of Civil Engineers (ASCE):
 - 1. 7-16 - Minimum Design Loads and Associated Criteria for Buildings and Other Structures. (ASCE 7).
- B. American Society of Heating, Refrigeration and Air Conditioning Engineers (ASHRAE):
 - 1. ASHRAE Fundamentals Handbook.
- C. International Code Council (ICC):
 - 1. International Energy Conservation Code (IECC).
 - 2. International Plumbing Code (IPC).
- D. Sheet Metal and Air Conditioning Contractor's National Association (SMACNA):
 - 1. Seismic Restraint Manual: Guidelines for Mechanical Systems, 3rd edition - 2008.

PART 2 PRODUCTS

2.01 DESIGN CRITERIA - SITE INFORMATION

- A. Site name: Barton Road Water Treatment Plant:
 - 1. Street Address: 9595 Barton Rd, Granite Bay, CA 95746:
 - a. Coordinates (approximate): Latitude 38.724050; Longitude - 121.186635.

2. Groundwater elevation:
 - a. For design of buried and partially buried construction:
 - 1) Groundwater is expected to be below the level of construction.

2.02 DESIGN CRITERIA - REGULATORY REQUIREMENTS

- A. Requirements of authorities having jurisdiction over the project are included in Section 01410 - Regulatory Requirements.

2.03 DESIGN CRITERIA - OPERATING ENVIRONMENT

- A. The Drawings and Technical Sections include additional criteria and requirements relevant to specific locations, materials, and equipment.
- B. Outdoor conditions:
 1. International Energy Conservation Code (IECC): Climate Zone 3B.
 2. Site climatic data location: Sacramento McClellan Airport (approximately 12 miles from site), WMO 72483.
 3. Temperature criteria: As specified in the following Table: Design Temperatures - Outdoor Criteria in Accordance with ASHRAE Fundamentals Handbook.

Table: Design Temperatures - Outdoor Criteria in Accordance with ASHRAE Fundamentals Handbook	
Reference Location:	Sacramento McClellan
Condition	Criteria
Daily mean range:	23.9 degrees Fahrenheit.
Winter:	At or above this temperature 99.6 percent of the time: 31.7 degrees Fahrenheit dry-bulb.
Summer:	At or above this temperature 0.4 percent of the time: 101.8 degrees Fahrenheit dry-bulb.

2.04 DESIGN CRITERIA - STRUCTURAL

- A. General:
 1. Criteria for structural design of:
 - a. Equipment at locations subject to seismic events.
 - b. Equipment exposed to outdoor environments.
 - c. Equipment supports and bracing, and anchorage of such items to building and non-building structures.
 - d. Structures provided for the Work through Delegated Design.
 - e. Manufactured and prefabricated structures, and anchorage of such structures to foundations or other supporting elements.
 2. Structural design criteria used by the engineer of record and required by the building code to be indicated on the Drawings, are included on the Contract Drawing titled "General Structural Notes."

- B. Structure risk category:
1. Develop design loads and provide detailing in accordance with the provisions of ASCE 7 and the building code specified in Section 01410 - Regulatory Requirements, based on the Structure Risk Category indicated in Table: Project Structures - Risk Category and Seismic Design Information.
- C. Seismic loads:
1. Seismic design parameters: Basic parameters - ASCE 7:
 - a. Ground motion MCE_R , 5 percent damped:
 - 1) Short periods, $S_s = 0.214$ g.
 - 2) One second period, $S_1 = 0.419$ g.
 - b. Mapped long-period transition period:
 - 1) $T_L = 12$ seconds.
 2. Structures - General:
 - a. Seismic Design Category (SDC): As indicated in the following Table: Project Structures - Risk Category and Seismic Design Information.

Table: Project Structures - Risk Category and Seismic Design Information						
Description: Water Treatment Facility						
Area	Description	Risk Category	Site Class	S_{DS}	S_{D1}	Seismic Design Category⁽¹⁾
Pipe Enclosure	Pipe Enclosure	III	D	0.409	0.311	D
Notes: (1) Seismic Design Category for Delegated Design, and for seismic certification of electrical and mechanical equipment as required by ASCE 7.						

- b. Structure response modification coefficient, R :
 - 1) In accordance with ASCE 7, and the requirements of the Technical Sections.
 3. Structures - Tanks and vessels:
 - a. Includes: Tank structures, tank supports, and anchorage to structures or foundations.
 - b. Liquid storage structures (e.g.: basins and tanks):
 - 1) Include impulsive and convective ("sloshing") effects.
 - 2) Component response modification factor - impulsive effects, R_i : In accordance with ASCE 7, Table 15.4-2.
 - 3) Component response modification factor - convective effects, $R_c = 1.0$.
 - c. Dry material storage structures (e.g.: silos, hoppers):
 - 1) Include effects of stored materials.
 - 2) Component response modification factor - impulsive effects, R_i : In accordance with ASCE 7, Table 15.4-2.
 4. Non-structural components - General:
 - a. Includes:
 - 1) Mechanical and electrical equipment; anchorage of equipment to structures or supports; design of supports; and anchorage of supports to structures or foundations.

- 2) Distribution systems associated with mechanical and electrical equipment such as piping, ductwork, conduits, cable trays, raceways, bus ducts, and similar items; anchorage of such systems to supports and structures; and bracing or such systems.
- b. Seismic design requirements for non-structural components are based on the Seismic Design Category (SDC) of the structure or facility where the equipment is installed.
- c. Design components, component anchorage, and component connections to piping and utilities in accordance with the requirements of ASCE 7, Table 13.2-1
- d. Component amplification factor (a_p), response factor (R_p), and overstrength factor for anchorage to concrete (Ω_o):
 - 1) Mechanical and electrical components and systems: In accordance with ASCE 7, Table 13.6-1, unless otherwise indicated in the Technical Sections for these items.
 - 2) Architectural components and systems: In accordance with ASCE 7, Table 13.6-1, unless otherwise indicated in the Technical Sections for these items.
- e. Component importance factor, I_p :
 - 1) In accordance with the following Table: Component Importance Factor for seismic design, I_p .
 - 2) For items not listed in Table: Component Importance Factor for seismic design, I_p , designate importance factor in accordance with the provisions of ASCE 7, Chapter 13 and submit to Engineer for review prior to developing calculations and details related to that component.

Table: Component Importance Factor for seismic design, I_p		
Structure Seismic Design Category	Components	I_p
All	Equipment and components specified in Divisions 11 through 15.	1.5
All	Other equipment not listed above.	1.0

- D. Wind loads:
1. Design structures and non-structural components that are exposed to wind to withstand design wind loads:
 - a. Reduction of wind loads based on shielding effects of surrounding structures or components is not allowed.
 - b. Design for wind loading is not required for non-structural components and for non-building structures located inside enclosed buildings.
 2. Design parameters:
 - a. Basic wind speed:
 - 1) 100 miles per hour (33 feet, 3 second gust).
 - b. Exposure category: C.
 - c. Topographic factor, K_{zt} : 1.0.
 - d. Wind pressure for design of "components and cladding":
 - 1) "Components and cladding" includes doors, windows, siding panels, skylights, parapets and similar architectural elements.

- 2) Minimum wind pressure for components and cladding, strength level:
 - a) Wall elements: Minimum 16 pounds per square foot, pressure or vacuum.
 - b) Roof elements: Minimum 16 pounds per square foot, pressure or vacuum.
 - c) For "allowable stress level" pressures, multiply strength level pressures by 0.625.
- E. Rainfall loads:
 - 1. Determine rainfall loads using rainfall intensity specified herein, and including effects of exposed surface slope, height above surface to discharge elevation, and deflection of ponded surfaces.
- F. Operational loads:
 - 1. Loads may include equipment vibration, torque, thermal effects, effects of internal contents (weight and sloshing), surge or "water hammer," and other load conditions.
 - 2. Design for loads indicated by equipment manufacturer.
 - 3. Design for loads indicated in the Technical Sections for equipment and appurtenances.
- G. Serviceability considerations: ASCE 7-16:
 - 1. Deflection, unless otherwise indicated on the Drawings, or specified:
 - a. Beam deflection as fraction of span:
 - 1) Walkways and platforms: total load = $L/240$; live load = $L/360$.
 - 2) Equipment supports: $L/450$.

PART 3 EXECUTION

3.01 GENERAL

- A. Design approach and criteria in accordance with:
 - 1. Regulatory requirements, including but not limited to the building code specified in Section 01410 - Regulatory Requirements.
 - 2. Reference standards and project-specific design criteria listed in this Section.
 - 3. Specific requirements for individual elements and components of the Work as specified in subsequent Technical Sections.
- B. In the event of conflicts between design criteria, contact Engineer for interpretation.

3.02 DESIGN - ANCHORS FOR EQUIPMENT, COMPONENTS, AND BRACING

- A. General:
 - 1. Engineer's approval of anchor designs is required before placement of construction that supports or provides bracing for anchored equipment and components:
 - a. Prepare anchor designs after Engineer's approval of the products and layout, and before placement of concrete or masonry that supports them.

2. Adjust equipment pad sizes and add additional anchor confinement reinforcing to provide required strength at anchorage points between equipment and pad, and between pad and structure.
 3. Supports and bracing:
 - a. Design and install braces and anchors to transfer forces from equipment and components to the lateral force resisting system of the surrounding structure.
 - b. Anchor and brace piping, ductwork, and electrical distribution components so that lateral or vertical displacement does not result in damage to or failure of essential architectural, mechanical, or electrical equipment:
 - 1) Provide supplementary framing where required to transfer forces.
 - 2) Detail and locate braces and anchors to minimize differential movements between components and structure.
- B. Preparation:
1. Obtain manufacturer's information:
 - a. Weight and dimensions of components.
 - b. Layout and location of anchors that connect to equipment base plates, sole plates, skids, or pads.
 - c. Sizes of holes for anchors that will be provided in equipment bases or support frames.
- C. Analysis and design:
1. Perform and submit calculations to determine anchor designs at locations where equipment and equipment supports are connected to the supporting structure:
 - a. Indicate number, size, type, and material for anchors.
 2. In determining forces at locations where equipment is anchored to structures, include effects of:
 - a. Equipment self-weight and operating weight.
 - b. Location of equipment center of mass.
 - c. Forces from equipment operation including, but not limited to:
 - 1) Effects of internal contents including weight and sloshing.
 - 2) Effects of thrust, surge, and water hammer where specified.
 - 3) Equipment reactions and operating torque.
 - 4) Equipment vibration.
 - 5) Thermal effects from equipment and from distribution systems connected to the equipment (piping, ducts, and electrical).
 - 6) Other load or displacement inducing conditions.
 - d. Forces on equipment from loads specified in this Section:
 - 1) Include effects of wind, snow, and icing loads where applicable.
 - 2) Design for load combinations indicated in ASCE 7, unless otherwise specified or indicated on the Drawings.
 - 3) Seismic and wind loads: For equipment and tanks with weight that varies based on the volume of contained material, determine anchor forces to accommodate the full range of filled, partially filled, and empty conditions.
 3. Determine forces and overturning moments at equipment supports and at locations where supports are anchored to structures:
 - a. Indicate shear force and associated axial force at each anchor.

4. Do not use friction to resist sliding resulting from seismic or wind forces:
 - a. Resist sliding only by direct application of sliding loads to fasteners as bearing, shear, tension, or compression forces.
5. Using combined shears and axial forces at each anchor, design anchors and anchor groups for ductile failure:
 - a. Ductile failure: Anchor yield before failure of base material, typically concrete or masonry, at the anchor.
6. Anchor selection:
 - a. Provide anchors type indicated on the Drawings.
 - b. Where anchors are not specifically indicated on the Drawings, select in accordance with the following:
 - 1) Anchors that resist seismic and wind forces:
 - a) Cast-in-place forged hex-head anchor bolt.
 - 2) Anchors loaded in sustained tension:
 - a) Cast-in-place forged hex-head anchor bolt.
 - 3) Anchors for reciprocating, vibrating, and rotating equipment:
 - a) Cast-in-place forged hex-head anchor bolt.
 - c. Do not use post-installed anchors, mechanical or adhesive, unless:
 - 1) Post-installed anchors are indicated on the Drawings.
 - 2) Post-installed are approved by Engineer prior to placement of the surrounding concrete or masonry.
 - d. Anchor diameter:
 - 1) Select diameter so that hole in base plate is not greater than 125 percent of the nominal diameter of the anchor, nor greater than the diameter of the anchor plus 1/4 inch.
7. Determine number, size, layout, and minimum effective embedment for anchors:
 - a. Layout includes anchor spacing and required distance(s) from anchor to edge(s) of supporting concrete or masonry.
 - b. Anchors in concrete: Design based on minimum specified 28-day compressive strength, f'_c , as follows, unless otherwise indicated on the Drawings for the Work area:
 - 1) Concrete placed for this Work: $f'_c = 4500$ pounds per square inch.
8. Prepare drawings showing construction details of anchor designs.
9. Submit design calculations and drawings prior to placement of anchors, and of the structural elements to which they will connect.

END OF SECTION

SECTION 02050

SOILS AND AGGREGATES FOR EARTHWORK

PART 1 GENERAL

1.01 SUMMARY

- A. Section includes: Material requirements for soils and aggregates.

1.02 REFERENCES

- A. ASTM International (ASTM):
1. C117 - Standard Test Method for Materials Finer than 75- μ m (No. 200) Sieve in Mineral Aggregates by Washing.
 2. C131 - Standard Test Method for Resistance to Degradation of Small-Size Coarse Aggregate by Abrasion and Impact in the Los Angeles Machine.
 3. C136 - Standard Test Method for Sieve Analysis of Fine and Coarse Aggregates.
 4. C535 - Standard Test Method for Resistance to Degradation of Larger-Size Coarse Aggregate by Abrasion and Impact in the Los Angeles Machine.
 5. D2419 - Standard Test Method for Sand Equivalent Value of Soils and Fine Aggregate.
 6. D2844 - Standard Test Method for Resistance R-Value and Expansion Pressure of Compacted Soils.
 7. D4318 - Standard Test Method for Liquid Limit, Plastic Limit, and Plasticity Index of Soils.
 8. D4829 - Standard Test Method for Expansion Index of Soils.
 9. D5821 - Standard Test Method for Determining the Percentage of Fractured Particles in Coarse Aggregate.
- B. California State Transportation Agency, Department of Transportation (CALTRANS):
1. (Standard Specifications).
 2. California Test Methods (CTM):
 - a. California Test 205 - Method of Test for Determining Crushed Particles.
 - b. California Test 211 - Method of Test for Abrasion of Coarse Aggregate by Use of the Los Angeles Abrasion Testing Machine.
 - c. California Test 217 - Method of Test for Sand Equivalent.
 - d. California Test 229 - Method of Test for Durability Index.
 - e. California Test 301 - Method of Test for Determining the Resistance "R" Value of Treated and Untreated Bases, Subbases, and Basement Soils by the Stabilometer.

1.03 SUBMITTALS

- A. Product data:
1. Material source.

- 2. Gradation.
 - 3. Testing data.
- B. Quality control for aggregate base course:
 - 1. Test reports: Reports for tests required by Sections of Standard Specifications.
 - 2. Certificates of Compliance: Certificates as required by Sections of Standard Specifications.

1.04 DELIVERY, STORAGE, AND HANDLING

- A. Storage and protection: Protect from segregation and excessive moisture during delivery, storage, and handling.
- B. Comply with Standard Specifications storage requirements, if applicable.

PART 2 PRODUCTS

2.01 MATERIALS - GENERAL

- A. Provide material having maximum particle size not exceeding 4 inches and that is free of trash, lumber, debris, leaves, grass, roots, stumps, and other organic matter.
- B. Materials derived from processing demolished or removed asphalt concrete are not acceptable.
- C. Comply with soil and aggregate material requirements in the Standard Specifications, unless specified otherwise.

2.02 NATIVE MATERIAL

- A. Native soil-select:
 - 1. Sound earthen material.
 - 2. Plasticity index not to exceed 12.
 - 3. Not more than 30 percent passing the Number 200 sieve.
 - 4. Expansion Index less than 50.
 - 5. "R"-value equal to or greater than 40.
 - 6. An angle of friction equal to or greater than 36 degrees.
 - 7. Organic content not be greater than 3 percent by volume.
 - 8. Corrosion resistance requirements:
 - a. Resistivity minimum (wet aggregates): 5,000 ohm-cm.
 - b. pH: 5.0 to 12.0.
 - c. Chlorides maximum: 100 parts per million.
 - d. Sulfates maximum: 200 parts per million.

2.03 AGGREGATE BASE COURSE

- A. Material requirements:
 - 1. Class 2, 3/4-inch maximum aggregate size, free from organic matter and other deleterious substances, and of such nature that aggregate can be compacted readily under watering and rolling to form a firm, stable base.

2. Aggregate base course for structures:
 - a. Consist of crushed or fragmented particles.
 - b. Coarse aggregate material retained in Number 4 sieve shall consist of material of which at least 25 percent by weight shall be crushed particles when tested in accordance with California Test 205.
3. Aggregate shall not be treated with lime, cement, or other chemical material.
4. Durability index: Not less than 35 when tested in accordance with California Test 229.
5. Aggregate grading and sand equivalent tests shall be performed to represent not more than 500 cubic yards or 1 day's production of material, whichever is smaller.
6. Sand equivalent: Not less than 25 when tested in accordance with California Test 217.
7. Resistance (R-value): Not less than 78 when tested in accordance with California Test 301.
8. Conforms to size and grade within the following limits when tested in accordance with ASTM C117 and ASTM C136:

Sieve Sizes (Square Openings)	Percent by Weight Passing Sieve
1 inch	100
3/4 inch	90 - 100
Number 4	35 - 60
Number 30	10 - 30
Number 200	2 - 9

2.04 GRAVEL

- A. Material requirements:
 1. Consists of hard, durable particles of stone or gravel; or crushed to the specified sizes and gradations; and free from organic matter, lumps or balls of clay, and other deleterious matter.
 2. Crush or waste coarse material and add or waste fine material in order to meet the specified gradations.
 3. Fraction of material passing Number 40 sieve: Material having plasticity index not greater than 5 when tested in accordance with ASTM D4318.
 4. Durability: Percentage of wear not greater than 40 percent when tested in accordance with California Test 211.
 5. Conform to sizes and grade within the following limits when tested in accordance with ASTM C117 and C136:

Sieve Size (Square Openings)	Percent by Weight Passing Sieve		
	Type A	Type B	Type C
2 inch	100	--	--
1-1/2 inch	95 - 100	100	--

Sieve Size (Square Openings)	Percent by Weight Passing Sieve		
	Type A	Type B	Type C
3/4 inch	35 - 60	55 - 85	100
3/8 inch	15 - 40	35 - 65	50 - 100
Number 4	0 - 25	20 - 35	30 - 45
Number 30	--	5 - 15	10 - 20
Number 200	0 - 5	2 - 9	2 - 9

2.05 DRAIN ROCK

A. Material requirements:

1. Durability index: Percentage of wear not greater than 40 when tested in accordance with California Test 229.
2. Consists of hard, durable particles of stone or gravel; screened or crushed to specified size and gradation; and free from organic matter, lumps or balls of clay, or other deleterious matter.
3. Crush or waste coarse material and waste fine material as required to meet gradation requirements.
4. Conforms to size and grade within the following limits when tested in accordance with ASTM C117 and C136:

Sieve Size (Square Openings)	Percent By Weight Passing Sieve
2 inch	100
1-1/2 inch	95 - 100
3/4 inch	50 - 100
3/8 inch	15 - 55
Number 200	0 - 2

2.06 IMPORTED FILL

A. Material requirements: Refer to native soil-select:

1. Free of contaminants: CONTRACTOR shall sample soil for common contaminants derived from petroleum products.

PART 3 EXECUTION (NOT USED)

END OF SECTION

SECTION 02200

SITE CLEARING

PART 1 GENERAL

1.01 SUMMARY

- A. Section includes: Clearing, grubbing, and stripping project site.

1.02 DEFINITIONS

- A. Clearing: Consists of removal of natural obstructions and existing foundations, buildings, fences, lumber, walls, stumps, brush, weeds, rubbish, trees, boulders, utility lines, and any other items which interferes with construction operations or are designated for removal.
- B. Grubbing: Consists of the removal and disposal of wood or root matter below the ground surface remaining after clearing and includes stumps, trunks, roots, or root systems greater than 1 inch in diameter or thickness to a depth of 6 inches below the ground surface.
- C. Stripping: Includes the removal and disposal of all organic sod, topsoil, grass and grass roots, and other objectionable material remaining after clearing and grubbing from the areas designated to be stripped. The depth of stripping is estimated to be 6 inches, but the required depth of stripping will be determined by the Engineer.

1.03 QUALITY ASSURANCE

- A. Regulatory requirements: Verify and comply with applicable regulations regarding those governing noise, dust, nuisance, drainage and runoff, fire protection, and disposal.
- B. Pre-construction conference: Meet with Engineer to discuss order and method of work.

1.04 SEQUENCING AND SCHEDULING

- A. Clearing and grubbing: Perform clearing and grubbing in advance of grading operations.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION

3.01 EXAMINATION

- A. Verification of conditions: Examine site and verify existing conditions for beginning work.

3.02 PREPARATION

- A. Protect existing improvements from damage by site preparation work.

3.03 INSTALLATION

- A. Clearing:
 - 1. Clear areas where construction is to be performed and other areas as indicated on the Drawings, or specified in this Section, of fences, lumber, walls, stumps, brush, roots, weeds, trees, shrubs, rubbish, and other objectionable material of any kind which, if left in place, would interfere with proper performance or completion of the work, would impair its subsequent use, or form obstructions.
 - 2. Do not incorporate organic material from clearing and grubbing operations in fills and backfills.
 - 3. Contractor's temporary construction facilities: Fill or remove pits, fill, and other earthwork required for erection of facilities, upon completion of the work, and level to meet existing contours of adjacent ground.
- B. Grubbing:
 - 1. From excavated areas: Grub stumps, roots, and other obstructions 3 inches or over in diameter to depth of not less than 18 inches below finish grade.
- C. Stripping:
 - 1. Remove soil material containing sod, grass, or other vegetation to depth of 6 inches from areas to receive fill or pavement and from area within 5 feet outside foundation walls.
 - 2. Deposit stripped material in accordance with following requirements:
 - a. At locations acceptable to Engineer.
 - b. Use accepted material in top 6 inches of areas to be used for future planting.

END OF SECTION

SECTION 02260

EXCAVATION SUPPORT AND PROTECTION

PART 1 GENERAL

1.01 SUMMARY

- A. Section includes: Requirements for designing, providing, maintaining, and removing excavation support and protection.

1.02 REFERENCES

- A. American Society of Civil Engineers (ASCE):
 - 1. Guidelines of Engineering Practice for Braced and Tied-Back Excavations.
- B. California Code of Regulations (CCR):
 - 1. Title 8 - Industrial Relations:
 - a. Division 1. Department of Industrial Relations.
 - 1) Chapter 4. Division of Industrial Safety.
 - a) Subchapter 4. Construction Safety Orders.
 - (1) Article 6. Excavations.
- C. Department of the Navy Naval Facilities Engineering Command (NAVFAC):
 - 1. Design Manual 7.2 - Foundations and Earth Structures.
 - 2. Design Manual 7.3 - Soil Dynamics and Special Design Aspects.
- D. State of California Department of Transportation (Caltrans):
 - 1. Caltrans California Trenching and Shoring Manual.
- E. United States Steel Corporation (USS):
 - 1. Steel Sheet Piling Design Manual.

1.03 DEFINITIONS

- A. General Engineering Design Practice: General engineering design practice in area of the Project, performed in accordance with recent engineering literature on subject of shoring and stability of excavations.
- B. Shoring: A temporary structural system designed to support vertical faces, or nearly vertical faces, of soil or rock for purposes of excavation. Shoring includes cantilevered sheet piling, internally braced sheet piling, slurry walls, soldier piles and lagging, and other similar shoring systems. Sloping of the soil is not shoring.
- C. Support Levels: Level of tiebacks, wales, rakers, bottom of excavation, and other types of support.

1.04 SUBMITTALS

- A. Shop drawings and calculations:
 - 1. Calculations for different load, support, and other conditions that occur during the sequence of installation of shoring, construction of facilities protected by shoring, and sequence of removal of shoring.
 - 2. Sketches showing the condition at various stages of installation and removal of shoring.
 - 3. Show on plan shoring, structures, pipelines, and other improvements located near shoring.
 - 4. When utilities penetrate shoring, show location of penetrations on elevation of sides of shoring.
 - 5. Show details for ground support and sealing around utility penetrations.
 - 6. Indicate method used for installing driven shoring.
- B. Control points and schedule of measurements:
 - 1. Submit location and details of control points and method and schedule of measurements.
 - 2. Survey data.
- C. Inclinometers and schedule of measurements:
 - 1. Submit location and details of inclinometers and method and schedule of measurements taken.
 - 2. Promptly upon completion of construction of inclinometers, take measurements at inclinometers. Submit copy of field notes with measurements.
 - 3. Submit field notes with subsequent measurements. Show current measurement and change in measurement from first measurement taken.
- D. Detailed sequence of installation and removal of shoring:
 - 1. Consider effects of ground settlement in sequence of installation and removal of shoring.
 - 2. Provide sketches showing conditions at various stages in sequence of installation and removal of shoring.
- E. Submit submittals for excavation support and protection as complete package and include items required in this Section:
 - 1. Incomplete submittals will not be reviewed and will be returned for resubmittal as complete package.

1.05 SEQUENCING

- A. Do not begin construction of any shoring or excavation operations until:
 - 1. Submittals for shoring and dewatering have been accepted.
 - 2. Control points as specified in this Section and on existing structures and other improvements as indicated on the Drawings have been established and surveyed to document initial elevations and locations.
 - 3. Materials necessary for installation are on site.
- B. Submit submittals minimum of 35 business days prior to scheduled date to begin excavation work.

PART 2 PRODUCTS

2.01 DESIGN AND PERFORMANCE CRITERIA

- A. Where general engineering design practice is specified, provide drawings and calculations that are performed and signed by civil or structural engineer registered in State where Project is located:
 - 1. Clearly disclose assumptions made, criteria followed, and stress values used for materials being used in design calculations.
 - 2. Submit list of references acceptable to Engineer that substantiating appropriateness of design assumptions, criteria, and stress values.
- B. Design requirements:
 - 1. General:
 - a. Minimum safety factor used for design shall not be less than 1.5.
 - b. The calculated minimum depth of penetration of shoring below bottom of excavation shall be increased not less than 30 percent if full value of allowable passive pressure is used in design.
 - c. Maximum height of cantilever shoring above bottom of excavation shall not exceed 15 feet. Use braced shoring when height of shoring above bottom of excavation exceeds 15 feet.
 - d. The location of point of fixity for shoring shall not be less than half calculated minimum embedment depth below bottom of excavation.
 - e. Generally acceptable references for design of shoring and excavations are as follows:
 - 1) ASCE Guidelines of Engineering Practice for Braced and Tied-Back Excavations.
 - 2) Caltrans California Trenching and Shoring Manual.
 - 3) NAVFAC Design Manual 7.2.
 - 4) NAVFAC Design Manual 7.3.
 - 5) USS Steel Sheet Piling Design Manual.
 - f. Maximum total deflection of shoring at any point on shoring shall not be more than 3/4 inch.
 - g. Shoring design shall be performed by one of following engineering firms. Include cost for shoring design in bid:
 - 1) McMillen Jacobs Associates, San Francisco, California.
 - 2) J.M. Turner Engineering, Inc.
 - h. Shoring engineering firm shall obtain errors and omissions insurance for Project for an amount of not less than 500,000 dollars.
 - 2. Soldier piles and lagging:
 - a. Provide lagging over full face of excavation. Joints between pieces of lagging shall be tight to prevent loss of soil.
 - b. Provide full face lagging all around penetrations through lagging.
 - c. If the soldier piles are installed in predrilled holes and are not concrete encased, fill predrilled holes with controlled low strength material as specified in Section 02312 - Controlled Low Strength Material (CLSM) after soldiers piles are installed.
 - d. Assumed effective width for passive soil resistance:
 - 1) Effective width of driven soldier piles shall not exceed 2 times width of pile.

- 2) Effective width of CLSM encased soldier piles in drilled holes shall not exceed 2 times width of pile.
- 3) Effective width of concrete encased soldier piles shall not exceed 2 times width of concrete encasement.
- e. Fill voids behind lagging with gravel or other material acceptable to Engineer.
- f. Apply loads from tie back soil, rock, or deadman anchors concentrically to soldier piles or wales spanning between soldier piles:
 - 1) Wales shall be back-to-back double channels or other members acceptable to Engineer.
 - 2) Do not eccentrically load structural section of soldier piles or wales.
- g. Design soldier piles for downward loads including vertical loads from tieback anchors.
3. Soil anchors, rock anchors, and deadman anchors:
 - a. Design tieback anchors for a safety factor of not less than 2 times calculated load from shoring.
 - b. Proof load production anchors to 150 percent of calculated load from shoring.
 - c. Lock off production anchors at calculated load from shoring.
 - d. Length of soil anchors used to calculate resistance to load from shoring shall not include any length within potential active pressure soil failure zone behind face of shoring.
 - e. Design tie rods for tieback anchors for 130 percent of calculated load from shoring.
 - f. Design tie rods for tieback anchors for 150 percent of the calculated load from shoring when tie rod couplers are used and for other conditions where stress concentrations can develop.
4. Set inside face of shoring back from structure not less than greater of following:
 - a. Depth of excavation below bottom of foundation.
- C. Performance requirements:
 1. General:
 - a. Support faces of excavations and protect structures and improvements in vicinity of excavations from damage and loss of function due to settlement or movement of soils, alterations in ground water level caused by such excavations, and related operations.
 - b. Specified provisions:
 - 1) Complement, but do not substitute or diminish, obligations of Contractor for furnishing of safe place of work pursuant to provisions of the Occupational Safety and Health Act of 1970 and its subsequent amendments and regulations and for protection of Work, structures, and other improvements.
 - 2) Represent minimum requirement for:
 - a) Number and types of means needed to maintain soil stability.
 - b) Strength of such required means.
 - c) Methods and frequency of maintenance and observation of means used for maintaining soil stability.
 2. Provide safe and stable excavations by means of sheeting, shoring, bracing, sloping, and other means and procedures, such as draining and recharging

- groundwater and routing and disposing of surface runoff, required to maintain stability of soils and rock.
3. Provide support for trench excavations for protection of workers from hazard of caving ground.
 4. Provide shoring:
 - a. Where, as result of excavation work and analysis performed pursuant to general engineering design practice, as defined in this Section:
 - 1) Excavated face or surrounding soil mass may be subject to slides, caving, or other types of failures.
 - 2) Stability and integrity of structures and other improvements may be compromised by settlement or movement of soils, or changes in soil load on structures and other improvements.
 - b. For trenches 5 feet and deeper.
 - c. For trenches less than 5 feet in depth, when there is potential for cave-in.
 - d. Where indicated on the Drawings.
 5. For safe and stable excavations, use appropriate design, construction, and maintenance procedures to minimize settlement of supported ground and to prevent damage to structures and other improvements, including:
 - a. Using stiff shoring systems.
 - b. Following appropriate construction sequence.
 - c. Using shoring system that is tight enough to prevent soil loss through the shoring.
 - d. Using shoring system that extends far enough below bottom of excavation to prevent piping, heave, or flow of soil under shoring.
 - e. Design for safety factor of not less than 1.50.
 - f. Providing surface runoff routing and discharge away from excavations.
 - g. Where dewatering inside shoring is necessary, recharge groundwater outside shoring as necessary to prevent settlement in area surrounding shored excavation.
 - h. Where sheet piling is used, use interlocking type sheets:
 - 1) Sheet piles shall be continuous and driven in interlock.
 - 2) If bottom of the excavation is located below the water table, use "ball and socket" or "thumb and finger" type interlock.
 - i. Not applying shoring loads to existing structures and other improvements.
 - j. Not changing existing soil loading on existing structures and other improvements.
 - k. Provide welded steel packing between soil retaining members such as sheet piles and wales and similar members when gap exceeds 1/4 inch before wales are loaded.

PART 3 EXECUTION

3.01 CONSTRUCTION

- A. Installation of shoring:
 1. Install means for providing safe and stable excavations as indicated in submittals.

- B. Removal of shoring:
 - 1. Except for concrete encased soldier piles, slurry walls, and similar shoring systems, remove shoring by completion of Work.
 - 2. Select shoring system and method of removal, which will minimize soil that sticks to shoring from creating voids and causing settlement.
 - 3. To prevent settlement caused by pulling shoring, fill voids with pressure injected grout:
 - a. Inject grout starting at bottom of void and progressively fill void to grade.
 - b. Minimize length of shoring removed ahead of grouting operation and limit time void is left ungrouted to prevent void from closing up before being grouted.
 - 4. Pressure preservative treated wood lagging may be left in place if acceptable to Engineer.
- C. Control points:
 - 1. Establish control points on shoring and on structures and other improvements in vicinity of excavation for measurement of horizontal and vertical movement:
 - a. Set control points on shoring support system:
 - 1) Set points at distances not exceeding 25 feet at each support level.
 - 2. Promptly upon completion of construction of control points survey control points. Submit copy of field notes with measurement.
 - 3. Perform horizontal and vertical survey and measurement of control points at least once every week.
 - a. Field notes shall show current measurement and change in measurement from first measurement taken.
 - 4. Set control points on corners of existing structures and on curbs, manholes, and other improvements as directed by the Engineer.
 - 5. Provide plumb bobs with horizontal targets indicating original position of plumb bobs in relation to shoring at control points.
- D. Inclinometers:
 - 1. Provide inclinometers at location indicated on the Drawings.
 - 2. Measure inclinometers at least once a week and submit data.
 - 3. By end of work, fill pipes for inclinometers with grout.
- E. Vibration monitoring:
 - 1. Measure vibration due to installation and removal of shoring.
 - 2. Do not exceed 2 inches per second at distance of 10 feet from shoring for installation and removal of shoring.
 - 3. Perform vibration monitoring continuously during installation and removal of shoring.
 - 4. Submit vibration monitoring program including information on vibration monitoring instrumentation.
 - 5. Submit vibration monitoring data daily.

F. Maintenance:

1. Where loss of soil occurs, plug gap in shoring and replace lost soil with fill material acceptable to Engineer.
2. Where measurements and observations indicate possibility of failure or excessive movement of excavation support, determined in accordance with general engineering design practice, take appropriate action immediately.

END OF SECTION

SECTION 02300

EARTHWORK

PART 1 GENERAL

1.01 SUMMARY

- A. Section includes:
 - 1. Loosening, excavating, filling, grading, borrow, hauling, preparing subgrade, compacting in final location, wetting and drying, and operations pertaining to site grading for buildings, basins, reservoirs, boxes, roads, and other facilities.
 - 2. Backfilling and compacting under and around structures.

1.02 REFERENCES

- A. American Association of State Highway and Transportation Officials (AASHTO):
 - 1. Standard Specifications for Highway Bridges.
- B. ASTM International (ASTM):
 - 1. D1557 - Standard Test Method for Laboratory Compaction Characteristics of Soil Using Modified Effort (56,000 ft-lbf/ft³).
 - 2. D6938 - Standard Test Method for In-Place Density and Water Content of Soil and Soil-Aggregate by Nuclear Methods (Shallow Depth).

1.03 DEFINITIONS

- A. Backfill Adjacent to Structure: Backfill within volume bounded by the exterior surfaces of structure, the surface of undisturbed soil in the excavation around structure, and finish grade around structure.
- B. Excavation: Consists of loosening, removing, loading, transporting, depositing, and compacting in final location, wet and dry materials, necessary to be removed for purposes of construction of structures, ditches, grading, roads, and such other purposes as are indicated on the Drawings.

1.04 SUBMITTALS

- A. Copy of Property Owner's Agreement allowing placement of surplus soil material on their property.
- B. Excavation plan:
 - 1. Submit shoring, temporary pipe supports, and excavation plan for review and approval.

- C. Testing lab: Submit Contractor's proposed testing laboratory capabilities and equipment. Test reports:
 - 1. Submit certified test reports of tests specified to be performed by the Contractor.
 - 2. Sign and seal test reports by a registered Civil Engineer who practices geotechnical engineering registered in California.

1.05 QUALITY ASSURANCE

- A. Initial compaction demonstration:
 - 1. Adequacy of compaction equipment and procedures: Demonstrate adequacy of compaction equipment and procedures before exceeding any of following amounts of earthwork quantities:
 - a. 50 cubic yards of backfill adjacent to structures.
 - b. 100 cubic yards of fill.
 - c. 50 cubic yards of roadway base material.
 - d. 100 cubic yards of road fill.
 - 2. Compaction sequence requirements: Until specified degree of compaction on previously specified amounts of earthwork is achieved, do not perform additional earthwork of the same kind.
 - 3. After satisfactory conclusion of initial compaction demonstration and at any time during construction, provide confirmation tests as specified under "FIELD QUALITY CONTROL."

1.06 SEQUENCING AND SCHEDULING

- A. Schedule earthwork operations to meet requirements specified in this Section for excavation and uses of excavated material.
- B. If necessary, stockpile excavated material in order to use it at specified locations.
- C. Excavation, backfilling, and filling: Perform excavation, backfilling, and filling during construction in manner and sequence that provides drainage at all times.

PART 2 PRODUCTS

2.01 DESIGN AND PERFORMANCE CRITERIA

- A. Performance requirements:
 - 1. Where mud or other soft or unstable material is encountered, remove such material and refill space with stabilization material. Wrap stabilization material with stabilization fabric.
 - 2. Obtain acceptable import material from other sources if surplus or borrow materials obtained within Project site does not conform to specified requirements or are not sufficient in quantity.
 - 3. No extra compensation will be made for hauling of fill materials nor for water required for compaction.

2.02 MATERIALS

- A. Water for compacting: Use water from source acceptable to Engineer.
- B. Soil and rock materials:
 - 1. General:
 - a. Provide aggregate base course, Class 2 permeable, controlled low-strength material, drain rock, gravel, native material, sand, and select material, where specified or indicated on the Drawings.
 - b. If suitable surplus materials are available, obtain native material and select material from cut sections or excavations or imported materials.
 - 2. Aggregate base course materials: As specified in Section 02050 - Soils and Aggregates for Earthwork.
 - 3. Class 2 permeable: As specified in Section 02050 - Soils and Aggregates for Earthwork.
 - 4. Drain rock: As specified in Section 02050 - Soils and Aggregates for Earthwork.
 - 5. Gravel: As specified in Section 02050 - Soils and Aggregates for Earthwork.
 - 6. Native material: As specified in Section 02050 - Soils and Aggregates for Earthwork.
 - 7. Sand: As specified in Section 02050 - Soils and Aggregates for Earthwork.
 - 8. Select material: As specified in Section 02050 - Soils and Aggregates for Earthwork.
- C. Controlled low-strength material: As specified in Section 02312 - Controlled Low Strength Materials (CLSM).

PART 3 EXECUTION

3.01 EXAMINATION

- A. Verification of conditions:
 - 1. Character and quantity of material:
 - a. Verify character and quantity of rock, gravel, sand, silt, water, and other inorganic or organic materials to be encountered in work to be performed.
 - b. Determine gradation, shrinkage, and swelling of soil, and suitability of material for use intended in work to be performed.
 - c. Determine quantity of material, and cost thereof, required for construction of backfills, cuts, excavations, and fills, whether from onsite excavations or imported materials. Include in cost of work to be performed.
 - d. Include wasting of excess material, if required, in cost of work to be performed.

3.02 PREPARATION

- A. Backfills:
 - 1. After clearing and excavation are completed, scarify entire areas that underlie backfills or structures to a depth of 6 inches and until surface is free of ruts, hummocks, and other features that would prevent uniform compaction by equipment to be used.

2. Recompact scarified areas to density specified before placing backfill material or concrete.
 3. Do not place backfill against walls until:
 - a. Walls have been cast full height of structure and concrete has reached the specified strength.
 - b. Connecting slabs and beams have been cast, and concrete has reached the specified strength.
 4. Do not place backfill on top of buried structures until:
 - a. Concrete has reached full strength.
 5. Prior to backfilling:
 - a. Remove forms.
 - b. Clean trash and debris from the excavation site.
 6. After inspection of foundation, walls, and pipes, place backfill symmetrically around structures to prevent eccentric loading of structures.
 7. Place material on top of structure to prevent excessive point loading that exceeds the loading capacity of the structure.
 - a. Contractor is responsible for damage to structures due to improper backfilling and compaction.
- B. Sloped surfaces for fill or foundations:
1. Foundations for fill having slopes in excess of 1 vertical to 4 horizontal:
 - a. Bench or terrace to adequately key existing ground and fill built thereon.
 2. Slopes of original hillsides and old fills: Bench minimum of 10 feet horizontally as fill is placed.
 3. Provision of new benches:
 - a. Start new bench wherever vertical cut of next lower bench intersects existing grade.
 - b. Recompact material thus cut out along with new embankment material at no additional cost to the Owner.

3.03 INSTALLATION

- A. General:
1. Dispose of excavated materials that are not required or are unsuitable for fill and backfill in lawful manner.
 2. Dispose of surplus material on private property only when written permission agreement is furnished by owner of property. Submit copies of such agreements.
 3. Rocks, broken concrete, or other solid materials larger than 4 inches in greatest dimension: Remove from project site at no additional cost to the Owner.
 4. Stabilization of subgrade: Provide materials used, or perform work required, to stabilize subgrade so it can withstand loads that may be placed upon it by Contractor's equipment.
- B. Borrow area: There is no borrow area on Project site.
1. Where material is required, import material from source located off Project site selected by the Contractor and subject to acceptance by the Engineer.
 2. There will be no additional cost to the Owner for use of imported material.

C. Compaction:

1. Provide specified compaction for backfills, cuts, embankments, fills, roadway fills, and other earthwork.
2. Perform confirmation tests to verify and confirm that work has complied, and is complying at all times, with compaction requirements specified in this Section for initial compaction demonstration and field quality control testing.
3. In-place density of compacted backfills, cuts, embankments, fills, and roadway fills determined in accordance with ASTM D1556, or with ASTM D6938.
4. Maximum density, laboratory compaction: Soil maximum density and optimum water content when tested in accordance with ASTM D1557.
5. To prevent damage to structures due to backfilling operations, place backfill with equipment that does not exceed AASHTO Standard Specifications for Highway Bridges, H-20 vehicle loading, within a distance from the face of the structure of not less than 1/2 the depth of backfill. The depth of backfill is the distance between the level being compacted and the bottom of the excavation. Outside this distance, heavier compaction equipment may be used.
6. Compact to percentage of maximum density as follows:
 - a. Backfill adjacent to structures: 95 percent.
 - b. Backfilling voids: 95 percent.
 - c. Other areas: 85 percent.
 - d. Under present and future structures: 95 percent.
 - e. Under roadways, parking and storage areas, curbs, and sidewalks: 95 percent.
 - f. Upper 6 inches of cuts: 95 percent.
 - g. Fills: 95 percent.

D. Excavation:

1. Excavations for structures:
 - a. Provide excavations conforming to dimensions and elevations indicated on the Drawings for each structure.
 - b. After clearing is complete, excavate for the structure, down to the elevation indicated on the Drawings. Unless directed by Engineer, do not carry excavations below elevation indicated on the Drawings.
 - c. Where soil is encountered having unsuitable bearing value, Engineer may direct in writing that excavation be carried to elevations below those indicated on the Drawings.
 - d. Where excavations are made below elevations indicated on the Drawings, adjust elevations of excavations in accordance with the following requirements:
 - 1) Under slabs: Restore to proper elevation in accordance with procedure specified for backfill in this Section.
 - 2) Under footings: Restore to the proper elevation using one of the following:
 - a) Aggregate base course.
 - b) Controlled low-strength material.
 - e. Excavation width:
 - 1) Extend excavations to allow for placing and removal of forms, installation of services, and inspection.
 - 2) Do not undercut slopes.
 - f. Difficulty of excavation: No extra compensation will be made for removal of rock or any other material due to difficulty of excavation.

2. Excavation of lined channels:
 - a. Excavations in open cut for lined channels may be made so as to place concrete directly against excavated surfaces providing faces of excavations are:
 - 1) Firm and unyielding.
 - 2) Will stand or can be made to stand without sloughing.
 - b. Excavations to provide subgrade for lined channel or subdrainage material: Excavate to lines and grades indicated on the Drawings.
 3. Excavation of unlined channels and basins:
 - a. Excavate to lines and grades indicated on the Drawings.
 - b. Perform excavation and grading so that finish surfaces are in uniform planes with no abrupt breaks in surface.
 4. Excavation of ditches and gutters:
 - a. Cut ditches and gutters accurately to cross sections and grades indicated on the Drawings.
 - b. Take care not to excavate ditches and gutters below grades indicated on the Drawings.
 - c. Backfill excessive ditch and gutter excavations to grade with suitable material acceptable to the Engineer.
 - d. Do not deposit any material within 3 feet of edge of ditch unless otherwise indicated on the Drawings.
 5. Necessary over excavation:
 - a. Where it becomes necessary to excavate beyond normal lines of excavation in order to remove boulders or other interfering objects, backfill voids remaining after removal as specified in backfilling of voids below, or as acceptable to the Engineer.
 - b. Backfill voids with material acceptable to the Engineer:
 - 1) With acceptance of the Engineer, backfill with one of the following:
 - a) Aggregate base course.
 - b) Controlled low-strength material.
- E. Materials for backfills, embankments, fills, and roadway fills:
1. General:
 - a. Obtain import material from other sources if surplus materials from cuts and excavations obtained from within Project site do not conform to specified requirements or are not sufficient in quantity for construction of Project.
 2. Backfills:
 - a. Backfill adjacent to structures, slabs, or walls: Select material or imported material meeting the requirements of select material, unless otherwise specified or indicated on the Drawings.
 - b. Backfill material under concrete structures: Aggregate base course material, except in areas where controlled low-strength material or concrete encasement are indicated on the Drawings.
 - c. Extend backfill in any area under concrete structures from undisturbed soil or rock to the bottom aggregate base course material layer.

- F. Placement:
 - 1. General:
 - a. Lines and grades:
 - 1) Construct backfills, embankments, fills, and road fills, at locations and to lines and grades indicated on the Drawings.
 - 2) Overbuild permanent fill slopes by at least 1 foot and then cut to final grade to provide adequate compaction of the remaining fill.
 - 2. Backfills:
 - a. Place loose material in successive layers that do not exceed 8 inches in depth after compaction.
 - b. Bring each layer to a moisture content between optimum moisture content and 3 percent above optimum moisture content before compacting.
 - c. Defective compacted backfills: Remove and recompact.

3.04 FIELD QUALITY CONTROL

- A. Confirmation tests:
 - 1. Contractor's responsibilities:
 - a. Adequacy of compaction equipment and procedures:
 - 1) Demonstrate adequacy of compaction equipment and procedures.
 - 2) At each test location include tests for each type or class of backfill from bedding to finish grade.
 - b. Compaction sequence requirements:
 - 1) Do not perform additional earthwork of the same kind until specified degree of compaction has been demonstrated.
 - c. Cost of confirmation tests: Paid for by the Contractor.
 - d. Qualifications of Contractor's testing laboratory: Acceptable to Engineer.
 - e. Copies of confirmation test reports: Submit promptly to the Engineer.
 - 2. Frequency of confirmation testing:
 - a. Maximum dry density versus moisture:
 - 1) Backfill: 40 cubic yards of backfill adjacent to structures.
 - b. Cost of confirmation tests:
 - 1) Paid for by the Contractor.
 - c. Qualifications of Contractor's testing laboratory:
 - 1) Perform confirmation testing by soils testing laboratory acceptable to the Engineer. Copies of confirmation test reports: Submit promptly to the Engineer.
- B. Tolerances:
 - 1. Finish grading of backfills, cuts, embankments, fills, and roadway fills:
 - a. Perform fine grading under concrete structures such that finish surfaces are never above the grade or cross section indicated on the Drawings and are never more than 0.10 feet below.
 - b. Provide finish surface for areas outside of structures that are within 0.10 feet of grade or cross section indicated on the Drawings.
 - 2. Unlined channels and basins:
 - a. In both cut and fill, and levee and access road side slopes in cut: Vertical tolerance of none above and 3 inches below grade indicated on the Drawings on bottom and side slopes.

- b. On top surface of levee and access road in both cut and fill, and levee and access road side slopes in fill: Vertical tolerance of none below and 3 inches above grade indicated on the Drawings.
 - 3. Areas which are not under structures, concrete, asphalt, roads, pavements, sidewalks, and similar facilities:
 - a. Provide finish graded surfaces of either undisturbed soil, or cohesive material not less than 6 inches deep.
 - b. Intent of proceeding is to avoid sandy or gravelly areas.
 - 4. Finish grading of surfaces:
 - a. Reasonably smooth, compacted, and free from irregular surface changes.
 - b. Provide degree of finish that is ordinarily obtainable from blade grader operations, except as otherwise specified.
 - c. Uniformly grade areas that are not under concrete.
 - d. Finish ditches and gutters so that they drain readily.
- C. Compliance tests:
 - 1. Frequency of testing: Periodic compliance tests will be made by the Engineer to verify that compaction is meeting requirements previously specified.

3.05 ADJUSTING

- A. Finish grades of excavations, backfills, and fills:
 - 1. Repair and reestablish grades to required elevations and slopes due to any settlement or erosion that may occur from action of the elements or any other cause prior to final acceptance.

3.06 PROTECTION

- A. Finish grades of backfills, cuts, excavations, and fills:
 - 1. Protect newly graded areas from erosion and deterioration by action of the elements.
- B. Ditches and gutters:
 - 1. Maintain ditches and gutters free from detrimental quantities of debris that might inhibit drainage until final acceptance.

END OF SECTION

SECTION 02312

CONTROLLED LOW STRENGTH MATERIAL (CLSM)

PART 1 GENERAL

1.01 SUMMARY

- A. Section includes: Controlled low strength material (CLSM), also known as "flowable fill."

1.02 REFERENCES

- A. American Concrete Institute (ACI):
 - 1. 229R - Report on Controlled Low-Strength Materials.
 - 2. 301 - Specifications for Structural Concrete.
- B. ASTM International (ASTM):
 - 1. C33 - Standard Specification for Concrete Aggregates.
 - 2. C94 - Standard Specification for Ready Mix Concrete.
 - 3. C143 - Standard Test Method for Slump of Hydraulic Cement Concrete.
 - 4. C150 - Standard Specification for Portland Cement.
 - 5. C260 - Standard Specification for Air-Entraining Admixtures for Concrete.
 - 6. C403 - Standard Test Method for Time of Setting of Concrete Mixtures by Penetration Resistance.
 - 7. C494 - Standard Specification for Chemical Admixtures for Concrete.
 - 8. C618 - Standard Specification for Coal Fly Ash and Raw or Calcined Natural Pozzolan for Use in Concrete.
 - 9. D1557 - Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Modified Effort (56,000 ft-lbf/ft³(2,700 kN-m/m³)).
 - 10. D4832 - Standard Test Method of Preparation and Testing of Controlled Low Strength Material (CLSM) Test Cylinders.
 - 11. D5971 - Standard Practice for Sampling Freshly Mixed Controlled Low Strength Material.
 - 12. D6023 - Standard Test Method for Density (Unit Weight), Yield, Cement Content, and Air Content (Gravimetric) of Controlled Low-Strength Material.

1.03 SUBMITTALS

- A. Product data: Submit data completely describing materials in the mix and demonstrating compliance with the requirements of this Section.
 - 1. Cement: Mill tests. Indicate alkali content representative of each shipment.
 - 2. Fly ash: Identify source and type of fly ash.
 - 3. Water: Identify source and quality if not from a municipal treatment source.
 - 4. Admixtures: Manufacturer's product data indicating suitability for use in CLSM mixes and recommended dosage rates.

- 5. Aggregate:
 - a. Submit source, type, and sieve analyses. Include testing to demonstrate that materials in accordance with ASTM C33 requirements.
 - b. Resubmit at any time there is a significant change in grading of materials.
- B. Mix design:
 - 1. Submit full details, including mix design calculations for mix proposed for use.
 - 2. Trial batch test data:
 - a. Submit data for each test cylinder.
 - b. Submit data that identifies mix and slump for each test cylinder.

1.04 DELIVERY, STORAGE AND HANDLING

- A. Store or stockpile cement, fly ash, and aggregate in accordance with ACI 301.
- B. Store admixtures in accordance with the manufacturer's recommendations.

PART 2 PRODUCTS

2.01 DESIGN AND PERFORMANCE CRITERIA

- A. Mixture of portland cement, water, pozzolan, fine aggregate and admixtures, proportioned in accordance with the recommendations of ACI 229 to produce a homogeneous mixture that is flowable, that will readily work into corners and angles; that will not segregate in the plastic state; and that is self-compacting at the time of placement without the use of mechanical vibration.
- B. Performance requirements:
 - 1. Air content, total calculated in accordance with ASTM D6023: Not less than 8.0 percent, nor greater than 12.0 percent.
 - 2. Compressive strength, measured in accordance with ASTM D4832 at 28 days: Not less than 50 pounds per square inch, nor greater than 150 pounds per square inch.
 - 3. Wet density: Not greater than 132 pounds per cubic foot.
 - 4. Slump, measured in accordance with ASTM C143 at the point of placement: Greater than 9 inches and that allows CLSM to flow freely and to be self-compacting during placement.

2.02 MATERIALS

- A. Cement:
 - 1. Portland cement in accordance with ASTM C150, Type I or Type II.
 - 2. Having total alkali content not more than 0.60 percent.
- B. Fly ash: Class C or Class F fly ash in accordance with ASTM C618.
- C. Water:
 - 1. Potable water: Clean and free from oil and deleterious amounts of alkali, acid, organic matter, or other substances.

- D. Admixtures: Products of a single manufacturer, specifically manufactured or recommended by that manufacturer for use in CLSM.
 - 1. Air entraining admixture: In accordance with ASTM C260.
 - 2. Water reducing admixture: In accordance with ASTM C494, Type A.
- E. Aggregate:
 - 1. Non-expansive, non-reactive, inert natural sand in accordance with ASTM C33 for fine aggregate.

2.03 MIXES

- A. See Design and Performance Criteria for performance requirements of the plastic and hardened mix.

2.04 SOURCE QUALITY CONTROL

- A. Trial batch:
 - 1. After mix design has been accepted by Engineer, have trial batch of the accepted mix design prepared by testing laboratory acceptable to Engineer.
 - 2. Prepare trial batches using the specific cement, fly ash, admixtures, aggregates, and water proposed for the Work.
 - 3. Prepare trial batch with quantity sufficient to determine slump, workability, and consistency; and to provide test cylinders as indicated in this Section.
- B. Trial batch testing:
 - 1. Determine slump in accordance with ASTM C143, with the following modifications:
 - a. Do not rod the concrete material.
 - b. Place material in slump cone in one semi-continuous filling operation, slightly overfill, tap lightly, strike off, and then measure and record slump.
 - 2. Prepare and test trial batch specimens in accordance with ASTM D4832, with the following modifications:
 - a. Provide cylindrical test specimens, each 6-inches in diameter by 12-inch high.
 - b. Provide a minimum of 8 cylinders for testing of each trial batch.
 - c. Fill the molds to overflowing and tap sides lightly to settle the mix.
 - d. Do not rod the mix for consolidation in the cylinder.
 - e. Strike off the excess material.
 - 3. Place test cylinders in a moist curing room. Exercise caution in moving and transporting the cylinders since they are fragile and will withstand only minimal bumping, banging, or jolting without damage.
 - 4. Do not remove the test cylinder from mold until that cylinder is to be capped and tested.
 - a. Perform the capping carefully to prevent premature fractures.
 - b. Do not perform initial compression test until the cylinders reach a minimum age of 3 days.

5. Provide compressive strength tests:
 - a. Test 4 test cylinders at 7 days after casting, and another 4 cylinders at 28 days after casting.
 - b. The compression strength of the 4 test cylinders tested at 28 days shall be equal to or greater than the minimum required compression strength, but shall not exceed maximum compression strength.
- C. If the trial batch tests do not meet the Specifications for strength or density, revise and re-submit the mix design, prepare additional trial batch(es), and complete additional trial batch tests. Repeat until an acceptable trial batch is that conforms to the Specifications is produced.
 1. All the trial batches and acceptability of materials shall be paid by the Contractor.
 2. After acceptance, do not change the mix design without submitting a new mix design, trial batches, and test information.

PART 3 EXECUTION

3.01 PREPARATION

- A. Do not place CLSM until preparation and condition of surfaces receiving the fill have been observed and accepted by the Engineer.
- B. Remove debris foreign matter, and standing or running water from excavations and areas receiving CLSM before placement.

3.02 INSTALLATION

- A. Pipes and trenches.
 1. Install cellular concrete as indicated on the Drawings and specified.
 2. Where CLSM is placed around and over pipes, secure pipes in place, or place CLSM in lifts to prevent pipe flotation.
 3. Where CLSM is placed in long, open trenches, confine material using bulkheads of sandbags, earth dams, or stiffer concrete at open ends of placement.
- B. Soil preparation:
 1. Prior to placement of CLSM, prepare underlying soils as follows:
 - a. Scarify surface to a depth of 8 inches.
 - b. Adjust moisture content to or slightly above the optimum in accordance with ASTM D1557.
 - c. Re-compact scarified surface to a minimum of 95 percent relative density in accordance with ASTM D1557.

3.03 MEASURING, BATCHING, MIXING AND TRANSPORTING

- A. Measure, batch, mix and transport CLSM in accordance with the requirements of ASTM C94 and this Section.
- B. Mix until there is uniform distribution of materials.

- C. Discharge mixer completely prior to recharging.
- D. After trial batch testing and mix acceptance, maintain slump during construction within plus or minus 1 inch of the design slump.

3.04 PLACING

- A. Place controlled low strength material by method that preserves the quality of the material in terms of compressive strength and density.
- B. Maintain fluid properties of the mix during placement.
 - 1. At point of placement, provide material that flows easily around, beneath, or through walls, pipes, conduits, or other structures.
 - 2. Do not place CLSM that has partially hardened or that has been contaminated by foreign materials.
 - 3. Handle and place CLSM using methods that minimize segregation of the mix.
 - 4. Deposit mix as near its final position as possible to avoid segregation due to rehandling or flowing.
 - 5. Contain and confine mix while it is fluid. Design containment structures and bracing at walls and forms to withstand lateral pressures of wet mix.
- C. Lifts:
 - 1. Limit lift heights of CLSM placed against structures and other facilities that could be damaged due to the pressure from the CLSM, to the lesser of 3 feet or the lift height indicated on the Drawings.
 - 2. Do not place another lift of CLSM until the last lift of CLSM has set and gained sufficient strength to prevent additional lateral load against the forms or structure due to the weight of the next lift of CLSM.
- D. Water conditions:
 - 1. Do not place CLSM in standing or flowing water.
 - 2. Do not permit water to flow over the surface of freshly placed or un-hardened CLSM.
 - 3. Do not submerge CLSM in water within 24 hours after placement.
- E. Manage CLSM bleed water.
 - 1. Grade top surface of CLSM to drain away from the fill.
 - 2. Provide side containment that permits bleed water to drain to a contained management area away from the fill.
 - a. Do not allow any bleed water to drain into nearby storm drains.

3.05 CURING AND PROTECTION

- A. Curing:
 - 1. Prior to and during curing, install barriers to prevent equipment or personnel from falling into or becoming entrapped in CLSM.
- B. Protect CLSM from:
 - 1. Damage from the elements.

2. Damage of any nature during surrounding construction operations.
3. Freezing: Do not use salt, manure, or other chemicals to provide protection from cold temperatures.

3.06 FIELD QUALITY CONTROL

- A. Provide quality control over the Work of this Section as specified in Section 01450 - Quality Control and as specified in this Section.
- B. General:
 1. Engineer inspection and acceptance required prior to placement.
 2. Make provisions for and furnish all material for the test specimens, and provide manual assistance to assist the Testing Laboratory in preparing said specimens.

3.07 FIELD QUALITY ASSURANCE

- A. Provide quality control over the work of this Section as specified in Section 01450 - Quality Control.
- B. Field inspections:
 1. Engineer shall provide on-site inspection for the Work of this Section.
 2. Advise Engineer of readiness to proceed at least 24 hours prior to each placement of CLSM.
 3. Required inspections:
 - a. Engineer will observe the prepared areas. Do not place CLSM until Engineer has observed and accepted preparations.
 4. Record of inspections.
- C. Field sampling and testing:
 1. During construction, Contractor shall provide sampling and testing to determine whether the CLSM, as produced and placed, complies with the requirements specified.
 2. Sample CLSM for testing in accordance with ASTM D5971.
 3. Required tests:
 - a. Air content: Prepare sample and test in accordance with ASTM D6023.
 - b. Compressive strength: Prepare and test cylinder specimens in accordance with ASTM D4832.
 - 1) Prepare 6-inch diameter by 12-inch high specimens for testing.
 - a) Provide one set of specimens for each 150 cubic yards of CLSM placed, but not less than 1 set for each half day's placement.
 - b) Prepare and test not less than 3 cylinders for each set.
 - c) Place CLSM in the molds in accordance with ASTM D4832. Do not rod or otherwise consolidate the material in the mold.
 - d) In accordance with ASTM D4832 recommendations for displacing bleed water at the top of the molds and refilling the molds before covering with a lid. Do not use air-tight lids.
 - 2) Place the cylinders in a safe location away from construction activities.
 - a) Protect cylinders from bumping and impact.

- b) Maintain temperature surrounding cylinders between 60 and 80 degrees Fahrenheit until delivery to the laboratory for testing.
 - c) After the first day, surround molds with a high humidity environment by covering with wet burlap, or equivalent highly absorptive material. Maintain saturation of the cover. Do not sprinkle water directly on the cylinders.
- 3) After 4 days, place the cylinders in a protective container for transport to the laboratory for testing.
 - a) Exercise caution in moving and transporting the cylinders since they are fragile and will withstand only minimal bumping, banging, or jolting without damage.
 - b) Transport container may be a box with a Styrofoam or similar lining that will limit jarring and bumping of the cylinders.
- 4) Upon receipt at the testing laboratory, place test cylinders in a moist curing room until dates for testing.
- 5) Do not remove test cylinders from molds until the day that cylinders is to be capped and tested.
- 6) Cap and test for compressive strength in accordance with ASTM D4832.
 - a) Do not perform initial compression test until the cylinders reach an age of at least 4 days.
 - b) Test 1 cylinder at 7 days and 2 at 28 days.
- 7) Compressive strength of the cylinders tested at 28 days shall be equal to or greater than the minimum required compression strength, but shall not exceed maximum compression strength specified.

3.08 NON-CONFORMING WORK

- A. When testing or observation indicates CLSM with properties outside the specified and accepted range, Engineer will issue instructions regarding disposition of nonconforming materials.
- B. Engineer may:
 - 1. Reject CLSM represented by those test specimens and require its removal and replacement.
 - 2. Require modification of the mix design to provide CLSM with the properties specified.
- C. Make such modifications at no additional expense to the Owner and with no adjustment to the schedule.

END OF SECTION

SECTION 03055

ADHESIVE-BONDED REINFORCING BARS AND ALL THREAD RODS IN CONCRETE

PART 1 GENERAL

1.01 SUMMARY

- A. Section includes: Bonding reinforcing bars and all thread rods in concrete using adhesives.

1.02 REFERENCES

- A. American Concrete Institute (ACI):
 - 1. 355.4 - Qualification of Post-Installed Adhesive Anchors in Concrete and Commentary.
- B. American National Standards Institute (ANSI):
 - 1. Standard B212.15 - Carbide Tipped Masonry Drills and Blanks for Carbide Tipped Masonry Drills.
- C. ASTM international (ASTM):
 - 1. C881 - Standard Specification for Epoxy-Resin-Base Bonding Systems for Concrete.
- D. Concrete Reinforcing Steel Institute (CRSI).
- E. ICC Evaluation Service, Inc. (ICC-ES):
 - 1. AC308 - Acceptance Criteria for Post-Installed Adhesive Anchors in Concrete Elements.
- F. NSF International (NSF):
 - 1. 61 - Drinking Water System Components - Health Effects.
- G. Society for Protective Coatings (SSPC):
 - 1. SP-1 - Solvent Cleaning.

1.03 DEFINITIONS

- A. Evaluation Service Report (ESR): Report prepared by ICC-ES, or other testing agency acceptable to Engineer and to the Building Official, that documents testing and review of a product to confirm that it complies with the requirements of designated ICC-ES Acceptance Criteria, and to document its acceptance for use under the Building Code specified in Section 01410 - Regulatory Requirements.

1.04 SUBMITTALS

- A. Product data: Technical data for adhesives, including:
 - 1. Manufacturer's printed installation instructions (MPII).

2. Independent laboratory test results indicating allowable loads in tension and shear for concrete of the types included in this Work, with load modification factors for temperature, spacing, edge distance, and other installation variables.
 3. Handling and storage instructions.
 4. Evidence of current listing under NSF-61 for use in contact with potable water.
- B. Quality control submittals:
1. Special inspection: Detailed step-by-step instructions for the special inspection procedures required by the building code specified in Section 01410 - Regulatory Requirements.
 2. For each adhesive to be used, Evaluation Report confirming that the product complies with the requirements of AC308 for both un-cracked and cracked concrete and for use in Seismic Design Categories A through F.
 3. Installer qualifications:
 - a. Submit evidence of successful completion of adhesive manufacturer's installation training program.
 - b. Submit evidence of current certification for installation of inclined and overhead anchors under sustained tension loading.
- C. Inspection and testing reports:
1. Inspections: Field quality control: Reports of inspections and tests:
 - a. Inspections: Field quality assurance: Reports of special inspections and tests.

1.05 QUALITY ASSURANCE

- A. Qualifications:
1. Installation requirements:
 - a. Have available at the site, and install anchors in accordance with, the adhesive manufacturer's printed installation instructions.
 2. Installer qualifications:
 - a. Demonstrating successful completion of adhesive manufacturer's on-site training program for installation of adhesive-bonded anchors.
 - b. Holding current certification for installation of adhesive-bonded anchors by a qualified organization acceptable to the Engineer and to the Building Official:
 - 1) Organizations/certification programs deemed to be qualified are:
 - a) ACI-CRSI Adhesive Anchor Installer Certification Program.
 - b) Adhesive anchor manufacturer's certification program, subject to acceptance by the Engineer and the Building Official.

1.06 DELIVERY, STORAGE, AND HANDLING

- A. Store and protect products as follows, unless more restrictive requirements are recommended by the manufacturer:
1. Store adhesives and adhesive components on pallets or shelving in a covered-storage area protected from weather.

2. Control temperature to maintain storage within manufacturer's recommended temperature range:
 - a. If products have been stored at temperatures outside manufacturer's recommended range, test by methods acceptable to the Engineer to confirm acceptability before installing in the Work.
3. Dispose of products that have passed their expiration date.

1.07 PROJECT CONDITIONS

- A. As specified in Section 01850 - Design Criteria.
- B. Seismic Design Category (SDC) for structures: SDC = D.

PART 2 PRODUCTS

2.01 GENERAL

- A. Like items of materials: Use end products of one manufacturer in order to achieve structural compatibility and singular responsibility.
- B. Adhesives shall have a current Evaluation Report documenting testing and compliance with the requirements or ACI 355.4 and of ICC-ES AC308 for use with un-cracked concrete and with cracked concrete in the Seismic Design Category specified.
- C. Bond reinforcing bars and all thread rods in concrete using epoxy adhesive unless other adhesives specified are specifically indicated on the Drawings or approved in writing by the Engineer.
- D. For locations where adhesive will be in direct contact with potable water in the finished work, provide documentation of testing and listing under NSF-61. Testing shall be by a nationally recognized agency acceptable to the Engineer.

2.02 EPOXY ADHESIVE

- A. Materials:
 1. Meeting the physical requirements of ASTM C881, Type IV, Grade 3, Class B or C depending on site conditions.
 2. 2-component, 100 percent solids, insensitive to moisture.
 3. Cure temperature, pot life, and workability: Compatible with intended use and environmental conditions.
- B. Packaging:
 1. Disposable, self-contained cartridge system furnished in side-by-side cartridges designed to fit into a manually or pneumatically operated caulking gun, and with resin and hardener components isolated until mixing through manufacturer's static mixing nozzle:
 - a. Nozzle designed to dispense components in the proper ratio and to thoroughly blend the components for injection from the nozzle directly into prepared hole.

- b. Provide nozzle extensions as required to allow full-depth insertion and filing from the bottom of the hole.
- 2. Container markings: Include manufacturer's name, product name, batch number, mix ratio by volume, product expiration date, ANSI hazard classification, and appropriate ANSI handling precautions.
- C. Manufacturers: One of the following or equal:
 - 1. Hilti, Inc., HIT-RE 500-V3.
 - 2. Simpson Strong-Tie Co., Inc., SET-XP.

2.03 ALL THREAD RODS

- A. Materials: As specified in Section 05120 - Structural Steel Framing for rods, nuts and washers.

2.04 REINFORCING BARS

- A. As specified in Section 03301 - Concrete Work.

PART 3 EXECUTION

3.01 GENERAL

- A. Execution of this work is restricted to installers who have personally completed the adhesive manufacturer's on-site training for the products to be installed, and who are personally certified through a qualified certification program described under Quality Assurance and accepted by the Engineer and the Building Official:
 - 1. Do not install holes or adhesive until training is complete.
- B. Perform work in strict compliance with the accepted MPII and the following instructions. Where the accepted MPII and the instructions conflict, the MPII shall prevail.
- C. Install reinforcing bars and all thread rods to embedment depth, and at spacing and locations indicated on the Drawings:
 - 1. If embedment depth is not indicated, contact Engineer for requirements.

3.02 PREPARATION

- A. Do not begin installation of adhesive bonded anchors until:
 - 1. Concrete has achieved an age of at least 21 days after placement.
 - 2. On-site training in installation of adhesive bonded anchors by manufacturer's technical representative is complete. Do not drill holes in concrete or install adhesive and embeds in holes.
- B. Review manufacturer's printed installation instructions (MPII) and "conditions of use" stipulated in the Evaluation Report before beginning work:
 - 1. Bring to the attention of the adhesive manufacturer's technical representative any discrepancies between these documents and resolve before proceeding with installation.

- C. Install adhesive bonded anchors in full compliance with manufacturer's printed installation instructions using personnel who have successfully completed manufacturer's on-site training for products to be used and who hold certifications specified in this Section.
- D. Confirm that adhesive and substrate receiving adhesive are within manufacturer's recommended range for temperature and moisture conditions, and will remain so during the curing time for the product.

3.03 HOLE SIZING AND INSTALLATION

- A. Drilling holes:
 - 1. Determine location of reinforcing bars or other obstructions with a nondestructive indicator device, and mark locations with construction crayon on the surface of the concrete.
 - 2. Do not damage or cut existing reinforcing bars, electrical conduits, or other items embedded in the existing concrete without prior acceptance by Engineer.
- B. Hole drilling equipment:
 - 1. Electric or pneumatic rotary impact type with medium or light impact:
 - a. Installation of anchors in cored holes is not permitted.
 - b. Set drill to "rotation only" mode, or to "rotation plus hammer" mode in accordance with the manufacturer's installation instructions and the requirements of the Evaluation Report.
 - c. Where edge distances are less than 2 inches and "rotation plus hammer" mode is permitted, use lighter impact equipment to prevent micro-cracking and concrete spalling during the drilling process.
 - 2. Drill bits: Carbide-tipped in accordance with ANSI B212-15 unless otherwise recommended by the manufacturer or required as a "condition of use" in the Evaluation Report:
 - a. Hollow drill bits with flushing air systems are preferred. Air supplied to hollow drill bits shall be free of oil, water, or other contaminants that will reduce bond.
- C. Hole diameter: As recommended in the manufacturer's installation instructions and the Evaluation Report.
- D. Hole depth: As recommended in the manufacturer's installation instructions to provide minimum effective embedment indicated on the Drawings.
- E. Obstructions in drill path:
 - 1. If an existing reinforcing bar or other obstruction is hit while drilling a hole, unless otherwise accepted by Engineer, stop drilling. Prepare and fill the hole with dry-pack mortar. Relocate the hole to miss the obstruction and drill another hole to the required depth:
 - a. Obtain Engineer's acceptance of distance between abandoned and relocated holes before proceeding with the relocation.
 - b. Allow dry-pack mortar to cure to a strength equal to that of the surrounding concrete before resuming drilling in the area.

- c. Epoxy grout may be substituted for dry-pack mortar when accepted by Engineer.
 - 2. Avoid drilling an excessive number of holes in an area of a structural member, which would excessively weaken the member and endanger the stability of the structure.
 - 3. When existing reinforcing steel is encountered during drilling and when specifically accepted by Engineer, enlarge the hole by 1/8 inch, core through the existing reinforcing steel at the larger diameter, and resume drilling at original hole diameter using pneumatic rotary impact drill.
 - 4. Bent bar reinforcing bars: Where edge distances are critical, and interference with existing reinforcing steel is likely, if acceptable to Engineer, drill hole at 10 degree (or less) angle from axis of reinforcing bar or all thread rod being installed.
- F. Cleaning holes:
- 1. Insert air nozzle to bottom of hole and blow out loose dust:
 - a. Use compressed air that is free of oil, water, or other contaminants that will reduce bond.
 - b. Provide minimum air pressure of 90 pounds per square inch for not less than 4 seconds.
 - 2. Using a stiff bristle brush with diameter that provides contact around the full perimeter of the hole, vigorously brush hole to dislodge compacted drilling dust:
 - a. Insert brush to the bottom of the hole and withdraw using a simultaneous twisting motion.
 - b. Repeat at least 4 times.
 - 3. Repeat the preceding steps as required to remove drilling dust or other material that will reduce bond, and in the number of cycles required by the MPII and the Evaluation Report.
 - 4. Leave prepared holes clean and dry.
 - 5. Protect prepared and cleaned holes from contamination and moisture until adhesive is installed.
 - 6. Re-clean and dry previously prepared holes if, in the opinion of the Engineer, the hole has become contaminated after initial cleaning.

3.04 INSTALLATION OF ADHESIVE AND INSERTS

- A. Clean and prepare inserts reinforcing bars and all thread rods:
- 1. Prepare embedded length of reinforcing bars and all thread rods by cleaning to bare metal. Inserts shall be free of oil, grease, paint, dirt, mill scale, rust, or other coatings that will reduce bond.
 - 2. Solvent clean prepared reinforcing bars and all thread rods over the embedment length in accordance with SSPC SP-1. Provide an oil and grease free surface for bonding of adhesive to steel.
- B. Fill holes with adhesive:
- 1. Starting at the bottom of the hole, fill hole with adhesive inserting the reinforcing bar or all thread rod.
 - 2. Fill hole as nozzle is withdrawn without creating air voids.

3. Unless otherwise indicated on the Drawings, fill hole with sufficient adhesive so that excess adhesive is extruded out of the hole when the reinforcing bar or all thread rod is inserted.
 4. Where necessary, seal hole at surface of concrete to prevent loss of adhesive during curing.
- C. Installing reinforcing bars and all thread rods:
1. Unless otherwise indicated on the Drawings, install bars and rods perpendicular to the concrete surface.
 2. Insert reinforcing bars and all thread rods into adhesive in accordance with manufacturer's recommended procedures.
 3. Confirm that insert has reached the designated embedment in the concrete, and that adhesive completely surrounds the embedded portion.
 4. Securely brace bars and all thread rods in place to prevent displacement while the adhesive cures. Bars and rods displaced during curing will be considered damaged and replacement will be required.
 5. Clean excess adhesive from the mouth of the hole.
- D. Curing and loading:
1. Provide and maintain curing conditions recommended by the adhesive manufacturer for the period required to fully cure the adhesive at the temperature of the concrete.
 2. Do not disturb or load bonded embeds until manufacturer's recommended cure time, based on temperature of the concrete, has elapsed.

3.05 POST-INSTALLATION ACTIVITIES

- A. Do not bend bars or all-thread rods after bonding to the concrete, unless accepted in advance by the Engineer.
- B. Attachments to all thread rods:
1. After assemblies to be connected are placed, install nuts and washers for threaded rods as indicated on the Drawings.

3.06 FIELD QUALITY CONTROL

- A. Provide field quality control over the Work of this Section as specified in Section 01450 - Quality Control.
- B. Do not allow work described in this Section to be performed by individuals who do not hold the specified certifications and who have not completed the specified job site training.
- C. Manufacturer's services:
1. Before beginning installation, furnish adhesive manufacturer's technical representative to conduct on-site training in proper storage and handling of adhesive, drilling and cleaning of holes, and preparation and installation of reinforcing bars and all thread rods:
 - a. Provide notice of scheduled training to Engineer and to Special Inspector(s) not less than 10 working days before training occurs. Engineer and Special Inspector may attend training sessions.

2. Submit record, signed by the manufacturer's technical representative, listing Contractor's personnel who completed the training. Only qualified personnel who have completed manufacturer's on-site training shall perform installations.
- D. Field inspections and testing:
1. Hole drilling and preparation.
 2. Results: Submit records of inspections and testing to Engineer by electronic copies within 24 hours after completion.

3.07 FIELD QUALITY ASSURANCE

- A. Provide field quality assurance over the Work of this Section as specified in Section 01450 - Quality Control.
- B. Special inspections, special tests, and structural observation:
1. Provide as specified in Section 01455 - Regulatory Quality Assurance.
 2. Frequency of inspections:
 - a. Unless otherwise indicated on the Drawings or in this Section, provide periodic special inspection as required by the Evaluation Report for the product installed.
 - b. Provide continuous inspection for the initial installation of each type and size of adhesive bonded reinforcing bar and all thread rod. Subsequent installations of the same anchor may be installed with periodic inspection as defined in subsequent paragraphs.
 3. Preparation:
 - a. Review Drawings and Specifications for the Work to be observed.
 - b. Review adhesive manufacturer's MPPI and recommended installation procedures.
 - c. Review Evaluation Report "Conditions of Use" and "Special Inspection" requirements.
 4. Inspection: Periodic:
 - a. Initial inspection. Provide an initial inspection for each combination of concrete and reinforcing bar strength or concrete strength and all thread rod material being installed. During initial inspection, observe the following for compliance with the installation requirements:
 - 1) Concrete: Class (minimum specified compressive strength) and thickness.
 - 2) Environment: Temperature conditions at work area, and moisture conditions of concrete and drilled hole.
 - 3) Holes: Locations, spacing, and edge distances; verification of drill bit compliance with requirements; cleaning equipment and procedures; cleanliness of hole. Before adhesive is placed, confirm that depth and preparation of holes conforms to the requirements of the Contract Documents, the MPPI, and the "conditions of use" listed in the Evaluation Report.
 - 4) Adhesive: Product manufacturer and name; lot number and expiration date; temperature of product at installation; installation procedure. Note initial set times observed during installation.
 - 5) Reinforcing bars and all thread rods: Material diameter and length; steel grade and/or strength; cleaning and preparation; cleanliness at insertion; minimum effective embedment provided.

- b. Subsequent inspections: Subsequent installations of the same reinforcing bars or all thread rods may be performed without the presence of the special inspector, provided that:
 - 1) There is no change in personnel performing the installation, the general strength and characteristics of the concrete receiving the inserts, or the reinforcing bars and all thread rods being used.
 - 2) For ongoing installations, the special inspector visits the site at least once per day during each day of installation to observe the work for compliance with material requirements and installation procedures.
- 5. Inspection: Continuous:
 - a. Make observations as described under "Inspection - Periodic, Initial Inspection" during all drilling, cleaning, and bonding activities for all bars and rods installed.
- 6. Records of inspections:
 - a. Provide a written record of each inspection using forms acceptable to the Engineer and to the Building Official.
 - b. Submit electronic copies of inspection reports to Engineer within 24 hours after completion of inspection.

END OF SECTION

SECTION 03071

EPOXIES

PART 1 GENERAL

1.01 SUMMARY

- A. Section includes:
 - 1. Epoxy.
 - 2. Epoxy gel.
 - 3. Epoxy bonding agent.

1.02 REFERENCES

- A. ASTM International (ASTM):
 - 1. C881 - Standard Specification for Epoxy-Resin-Base Systems for Concrete.
 - 2. C882 - Standard Test Method for Bond Strength of Epoxy-Resin Systems Used with Concrete by Slant Shear.
 - 3. D638 - Standard Test Method for Tensile Properties of Plastics.
 - 4. D695 - Standard Test Method for Compressive Properties of Rigid Plastics.
- B. NSF International (NSF):
 - 1. 61 - Drinking Water System Components - Health Effects.

1.03 SUBMITTALS

- A. General: Submit as specified in Section 01330 - Submittal Procedures.
- B. Product Data: Submit manufacturer's data completely describing epoxy materials:
 - 1. Submit evidence of conformance to ASTM C881. Include manufacturer's designations of Type Grade, Class, and Color.
 - 2. Submit documentation that materials meet or exceed the specified strength and performance characteristics. Indicate test methods and test results.
 - 3. Submit documentation confirming listing under NSF-61.
- C. Quality control submittals:
 - 1. Manufacturer's installation instructions.

PART 2 PRODUCTS

2.01 DESIGN AND PERFORMANCE CRITERIA

- A. Performance requirements:
 - 1. Provide epoxy materials that are new.
 - 2. Store and use products within limitations set forth by manufacturer.
 - 3. Perform and conduct work of this Section in neat orderly manner.

2.02 MATERIALS

- A. General:
1. Moisture tolerant, water-insensitive, two-component epoxy resin adhesive material containing 100 percent solids, and meeting or exceeding the performance properties specified when tested in accordance with the standards specified.
 2. Listed under NSF-61 for use in direct contact with potable water.
- B. Epoxy: Low viscosity product in accordance with ASTM C881; Types I, II and IV; Grade 1; Class C, except as modified in this Section:
1. Manufacturers: One of the following or equal:
 - a. Dayton Superior, Unitex Pro-Poxy 100.
 - b. Sika Corporation, Sikadur 35 Hi-Mod LV.
 2. Required properties:

Table 1 - Material Properties - Epoxy.		
Property	Test Method	Required Results ("neat")
Tensile Strength (7-day)	ASTM D638	7,000 pounds per square inch, minimum.
Compressive Yield Strength (7-day)	ASTM D695	10,000 pounds per square inch, minimum.
Bond Strength (hardened concrete to hardened concrete after 2-day cure)	ASTM C882	1,000 pounds per square inch, minimum. Concrete failure before failure of epoxy.
Viscosity (mixed)		250-550 centipoise
Notes:	Testing results are for materials installed and cured at a temperature between 72 and 78 degrees Fahrenheit for 7 days, unless otherwise noted.	

- C. Epoxy gel: Non-sagging product in accordance with ASTM C881, Types I and IV, Grade 3, Class C:
1. Manufacturers: One of the following or equal:
 - a. Sika Corp., Sikadur 31, Hi-Mod Gel.

2. Required properties:

Table 2 - Material Properties - Epoxy Gel.		
Property	Test Method	Required Results ("neat")
Tensile Strength (7-day)	ASTM D638	2,000 pounds per square inch, minimum.
Compressive Yield Strength (7-day)	ASTM D695	8,000 pounds per square inch, minimum.
Bond Strength (14-day)	ASTM C882	1,500 pounds per square inch, minimum.
Notes:	Testing results are for materials installed and cured at a temperature between 72 and 78 degrees Fahrenheit for 7 days, unless otherwise noted.	

- D. Epoxy bonding agent: Non-sagging product in accordance with ASTM C881, Type II, Grade 2, Class C:
1. Manufacturers: One of the following or equal:
 - a. Sika Chemical Corp., Sikadur 32 Hi-Mod LPL.
 2. Required properties:

Table 3 - Material Properties - Epoxy Bonding Agent		
Property	Test Method	Required Results
Tensile Strength (7-day)	ASTM D638	3,300 pounds per square inch, minimum.
Compressive Yield Strength (7-day)	ASTM D695	8,300 pounds per square inch, minimum.
Bond Strength (14-days)	ASTM C882	1,800 pounds per square inch, minimum. Concrete failure before failure of epoxy bonding agent.
Pot Life	-	Minimum 45 minutes at 90 degrees Fahrenheit.
Notes:	Testing results are for materials installed and cured at a temperature between 72 and 78 degrees Fahrenheit for 7 days, unless otherwise noted.	

PART 3 EXECUTION

3.01 INSTALLATION

- A. Install and cure epoxy materials in accordance with manufacturer's installation instructions.

- B. Epoxy:
 - 1. Apply in accordance with manufacturer's installation instructions.
- C. Epoxy gel:
 - 1. Apply in accordance with manufacturer's installation instructions.
 - 2. Use for vertical or overhead work, or where high viscosity epoxy is required.
 - 3. Epoxy gel used for vertical or overhead work may be used for horizontal work.
- D. Epoxy bonding agent:
 - 1. Apply in accordance with manufacturer's installation instructions.
 - 2. Bonding agent will not be required for filling form tie holes or for normal finishing and patching of similar sized small defects.

END OF SECTION

SECTION 03301

CONCRETE WORK

TABLE OF CONTENTS

PART 1	GENERAL	2
1.01	SUMMARY	2
1.02	REFERENCES	2
1.03	TERMINOLOGY	3
1.04	SUBMITTALS	3
1.05	QUALITY ASSURANCE	6
1.06	DELIVERY, STORAGE, AND HANDLING	6
1.07	PROJECT CONDITIONS	7
1.08	SEQUENCING AND SCHEDULING	7
PART 2	PRODUCTS	7
2.01	FORMWORK.....	7
2.02	JOINT MATERIALS.....	8
2.03	REINFORCEMENT	9
2.04	SOURCE QUALITY CONTROL	9
2.05	CONCRETE MIXES	10
2.06	CONCRETE BATCHING AND MIXING EQUIPMENT	14
2.07	CONCRETE FINISHING AND CURING MATERIALS	15
PART 3	EXECUTION	15
3.01	GENERAL	15
3.02	FORMING.....	16
3.03	PLACING CONCRETE REINFORCEMENT, EMBEDS, AND ACCESSORIES.....	18
3.04	BATCHING, MIXING, TRANSPORTING, AND DELIVERING CONCRETE	19
3.05	CONVEYING, DEPOSITING, AND CONSOLIDATING CONCRETE	20
3.06	FINISHING CONCRETE	22
3.07	CURING AND PROTECTING CONCRETE	23
3.08	JOINTS AND JOINT PREPARATION	25
3.09	TOLERANCES	26
3.10	FIELD QUALITY CONTROL BY CONTRACTOR	27
3.11	FIELD QUALITY CONTROL BY OWNER.....	28
3.12	NON-CONFORMING WORK	28
3.13	ADJUSTING	29

PART 1 GENERAL

1.01 SUMMARY

- A. Section includes: Concrete formwork; concrete accessories; concrete reinforcement; batching and mixing of concrete to be cast-in-place; concrete placement and curing; and tooled concrete finishes.

1.02 REFERENCES

- A. American Concrete Institute (ACI):
 - 1. 117 - Standard Specifications for Tolerances for Concrete Construction and Materials.
 - 2. 305 - Specification for Hot Weather Concreting.
 - 3. 306 - Standard Specification for Cold Weather Concreting.
 - 4. 318 - Building Code Requirements for Structural Concrete and Commentary.
 - 5. SP-66 - ACI Detailing Manual.
- B. ASTM International (ASTM):
 - 1. A615 - Standard Specification for Deformed and Plain Carbon-Steel Bars for Concrete Reinforcement.
 - 2. A1064 – Standard Specification for Carbon-Steel Wire and Welded Wire Reinforcement, Plain and Deformed, for Concrete.
 - 3. C31 - Standard Practice for Making and Curing Concrete Test Specimens in the Field.
 - 4. C33 - Standard Specification for Concrete Aggregates.
 - 5. C39 - Standard Test Method for Compressive Strength of Cylindrical Concrete Specimens.
 - 6. C94 - Standard Specification for Ready-Mixed Concrete.
 - 7. C138 - Standard Test Method for Density (Unit Weight), Yield, and Air Content (Gravimetric) of Concrete.
 - 8. C143 - Standard Test Method for Slump of Hydraulic-Cement Concrete.
 - 9. C150 - Standard Specification for Portland Cement.
 - 10. C156 - Standard Test Method for Water Loss from a Mortar Specimen Through Liquid Membrane-Forming Curing Compounds for Concrete.
 - 11. C171 - Standard Specification for Sheet Materials for Curing Concrete.
 - 12. C172 - Standard Practice for Sampling Freshly Mixed Concrete.
 - 13. C173 - Standard Test Method for Air Content of Freshly Mixed Concrete by the Volumetric Method.
 - 14. C260 - Standard Specification for Air-Entraining Admixtures for Concrete.
 - 15. C309 - Standard Specification for Liquid Membrane-Forming Compounds for Curing Concrete.
 - 16. C311 - Standard Test Methods for Sampling and Testing Fly Ash or Natural Pozzolans for Use in Portland-Cement Concrete.
 - 17. C494 - Standard Specification for Chemical Admixtures for Concrete.
 - 18. C618 - Standard Specification for Coal Fly Ash and Raw or Calcined Natural Pozzolan for Use in Concrete.
 - 19. C1064 - Standard Test Method for Temperature of Freshly Mixed Hydraulic-Cement Concrete.
 - 20. C1218 - Standard Test Method for Water-Soluble Chloride in Mortar and Concrete.

21. C1260 - Standard Test Method for Potential Alkali Reactivity of Aggregates (Mortar-Bar Method).
22. C1293- Standard Test Method for Determination of Length Change of Concrete Due to Alkali-Silica Reaction.
23. C1778 - Standard Guide for Reducing the Risk of Deleterious Alkali-Aggregate Reaction in Concrete.
24. D1751 - Standard Specification for Preformed Expansion Joint Filler for Concrete Paving and Structural Construction (Nonextruding and Resilient Bituminous Types).
25. D1752 - Standard Specification for Preformed Sponge Rubber Cork and Recycled PVC Expansion Joint Fillers for Concrete Paving and Structural Construction.
26. D2103 - Standard Specification for Polyethylene Film and Sheeting.

- C. Concrete Reinforcing Steel Institute (CRSI):
1. Manual of Standard Practice.

1.03 TERMINOLOGY

- A. The words and terms listed below, are not defined terms that require initial capital letters, but, when used in this Section have the indicated meaning:
1. Alkali load: Amount of alkalies contributed by the portland cement in a concrete mixture, expressed in lb/yd³, and calculated by multiplying the portland cement content of the concrete in lb/yd³ by the alkali content of the portland cement; or the portland cement portion of a blended cement, divided by 100.
 2. Green concrete: Concrete whose current compressive strength is less than 100 percent of the minimum specified compressive strength, f'_c.
 3. Hand mixed concrete: Concrete mixed at or near the point of placement using shovels, hoes, or other similar manually operated tools.
 4. Hot weather: A period when project conditions such as low humidity, high temperature, solar radiation, and high winds promote rapid drying of freshly placed concrete.
 5. Neat cement grout: Grout made from a mixture of portland cement and water.
 6. Supplementary cementitious material: inorganic material such as fly ash, natural pozzolans, silica fume, or slag cement that reacts pozzolanically or hydraulically.

1.04 SUBMITTALS

- A. General:
1. Submittal as specified in Section 01330 - Submittal Procedures unless modified in this Section.
- B. Product data:
1. Formwork:
 - a. Formwork facing materials. Data on facing materials for concrete exposed to view in the finished work, if different from that specified in this Section.
 - b. Form release agent. Manufacturer's name and catalog data, including materials safety data sheet and documentation of suitability for use in contact with potable water.

2. Joint materials:
 - a. Preformed expansion joint material: Manufacturer's name and catalog data with documentation of conformance to materials standards specified for each type and thickness of material.
3. Reinforcement:
 - a. Mill certificates for each heat of steel provided.
 - b. Reinforcement placement drawings:
 - 1) Show anchor bolt locations based on anchor bolt templates for approved equipment.
 - c. Concrete bar supports:
 - 1) Precast concrete bar supports ("dobies"): Manufacturer's product data indicating compression strength of concrete supports and material used for tie wires.
 - 2) Wire chairs and slab bolsters: Manufacturer's product data.
4. Concrete materials:
 - a. Cement:
 - 1) Mill certificate in accordance with ASTM C150. Include "Type" and results of testing for alkali content measured as equivalent alkalies.
 - b. Supplementary cementitious materials:
 - 1) Fly Ash: Identify source and provide testing results documenting compliance with ASTM C618 and any additional requirements of this Section.
 - 2) Slag cement: Identify source and provide testing results documenting compliance with ASTM C989 and any additional requirements of this Section.
 - 3) Silica Fume: Identify source and provide testing results documenting compliance with ASTM C1240 and any additional requirements of this Section.
 - c. Aggregates:
 - 1) Type, pit or quarry location, and producer's name.
 - 2) Commercial laboratory test reports for samples of each aggregate proposed for use. Tests shall have been made not more than 24 months prior to the date of the submittal:
 - a) Fine aggregate: Gradation analysis, specific gravity, reactivity, and reports of deleterious materials to document compliance with ASTM C33.
 - b) Coarse aggregate: Gradation analysis, specific gravity, soundness, reactivity, and reports of deleterious materials to document compliance with ASTM C33 for each size used.
 - d. Admixtures:
 - 1) Manufacturer's catalog cuts and product data indicating compliance with the standards specified.
5. Concrete mixes: Submit full details, including:
 - a. Mix proportions measured by both weight and volume and concrete properties for each class of concrete proposed for use:
 - 1) Information on correction of batching for varying moisture contents of fine aggregate.

- b. Data to establish the average compressive strength:
 - 1) If established by field test records, submit:
 - a) Product and test data for the materials actually used in the mix.
 - b) Actual mix proportions used in the mix producing the record.
 - c) Field test data for slump, air content, and 28-day compressive strength. Include not less than 15 tests in accordance with ACI 318 Chapter 5.
 - 2) If established by testing of trial batches, submit:
 - a) Confirmation that the materials and proportions used in the trial batches are those that will be provided for the mix.
 - b) Mix test data for slump, air content, and 28-day compressive strength.
 - 3) For either method, include calculations for:
 - a) Standard deviation: Calculated in accordance with ACI 318 requirements.
 - b) Required average compression strength (f'_{cr}) using the standard deviation calculated in accordance with ACI 318 requirements.
 - c) Statement demonstrating that the average compression strength from field test records or from trial batch testing for each mix ($f'_{c_{avg}}$) exceeds the required average compressive strength (f'_{cr}) for that mix.
 - c. Data to establish alkali load:
 - 1) Determine and include the alkali load of the proposed mix.
 - d. Data to establish chloride content:
 - 1) Submit test results showing that the concrete mix contains water-soluble chloride ion content contributed from the constituents including water, aggregates, cementitious materials, and admixtures is less than the limit specified in Table B of this Section. Test shall be performed in accordance with ASTM C1218 at age between 28 and 42 days after mixing.
 - 6. Concrete finishing and curing materials:
 - a. Manufacturer's name and product data sheets.
 - C. Shop drawings:
 - 1. Reinforcement:
 - a. Submit drawings showing bending and placement of reinforcement:
 - 1) Drawings shall be in accordance with ACI SP-66.
 - 2) Clearly show placement, shapes, and dimensions of each bar listed in the bill of materials, including additional reinforcement at corners and openings required by details in the Contract Documents.
 - 3) Show splice locations and bar lengths reflecting Contractor's intended placement sequence.
 - D. Samples:
 - 1. Form ties: If requested by the Engineer.
 - 2. Concrete bar supports: If requested by the Engineer, provide samples of:
 - a. Precast concrete bar supports ("dobies").
 - b. Wire chairs and slab bolsters.

- E. Procedures:
 - 1. Contractor's plans for production, placement, finishing, curing, protection, and temperature monitoring of concrete during the following environmental conditions:
 - a. Hot weather.
- F. Project record documents:
 - 1. For the following items, note location of concrete in the structure, and include tag numbers of associated cylinders for compression strength tests.
 - 2. Concrete delivery tickets. Submit copies of concrete delivery tickets within 24 hours after delivery.
 - 3. Field test reports: Results of field-testing for slump, temperature, unit weight, and air entrainment.
 - 4. Testing laboratory reports for compression strength.
- G. Notifications:
 - 1. Modifications to concrete mixes:
 - a. Submit notification of any adjustments to mixture proportions and any changes in materials made during the course of the Work for Engineer's review.
 - b. Include details of the changes and supporting documentation.
 - 2. Joint locations:
 - a. Where joint locations other than those indicated on the Drawings are requested, submit proposed locations for Engineer's review.
 - b. Provide drawings showing proposed joint locations with joint types labeled and joint details referenced.
 - 3. Reinforcement placement: Where necessary to move reinforcement beyond the specified placing tolerances to avoid interference, submit the proposed arrangement for Engineer's review.
 - 4. Concrete placements: Submit notification of readiness for each concrete placement at least 24 hours in advance.
 - 5. Concrete repairs:
 - a. Where concrete surfaces or sections exhibit defects after removal of forms, submit description of existing conditions and of proposed repair procedures and materials.
 - b. Include photos of existing conditions with submittal.

1.05 QUALITY ASSURANCE

- A. Tolerances on concrete construction: In accordance with ACI 117 unless more stringent requirements are specified in the Contract Documents.
- B. Concrete mixtures:
 - 1. Ensure that concrete produced has the specified characteristics in the freshly mixed state, and that those are maintained to during transport and delivery and to the point of final placement.

1.06 DELIVERY, STORAGE, AND HANDLING

- A. Deliver, store, and handle concrete materials in manner as to prevent damage and inclusion of foreign substances.

- B. Deliver reinforcing steel bundled and tagged with identifying tags marked in a legible manner with waterproof markings showing the same designations as indicated on the submitted shop drawings:
 - 1. Store off the ground and protect from moisture, dirt, oil, and other injurious contaminants.
- C. Protect concrete accessories from weather and direct exposure to sunlight before installation.

1.07 PROJECT CONDITIONS

- A. Environmental requirements:
 - 1. Hot weather concreting: Construct in accordance with ACI 305 during conditions when the ambient air temperature is above 90 degrees Fahrenheit.
 - 2. Conditions that promote rapid drying of freshly placed concrete, such as low humidity, high temperature, and wind: Take corrective action to minimize loss of water from the concrete.

1.08 SEQUENCING AND SCHEDULING

- A. Schedule placing of concrete in such a manner that completes any single placing operation to a construction or expansion joint as indicated on the Drawings or accepted by the Engineer in advance of the placement.

PART 2 PRODUCTS

2.01 FORMWORK

- A. Forms:
 - 1. Design and performance requirements:
 - a. Design and performance of formwork shall be the responsibility of the Contractor, subject to the requirements of the Contract Documents.
 - b. Design, construct, and brace formwork to:
 - 1) Carry all loads applied or transmitted, including the pressure resulting from placement and vibration of plastic concrete.
 - 2) Remain tight to prevent loss of mortar.
 - 3) Maintain specified tolerances and provide finished surfaces as specified.
 - c. Maximum deflection of facing materials and supporting members on surfaces exposed to view in the finished work: 0.0042 times the clear span ($\text{span}/240$).
 - d. Maximum deviation from alignment (horizontal or vertical): In accordance with ACI 117.
 - 2. Form facing materials:
 - a. Surfaces exposed to view in the finished work:
 - 1) Facing materials shall produce a smooth, uniform texture on the concrete.
 - 2) Do not use materials with raised grain, tears, worn edges, patches, dents, or other similar defects.

- 3) Acceptable materials: Plywood with "C" or better face, plastic-faced plywood, tempered concrete form grade hardboard, or steel.
 - b. Surfaces not exposed to view in the finished work:
 - 1) Special form facing material not required.
- 3. Forms for chamfers and keyways:
 - a. Uniform steel, plastic, or lumber section of dimensions shown or specified.
 - b. Provide adequate stiffness and support to maintain a true line at the concrete surface.
 - c. Treated to eliminate bond with the concrete if required to produce a smooth, uniform, and undamaged finish upon removal.
- B. Form ties:
 - 1. General:
 - a. Provide form ties fabricated by recognized manufacturer of concrete forming equipment and suitable for use with the forming system selected.
 - b. Provide ties that accurately tie, lock, and spread forms:
 - 1) Do not use wire ties or wood spreaders.
 - c. Provide form ties manufactured such that, when forms are removed, the tie leaves no metal or other material within 1-1/2 inches of the surface of the concrete.
 - d. Do not allow tie holes through forms for ties to leak during concrete placement.
 - 2. Cone snap ties: Tie with removable plastic cone leaving a tapered depression having a minimum diameter of 1 inch at the surface of the concrete and a depth of 1-1/2 inches below the surface.
- C. Dry-pack mortar for filling cone snap tie holes:
 - 1. Proportioned mix of 1 part of portland cement to 1 part plaster sand with potable water added to provide a stiff consistency that can be driven into holes and properly compacted.
 - 2. Admixtures or additives to mortar are not permitted.
- D. Form release agent: Commercially manufactured, non-staining formwork release agent that will prevent absorption of water by the formwork and will prevent bond between the formwork and the concrete.
 - 1. Form release agent to comply with all local air quality management regulations.

2.02 JOINT MATERIALS

- A. Synthetic sponge rubber expansion joint material:
 - 1. Elastic sponge rubber compound in accordance with ASTM D1752, Type I.
 - 2. Concrete-gray color unless otherwise noted.
 - 3. Thickness: As indicated on the Drawings.
 - 4. Manufacturers: One of the following or equal:
 - a. Williams Products Inc., Everlastic 1300.
 - b. WR Meadows, Seal Tight Sponge Rubber Expansion Joint.
- B. Bituminous fiber expansion joint material:
 - 1. Thickness: To match joint width indicated on the Drawings.

2. Asphalt-impregnated fiberboard in accordance with ASTM D1751.
 - a. Manufacturers: One of the following or equal:
 - 1) Durajoint.
 - 2) W.R. Meadows, SealTight Fibre Expansion Joint.
- C. Sealants and caulking: As specified in Section 07900 - Joint Sealants.

2.03 REINFORCEMENT

- A. Materials:
 1. Deformed bars: In accordance with ASTM A615 Grade 60.
 2. Welded wire fabric: Sheets of plain wire in accordance with ASTM A1064.
 3. Bar supports:
 - a. Over ground or "mud mat":
 - 1) Precast concrete blocks with cast-in annealed steel tie wires, 16 gauge or heavier.
 - a) Compressive strength of blocks equal to or exceeding the compressive strength of the surrounding concrete.
 - 2) Height as required for minimum 3 inches of clear concrete cover below reinforcement.
 - 3) Minimum block "footprint" of 4 square inches, or as required to supporting load from reinforcement while maintaining the required concrete cover.
 - b. Wire supports: Class 2, Type B stainless steel protected wire in accordance with CRSI Manual of Standard Practice.
 4. Tie wire: Annealed steel.
- B. Fabrication:
 1. Cut and cold-bend bars in accordance with provisions of ACI 315 and ACI 318.
 2. Fabricate reinforcement to the tolerances in accordance with ACI 117.
 3. Provide bars free from defects and kinks and from bends not indicated on the Drawings.

2.04 SOURCE QUALITY CONTROL

- A. Submit documentation that the proposed concrete mixes will conform to the requirements of this Section and will produce concrete having the required proportions and properties specified:
 1. Do not place concrete until the design for that mix and the results of any trial batch testing have been accepted by the Engineer.
 2. If the Engineer requires changes to the mix design, modify mixes within limits set forth in this Section and submit new mix design for Engineer's review.
- B. After acceptance, do not change mixes or mix proportions without prior acceptance by the Engineer:
 1. Exception: At all times, adjust batching of water to compensate for free moisture content of aggregates. Total water content in the mix shall not exceed that specified.
- C. If there is change in source of cement or aggregate, or if there is a significant change in the characteristics or quality of any constituent material received from a

source accepted to supply materials, submit new design mixes for each class of concrete affected.

- D. Testing of materials and mixes before placement to demonstrate that they comply with the requirements of this Section shall be at the Contractor's expense.

2.05 CONCRETE MIXES

A. Constituent materials:

1. Cement:
 - a. Portland cement: In accordance with ASTM C150, Type II or Type III:
 - 1) Cement for finishes or repairs: Provide cement from same source and of same type as concrete to be finished.
2. Supplementary Cementitious Materials (SCM):
 - a. Fly ash:
 - 1) In accordance with ASTM C618, Class F.
 - 2) Sampling and testing: In accordance with ASTM C311.
 - 3) Loss on ignition: Not to exceed 4 percent.
 - b. Slag cement:
 - 1) Grade 80, 100, or 120 in accordance with ASTM C989, except as modified below:
 - a) Fineness: Amount retained on a No. 325 sieve: 20 percent maximum.
 - b) Total alkalis $\text{Na}_2\text{O} + 0.658 \text{K}_2\text{O}$:
 - (1) Minimum: 0.60 percent.
 - (2) Maximum: 0.90 percent.
 - c. Silica fume:
 - 1) Provide silica fume in accordance with ASTM C1240, except as modified below:
 - a) Moisture content: 3 percent maximum.
 - b) Loss on ignition: 6 percent maximum.
 - c) Reactivity with cement alkalis: 80 percent minimum.
 - d) Sulfate resistance: maximum 0.10 percent expansion at 6 months.
3. Aggregates:
 - a. General:
 - 1) Provide normal weight concrete aggregates that are sound, uniformly graded, and free of deleterious material in excess of the amounts specified.
 - 2) Do not use aggregate made from recycled materials such as crushed and screened hydraulic-cement concrete, brick, or other construction waste.
 - 3) Obtain aggregate from source that is capable of providing uniform quality, moisture content, and grading during any single day's operations.
 - 4) Alkali-silica reactivity:
 - a) Provide fine and coarse aggregate classified as aggregate-reactivity class of R0 in accordance with ASTM C1778 and with expansion not greater than 0.10 percent at 14 days when tested in accordance with ASTM C1260 and

not greater than 0.04 percent at 1 year when tested in accordance with ASTM C1293.

- b. Fine aggregate:
 - 1) Provide fine aggregate consisting of clean, natural sand or of sand prepared from crushed stone or crushed gravel.
 - 2) In accordance with ASTM C33.
 - c. Coarse aggregate:
 - 1) Provide coarse aggregate consisting of gravel or crushed stone made up of clean, hard, durable particles free from calcareous coatings, organic matter, or other foreign substances; and in accordance with ASTM C33, Class 4S.
 - 2) Grading: Unless otherwise specified or accepted in writing by the Engineer, provide the following:
 - a) Aggregate for Class A Concrete: ASTM C33, Size Number 57.
 - b) Aggregate for Class CE Concrete: ASTM C33, Size Number 8.
 - c) Where a combination of 2 or more sizes of coarse aggregate are used, the gradation of the blend shall conform to the grading requirements in accordance with ASTM C33 for the size number specified.
4. Water:
- a. Water for concrete mixes, for washing aggregate, and for curing concrete: Potable water, clean and free from oil and deleterious amounts of alkali, acid, organic matter, or other substances.
 - b. Do not exceed the optional chemical limits of ASTM C1602.
5. Admixtures:
- a. General:
 - 1) Do not use admixtures, except those specified, unless written authorization has been obtained from the Engineer.
 - 2) Admixtures shall be compatible with concrete and other admixtures. Admixtures (other than fly ash) shall be the products of a single manufacturer to ensure compatibility.
 - 3) Do not use admixtures containing chlorides in excess of 0.5 percent by weight of cement when calculated as chloride ion.
 - b. Air entraining admixture: In accordance with ASTM C260.
 - c. Water reducing admixture:
 - 1) In accordance with ASTM C494, Type A or Type D.
 - 2) Not containing air-entraining agents.
 - d. High range water reducing admixtures/plasticizing admixtures:
 - 1) High-range water reducing admixtures: In accordance with ASTM C494, Type F.
 - 2) Use shall produce non-segregating concrete mixture with little bleeding that remains in a plastic state for not less than 2 hours.

- B. Mix design and proportioning:
- 1. Proportion mixes to provide compression strength, workability, and durability as specified in this Section.
 - 2. Submit documentation that the proposed mixes will conform to the requirements of this Section and will produce concrete having the required properties.

3. Compression strength:
 - a. Proportion each concrete mix to provide the required average compressive strength (f'_{cr}) determined in accordance with the provisions of ACI 318 Chapter 19.
 - b. Determine required average compressive strength (f'_{cr}) for each class of concrete using the specified compressive strength of the mix, f'_c , and the standard deviation determined in accordance with ACI 318.
 - 1) Establish the standard deviation in accordance with ACI 318 and based on either field test records or based on trial batches.
 - 2) Documentation of standard deviation based on field test records:
 - a) Calculate standard deviation in accordance with ACI 318 procedures using test records that:
 - (1) Represent materials, quality control procedures, and conditions similar to those expected for this Work.
 - (2) Do not include provisions for materials and proportions that are more restrictive than the materials proposed for use in this Work.
 - (3) Represent a mix proportioned to provide a specified compressive strength (f'_c) within 1,000 pounds per square inch of that specified for the corresponding mix in this Section.
 - 3) Documentation of standard deviation based on trial batches plus empirical code requirements:
 - a) When records including at least 15 consecutive tests that span a period of at least 45 calendar days are not available, determine required average compressive strength (f'_{cr}) from Table A:

TABLE A Required Average Compressive Strength	
Specified Compressive Strength f'_c (pounds per square inch)	Required Average Compressive Strength f'_{cr} (pounds per square inch)
Less than 3,000	$f'_c + 1,000$
3,000 to 5,000	$f'_c + 1,200$

4. Workability:
 - a. Provide concrete with workability and consistency that can be readily worked into corners and angles of forms and around reinforcement without excessive vibration and without permitting materials to segregate or free water to collect on the surface.
5. Cement content:
 - a. Minimum cementitious materials content: Conform to values specified in Table B of this Section.
 - b. Ratio of water to cementitious materials:
 - 1) Conform to values specified in Table B of this Section.
 - 2) Total water, including that from moisture content of aggregates and admixtures, shall not exceed that specified in Table B of this Section.

6. Supplementary Cementitious Materials:
 - a. Fly ash:
 - 1) Maximum of 25 percent by weight of total weight of cementitious materials (cement plus fly ash).
 - 2) Other supplemental cementitious materials shall not be used without prior acceptance by the Engineer.
 - a. Slag cement:
 - 1) Minimum slag cement content: 20 percent of the total weight of cementitious materials.
 - 2) Maximum slag cement content: 50 percent of the total weight of cementitious materials.
 - b. Silica fume:
 - 1) Minimum silica fume content: 4 percent of the total weight of cementitious materials.
 - 2) Maximum silica fume content: 15 of the total weight of cementitious materials.
7. Aggregates:
 - a. Ratio of coarse aggregate to fine aggregate: Not less than 1.0 or more than 2.0 for all concrete classes, with exception of Class CE.
8. Admixtures:
 - a. Use in accordance with manufacturer's instructions.
 - b. Air entraining admixture:
 - 1) Provide concrete with entrained air content indicated in Table B of this Section and consisting of evenly dispersed air bubbles.
 - c. Water reducing admixture:
 - 1) No decrease in cementitious materials content is permitted as a result of use of water-reducing admixture.
 - d. High range water reducing admixture/plasticizing admixture:
 - 1) Not permitted.
9. Concrete mix design requirements by class:
 - a. Provide concrete mixes for each "class" specified in this Section and indicated in Table B of this Section.
 - b. Use each class at the locations specified in the following paragraphs or indicated on the Drawings.
 - 1) "Class A" concrete: General use. Use at all locations unless otherwise indicated on the Drawings or listed in the following paragraphs.
 - 2) "Class C" concrete: May be used as fill for unauthorized excavation, for thrust blocks and ground anchors for piping, for bedding of pipe, and elsewhere as indicated on the Drawings.
 - 3) Class CE concrete: Use for electrical conduit and duct bank encasements.
 - c. Pumped concrete: Provide a separate mix design and substantiation testing for each "class" to be placed by pumping.

TABLE B Concrete Classes									
Concrete Class	Minimum Specified Compressive Strength at 28 days, $f_c^{(1)}$ (pounds per square inch)	Ratio of water to cementitious materials ^(2,3) (minimum - maximum)	Cementitious Materials Content ⁽³⁾ (pounds per cubic yard of concrete by weight)	Cement Type (ASTM C150)	Maximum Chloride Content (percent by weight of cement)	Maximum Coarse Aggregate Size ⁽⁴⁾	Air Entrainment (percent) (N/R: not required)	Admixtures required ⁽⁵⁾	Slump Range (inches)
A	4,500	0.40 to 0.45	535 to 575	II	0.15	57	6±1.5	WRA	2 to 4
C	2,500	0.62 Maximum	423 Minimum	II	No limit	57	6±1.5	WRA	3 to 6
CE	2,500	0.62 Maximum	423 Minimum	II	No limit	8	5±1.5	WRA CA	3 to 6
Notes: (1) At locations where concrete will not be subjected to load from other elements of the structure or from Contractor's placing operations, maximum time period for achievement of specified compressive strength may be extended to 56 days when accepted by the Contractor's Engineer. (2) W/C Ratio = Ratio of water to cementitious materials (portland cement plus supplemental cementitious material) by weight Include weight of admixtures in the water content of the mix when the quantity of the admixtures exceeds 10 ounces per 100 pounds of cement. (3) Provide mix within the range of W/C ratio and cementitious materials content indicated. (4) Size number in ASTM C33, Table 2. (5) Admixtures are designated as follows: AEA: Air entraining admixture. CA: Coloring admixture. WRA: Water reducing admixture.									

2.06 CONCRETE BATCHING AND MIXING EQUIPMENT

- A. Provide equipment and facilities for accurate measurement and control of materials.
 - 1. At all times, maintain proportions of concrete mix within specified limits.
 - 2. Control and adjust batch weights to secure maximum yield.

- B. Measuring or weighing equipment:
 - 1. Furnish apparatus for weighing aggregates and cementitious materials that is suitably designed and constructed for this purpose.
 - 2. Devices shall bear the current and valid seal of the Sealer of Weights and Measures in the Authority having jurisdiction.
 - 3. Furnish devices capable of providing successive quantities of individual materials measured to within 2 percent of desired amount of that material.
- C. Mixing equipment:
 - 1. Mixes shall be ready-mix or transit-mixed concrete in accordance with ASTM C94.
 - 2. Provide equipment capable of combining aggregates, cementitious materials, water, and admixtures into a thoroughly mixed and uniform mass during the time periods specified, and capable of discharging the resulting mixture without segregation.
 - 3. Maintain mixing equipment in good working order. Operate at loads and speeds, and for periods of time recommended by the manufacturer or specified in this Section.

2.07 CONCRETE FINISHING AND CURING MATERIALS

- A. Evaporation retardant:
 - 1. Manufacturers: One of the following or equal:
 - a. Master Builders Solutions, MasterKure ER 50.
 - b. Euclid Chemical Co., Eucobar.
- B. Plastic membrane for curing:
 - 1. White polyethylene film in accordance with ASTM C171:
 - a. Nominal thickness not less than 0.0040 inches when measured in accordance with ASTM D2103, and thickness at any point not less than 0.0030 inches.
 - b. Loss of moisture: Not to exceed 0.055 grams per square centimeter of surface when tested in accordance with ASTM C156.
- C. Sprayed membrane curing compound:
 - 1. In accordance with ASTM C309, Type 1D. Clear with fugitive dye.

PART 3 EXECUTION

3.01 GENERAL

- A. Preparation:
 - 1. Use construction methods and sequences that allow time for concrete to reach adequate strength to prevent damage to or overstress of the concrete structure or its elements during construction.
 - 2. Locations of construction and expansion joints are indicated on the Drawings.
 - a. Make no other joints, except as accepted in advance by the Engineer.

- b. Schedule placing of concrete to complete any single placing operation between designated joints.
 - c. Schedule and sequence placements to allow adequate time for concrete to achieve adequate strength before subsequent placements and loads are applied to the structure.
- B. Verification of conditions:
 - 1. Do not place concrete until:
 - a. Forms have been thoroughly cleaned of dirt and debris, and form release agents have been applied.
 - b. Forms have been thoroughly checked for alignment, level, strength, and accurate location of reinforcement, joint accessories, and mechanical and electrical inserts or other embedded items.
 - c. Reinforcement is secure and properly fastened in its correct position.
 - d. Dowels, bucks, sleeves, hangers, pipes, conduits, anchor bolts, and any other fixtures required to be embedded in concrete have been placed and adequately anchored.
 - e. Forms are aligned and secured, and loose form ties at construction joints have been retightened.
 - 2. Notify the Engineer in writing of readiness, not just intention, to place concrete in any portion of the work:
 - a. Provide this notification in advance of operations, allowing such time as the Engineer deems necessary to make final observation of preparations at location of the concrete placement.
 - b. Have forms, reinforcement, screeds, anchors, ties, embeds, and inserts in place before notifying Engineer of readiness for final observations.
 - 3. Do not place concrete until Engineer has completed final observations of conditions at the placement and has given acceptance to proceed.

3.02 FORMING

- A. General:
 - 1. Do not use earth cuts as forms for vertical or sloped surfaces unless specifically required by or indicated on the Contract Documents.
 - 2. Joints: Locate joints as indicated on the Drawings:
 - a. Submit joint locations other than or differing from those indicated on the Drawings for Engineer's review before construction.
 - 3. Chamfers:
 - a. Permanently exposed outside corners: Provide 3/4-inch chamfer.
 - b. Re-entrant corners:
 - 1) Chamfer not required.
 - 2) Corner may be left square.
 - c. Edges of formed joints: Chamfer not required except where indicated on the Drawings.
 - 4. Level strips: Install level strips at top of wall concrete placements to maintain true line at horizontal construction joints.

- B. Constructing and erecting formwork:
1. Brace and anchor formwork to ensure vertical and lateral stability and to maintain finish tolerances when subjected to uplift pressures and lateral pressures from plastic concrete.
 - a. Ensure that formwork is positioned, braced, and firmly held against previously placed concrete to maintain flush surfaces and to prevent loss or leaking of mortar at construction joints.
 - 1) At joints with flush surfaces exposed to view, lap contact surface of form a maximum of 1 inch over the previously placed concrete.
 - b. Design and construct forms with sufficient strength and stiffness that deflections resulting from loading by plastic concrete will not exceed the surface tolerance limits specified.
 - c. Set forming materials in an orderly and symmetrical arrangement, keeping the number of seams to a practical minimum.
 - d. Form ties: Tie forms together using cone snap ties placed at not more than 2-foot centers vertically and horizontally.
 - e. Construct formwork to permit easy removal without damage to formed surfaces.
 - f. Provide temporary openings at the base of column and wall formwork to allow cleaning and inspection immediately before concrete placement.
 - g. Cracks, openings, or offsets at joints in formwork: Close those that are 1/16-inch or larger by tightening forms or by filling with acceptable crack filler.
 2. Where forms are reused, clean surfaces of mortar, grout, and foreign materials before coating with form release agent and setting.
 3. Cover formwork surfaces with form release agent to prevent bond with the concrete:
 - a. Do not allow form release agent to puddle in the forms.
 - b. Do not allow form release agent to contact reinforcement, embeds, or previously placed concrete.
 4. Provide runways supported directly on the formwork for moving equipment and supplies during preparations for concreting:
 - a. Do not rest such runways on reinforcement.
- C. Embeds, joints, and accessories:
1. Position pipes, sleeves, conduits, inserts, anchors, castings, and other embedded items in the forms, and anchor to formwork to prevent displacement.
 2. Fill voids in sleeves, pipes, inserts and anchor slots with readily removable material, and seal if required to prevent entry of mortar.
 3. For pipe or conduit runs, position embeds to allow at least 3 inches of clear concrete separation between parallel runs of pipes, conduits or any combination of these items with each other or with reinforcement.
- D. Removing formwork:
1. Remove forms after the specified time for curing and protection has been provided and when operations will not damage concrete.
 2. Immediately after forms are removed, carefully examine concrete surfaces.
 - a. Report any irregularities in surfaces and finishes to the Engineer.

- b. Where surface repairs are needed, contact Engineer with description of conditions and description of repair procedures before proceeding with work.
- 3. Immediately follow form removal with installation of specified curing materials and procedures.
- 4. After forms are removed from wall and curing is complete, fill tie holes as follows:
 - a. Remove form ties and cones from surfaces.
 - b. Roughen cone-shaped tie holes by heavy sandblasting before repair.
 - c. Clean and dampen tie holes, maintaining a saturated surface for at least 2 hours before applying dry-pack mortar.
 - d. Dry pack cone-shaped tie holes with dry-pack mortar as specified in this Section.

3.03 PLACING CONCRETE REINFORCEMENT, EMBEDS, AND ACCESSORIES

- A. Preparation:
 - 1. Cut and bend deformed steel reinforcement in the shop and deliver completed bars to the site for installation.
 - a. Do not field-bend deformed reinforcement.
 - 2. Surface preparation:
 - a. Thoroughly clean reinforcing bars from rust scale, loose mill scale, rust coat, dirt, oil, and other coatings that adversely affect bonding capacity when placed in the work.
 - 1) Thin coating of red rust resulting from short exposures will not be considered objectionable.
 - b. Remove concrete or other deleterious coatings on dowels and other reinforcement projecting from previous placements by wire brushing or sandblasting before the reinforcement is embedded in the subsequent placement.
- B. Support of reinforcement and accessories:
 - 1. Provide supports for deformed bars and wire fabric to maintain reinforcement position indicated on the Drawings and to provide specified minimum clear concrete cover around the reinforcement.
 - 2. Use number of supports required to prevent reinforcement from sagging and to support loads during construction, but in no fewer quantities and locations than recommended by ACI SP-66 and CRSI Manual of Standard Practice.
 - 3. Support wire fabric from reinforcing supports:
 - Do not place wire fabric on grade or forms for subsequent lifting into plastic concrete during the concrete placement.
 - a. Take care to maintain specified position of wire fabric in the concrete section and to prevent bending, draping, or kinking of the wires.
 - 4. Do not:
 - a. Use brick, broken concrete masonry units, concrete spalls, rocks, or other such material for supporting reinforcement.
 - b. Support reinforcement on additional reinforcing bars installed with less cover than that required by the Contract Documents ("give away bars").
 - c. Adjust location of reinforcement indicated on the Drawings to increase cover over support bars.
 - 5. Furnish and use templates for placing column dowels.

- C. Placing reinforcement:
1. Locate reinforcement to provide minimum clear concrete cover specified:
 - a. Where cover is not specified, provide cover in accordance with ACI 318.
 2. Accurately place reinforcement in accordance with the tolerances of ACI 117:
 - a. Where reinforcement must be moved beyond the specified placing tolerances to avoid interference with other reinforcement, conduits, or embeds, submit the proposed arrangement for Engineer's review.
 3. Fasten reinforcement securely in place with wire ties:
 - a. After tying, bend ends of wire ties inward towards the center of the concrete to match clear concrete cover provided for reinforcement.
 4. Do not weld reinforcing bars or wires.
 5. Deformed reinforcing bars:
 - a. Tie slab bars at every intersection around the perimeter of slabs.
 - b. Tie wall bar and slab bar intersections, other than those around the perimeter, at every 4th intersection, but not more than 48 inches on center each way.
 - c. Lap splices:
 - 1) Lap reinforcement at splices as indicated on the Drawings or specified.
 - 2) Unless indicated on the Drawings, install lap splices with bars in contact and fastened together with tie wire.
 - 3) If lap splice length is not indicated on the Drawings, provide lap splice equal to 40 times reinforcing bar diameter.
 6. Welded wire fabric reinforcement:
 - a. Bend fabric as indicated on the Drawings or required to fit work.
 - b. Straighten fabric to make reinforcement in each face a flat, planar surface before placing in the Work.
 - c. Extend welded wire fabric across concrete section to provide fabric to within 2 inches of vertical concrete edges.
 - d. Lap splice welded wire fabric as indicated on the Drawings:
 - 1) If no splice details are indicated, lap fabric at least 12 inches, fasten with wire ties spaced not more than 24 inches on center, and lace lap with wire of the same diameter of the fabric.

3.04 BATCHING, MIXING, TRANSPORTING, AND DELIVERING CONCRETE

- A. General:
1. Measure, batch, mix, transport, and deliver ready-mixed concrete in accordance with ASTM C94.
- B. Measuring and batching:
1. Measure materials by weighing, except as otherwise specified or where other methods are specifically authorized in writing by the Engineer.
 - a. Weigh cementitious materials separately.
 2. Furnish satisfactory means for checking moisture content of aggregates before batching.
 - a. Adjust mix water to compensate for free moisture content of aggregate.
 3. Mixing water:
 - a. Measure by volume or by weight.
 - b. Maximum water-to-cementitious materials ratio for each concrete class shall not exceed that specified in Table B of this Section.

- 4. Admixtures:
 - a. Provide admixtures as specified.
 - b. Batch products by means of mechanical batcher capable of accurate measurement, and in accordance with the admixture manufacturer's instructions.
- C. Mixing and transporting:
 - 1. Mixing:
 - a. Equip each truck mixer with device capable of counting number of drum revolutions and interlocked to prevent discharge of concrete from drum before required number of revolutions is complete.
 - b. Once drum revolutions commence, continuously revolve drum until it has completely discharged its batch.
 - c. Do not add water until drum commences revolutions.
 - d. Engineer may require an increase in the designated minimum number of revolutions, or a decrease in the designated maximum number of revolutions if necessary to obtain satisfactory mixing.
 - 1) Incorporate such changes without additional costs to Owner.
 - 2. Do not exceed the following time period for mixing and delivery:
 - a. Total elapsed time from addition of water at batch plant through discharging of mix: Not to exceed the lesser of 90 minutes nor 300 revolutions of the mixer drum.
 - b. Total elapsed time for from arrival at the project site to completing discharge of mix: Not to exceed 30 minutes.
 - c. Under conditions contributing to quick setting, the Engineer may reduce total elapsed time permitted.
- D. On-site acceptance of concrete mixes:
 - 1. Concrete shall possess the properties specified in this Section at the point of placement.
 - 2. Do not place concrete:
 - a. Having slump outside the limits indicated in Table B of this Section.
 - b. That does not conform to specifications for entrained air content.
 - c. For which the total elapsed time of mixing or elapsed time at the site exceeds the specified maximums.

3.05 CONVEYING, DEPOSITING, AND CONSOLIDATING CONCRETE

- A. Preparation:
 - 1. General:
 - a. Clean construction joints and forming surfaces of dirt, sawdust, chips, and other debris after forms are built and immediately before concrete or grout placement.
 - 1) Use vacuum cleaner if required to provide clean surfaces.
 - b. Remove snow, ice, frost, and standing water from surfaces of formwork, reinforcement, and embeds in contact with concrete.
 - c. Secure reinforcement, joint materials, anchors, embeds, and other items in place.
 - d. During conveying, placement, consolidation, and finishing of concrete, protect surrounding construction, including concrete walls and slab surfaces, from concrete splatter.

- e. Thoroughly clean surrounding construction at the completion of each placement and before splatter sets up.
 - 2. Concrete construction on grade:
 - a. Provide subgrade preparation, base materials, and compaction as required by the Contract Documents.
 - b. Remove loose soils, debris, standing water, snow, or ice from subgrade.
 - c. Provide moist subgrade with no standing or free water and no muddy or soft spots.
 - 1) When subgrade is not moist, sprinkle with water not less than 2 nor more than 6 hours in advance of placing concrete.
 - 2) If subgrade becomes dry prior to actual placing of concrete, sprinkle again, without forming pools of water.
 - 3. Weather conditions:
 - a. Hot weather: In hot weather conditions, make provisions in advance of placement for windbreaks, shading, fogging, sprinkling, ponding, or wet covering.
 - b. Cold weather: In cold weather conditions, make provisions to maintain the required concrete temperatures without overheating or drying, and without exposing concrete to carbon dioxide from heater exhaust.
 - c. Precipitation:
 - 1) Do not begin placements while rain, sleet, or snow is falling or anticipated, or unless adequate protection is provided.
 - 2) Do not allow precipitation to increase concrete water content or to damage the surface of the concrete.
 - d. Wind:
 - 1) Do not begin placements during wind events that will blow dust or debris into the plastic concrete.
 - 2) Do not allow wind-blown debris to become embedded in or to damage the surface of the concrete.
 - 3) At all times, have sufficient coverings on hand to protect new concrete from excessive drying or blowing debris.
- B. Conveying concrete:
- 1. Convey concrete from mixer to place of final deposit by methods that prevent segregation or loss of materials.
 - 2. Use chutes, pumps, and conveyors of size and design that will ensure continuous flow of concrete at point of delivery without cold joints.
 - 3. Design and use chutes and devices for conveying and depositing concrete that direct concrete vertically downward when discharged from the chute or conveying device.
 - 4. Keep conveying equipment clean by thoroughly washing and scraping upon completion of any placement.
- C. Depositing concrete:
- 1. Do not place concrete under the following conditions:
 - a. After initial set has occurred.
 - b. When re-tempering has occurred.
 - 2. Deposit concrete at or near its final position to avoid segregation caused by rehandling or flowing.
 - a. Do not use vibrators to move concrete from its point of deposit.
 - b. Use tremies for placing concrete where drop is over 5 feet.

3. Place concrete continuously in approximately horizontal layers not exceeding 24 inches in depth. Bring level up evenly in all parts of forms.
 - a. After placement begins, continue without significant interruption and as a continuous operation until the end of that placement is reached.
 - b. Do not allow "cold joints" to form between adjacent layers or areas of the placement, or initial set to form on "wet edge" of placements.
 - c. Take precautions to prevent delays between placement of adjacent layers or areas from exceeding 20 minutes.
 - 1) If more than 20 minutes elapse after the initial surface was placed, spread a layer of neat cement grout, as specified for construction joints before depositing additional concrete.
 4. Placing concrete on slopes: Commence placement at bottom of slope and work upward.
 5. Placing horizontal concrete monolithically with structures below:
 - a. If concrete for slabs, beams, or walkways is to be cast monolithically with walls or columns below, do not place the horizontal concrete elements until the concrete in walls or columns below has been placed, consolidated, and allowed to achieve initial set.
 - b. Allow set time of not less than 1 hour.
 - c. Maintain a moist surface at the top of the walls or columns during the setting period.
 6. Placing a second concrete lift over hardened concrete below:
 - a. Take special precautions in form work at top of old lift and bottom of new lift to prevent:
 - 1) Spreading and vertical or horizontal displacement of forms.
 - 2) Grout "bleeding" onto finished concrete surfaces.
- D. Consolidating concrete:
1. Thoroughly consolidate concrete into forms and around reinforcement, pipes, and other embeds using mechanical vibrators.
 - a. Take special care to place concrete solidly against forms, leaving no voids.
 - b. Make concrete solid, dense, compact, and smooth.
 2. Provide vibration energy sufficient to cause concrete to flow and readily settle into place, leaving no voids. Vibration should visibly affect concrete over a radius of at least 18 inches without segregation.
 3. Vibrators:
 - a. At all times, have sufficient vibrators on hand to consolidate concrete as it is placed.
 - b. In addition to vibrators in use while concrete is being placed, have on hand at least 1 spare vibrator in serviceable condition.
 - c. Place no concrete until it has been ascertained that all vibrating equipment, including spares, are in serviceable condition.

3.06 FINISHING CONCRETE

- A. Liquid evaporation retardant:
1. Apply evaporation retardant when environmental conditions will result in rapid evaporation of moisture from the surface of the fresh concrete during finishing operations. Such conditions include low humidity, high heat, and wind occurring alone or in combination.

2. Immediately after the concrete is screeded, coat the surface of the concrete with a liquid evaporation retardant.
3. Apply the evaporation retardant again after each work operation as necessary to prevent drying shrinkage cracks and crazing at the surface.

3.07 CURING AND PROTECTING CONCRETE

- A. Curing concrete:
 1. Cure concrete by methods specified in this Section.
 2. Keep concrete continuously moist and at a temperature of at least 50 degrees Fahrenheit for at least 7 days after placement unless the details of a particular method specify a longer period.
 3. Make provisions to maintain moisture or curing membrane integrity at edges of slabs, tops of walls, and joint surfaces, and to prevent loss of protection.
 4. Schedule of curing methods:
 - a. Concrete surfaces that will receive additional materials that require bond to the initial placement (including concrete; concrete repairs, coatings, paints, sealers; grout; and other materials):
 - 1) Water curing or plastic membrane curing.
 - b. Formed surfaces:
 - 1) If non-absorbent forms are left in place for 7 days after placement: No additional requirements.
 - 2) For absorbent forms or when forms are removed during the 7 days following placement: Cure by water curing, plastic membrane curing, or sprayed membrane curing.
 - c. Unformed concrete surfaces:
 - 1) Water curing, plastic membrane curing, or sprayed membrane curing.
 5. Water curing:
 - a. Keep surfaces of concrete constantly and visibly saturated by ponding, continuous fogging, or continuous sprinkling at all times during curing period.
 - 1) Cover surfaces if required to maintain saturated conditions.
 - 2) For horizontal surfaces, pond the surface with at least 2 inches of water or cover with saturated mats or fabric kept continuously wet.
 - b. Formed surfaces:
 - 1) Each day forms remain in place may be counted as 1 day of water curing.
 - 2) Do not loosen form ties while concrete is being cured by forms left in place.
 - 3) No further credit for curing time will be allowed after contact between the concrete surface and the forms has been broken.
 6. Plastic membrane curing:
 - a. Cover concrete with plastic membrane, sealing joints and edges against displacement by wind or site operations and to prevent loss of moisture.
 - b. Install plastic membrane as soon as concrete is finished and can be walked on without damage.
 - c. Keep all surfaces of concrete under plastic membrane moist at all times during the curing period.

7. Sprayed membrane curing:
 - a. Application of curing compound:
 - 1) Apply curing compound to concrete surface after repairing and patching, and within 1 hour after forms are removed.
 - a) If more than 1 hour elapses between removal of forms and application of curing compound, provide water curing of affected surfaces for the full curing period.
 - 2) Contractor is cautioned that the method of applying curing compound specified in this Section may require more compound than normally suggested by manufacturer of compound, and also more than is customary in the trade.
 - 3) Apply curing compound by mechanical, power-operated sprayer with mechanical agitator that will uniformly mix all pigment and compound.
 - 4) Apply compound in at least 2 coats, with each subsequent coat in a direction turned 90 degrees from the preceding coat.
 - 5) Apply curing compound in sufficient quantity that concrete has uniform appearance and that the natural color of the concrete is effectively and completely concealed immediately after spraying.
 - 6) Continue to coat and recoat surfaces until specified coverage is achieved and until coating film remains on concrete surfaces.
 - 7) Apply compound to a film thickness that can be scraped from surfaces at any and all points after drying for at least 24 hours.
 - 8) Take care to apply curing compound to edges of placements and over full surface profile of construction joints.
 - b. Removal of curing compound:
 - 1) Do not remove curing compound from concrete in less than 7 days after application.
 - 2) Before placing fresh concrete against a surface previously coated with curing compound, remove the curing compound by heavy sandblasting, or alternate method acceptable to the Engineer.
 - 3) Prior to final acceptance of the work, remove any curing compound on surfaces exposed to view by sandblasting or other acceptable method. After removal, only the natural color of finished concrete shall remain visible, and such color shall be uniform over the entire surface.

B. Protecting concrete:

1. Immediately after placement, protect concrete from hot or cold weather, and mechanical damage.
2. Temperature:
 - a. Cold weather: Protect concrete during the curing period so that the concrete temperature is maintained within the following requirements.
 - 1) Sections less than 12 inches thick: Minimum 55 degrees Fahrenheit.
 - 2) Sections 12 to 36 inches thick: Minimum 50 degrees Fahrenheit.
 - b. Hot weather: Protect concrete during the curing period so that the concrete temperature does not exceed 90 degrees Fahrenheit.
 - c. Remove protection against temperature gradually so that concrete surface temperature does not drop or rise by more than 40 degrees Fahrenheit during any 24-hour period.

3. Maintain forms, shoring, and bracing in place after concrete placement for a period after concrete placement as indicated in the following paragraphs. Forms may be removed after these periods if the concrete has developed sufficient strength and hardness to resist surface or other damage.
 - a. Vertical forms:
 - 1) General: Minimum 24 hours after concrete placement.
 - 2) Sides of footings: Minimum 24 hours after concrete placement.
 - 3) Sides of beams, girders, and similar members: Minimum 48 hours after concrete placement.
 - b. Horizontal forms:
 - 1) Slabs, beams, and girders: Until concrete reaches specified compressive strength, $f'c$, or until shoring is installed.
 - c. Shoring for slabs, beams, and girders:
 - 1) Shore until concrete strength reaches specified compressive strength, $f'c$.
 - a) Temporary shoring may be required after the specified compressive strength is reached if construction loads will exceed the designated live load capacity of the structure.
 - d. Wall bracing:
 - 1) Brace until strength of concrete beams and slabs laterally supporting the wall reaches specified compressive strength, $f'c$.
- C. Loads against or on the concrete:
 1. Loading of green concrete, by backfilling or by placing personnel and equipment on the surface, is not permitted.
 2. Backfilling: Do not place backfill against concrete walls until the wall and all elements attached to it, including connecting slabs or beams, are fully braced by the structure, and have achieved their minimum specified compressive strength, $f'c$.

3.08 JOINTS AND JOINT PREPARATION

- A. Joint locations and details:
 1. Construct concrete work as monolith to the extent practical.
 2. Construct joints as indicated on the Drawings and as specified.
 3. Locations of construction, expansion, and other joints are indicated on the Drawings or specified in this Section.
 - a. Do not relocate, add, or delete joints without prior approval from the Engineer.
- B. Construction joints:
 1. Where spacing is not indicated on the Drawings, provide construction joints in slabs and walls at intervals not greater than 35 feet.
 2. Construct as indicated on the Drawings.
 3. Before placing fresh concrete against the joint: Use heavy sandblast to thoroughly clean joint surfaces and reinforcement crossing the joint of laitance, grease, oil, mud, dirt, curing compounds, mortar droppings, or other objectionable matter.
 4. Just before placing concrete against the joint, wash surface with water to saturate joint surface and concrete surfaces within 12-inches of the joint.

5. Horizontal joints:
 - a. Immediately before placing concrete, thoroughly spread bed of neat cement grout over the joint surface. Grout shall be as follows:
 - 1) Use same sand-to-cementitious materials ratio that is used for concrete mix.
 - 2) Use same materials that are used for concrete.
 - 3) Use water-to-cementitious materials ratio that is no more than that specified for concrete.
 - b. Grout thickness: Not less than 1/2 inch, nor more than 1 inch.
- C. Expansion joints:
 1. Where width is not indicated on the Drawings, provide 3/4-inch wide joint.
 2. Construct as indicated on the Drawings.
 3. Do not extend reinforcement, conduits, or other items through expansion joints unless details for such crossings are indicated on the Drawings.
 4. Preformed expansion joint material:
 - a. Accurately position joint filler in the joint.
 - 1) Fasten to concrete or forms with adhesive.
 - 2) Fastening joint filler using nails, bolts, screws, or similar items is not permitted.
 - b. Tape splices in joint filler to prevent intrusion of mortar.

3.09 TOLERANCES

- A. Concrete:
 1. Finished concrete: Conform to shapes, lines, grades, and dimensions indicated on the Drawings.
 2. In accordance with ACI 117, except as modified in the following paragraphs:
 - a. Where more restrictive tolerances to accommodate equipment are indicated on the Drawings.
 - b. Slabs where slope is indicated:
 - 1) Uniformly slope to drain.
 - 2) Without depressions that puddle water.
 - c. Slabs indicated to be level:
 - 1) Maximum deviation of 1/8 inches in 10 feet without any apparent changes in grade.
 - 2) Without depressions that puddle water.
- B. Embeds:
 1. General:
 - a. Sleeves and inserts: Plus or minus 1/8 inch.
 - b. Projected ends of anchor bolts: Plus 1/4 inch; minus 0 inches.
 - c. Anchor bolt position: Plus or minus 1/16 inch.
 2. Equipment: Set inserts to tolerances required for proper installation and operation of equipment or systems to which insert pertains.

3.10 FIELD QUALITY CONTROL BY CONTRACTOR

A. Field tests:

1. During progress of construction, provide testing to determine whether the concrete, as being produced, complies with requirements specified.
 - a. Cooperate in testing by allowing free access to the Work for testing laboratory to sample and test materials.
 - b. Provide full access for Engineer to observe concrete sampling and testing at any time.
 - c. Contractor is responsible for providing care of and curing conditions for test specimens in accordance with ASTM C31 until specimens are collected by testing laboratory.
 - d. Provide firmly braced, insulated, heated, closed wooden curing boxes. Include cold weather temperature and hot weather temperature control thermostat for initial curing and storage from time of fabrication through receipt at Contractor's testing laboratory.
2. Testing shall include:
 - a. Sampling of concrete in accordance with ASTM C172.
 - b. Temperature of concrete at delivery in accordance with the requirements of ASTM C1064 and as specified in this Section.
 - c. Slump of concrete using slump cone in accordance with the requirements of ASTM C143. Test slump at the following intervals:
 - 1) Test slump at the beginning of each placement.
 - 2) As often as necessary to keep slump within the specified range, but not less than every 6th truck.
 - 3) When requested to do so by the Engineer.
 - 4) Observe concrete during slump test for signs of segregation:
 - a) Observe concrete for mortar or moisture flow from slumped concrete.
 - b) Reject concrete if mortar or moisture flows out of the mix.
 - d. Unit weight of concrete in accordance with ASTM C138.
 - e. Air entrainment in accordance with ASTM C173. Test air content at the following intervals:
 - 1) At the beginning of each placement.
 - 2) As often as necessary to keep entrained air within the specified range, but not less than every 6th truck.
 - 3) When requested to do so by the Engineer.
 - f. Compressive strength, f'_c , in accordance with ASTM C39. Required number of cylinders:
 - 1) Not less than 4 cylinder specimens, 4-inch diameter by 8-inches long, will be tested for each 150 cubic yards of each class of concrete; not less than 4 specimens for each half day of placement.
 - 2) One cylinder will be broken at 7 days and 3 cylinders will be broken at 28 days.
3. Contractor shall:
 - a. Furnish concrete for test specimens and provide manual assistance to testing lab in preparing said specimens.
 - b. Assume responsibility for providing care and on-site curing and protection for test specimens in accordance with ASTM C31.

3.11 FIELD QUALITY CONTROL BY OWNER

- A. Provide on-site observation and field quality assurance for the Work of this Section as specified in Section 01450 - Quality Control.
- B. Special tests and inspections: See Section 01455 - Regulatory Quality Assurance.
- C. Field inspections:
 - 1. Required inspections:
 - a. Observe construction for conformance to the Contract Documents and the accepted submittals.
 - 2. Records of inspections:
 - a. Provide record of each inspection.
 - b. Submit copies to Contractor upon request.
- D. Field tests:
 - 1. Engineer may request, at any time, additional testing to confirm that materials being delivered and placed conform to the requirements of the Specifications.
 - a. If such additional testing shows that the materials do not conform to the specified requirements, Contractor shall pay the cost of these tests.
 - b. If such additional testing shows that the materials do conform to the specified requirements, Engineer will pay the cost of these tests.

3.12 NON-CONFORMING WORK

- A. Enforcement of specification requirements:
 - 1. Do not place concrete that does not conform to the requirements of these Specifications. Remove non-conforming materials from the site.
 - 2. Strength requirements:
 - a. Concrete is expected to reach higher compressive strength than the minimum specified compressive strength f'_c as indicated in Table B of this Section.
 - b. Concrete strength will be considered acceptable if following conditions are satisfied:
 - 1) Averages of all sets of 3 consecutive strength test results are greater than or equal to specified compressive strength f'_c .
 - 2) No individual strength test (average of 2 cylinders tested at 28-days) falls below specified compressive strength f'_c by more than 500 pounds per square inch.
 - c. Whenever 1 or both of the conditions stated above is not satisfied, provide additional curing or testing of the affected portion as directed by the Engineer.
 - 1) The costs of such curing or testing shall be at the Contractor's expense.

3.13 ADJUSTING

- A. Remove and replace or repair defective work as directed by the Engineer:
 - 1. Do not patch, repair, or cover defective work before observation by the Engineer.
 - 2. Make no repairs until Engineer has accepted proposed methods for preparation and repair.

END OF SECTION

SECTION 03600

GROUTING

PART 1 GENERAL

1.01 SUMMARY

- A. Section includes:
 - 1. Epoxy grout.
 - 2. Grout.
 - 3. Non-shrink epoxy grout.
 - 4. Non-shrink grout.

1.02 REFERENCES

- A. ASTM International (ASTM):
 - 1. C109 - Standard Test Method for Compressive Strength of Hydraulic Cement Mortars (using 2-inch cube specimens).
 - 2. C230 - Standard Specification for Flow Table for Use in Tests of Hydraulic Cement.
 - 3. C531 - Standard Test Method for Linear Shrinkage and Coefficient of Thermal Expansion of Chemical-Resistant Mortars, Grouts, Monolithic Surfacing, and Polymer Concretes.
 - 4. C579 - Standard Test Method for Compressive Strength of Chemical-Resistant Mortars, Grouts, and Monolithic Surfacing and Polymer Concretes.
 - 5. C939 - Standard Test Method for Flow of Grout for Preplaced-Aggregate Concrete (Flow Cone Method).
 - 6. C942 - Standard Test Method for Compressive Strength of Grouts for Preplaced-Aggregate Concrete in the Laboratory.
 - 7. C1107 - Standard Specification for Packaged Dry, Hydraulic-Cement Grout (Non-shrink).
 - 8. C1181 - Standard Test Methods for Compressive Creep of Chemical-Resistant Polymer Machinery Grouts.
- B. International Concrete Repair Institute (ICRI):
 - 1. 310.2R - Selecting and specifying Concrete Surface Preparations for Sealers, Coatings, Polymer Overlays, and Concrete Repair.

1.03 SUBMITTALS

- A. Non-shrink epoxy grout:
 - 1. Manufacturer's literature.
- B. Non-shrink grout:
 - 1. Manufacturer's literature.

1.04 DELIVERY, STORAGE, AND HANDLING

- A. Deliver materials to jobsite in their original, unopened packages or containers, clearly labeled with manufacturer's product identification and printed instructions.
- B. Store materials in cool dry place and in accordance with manufacturer's recommendations.
- C. Handle materials in accordance with the manufacturer's instructions.

PART 2 PRODUCTS

2.01 MANUFACTURED UNITS

- A. Non-shrink epoxy grout:
 - 1. Manufacturers: One of the following or equal:
 - a. Five Star Products, Inc., Five Star DP Epoxy Grout.
 - b. Master Builder Solutions, MasterFlow 648.
 - c. L&M Construction Chemicals, Inc., EPOGROUT.
 - 2. Non-shrink epoxy grout shall be 100 percent solid, premeasured, prepackaged system containing 2-component thermosetting epoxy resin and inert aggregate.
 - 3. Maintain flowable consistency for at least 45 minutes at 70 degrees Fahrenheit.
 - 4. Shrinkage or expansion: Less than 0.0006 inches per inch when tested in accordance with ASTM C531.
 - 5. Minimum compressive strength: 10,000 pounds per square inch at 24 hours and 14,000 pounds per square inch at 7 days when tested in accordance with ASTM C579, Method B.
 - 6. Compressive creep: Not exceed 0.0037 inches/per inch when tested under 400 pounds per square inch constant load at 140 degrees Fahrenheit in accordance with ASTM C1181.
 - 7. Coefficient of thermal expansion: Not exceed 0.000018 inches per inch per degree Fahrenheit when tested in accordance with ASTM C531, Method B.
- B. Non-shrink grout:
 - 1. Manufacturers: One of the following or equal:
 - a. Five Star Products, Inc., Five Star Grout.
 - b. Master Builder Solutions, MasterFlow 928.
 - c. L&M Construction Chemicals, Inc., CRYSTEX.
 - 2. In accordance with ASTM C1107.
 - 3. Preportioned and prepackaged cement-based mixture.
 - 4. Contain no metallic particles such as aluminum powder and no metallic aggregate such as iron filings.
 - 5. Require only addition of potable water.
 - 6. Water for pre-soaking, mixing, and curing: Potable water.
 - 7. Free from emergence of mixing water from within or presence of water on its surface.

8. Remain at minimum flowable consistency for at least 45 minutes after mixing at 45 degrees Fahrenheit to 90 degrees Fahrenheit when tested in accordance with ASTM C230.
 - a. If at fluid consistency, verify consistency in accordance with ASTM C939.
9. Dimensional stability (height change):
 - a. In accordance with ASTM C1107, volume-adjusting Grade B or C at 45 degrees Fahrenheit to 90 degrees Fahrenheit.
 - b. Have 90 percent or greater bearing area under bases.
10. Have minimum compressive strengths at 45 degrees Fahrenheit to 90 degrees Fahrenheit in accordance with ASTM C1107 for various periods from time of placement, including 5,000 pounds per square inch at 28 days when tested in accordance with ASTM C109 as modified by ASTM C1107.

2.02 MIXES

- A. Epoxy grout:
 1. Consist of mixture of epoxy or epoxy gel and sand.
 - a. Epoxy: As specified in Section 03071 - Epoxies.
 - b. Epoxy gel: As specified in Section 03071 - Epoxies.
 - c. Sand: Clean, bagged, graded, and kiln-dried silica sand.
 2. Proportioning:
 - a. For horizontal work: Consist of mixture of 1 part epoxy with not more than 2 parts sand.
 - b. For vertical or overhead work: Consist of 1 part epoxy gel with not more than 2 parts sand.
- B. Grout:
 1. Mix in proportions by weight: 1 part portland cement to 4 parts concrete sand.
 - a. Portland cement: As specified in Section 03301 – Concrete Work.
 - b. Concrete sand: As specified in Section 03301 – Concrete Work.
- C. Non-shrink epoxy grout:
 1. Mix in accordance with manufacturer's installation instructions.
- D. Non-shrink grout:
 1. Mix in accordance with manufacturer's installation instructions such that resulting mix has flowable consistency and is suitable for placing by pouring.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Inspect concrete surfaces to receive grout or mortar and verify that they are free of ice, frost, dirt, grease, oil, curing compounds, paints, impregnations, and loose material or foreign matter likely to reduce bond or performance of grout or mortar.

3.02 PREPARATION

- A. Surface preparation for grouting other baseplates:
 - 1. Remove grease, oil, dirt, dust, curing compounds, laitance, and other deleterious materials that may affect bond to concrete and bottoms of baseplates.
 - 2. Roughen concrete surfaces in contact with grout to ICRI CSP-6 surface profile or rougher.
 - a. Remove loose or broken concrete.
 - 3. Metal surfaces in contact with grout: Grit blast to white metal surface.

3.03 INSTALLATION

- A. Mixing:
 - 1. Non-shrink epoxy grout:
 - a. Keep temperature of non-shrink epoxy grout from exceeding manufacturer's recommendations.
 - 2. Non-shrink grout:
 - a. May be drypacked, flowed, or pumped into place. Do not overwork grout.
 - b. Do not retemper by adding more water after grout stiffens.
- B. Placement:
 - 1. Epoxy grouts:
 - a. Wet surfaces with epoxy for horizontal work or epoxy gel for vertical or overhead work prior to placing epoxy grout.
 - 2. Non-shrink epoxy grout:
 - a. Mix in complete units. Do not vary ratio of components or add solvent to change consistency of mix.
 - b. Pour hardener into resin and mix for at least 1 minute and until mixture is uniform in color. Pour epoxy into mortar mixer wheelbarrow and add aggregate. Mix until aggregate is uniformly wetted. Over mixing will cause air entrapment in mix.
 - 3. Non-shrink grout:
 - a. Add non-shrink cement grout to premeasured amount of water that does not exceed the manufacturer's maximum recommended water content.
 - b. Mix in accordance with manufacturer's instructions to uniform consistency.
- C. Curing:
 - 1. Cement based grouts and mortars:
 - a. Keep continuously wet for minimum of 7 days. Use wet burlap, soaker hose, sun shading, ponding, and in extreme conditions, combination of methods.
 - b. Maintain above 40 degrees Fahrenheit until it has attained compressive strength of 3,000 pounds per square inch, or above 70 degrees Fahrenheit for minimum of 24 hours to avoid damage from subsequent freezing.
 - 2. Epoxy based grouts:
 - a. Cure grouts in accordance with manufacturers' recommendations.
 - 1) Do not water cure epoxy grouts.
 - b. Do not allow any surface in contact with epoxy grout to fall below 50 degrees Fahrenheit for minimum of 48 hours after placement.

D. Grouting other baseplates:

1. General:

- a. Use non-shrink grout as specified in this Section.
- b. Baseplate grouting shall take place from one side of baseplate to other in continuous flow of grout to avoid trapping air in grout.
- c. Maintain hydrostatic head pressure by keeping level of grout in headbox above bottom of baseplate. Fill headbox to maximum level and work grout down.
- d. Vibrate, rod, or chain non-shrink grout to facilitate grout flow, consolidate grout, and remove trapped air.

2. Forms and headboxes:

- a. Build forms using material with adequate strength to withstand placement of grouts.
- b. Use forms that are rigid and liquidtight. Caulk cracks and joints with elastomeric sealant.
- c. Line forms with polyethylene for easy grout release. Coating forms with 2 coats of heavy-duty paste wax is also acceptable.
- d. Headbox shall be 4 to 6 inches higher than baseplate and shall be located on one side of baseplate.
- e. After grout sets, remove forms and trim back grout at 45 degree angle from bottom edges of baseplate.

3.04 FIELD QUALITY CONTROL

A. Non-shrink epoxy grout:

- 1. Test for 24-hour compressive strength in accordance with ASTM C579, Method B.

B. Non-shrink grout:

- 1. Test for 24-hour compressive strength in accordance with ASTM C942.

END OF SECTION

SECTION 05120

STRUCTURAL STEEL FRAMING

PART 1 GENERAL

1.01 SUMMARY

- A. Section includes:
 - 1. Structural steel shapes and plate.
 - 2. Fasteners and structural hardware:
 - a. All thread rods.
 - b. High-strength bolts.
 - 3. Welding.
 - 4. Bolting.

1.02 REFERENCES

- A. American Institute of Steel Construction (AISC):
 - 1. 303 - Code of Standard Practice for Steel Buildings and Bridges.
 - 2. 360 - Specification for Structural Steel Buildings.
- B. American Iron and Steel Institute (AISI):
 - 1. Steel alloys ("types") as indicated.
- C. American Welding Society (AWS):
 - 1. A5.1 - Specification for Carbon Steel Electrodes for Shielded Metal Arc Welding.
 - 2. A5.17 - Specification for Carbon Steel Electrodes and Fluxes for Submerged Arc Welding.
 - 3. A5.20 - Specification for Carbon Steel Electrodes for Flux Cored Arc Welding.
 - 4. D1.1 - Structural Welding Code - Steel.
- D. ASTM International (ASTM):
 - 1. A6 - Standard Specification for General Requirements for Rolled Structural Steel Bars, Plates, Shapes, and Sheet Piling.
 - 2. A36 - Standard Specification for Carbon Structural Steel.
 - 3. A123 - Standard Specification for Zinc (Hot-Dip Galvanized) Coatings on Iron and Steel Products.
 - 4. A153 - Standard Specification for Zinc Coating (Hot-Dip) on Iron and Steel Hardware.
 - 5. A194 - Standard Specification for Carbon and Alloy Steel Nuts for Bolts for High Pressure or High Temperature Service, or Both.
 - 6. A500 - Standard Specification for Cold-Formed Welded and Seamless Carbon Steel Structural Tubing in Rounds and Shapes.
 - 7. A501 - Standard Specification for Hot-Formed Welded and Seamless Carbon Steel Structural Tubing.
 - 8. A563 - Standard Specification for Carbon and Alloy Steel Nuts.
 - 9. A992 - Standard Specification for Structural Steel Shapes.

10. F436 - Standard Specification for Hardened Steel Washers.
 11. F959 - Standard Specification for Compressible-Washer-Type Direct Tension Indicators for Use with Structural Fasteners.
 12. F2329 - Standard Specification for Zinc Coating, Hot-Dip, Requirements for Application to Carbon and Alloy Steel Bolts, Screws, Washers, Nuts, and Special Threaded Fasteners.
 13. F3125 - Standard Specification for High Strength Structural Bolts, Steel and Alloy Steel, Heat Treated, 120 ksi and 150 ksi Minimum Tensile Strength.
- E. Research Council on Structural Connections (RCSC):
1. Specification for Structural Joints Using High-Strength Bolts (RCSC Specification).

1.03 DEFINITIONS

- A. Snugtight: At bolted joints, the tightness attained with a few impacts of an impact wrench, or by the full effort of an ironworker using a spud wrench to bring the connected plies into firm contact.

1.04 SUBMITTALS

- A. Shop drawings:
1. Fabrication and erection drawings.
- B. Quality control submittals:
1. Welding procedure specifications (WPS) in accordance with AWS D1.1.
 - a. Submit WPS for each type of welded joint used, whether prequalified or qualified by testing.
 - 1) State electrode manufacturer and specific electrodes used.
 - 2) Indicate required AWS qualification for joint.
 - b. Submit WPS with shop drawings that indicate those welds.
 - c. Submit Procedure Qualification Record (PQR) in accordance with AWS D1.1 for welding procedures qualified by testing.
 2. Welder qualifications: For each welding process and position:
 - a. Welder's qualification certificates.
 - b. Contractor's statement that certificate will be "in effect" at the time(s) welding will be performed based on the "Period of Effectiveness" provisions of AWS D1.1.
 3. Steel fabricator's AISC certification.
- C. Test reports:
1. Certified copies of mill tests and analyses made in accordance with applicable ASTM standards, or reports from a recognized commercial laboratory, including chemical and tensile properties of each shipment of structural steel or part thereof having common properties.

1.05 QUALITY ASSURANCE

- A. Certification:
1. Steel fabricators shall be certified by the AISC or other certification acceptable to the Engineer and the building official having jurisdiction.

- B. Welding:
1. Perform welding of structural metals in accordance with AWS D1.1 using welders who have current AWS qualification certificate for the process, position, and joint configuration to be welded.
 2. Make Welding Procedure Specifications available at the locations where welding is performed.
 3. Notify Engineer at least 24 hours before starting shop or field welding.
 4. Engineer may check materials, equipment, and qualifications of welders.
 5. Remove welders performing unsatisfactory Work, or require requalification.
 6. Engineer may use gamma ray, magnetic particle, dye penetrant, trepanning, or other aids to visual inspection to examine any part of welds or all welds.
 7. Contractor shall bear costs of retests on defective welds.
 8. Contractor shall also bear costs in connection with qualifying welders.

1.06 DELIVERY, STORAGE, AND HANDLING

- A. Packing and shipping: Deliver structural steel free from mill scale, rust, and pitting.
- B. Storage and protection: Until erection and painting, protect from weather items not galvanized or protected by a shop coat of paint.

PART 2 PRODUCTS

2.01 MATERIALS

- A. Unless otherwise specified or indicated on the Drawings, materials shall conform to the following:

2.02 FASTENERS AND STRUCTURAL HARDWARE

- A. General:
1. Materials: Of domestic manufacture.
 2. Where fasteners and hardware are specified to be galvanized, hot-dip galvanize in accordance with ASTM A153 or ASTM F2329, unless otherwise specified.
- B. All thread rods:
1. Carbon steel:
 - a. In accordance with ASTM A36 unless otherwise indicated on the Drawings.
 - b. Nuts: ASTM A194.
 - c. Washers: ASTM F436.
 2. Galvanized carbon steel:
 - a. In accordance with ASTM A36 unless otherwise indicated on the Drawings, and hot dip galvanized in accordance with ASTM A153.
 - b. Nuts: ASTM A194, hot-dip galvanized in accordance with ASTM A153.
 - c. Washers: ASTM F436, hot-dip galvanized in accordance with ASTM A153.
 3. Stainless steel:

- a. Units descaled, pickled, and passivated as specified in "Fabrication" in this Section.
 - b. Threaded rods and nuts to be the products of a single manufacturer/fabricator to ensure proper fit without galling. Ship all thread rods with properly fitting nuts attached.
 - c. Type 316:
 - 1) Rod: ASTM F593, Group 2, Condition CW, coarse threads.
 - 2) Nuts: ASTM F594. Match alloy of rod (group and UNS designation).
 - 3) Washers: Type 316 stainless steel.
- C. Anchor bolts, anchor rods, and post-installed steel anchors: As indicated on the Drawings and as specified in Section 05190 - Mechanical Anchoring and Fastening to Concrete and Masonry.
- D. High-strength bolts:
 - 1. Provide high-strength bolt assembly, with nuts, hardened flat washers, and compressible-washer-type direct tension indicators.
 - 2. Carbon steel - Uncoated:
 - a. Bolts: Plain heavy hex structural bolts in accordance with ASTM F3125, Grade A325, Type 1.
 - b. Nuts: Heavy hex nuts in accordance with ASTM A563, Grade C.
 - c. Washers:
 - 1) Adjacent to normal, oversized, and short-slotted holes: Circular, square or rectangular beveled, clipped, or extra thick washers in accordance with ASTM F436, Type 1. Flat circular washers unless otherwise indicated on the Drawings.
 - 2) Adjacent to long slotted holes: Fabricated from 5/16-inch thick plate conforming to ASTM A36.
 - d. Load indicator devices: At slip critical connections, provide one of the following devices at each bolt:
 - 1) Compressible washer type direct tension indicators ("DTI"): In accordance with ASTM F959, Type 325-1.
 - 2) Twist-off type tension-control bolt assemblies: ASTM F3125, Grade F1852.

2.03 ISOLATING SLEEVES AND WASHERS

- A. As indicated on the Drawings and as specified in Section 05190 - Mechanical Anchoring and Fastening to Concrete and Masonry.

2.04 GALVANIZED SURFACE REPAIR

- A. Manufacturers: The following or equal:
 - 1. Jelt, Galvinox.

2.05 THREAD COATING

- A. Manufacturers: One of the following or equal:
 - 1. Bostik, Never-Seez.
 - 2. Oil Research, Inc., WLR No. 111.

2.06 SUPPLEMENTARY PARTS

- A. Furnish as required for complete structural steel erection, whether or not such parts and Work are specified or indicated on the Drawings.

2.07 FABRICATION

- A. Shop assembly:
 - 1. Fabricate structural steel in accordance with AISC 360 and AISC 303 unless otherwise specified or modified by applicable regulatory requirements.
 - 2. Where anchors, connections, or other details of structural steel are not specifically indicated on the Drawings or specified, their material, size and form shall be equivalent in quality and workmanship to items specified.
 - 3. Round off sharp and hazardous projections and grind smooth.
 - 4. Take measurements necessary to properly fit work in the field. Take responsibility for and be governed by the measurements and proper working out of all the details.
 - 5. Take responsibility for correct fitting of metalwork.
 - 6. Welded connections:
 - a. Comply with AWS requirements for the metals to be welded.
 - b. Weld only in accordance with approved Welding Procedure Specifications.
 - c. Keep Welding Procedure Specifications readily available for welders and inspectors during fabrication processes.
- B. Galvanized carbon steel:
 - 1. Where galvanizing is required, hot-dip structural steel after fabrication in accordance with ASTM A123.
 - 2. Do not electro-galvanize or mechanically-galvanize unless specified or accepted by Engineer.
 - 3. Re-straighten galvanized items that bend or twist during galvanizing.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Verification of conditions: Examine Work in place to verify that it is satisfactory to receive the Work of this Section. If unsatisfactory conditions exist, do not begin this Work until such conditions have been corrected.

3.02 ERECTION

- A. General:
 - 1. Fabricate structural and foundry items to true dimensions without warp or twist.
 - 2. Form welded closures neatly, and grind off smooth where weld material interferes with fit or is unsightly.
 - 3. Install structural items accurately and securely, true to level, plumb, in correct alignment and grade, with all parts bearing or fitting structure or equipment for which intended.
 - 4. Do not shift out of alignment, re-drill, re-shape, or force fit fabricated items.

5. Place anchor bolts or other anchoring devices accurately and make surfaces that bear against structural items smooth and level.
 6. Rigidly support and brace structural items needing special alignment to preserve straight, level, even, and smooth lines. Keep structural items braced until concrete, grout, or dry pack mortar has hardened for 48 hours minimum.
 7. Erect structural steel in accordance with AISC 303 unless otherwise specified or modified by applicable regulatory requirements.
 8. Where anchors, connections, and other details of structural steel erection are not specifically indicated on the Drawings or specified, form, locate, and attach with equivalent in quality and workmanship to items specified.
 9. Round off sharp or hazardous projections and grind smooth.
 10. Coat steel items as specified in Section 09960 - High-Performance Coatings.
- B. Welding: General:
1. Make welds full penetration type, unless otherwise indicated on the Drawings.
 2. Remove backing bars and weld tabs after completion of weld. Repair defective welds observed after removal of backing bars and weld tabs.
- C. Welding: Carbon steel:
1. General: In accordance with AWS D1.1:
 - a. Weld ASTM A36 and A992 structural steel, and ASTM A500 and A501 structural tubing with electrodes in accordance with AWS A5.1, using E70XX electrodes; AWS A5.17, using F7X-EXXX electrodes; or AWS A5.20, using E7XT-X electrodes.
 - b. Field repair cut or otherwise damaged galvanized surfaces to equivalent original condition using a galvanized surface repair.
- D. Interface with other products:
1. Where steel members and fasteners come in contact with dissimilar metals (aluminum, stainless steel, etc.), separate or isolate the dissimilar metals with isolating sleeves and washers as specified in Section 05190 - Mechanical Anchoring and Fastening to Concrete and Masonry.
- E. Fasteners: General:
1. Install bolts to project 2 threads minimum, but 1/2 inch maximum beyond nut.
 2. Anchor bolts and anchor rods: Install as specified in Section 05190 - Mechanical Anchoring and Fastening to Concrete and Masonry.
 - a. Unless otherwise specified, tighten nuts on anchor bolts and anchor rods specified in Section 05190 - Mechanical Anchoring and Fastening to Concrete and Masonry to the "snugtight" condition.
 3. All thread rods in drilled holes bonded to concrete with adhesive: Install as specified in Section 03055 - Adhesive-Bonded Reinforcing Bars and All Thread Rods in Concrete.
- F. Fasteners: High-strength carbon steel bolts:
1. Connections with high-strength bolts shall in accordance with RCSC Specification for Structural Joints Using High-Strength Bolts.
 2. Provide slip-critical joints at bolted connections.
 2. Joints: Slip-critical.

- a. Confirm that faying surfaces at connections are free of dirt and other foreign material, have been blast cleaned, and are free of coatings and inadvertent overspray in accordance with RCSC Specification.
- b. Furnish hardened flat washers in accordance with ASTM F436:
 - 1) On outer plies with slotted holes.
 - 2) When 1 or more plies of the connected material has a yield strength less than 40 ksi.
 - 3) Under element, nut, or bolt head, turned in tightening.
- c. Install tension indicator washers, placed in accordance with ASTM F959 Figure X1, to confirm adequate tightening of bolts.
- d. Tighten bolts to full pretension.

3.03 FIELD QUALITY CONTROL

- A. Provide quality control as specified in Section 01450 - Quality Control.

3.04 FIELD QUALITY ASSURANCE

- A. Provide quality assurance as specified in Section 01450 - Quality Control.
- B. Special inspections, special tests, and structural observation:
 - 1. Provide as specified in Section 01455 - Regulatory Quality Assurance.

END OF SECTION

SECTION 05190

MECHANICAL ANCHORING AND FASTENING TO CONCRETE AND MASONRY

PART 1 GENERAL

1.01 SUMMARY

- A. Section includes:
 - 1. Cast-in anchors and fasteners:
 - a. Anchor bolts.
 - 2. Post-installed steel anchors and fasteners:
 - a. Concrete anchors.
 - 3. Appurtenances for anchoring and fastening:
 - a. Isolating sleeves and washers.

1.02 REFERENCES

- A. American Concrete Institute (ACI):
 - 1. 355.2 - Qualification of Post-Installed Mechanical Anchors in Concrete and Commentary.
- B. American National Standards Institute (ANSI):
 - 1. B212.15 - Cutting Tools - Carbide-tipped Masonry Drills and Blanks for Carbide-tipped Masonry Drills.
- C. American Welding Society (AWS):
 - 1. D1.1 - Structural Welding Code - Steel.
 - 2. D1.6 - Structural Welding Code - Stainless Steel.
- D. ASTM International (ASTM):
 - 1. A36 - Standard Specification for Carbon Structural Steel.
 - 2. A53 - Standard Specification for Pipe, Steel, Black and Hot-Dipped, Zinc-Coated, Welded and Seamless.
 - 3. A108 - Standard Specification for Steel Bars, Carbon and Alloy, Cold Finished.
 - 4. A123 - Standard Specification for Zinc (Hot-Dip Galvanized) Coatings on Iron and Steel Products.
 - 5. A153 - Standard Specification for Zinc Coating (Hot-Dip) on Iron and Steel Hardware.
 - 6. A240 - Standard Specification for Chromium and Chromium Nickel Stainless Steel Plate, Sheet, and Strip for Pressure Vessels and for General Applications.
 - 7. A380 - Standard Practice for Cleaning, Descaling, and Passivation of Stainless Steel Parts, Equipment, and Systems.
 - 8. A563 - Standard Specification for Carbon and Alloy Steel Nuts.
 - 9. B633 - Standard Specification for *Electrodeposited* Coatings of Zinc on Iron and Steel.
 - 10. B695 - Standard Specification for Coatings of Zinc Mechanically Deposited on Iron and Steel.

11. E488 - Standard Test Methods for Strength of Anchors in Concrete Elements.
 12. F436 - Standard Specification for Hardened Steel Washers.
 13. F593 - Standard Specification for Stainless Steel Bolts, Hex Cap Screws and Studs.
 14. F594 - Standard Specification for Stainless Steel Nuts.
 15. F1554 - Standard Specification for Anchor Bolts, Steel, 36, 55 and 105-ksi Yield Strength.
 16. F2329 - Standard Specification for Zinc Coating, Hot-Dip, Requirements for Application to Carbon and Alloy Steel Bolts, Screws, Washers, Nuts, and Special Threaded Fasteners.
- E. International Code Council Evaluation Service, Inc. (ICC-ES):
1. AC193 - Acceptance Criteria for Mechanical Anchors in Concrete Elements.

1.03 DEFINITIONS

- A. Built-In Anchor: Headed bolt or assembly installed in position before filling surrounding masonry units with grout.
- B. Cast-In Anchor: Headed bolt or assembly installed in position before placing plastic concrete around.
- C. Overhead Installations: Fasteners installed on overhead surfaces where the longitudinal axis of the fastener is more than 60 degrees above a horizontal line so that the fastener resists sustained tension loads.
- D. Passivation: Chemical treatment of stainless steel with a mild oxidant for the purpose of enhancing the spontaneous formation of the steel's protective passive film.
- E. Post-Installed Anchor: Fastener or assembly installed in hardened concrete or finished masonry construction, typically by drilling into the structure and inserting a steel anchor assembly.
- F. Terms relating to structures or building environments as used with reference to anchors and fasteners:
1. Corrosive locations: Describes interior and exterior locations as follows:
 - a. Locations used for delivery, storage, transfer, or containment (including spill containment) of chemicals used for plant treatment processes.
 2. Wet and moist locations: Describes locations, other than "corrosive locations," that are submerged, are immediately above liquid containment structures, or are subject to frequent wetting, splashing, or wash down. Includes:
 - a. Exterior portions of buildings and structures.
 - b. Liquid-containing structures:
 - 1) Locations at and below the maximum operating liquid surface elevation.
 - 2) Locations above the maximum operating liquid surface elevation and:
 - a) Below the top of the walls containing the liquid.
 - b) At the inside faces and underside surfaces of a structure enclosing or spanning over the liquid (including walls, roofs,

slabs, beams, or walkways enclosing the open top of the structure).

- c. Liquid handling equipment:
 - 1) Bases of pumps and other equipment that handles liquids.
- d. Indoor locations exposed to moisture, splashing, or routine wash down during normal operations, including floors with slopes toward drains or gutters.
- e. Other locations indicated on the Drawings.
- 3. Other locations:
 - a. Interior dry areas where the surfaces are not exposed to moisture or humidity in excess of typical local environmental conditions.

1.04 SUBMITTALS

- A. General:
 - 1. Submit as specified in Section 01330 - Submittal Procedures.
 - 2. Submit information listed for each type of anchor or fastener to be used.
- B. Action submittals:
 - 1. Product data:
 - a. Cast-in anchors:
 - 1) Manufacturer's data including catalog cuts showing anchor sizes and configuration, materials, and finishes.
 - b. Post-installed anchors:
 - 1) For each anchor type, manufacturer's data including catalog cuts showing anchor sizes and construction, materials and finishes, and load ratings.
 - 2. Samples:
 - a. Samples of each type of anchor, including representative diameters and lengths, if requested by the Engineer.
 - 3. Certificates:
 - a. Cast-in anchors:
 - 1) Mill certificates for steel anchors that will be supplied to the site.
 - b. Post-installed anchors:
 - 1) Manufacturer's statement or certified test reports demonstrating that anchors that will be supplied to the site comply with the materials properties specified.
 - 4. Test reports:
 - a. Post-installed anchors: For each anchor type used for the Work:
 - 1) Current ICC-ES Report (ESR) demonstrating:
 - a) Acceptance of that anchor for use under the building code specified in Section 01410 - Regulatory Requirements.
 - 5. Manufacturer's instructions:
 - a. Requirements for storage and handling.
 - b. Recommended installation procedures including details on drilling, hole size (diameter and depth), hole cleaning and preparation procedures, anchor insertion, and anchor tightening.
 - c. Requirements for inspection or observation during installation.

6. Qualification statements:
 - a. Post-installed anchors: Installer qualifications:
 - 1) Submit list of personnel performing installations and include date of manufacturer's training for each.

1.05 QUALITY ASSURANCE

- A. Qualifications:
 1. Post installed anchors shall be in accordance with building code specified in Section 01410 - Regulatory Requirements.
- B. Special inspection:
 1. Provide special inspection of post-installed anchors as specified in Section 01455 - Regulatory Quality Assurance and this Section.

1.06 DELIVERY, STORAGE, AND HANDLING

- A. Deliver post-installed anchors in manufacturer's standard packaging with labels visible and intact. Include manufacturer's installation instructions.
- B. Handle and store anchors and fasteners in accordance with manufacturer's recommendations and as required to prevent damage.
- C. Protect anchors from weather and moisture until installation.

1.07 PROJECT CONDITIONS

- A. Seismic Design Category (SDC) for structures is indicated on the Drawings.

PART 2 PRODUCTS

2.01 MANUFACTURED UNITS

- A. General:
 1. Furnish threaded fasteners with flat washers and hex nuts fabricated from materials corresponding to the material used for threaded portion of the anchor.
 - a. Cast-in anchors: Provide flat washers and nuts as listed in the ASTM standard for the anchor materials specified.
 - b. Post-installed anchors: Provide flat washers and nuts supplied for that product by the manufacturer of each anchor.
 2. Size of anchors and fasteners, including diameter and length or minimum effective embedment depth: As indicated on the Drawings or as specified in this Section. In the event of conflicts, contact Engineer for clarification.
 3. Where anchors and connections are not specifically indicated on the Drawings or specified, their material, size and form shall be equivalent in quality and workmanship to items specified.
- B. Materials:
 1. Provide and install anchors of materials as in this Section.

2.02 CAST-IN ANCHORS AND FASTENERS

- A. Anchor bolts:
 - 1. Description:
 - a. Straight steel rod having one end with an integrally forged head, and one threaded end. Embedded into concrete with the headed end cast into concrete at the effective embedment depth indicated on the Drawings or specified, and with the threaded end left to project clear of concrete face as required for the connection to be made.
 - b. Furnish anchor bolts with heavy hex forged head or equivalent acceptable to Engineer.
 - 1) Rods or bars with angle bend for embedment in concrete (i.e., "L" or "J" shaped anchor bolts) are not permitted in the Work.
 - 2. Materials:
 - a. Type 316 stainless steel:
 - 1) Bolts: ASTM F593, Group 2, Condition CW, coarse threads.
 - 2) Nuts: ASTM F594. Match alloy (group and UNS designation) and threads of bolts.
 - 3) Washers: Type 316 stainless steel.
 - b. Galvanized steel:
 - 1) Hot-dip galvanized coating in accordance with ASTM F2329.
 - 2) Bolt: ASTM F1554, Grade 36, heavy hex, coarse thread.
 - 3) Nuts: ASTM A563, Grade A, heavy hex, threads to match bolt.
 - 4) Washers: ASTM F436, Type 1.

2.03 POST-INSTALLED ANCHORS AND FASTENERS - ADHESIVE

- A. Epoxy bonding of reinforcing bars, all thread rods, and threaded inserts in concrete: As specified in Section 03055 - Adhesive-Bonded Reinforcing Bars and All Thread Rods in Concrete.

2.04 POST-INSTALLED ANCHORS AND FASTENERS - MECHANICAL

- A. General:
 - 1. Post-installed anchors used for the Work shall hold a current ICC Evaluation Service Report demonstrating acceptance for use under the building code specified in Section 01410 - Regulatory Requirements.
 - a. Conditions of use: The acceptance report shall indicate acceptance of the product for use under the following conditions:
 - 1) In regions of concrete where cracking has occurred or may occur.
 - 2) To resist short-term loads due to wind forces.
 - 3) To resist short-term loading due to seismic forces for the Seismic Design Category of the structure where the product will be used.
 - 2. Substitutions: When requesting product substitutions, submit calculations, indicating the diameter, effective embedment depth and spacing of the proposed anchors, and demonstrating that the substituted product will provide

load resistance that is equal to or greater than that provided by the anchors listed in this Section:

- a. Calculations shall be prepared by and shall bear the signature and seal of a Civil or Structural Engineer licensed in the State of California.
- b. Decisions regarding the acceptability of proposed substitutions shall be at the discretion of the Engineer.

B. Concrete anchors:

1. Description. Post-installed anchor assembly consisting of a threaded stud and a surrounding wedge expansion sleeve that is forced outward by torquing the center stud to transfer loads from the stud to the concrete through bearing, friction, or both. (Sometimes referred to as “expansion anchors” or “wedge anchors.”)
 - a. Do not use slug-in, lead cinch, and similar systems relying on deformation of lead alloy or similar materials to develop holding power.
2. Concrete anchors for anchorage to concrete:
 - a. Acceptance criteria:
 - 1) Concrete anchors shall have a current ICC-ES Report demonstrating that the anchors have been tested and qualified for performance in both cracked and un-cracked concrete, and for short-term loading due to wind and seismic forces for Seismic Design Categories A through F in accordance with ACI 355.2 and with ICC-ES AC193 (including all mandatory tests and optional tests for seismic tension and shear in cracked concrete).
 - 2) Concrete anchor performance in the current ICC-ES Report shall be “Category 1” as defined in ACI 355.2.
 - b. Manufacturers: One of the following or equal:
 - 1) Hilti, Kwik Bolt TZ Expansion Anchor.
 - 2) DEWALT/Powers, PowerStud.
 - 3) Simpson Strong-Tie, Strong Bolt 2 Wedge Anchor.
 - c. Materials. Integrally threaded stud, wedge, washer, and nut:
 - 1) Stainless steel: Type 316.
 - 2) Galvanized: Carbon steel, zinc plated in accordance with ASTM B633, minimum 5 microns (Fe/Zn 5).

C. Flush shells:

1. Description: Post-installed anchor assembly consisting of an internally threaded mandrel that is forced into a pre-drilled concrete hole with a setting tool until the top of the anchor is flush with the face of the concrete. Once installed, a removable threaded bolt is installed in the mandrel.
2. Flush shell anchors are not permitted in the Work.

2.05 APPURTENANCES FOR ANCHORING AND FASTENING

A. Anchor bolt sleeves:

1. Having inside diameter approximately 2 inches greater than bolt diameter and minimum 10-bolt diameters long.
2. Plastic sleeves:
 - a. High-density polyethylene, corrugated sleeve, threaded to provide adjustment of location on the anchor bolt.

- b. Manufacturers: The following or equal:
 - 1) Portland Bolt & Manufacturing Co.
 - 3. Fabricated steel sleeves:
 - a. Fabricate to the following dimensions unless otherwise indicated on the Drawings:
 - 1) Inside diameter: At least 2 inches greater than bolt diameter.
 - 2) Inside length: Not less than 10 bolt diameters.
 - 3) Bottom plate:
 - a) Square plate with dimensions equal to the outside diameter of the sleeve plus 1/2 inch each side.
 - b) Thickness equal to or greater than one-half of the anchor bolt diameter.
 - b. Carbon steel anchor bolts:
 - 1) Fabricated from ASTM A36 plate and ASTM A53, Grade B pipe.
 - 2) Welded connections: Conform to requirements of AWS D1.1.
 - 3) Hot dip galvanized in accordance with ASTM A153.
 - c. Stainless steel anchor bolts:
 - 1) Fabricated from ASTM A240 plate and pipe. Type 304L or Type 316L to match Type of the anchor bolt.
 - 2) Welded connections: In accordance with AWS D1.6.
- B. Isolating sleeves and washers:
 - 1. Manufacturers: One of the following or equal:
 - a. Central Plastics Co.
 - b. Allied Corrosion Industries.
 - 2. Sleeves: Mylar, 1/32-inch thick, 4,000 volts per mil dielectric strength, of proper size to fit bolts and extending half way into both steel washers.
 - 3. One sleeve required for each bolt.
 - 4. Washers: The inside diameter of all washers shall fit over the isolating sleeve, and both the steel and isolating washers shall have the same inside diameter and outside diameter.
 - a. Proper size to fit bolts.
 - b. Two 1/8-inch thick steel washers for each bolt.
 - c. G3 Phenolic: 2 insulating washers are required for each bolt:
 - 1) Thickness: 1/8 inch.
 - 2) Base material: Glass.
 - 3) Resin: Phenolic.
 - 4) Water absorption: 2 percent.
 - 5) Hardness (Rockwell): 100.
 - 6) Dielectric strength: 450 volts per mil.
 - 7) Compression strength: 50,000 pounds per square inch.
 - 8) Tensile strength: 20,000 pounds per square inch.
 - 9) Maximum operating temperature: 350 degrees Fahrenheit.
- C. Coating for repair of galvanized surfaces:
 - 1. Manufacturers: The following or equal:
 - a. Jelt, Galvinox.

- D. Thread coating: For use with threaded stainless steel fasteners:
 - 1. Manufacturers: One of the following or equal:
 - a. Bostik, Never-Seez.
 - b. Oil Research, Inc., WLR No. 111.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Examine Work in place to verify that it is satisfactory to receive the Work of this Section. If unsatisfactory conditions exist, do not begin this Work until such conditions have been corrected.

3.02 INSTALLATION: GENERAL

- A. Where anchors and fasteners are not specifically indicated on the Drawings or specified, make attachments with materials specified in this Section.
- B. Substitution of anchor types:
 - 1. Post-installed anchors may not be used as an alternative to cast-in/built-in anchors at locations where the latter are indicated on the Drawings.
 - 2. Cast-in/built-in anchors may be used as an alternative to post-installed mechanical anchors at locations where the latter are indicated on the Drawings.
- C. Protect products from damage during installation. Take special care to protect threads and threaded ends.
- D. Accurately locate and position anchors and fasteners:
 - 1. Unless otherwise indicated on the Drawings, install anchors perpendicular to the surfaces from which they project.
 - 2. Install anchors so that at least 2 threads, but not more than 1/2 inch of threaded rod, projects past the top nut.
- E. Interface with other products:
 - 1. Where steel anchors come in contact with dissimilar metals (aluminum, stainless steel, etc.), use stainless steel anchors and separate or isolate dissimilar metals using isolating sleeves and washers.
 - 2. Prior to installing nuts, coat threads of stainless steel fasteners with thread coating to prevent galling of threads.

3.03 INSTALLATION: CAST-IN ANCHORS

- A. General:
 - 1. Accurately locate cast-in and built-in anchors.
 - a. Provide anchor setting templates to locate anchor bolts and anchor rods. Secure templates to formwork.
 - b. Brace or tie off embedments as necessary to prevent displacement during placement of plastic concrete or of surrounding masonry construction.

- c. Position and tie cast-in and built-in anchors in place before beginning placement of concrete or grout. Do not “stab” anchors into plastic concrete, mortar, or grout.
 - d. Do not allow cast-in anchors to touch reinforcing steel. Where cast-in anchors are within 1/4 inch of reinforcing steel, isolate the metals by wrapping the anchors with a minimum of 4 wraps of 10-mil polyvinyl chloride tape in area adjacent to reinforcing steel.
 - 2. For anchoring at machinery bases subject to vibration, use 2 nuts, with 1 serving as a locknut.
 - 3. Where anchor bolts or anchor rods are indicated on the Drawings as being for future use, thoroughly coat exposed surfaces that project from concrete or masonry with non-oxidizing wax. Turn nuts down full length of the threads, and neatly wrap the exposed thread and nut with a minimum of 4 wraps of 10-mil waterproof polyvinyl tape.
- B. Anchor bolts:
- 1. Minimum effective embedment: 10-bolt diameters, unless a longer embedment is indicated on the Drawings.
 - 2. Where indicated on the Drawings, set anchor bolts in plastic, galvanized steel or stainless steel sleeves to allow for adjustment.

3.04 INSTALLATION: POST-INSTALLED ADHESIVE ANCHORS

- A. Epoxy and acrylic adhesive bonding of reinforcing bars, all thread rods, and internally threaded inserts in concrete: As specified in Section 03055 – Adhesive-Bonded Reinforcing Bars and All Thread Rods in Concrete.

3.05 INSTALLATION: POST-INSTALLED MECHANICAL ANCHORS

- A. General:
 - 1. Install anchors in accordance with the manufacturer’s instructions, ACI 355.2, the anchor’s ICC-ES Report. Where conflict exists between the ICC-ES Report and the requirements in this Section, the requirements of the ICC-ES Report shall control.
 - 2. Where anchor manufacturer recommends the use of special tools and/or specific drill bits for installation, provide and use such tools.
 - 3. After anchors have been positioned and inserted into concrete or masonry, do not:
 - a. Remove and reuse/reinstall anchors.
 - b. Loosen or remove bolts or studs.
- B. Holes drilled into concrete and masonry:
 - 1. Do not drill holes in concrete or masonry until the material has achieved its minimum specified compression strength (f'_c or f'_m).
 - 2. Accurately locate holes:
 - a. Before drilling holes, use a reinforcing bar locator to identify the position of all reinforcing steel, conduit, and other embedded items within a 6-inch radius of each proposed hole.
 - b. If the hole depth exceeds the range of detection for the rebar locator, the Engineer may require radiographs of the area designated for investigation before drilling commences.

3. Exercise care to avoid damaging existing reinforcement and other items embedded in concrete and masonry.
 - a. If embedments are encountered during drilling, immediately stop work and notify the Engineer. Await Engineer's instructions before proceeding.
 4. Unless otherwise indicated on the Drawings, drill holes perpendicular to the concrete surface into which they are placed.
 5. Drill using anchor manufacturer's recommended equipment and procedures:
 - a. Unless otherwise recommended by the manufacturer, drill in accordance with the following:
 - 1) Drilling equipment: Electric or pneumatic rotary type with light or medium impact. Where edge distances are less than 2 inches, use lighter impact equipment to prevent micro-cracking and concrete spalling during drilling process.
 - 2) Drill bits: Carbide-tipped in accordance with ANSI B212-15. Hollow drills with flushing air systems are preferred.
 6. Drill holes at manufacturer's recommended diameter and to depth required to provide the effective embedment indicated.
 7. Clean and prepare holes as recommended by the manufacturer and as required by the ICC-ES Report for that anchor.
 - a. Unless otherwise recommended by anchor manufacturer, remove dust and debris using brushes and clean compressed air.
 - b. Repeat cleaning process as required by the manufacturer's installation instructions.
 - c. When cleaning holes for stainless steel anchors, use only stainless steel or non-metallic brushes.
- C. Insert and tighten (or torque) anchors in full compliance with the manufacturer's installation instructions.
1. Once anchor is tightened (torque), do not attempt to loosen or remove its bolt or stud.
- D. Concrete anchors: Minimum effective embedment lengths unless otherwise indicated on the Drawings:

Concrete Anchors			
Nominal Diameter	Minimum Effective Embedment Length		Minimum Member Thickness
	In Concrete	In Grouted Masonry	
3/8 inch	2 1/2 inch	2 5/8 inch	8 inch
1/2 inch	3 1/2 inch	3 1/2 inch	8 inch
5/8 inch	4 1/2 inch	4 1/2 inch	10 inch
3/4 inch	5 inch	5 1/4 inch	12 inch

- E. Flush shell anchors:
1. Flush shell anchors are not permitted in the Work.
 2. If equipment manufacturer's installation instructions recommend the use of flush shell anchors, contact Engineer for instructions before proceeding.

3.06 FIELD QUALITY CONTROL

- A. Contractor shall provide quality control over the Work of this Section as specified in Section 01450 - Quality Control.
 - 1. Expenses associated with work described by the following paragraphs shall be paid by the Contractor.
- B. Post-installed anchors:
 - 1. Review anchor manufacturer's installation instructions and requirements of the Evaluation Service Report (hereafter referred to as "installation documents") for each anchor type and material.
 - 2. Observe hole-drilling and cleaning operations for conformance with the installation documents.
 - 3. Certify in writing to the Engineer that the depth and location of anchor holes, and the torque applied for setting the anchors conforms to the requirements of the installation documents.

3.07 FIELD QUALITY ASSURANCE

- A. Owner will provide on-site observation and field quality assurance for the Work of this Section.
 - 1. Expenses associated with work described by the following paragraphs shall be paid by the Owner.
- B. Field inspections and special inspections:
 - 1. Required inspections: Observe construction for conformance to the approved Contract Documents, the accepted submittals, and manufacturer's installation instructions for the products used.
 - 2. Record of inspections:
 - a. Maintain record of each inspection.
 - b. Submit copies to Engineer upon request.
 - 3. Statement of special inspections: At the end of the project, prepare and submit to the Engineer and the authority having jurisdiction inspector's statement that the Work was constructed in general conformance with the approved Contract Documents, and that deficiencies observed during construction were resolved.
- C. Special inspections: Anchors cast into concrete and built into masonry.
 - 1. Provide special inspection during positioning of anchors and placement of concrete or masonry (including mortar and grout) around the following anchors:
 - a. Anchor bolts.
 - 2. During placement, provide continuous special inspection at each anchor location to verify that the following elements of the installation conform to the requirements of the Contract Documents.
 - a. Anchor:
 - 1) Type and dimensions.
 - 2) Material: Galvanized steel, Type 304 stainless steel, or Type 316 stainless steel as specified in this Section or indicated on the Drawings.
 - 3) Positioning: Spacing, edge distances, effective embedment, and projection beyond the surface of the construction.

- 4) Reinforcement at anchor: Presence, positioning, and size of additional reinforcement at anchors indicated on the Drawings.
 3. Following hardening and curing of the concrete or masonry surrounding the anchors, provide periodic special inspection to observe and confirm the following:
 - a. Base material (concrete or grouted masonry):
 - 1) Solid and dense concrete or grouted masonry material within required distances surrounding anchor.
 - 2) Material encapsulating embedment is dense and well-consolidated.
- D. Special Inspections: Post-installed mechanical anchors placed in hardened concrete and in grouted masonry.
 1. Provide special inspection during installation of the following anchors:
 - a. Concrete anchors.
 2. Unless otherwise noted, provide periodic special inspection during positioning, drilling, placing, and torquing of anchors.
 - a. Provide continuous special inspection for post-installed anchors in "overhead installations" as defined in this Section.
 3. Requirements for periodic special inspection:
 - a. Verify items listed in the following paragraphs for conformance to the requirements of the Contract Documents and the Evaluation Report for the anchor being used. Observe the initial installation of each type and size of anchor, and subsequent installation of the same anchor at intervals of not more than 4 hours.
 - 1) Any change in the anchors used, in the personnel performing the installation, or in procedures used to install a given type of anchor shall require a new "initial inspection."
 - b. Substrate: Concrete or masonry surfaces receiving the anchor are sound and of a condition that will develop the anchor's rated strength.
 - c. Anchor:
 - 1) Manufacturer, type, and dimensions (diameter and length).
 - 2) Material (galvanized, Type 304 stainless steel, or Type 316 stainless steel).
 - d. Hole:
 - 1) Positioning: Spacing and edge distances.
 - 2) Drill bit type and diameter.
 - 3) Diameter, and depth.
 - 4) Hole cleaned in accordance with manufacturer's required procedures. Confirm multiple repetitions of cleaning when recommended by the manufacturer.
 - 5) Anchor's minimum effective embedment.
 - 6) Anchor tightening/installation torque.
 4. Requirements for continuous special inspection:
 - a. The special inspector shall observe all aspects of anchor installation, except that holes may be drilled in his/her absence provided that he/she confirms the use of acceptable drill bits before drilling, and later confirms the diameter, depth, and cleaning of drilled holes.

- E. Field tests:
 - 1. Owner may, at any time, request testing to confirm that materials being delivered and installed conform to the requirements of the Specifications.
 - a. If such additional testing shows that the materials do not conform to the specified requirements, the Contractor shall pay the costs of these tests.
 - b. If such additional testing shows that the materials do conform to the specified requirements, the Owner shall pay the costs of these tests.

3.08 NON-CONFORMING WORK

- A. Remove misaligned or non-performing anchors.
- B. Fill empty anchor holes and repair failed anchor locations using high-strength, non-shrink, non-metallic grout.
- C. If more than 10 percent of all tested anchors of a given diameter and type fail to achieve their specified torque or proof load, the Engineer will provide directions for required modifications. Make such modifications, up to and including replacement of all anchors, at no additional cost to the Owner.

3.09 SCHEDULES

- A. Stainless steel. Provide and install stainless steel anchors at the following locations:
 - 1. All locations.

END OF SECTION

SECTION 05310

STEEL DECKING

PART 1 GENERAL

1.01 SUMMARY

- A. Section includes: Steel deck for floors and roofs, and associated accessories.

1.02 REFERENCES

- A. ASTM International (ASTM):
 - 1. A653 - Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process.
- B. American Welding Society (AWS):
 - 1. D1.3 - Structural Welding Code - Sheet Steel.

1.03 SUBMITTALS

- A. Product data.
- B. Shop drawings.

1.04 DELIVERY, STORAGE, AND HANDLING

- A. Storage and protection:
 - 1. Store steel deck at the site stacked on platforms or pallets and covered with tarpaulins or other suitable weathertight covering.
 - 2. Do not use steel deck for storage or working platform.
 - 3. Remove damaged, unlabeled, untagged, rusty, and deteriorated steel deck material from the job site.

PART 2 PRODUCTS

2.01 MANUFACTURERS

- A. One of the following or equal:
 - 1. ASC Profiles.
 - 2. Verco Manufacturing Co.
 - 3. Canam Steel Corp.

2.02 MATERIALS

- A. Sheet steel: ASTM A653, G 90 minimum coating designation.

2.03 FABRICATION

- A. Steel deck shall be formed:
 - 1. Such that every sheet is identical and will register perfectly with adjacent sheets.
 - 2. In accordance with building code as specified in Section 01410 - Regulatory Requirements.
- B. Decking used with concrete fill shall be deformed to develop composite action between the deck and the concrete.
- C. Furnish minimum gauge, deck thickness, section modulus, moment of inertia, and allowable diaphragm shear per foot of deck width that is not less than for type deck sections indicated on the Drawings.
- D. Treat exposed roof deck with phosphate.
- E. Furnish roof deck ready to receive field painting without further pretreatment. Paint exposed roof deck in accordance with Contract Documents.
- F. Accessories:
 - 1. Furnish all accessories indicated on the Drawings or needed to completed work.
 - 2. Minimum required gauges:
 - a. Sump pans: 14 gauge.
 - b. All other accessories: 20 gauge unless otherwise indicated on the Drawings.
- G. Welding and electrodes: In accordance with AWS D1.3.
- H. Furnish roof decking in lengths to minimize number of splices.
- I. Furnish steel deck complete, including cutting, shaping, fitting, drilling, welding, ridge plates, valley plates, reinforcing plates for openings, and miscellaneous pieces necessary for proper installation.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Verification of conditions: Examine work in place to verify that it is satisfactory to receive the work of this Section. If unsatisfactory conditions exist, do not begin this work until such conditions have been corrected.

3.02 INSTALLATION

- A. Decking shall span over at least 3 spans wherever possible.
- B. Do not damage or overload roof deck during installation.

- C. Do not use steel deck for storage or as a working platform until sheets have been welded in position.
- D. Do not exceed maximum uniformly distributed load of 20 pounds per square foot.
- E. Install decking in straight and continuous rows as far as practicable, with ribs at right angles to supporting members.
- F. For each end of deck section, provide 3 inches minimum bearing on supports. For sections that abut each other, each piece shall bear a minimum of 3 inches on the support. This requires a 6-inch minimum flange width. For cases where the minimum bearing cannot be obtained, notify the Engineer.
- G. Electric arc weld deck sections to bearing plates, supports at butt joints, at intermediate supports, side supports, and at end supports as indicated on the Drawings. Do not burn through the deck. Remove all slag.
- H. Fasten the longitudinal joints between deck sections together by the method indicated on the Drawings.
- I. Neatly cut and fit openings in roof deck, and reinforce with structural steel members as indicated on the Drawings.
- J. Paint welds as specified.
- K. Install roof deck free of dents and bent members.
- L. Reinforce all holes and openings in steel deck as indicated on the Drawings.
- M. Piping, conduit, equipment, and other services: Do not hang from decking.
- N. Install all accessories required to complete work.

3.03 REPAIR OF GALVANIZING AND COATING

- A. Touch-up damage to galvanized surfaces, including cut edges and holes, with zinc rich primer.
- B. Repair damage to factory-applied coating system in accordance with the manufacturer's printed recommendations.

3.04 CLEANUP

- A. After erection, remove weld spatter, grease, and oil from decking.

END OF SECTION

SECTION 07600

SHEET METAL

PART 1 GENERAL

1.01 SUMMARY

- A. Section includes: sheet metal, and associated accessories.

1.02 REFERENCES

- A. Aluminum Association (AA).
- B. ASTM International (ASTM):
 - 1. A240 - Standard Specification for Chromium and Chromium-nickel Stainless Steel Plate, Sheet, and Strip For Pressure Vessels and General Applications.
 - 2. A653 - Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process.
 - 3. B32 - Standard Specification for Solder Metal.
 - 4. B209 - Standard Specification for Aluminum and Aluminum-Alloy Sheet and Plate.
 - 5. B221 - Standard Specification for Aluminum-Alloy Extruded Bars, Rods, Wire, Profiles, and Tubes.
 - 6. B224 - Standard Classification of Coppers.
 - 7. B370 - Standard Specification for Copper Sheet and Strip for Building Construction.
 - 8. B749 - Standard Specification for Lead and Lead Alloy Strip, Sheet, and Plate Products.
 - 9. D226 - Standard Specification for Asphalt-Saturated Organic Felt Used in Roofing and Waterproofing.
 - 10. D4586 - Standard Specification for Asphalt Roof Cement, Asbestos-Free.
- C. Sheet Metal and Air Conditioning Contractors National Association, Inc. (SMACNA).

1.03 SUBMITTALS

- A. Product data.
- B. Shop drawings: Show fabrication details, material profiles, connections, jointing pattern, jointing details, fastening methods, isolation methods, and installation details.
- C. Manufacturer's Installation Instructions.

1.04 DELIVERY, STORAGE, AND HANDLING

- A. Stack preformed material to prevent twisting, bending, or abrasion, and to provide ventilation.
- B. Prevent contact with materials during storage which may cause discoloration, staining, or damage.

PART 2 PRODUCTS

2.01 MATERIALS

- A. Aluminum sheet: ASTM B209, 5005-H14 alloy and temper; minimum 32 mils thick, shop pre-coated with color to match existing standing seam roof.

2.02 ACCESSORIES

- A. Fasteners and metal washers: Types best suited for purpose, of same material as sheet metal being fastened or of composition that will not support electrolysis, such as Type 18-8 stainless steel for fastening aluminum.
- B. Sealer washers: Rubber type, minimum 0.040 inch thick.

2.03 FABRICATION

- A. Form sheet metal true to shape, accurate in size, square, and free from distortion or defects.
- B. Fabricate cleats and starter strips of same material as sheet, minimum 3 inches wide, interlockable with sheet.
- C. Form pieces in longest practical lengths. Size and space joints to provide adequate movement for thermal expansion and contraction.
- D. Hem exposed edges on underside 1/2 inch; miter and seam corners.

2.04 FINISH

- A. Backpaint concealed metal surfaces with protective backing paint to minimum dry film thickness of 15 mil.

PART 3 EXECUTION

3.01 INSTALLATION

- A. Install sheet metal in accordance with AA and SMACNA references, and when in connection with roofing, roofing manufacturer's specifications.
- B. Install sheet metal to even smooth, sound, thoroughly clean and dry surfaces, free from defects that could affect installation.

- C. Isolate dissimilar metals from direct contact with protective backing paint.
- D. Install starter, edge strips, and cleats before starting installation.
- E. Perform cutting, fitting, drilling, and other operations in connection with sheet metal required to accommodate work of other sections.
- F. Install sealer washers under metal washers or fastener heads where weathertightness is required.
- G. Lap and seal joints. Make connections watertight and weathertight.
- H. Seal metal joints watertight.

END OF SECTION

SECTION 07900

JOINT SEALANTS

PART 1 GENERAL

1.01 SUMMARY

- A. Section includes:
 - 1. Acrylic-Latex sealant.
 - 2. Precast concrete joint sealant.
 - 3. Silicone sealant.
 - 4. Synthetic rubber sealing compound.
 - 5. Synthetic sponge rubber filler.
 - 6. Related materials.

1.02 REFERENCES

- A. American Association of State Highway and Transportation Officials (AASHTO):
 - 1. M198 - Standard Specification for Joints for Concrete Pipe, Manholes, and Precast Box Sections Using Preformed Flexible Joint Sealants.
- B. ASTM International (ASTM):
 - 1. C920 - Standard Specification for Elastomeric Joint Sealants.
 - 2. C990 - Standard Specification for Joints for Concrete Pipe, Manholes, and Precast Box Sections Using Preformed Flexible Joint Sealants.
 - 3. C1330 - Standard Specification for Cylindrical Sealant Backing for Use with Cold Liquid-Applied Sealants.
 - 4. C1521 - Standard Practice for Evaluating Adhesion of Installed Weatherproofing Sealant Joints.
 - 5. D412 - Standard Test Methods for Vulcanized Rubber and Thermoplastic Elastomers - Tension.
 - 6. D624 - Standard Test Method for Tear Strength of Conventional Vulcanized Rubber and Thermoplastic Elastomer.

1.03 SUBMITTALS

- A. Product data.
- B. Samples, include color selections.
- C. Manufacturer's Installation Instructions.
- D. Warranty.

1.04 QUALITY ASSURANCE

- A. Manufacturer qualifications: Manufacturer of proposed product for minimum 5 years with satisfactory performance record.

- B. Installer qualifications: Manufacturer approved installer of products similar to specified products on minimum 5 projects of similar scope as Project with satisfactory performance record.

1.05 PROJECT/SITE CONDITIONS

- A. Environmental requirements: Do not apply sealant on wet or frosty surfaces or when surface temperature is higher than 100 degrees Fahrenheit or lower than recommended by the manufacturer.

1.06 DELIVERY, STORAGE, AND HANDLING

- A. Deliver, store, and handle products in accordance with manufacturer's recommendations.
- B. Code date packages. Do not use material older than manufacturer's published shelf life. Store materials at temperatures lower than 80 degrees Fahrenheit. Condition materials in accordance with manufacturer's instructions prior to installation.

1.07 SEQUENCING AND SCHEDULING

- A. Caulk joints prior to painting.

1.08 WARRANTY

- A. Warrant to correct defective products for minimum 1 year in accordance with manufacturer's standard warranty.

PART 2 PRODUCTS

2.01 SEALANTS

- A. General:
 - 1. Provide colors matching materials being sealed.
 - 2. Where compound is not exposed to view in finished work, provide manufacturer's color which has best performance.
 - 3. Nonsagging sealant for vertical and overhead horizontal joints.
 - 4. Sealants for horizontal joints: Self-leveling pedestrian/traffic grade.
 - 5. Joint cleaner, primer, bond breaker: As recommended by sealant manufacturer.
 - 6. Sealant backer rod and/or compressible filler made from closed cell polyethylene, polyethylene jacketed polyurethane foam, or other flexible, nonabsorbent, non-bituminous material recommended by sealant manufacturer to:
 - a. Control joint depth.
 - b. Break bond of sealant at bottom of joint.
 - c. Provide proper shape of sealant bead.
 - d. Serve as expansion joint filler.

2.02 SILICONE SEALANT

- A. ASTM C920, Type S, Grade NS, Class 25, single component silicone sealant:
 - 1. Manufacturers: One of the following or equal:
 - a. Tremco, Proglaze.
 - b. Pecora Corp., Number 864.
 - c. Dow Corning, Number 795.
 - d. General Electric, Number 1200 Series.

2.03 RELATED MATERIALS

- A. Primer: Nonstaining type, recommended by sealant manufacturer to suit application.
- B. Joint cleaner: Noncorrosive, nonstaining, compatible with joint forming materials and as recommended by sealant manufacturer.
- C. Bond breaker tape: Pressure-sensitive tape recommended by sealant manufacturer to suit application.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Verify acceptability of joint dimensions, physical, and environmental conditions.
- B. Verify that surfaces are dry, clean, and free of dirt, grease, curing compound, and other residue which might interfere with adhesion of sealants.

3.02 PREPARATION

- A. Allow concrete to cure thoroughly before caulking.
- B. Caulking:
 - 1. Verify that surfaces are dry, clean, and free of dirt, grease, curing compounds, and other residue that might interfere with adhesion of sealant.
 - 2. Concrete, masonry, wood, and steel surfaces: Clean and prime in accordance with manufacturer's instructions prior to caulking.
- C. Use joint filler to achieve required joint depths, to allow sealants to perform properly.
- D. Do not stretch filler beyond normal length during installation.
- E. Apply bond breaker when recommended by joint sealer manufacturer.

3.03 INSTALLATION

- A. Caulking, joints, and sealing:
 - 1. Caulk doors, windows, louvers, and other items installed in or over concrete openings inside and out.
 - 2. Complete caulking prior to painting.
 - 3. Verify that concrete is thoroughly cured prior to caulking.

4. When filler compressible material is used, use untreated type.
5. Apply caulking with pneumatic caulking gun.
6. Use nozzles of proper shape and size for application intended.
7. Maintain continuous bond between caulking and sides of joint to eliminate gaps, bubbles, or voids and fill joint in continuous operation without layering of compound.
8. Employ experienced applicators to caulk joints and seams in neat workmanlike manner.
9. To hasten curing of compound when used on wide joints subject to movement, apply heat with infrared lamps or other convenient means.

3.04 CLEANING

- A. Clean surfaces adjacent to sealant as work progresses.
- B. Remove excess uncured sealant by soaking and scrubbing with sealant cleaning solvent.
- C. Remove excess cured sealant by sanding with Number 80 grit sandpaper.
- D. Leave finished work in neat, clean condition.

3.05 SCHEDULE

- A. Silicone:
 1. Use where indicated on the Drawings.
 2. Joints and recesses formed where window, door, louver and vent frames, and sill adjoin masonry, concrete, stucco, or metal surfaces.
 3. Door threshold bedding.
 4. Moist or wet locations, including joints around plumbing fixtures.
 5. Stainless steel doors and frames, including joints between applied stops and frames, and around anchor bolts.
 6. Plenum joints.

3.06 FIELD QUALITY CONTROL

- A. Adhesion testing:
 1. Perform adhesion tests in accordance with ASTM C1521 per the following criteria:
 - a. All other type of joints except butt glazing joints: 1 test per every 3,000 LF of joint sealed.
 - b. Manufacturer's authorized factory representative provide written recommendations for remedial measures on failing tests.

END OF SECTION

SECTION 09960

HIGH-PERFORMANCE COATINGS

TABLE OF CONTENTS

PART 1	GENERAL.....	2
1.01	SUMMARY	2
1.02	REFERENCES	2
1.03	DEFINITIONS.....	3
1.04	ABBREVIATIONS.....	5
1.05	SUBMITTALS	6
1.06	QUALITY ASSURANCE.....	7
1.07	PRODUCT DELIVERY, STORAGE, AND HANDLING	10
1.08	PROJECT CONDITIONS	11
1.09	MAINTENANCE	13
1.10	CTR RESPONSIBILITIES	13
PART 2	PRODUCTS	14
2.01	DESIGN AND PERFORMANCE CRITERIA	14
2.02	MATERIALS	15
2.03	COATING SYSTEMS IDENTIFICATION	15
2.04	PRODUCTS FOR COATING SYSTEMS	15
PART 3	EXECUTION	16
3.01	GENERAL PROTECTION REQUIREMENTS.....	16
3.02	GENERAL SURFACE PREPARATION REQUIREMENTS	17
3.03	MECHANICAL AND ELECTRICAL EQUIPMENT PREPARATION	17
3.04	CLEANING OF NEW AND PREVIOUSLY COATED OR NEW SURFACES	18
3.05	BLAST CLEANING.....	18
3.06	PREPARATION REQUIREMENTS FOR CONCRETE SURFACES	19
3.07	GENERAL PREPARATION REQUIREMENTS FOR METALLIC SURFACES.....	21
3.08	PREPARATION REQUIREMENTS BY SURFACE TYPE	22
3.09	APPLICATION REQUIREMENTS.....	22
3.10	APPLICATION REQUIREMENTS FOR CONCRETE COATING SYSTEMS	27
3.11	COATING SYSTEM SCHEDULE.....	28
3.12	SURFACES NOT REQUIRING COATING.....	28
3.13	QUALITY CONTROL.....	28
3.14	CORRECTIVE MEASURES.....	29
3.15	CLEANUP	30
3.16	FINAL INSPECTION	30

ATTACHMENT A - SCHEDULE OF SURFACES TO BE COATED

ATTACHMENT B - COATING DETAIL SHEETS

PART 1 GENERAL

1.01 SUMMARY

- A. Section includes: Coatings, including coating systems, surface preparation, application requirements, and quality control requirements.

1.02 REFERENCES

- A. ASTM International (ASTM):
 - 1. D16 - Standard Terminology for Paint, Related Coatings, Materials, and Applications.
 - 2. D2200 - Standard Practice for Use of Pictorial Surface Preparation Standards and Guides for Painting Steel Surfaces.
 - 3. D3359 - Standard Test Methods for Rating Adhesion by Tape Test.
 - 4. D3960 - Standard Practice for Determining Volatile Organic Compound (VOC) Content of Paints and Related Coatings.
 - 5. D4262 - Standard Test Method for pH of Chemically Cleaned or Etched Concrete Surfaces.
 - 6. D4263 - Standard Test Method for Indicating Moisture in Concrete by the Plastic Sheet Method.
 - 7. D4285 - Standard Test Method for Indicating Oil or Water in Compressed Air.
 - 8. D4414 - Standard Practice for Measurement of Wet Film Thickness by Notch Gages.
 - 9. D4417 - Standard Test Methods for Field Measurement of Surface Profile of Blast-Cleaned Steel.
 - 10. D4541 - Standard Test Methods for Pull-Off Strength of Coatings Using Portable Adhesion Testers.
 - 11. D4787 - Standard Practice for Continuity Verification of Liquid or Sheet Linings Applied to Concrete Substrates.
 - 12. D5162 - Standard Practice for Discontinuity (Holiday) Testing of Nonconductive Protective Coating on Metallic Substrates.
 - 13. D7234 - Standard Test Method for Pull-Off Adhesion Strength of Coatings on Concrete Using Portable Pull-Off Adhesion Testers.
 - 14. E337 - Standard Test Method for Measuring Humidity with a Psychrometer (the Measurement of Wet- and Dry-Bulb Temperatures).
 - 15. F1869 - Standard Test Method for Measuring Moisture Vapor Emission Rate of Concrete Subfloor Using Anhydrous Calcium Chloride.
 - 16. F2170 - Standard Test Method for Determining Relative Humidity in Concrete Floor Slabs Using In-situ Probes.
- B. International Concrete Repair Institute (ICRI):
 - 1. 310.2 - Guideline for Selecting and Specifying Concrete Surface Preparation for Sealers, Coatings, Polymer Overlays, and Concrete Repair.
- C. NACE International (NACE):
 - 1. SP0178 - Design, Fabrication, and Surface Finish Practices for Tanks and Vessels to Be Lined for Immersion Service.
 - 2. SP0188 - Discontinuity (Holiday) Testing of New Protective Coatings on Conductive Substrates.

- D. National Association of Pipe Fabricators (NAPF):
 - 1. 500-03 - Surface Preparation Standard for Ductile Iron Pipe and Fittings in Exposed Locations Receiving Special External Coatings and/or Special Internal Linings.
- E. NSF International (NSF):
 - 1. 61 - Drinking Water System Components - Health Effects.
- F. Occupational Safety and Health Administration (OSHA).
- G. Society of Protective Coatings (SSPC):
 - 1. Glossary - SSPC Protective Coatings Glossary.
 - 2. Guide 6 - Guide for Containing Surface Preparation Debris Generated during Paint Removal Operations.
 - 3. Guide 15 - Field Methods for Retrieval and Analysis of Soluble Salts on Steel and Other Nonporous Substrates.
 - 4. PA 1 - Shop, Field, and Maintenance Painting of Steel.
 - 5. PA 2 - Procedure for Determining Conformance to Dry Coating Thickness Requirements.
 - 6. PA 9 - Measurement of Dry Coating Thickness Using Ultrasonic Gages.
 - 7. QP 1 - Standard Procedure for Evaluating the Qualifications of Industrial/Marine Painting Contractors.
 - 8. SP 1 - Solvent Cleaning.
 - 9. SP 3 - Power Tool Cleaning.
 - 10. SP 5 - White Metal Blast Cleaning.
 - 11. SP 10 - Near-White Metal Blast Cleaning.
 - 12. SP 11 - Power Tools Cleaning to Bare Metal.
 - 13. SP 13 - Surface Preparation of Concrete.
 - 14. SP 16 - Brush-Off Blast Cleaning of Coated and Uncoated Galvanized Steel, Stainless Steels, and Non-Ferrous Metals.
 - 15. SP COM - Surface Preparation Commentary.
 - 16. SP VIS 1 - Guide and Reference Photographs for Steel Surfaces Prepared by Dry Abrasive Blast Cleaning.
 - 17. SP WJ-1 - Waterjet Cleaning of Metals -- Clean to Bare Substrate.
 - 18. SP WJ-2 - Waterjet Cleaning of Metals -- Very Thorough Cleaning.
 - 19. SP WJ-3 - Waterjet Cleaning of Metals -- Thorough Cleaning.
 - 20. SP WJ-4 - Waterjet Cleaning of Metals -- Light Cleaning.

1.03 DEFINITIONS

- A. Definitions used in this Section are in accordance with definitions referenced in ASTM D16, ASTM D3960, and SSPC Glossary of Definitions.
- B. Specific definitions:
 - 1. Abrasive: Material used for blast cleaning, such as sand, grit, or shot.
 - 2. Abrasive Blast Cleaning: Cleaning/surface preparation by abrasive propelled at high speed.
 - 3. Anchor Pattern: Profile or texture of prepared surface(s).
 - 4. Biogenic Sulfide Corrosion: Corrosion caused by sulfuric acid formed when *Thiobacillus* bacteria metabolizes hydrogen sulfide.

5. Bug Holes: Small cavities resulting when air bubbles are entrapped in the surface of formed concrete during placement and consolidation.
6. System: Protective film with 1 or more coats applied in a predetermined order, including surface preparation and quality control requirements.
7. Coating/Paint/Lining Thickness: Total thickness of primer, intermediate, and/or finish coats after drying or curing.
8. Dew point: Temperature a given air/water vapor mixture starts to condense.
9. Drying Time: Time interval between application and material curing.
10. Dry to Recoat: Time interval between material application and its ability to receive the next coat.
11. Dry to Touch: Time interval between material application and its ability to tolerate a light touch without coating damage.
12. Exposed Surface: Any indoor or outdoor surface not buried or encased.
13. Feather Edging: Reducing coating thickness at its edge to blend with existing surrounding coating.
14. Feathering: Tapering off a wet edge with a comparatively dry brush.
15. Ferrous: Cast iron, ductile iron, wrought iron, and all steel alloys except stainless steel.
16. Field Coat: Application of a surface coating system at the work site.
17. Finish Coat: Final coat in a paint system, including texture, color, smoothness of surface, and other properties affecting appearance.
18. Hold Point: A defined point, specified in this Section, at which work shall be halted for inspection.
19. Holiday: A discontinuity, skip, void, or pinhole in coating or coating system film that exposes the substrate.
20. Honeycomb: Segregated and porous surface of hardened concrete due to insufficient consolidation.
21. Hydroblast: High or ultra-high-pressure water jet surface preparation.
22. Incompatibility: One coating's inability to overlay another coating or surface as evidenced by bleeding, poor bonding, or lifting of old coating; inability of a coating to bond to a substrate.
23. Immersed/Immersion: A service condition in which substrate is submerged, is immediately above liquids, or is subject to frequent wetting, splashing, or washdown.
24. Laitance: A thin, weak, brittle layer of cement and aggregate fines on a concrete surface.
25. Mil: 0.001 inch.
26. Overspray: Dry spray, particularly paint bonded to an unintended surface.
27. Pinhole: A small diameter discontinuity in a coating or coating system film, created by offgassing from a void in a concrete or masonry substrate causing a void between coats or exposing the substrate. Usually caused by coating application while temperature is rising.
28. Pot Life: Time interval after components are mixed and coating can be satisfactorily applied.
29. Prime Coat: First full paint coat applied to a surface when using a multicoat system. Primers adhere to a new substrate, protect the substrate, and promote adhesion of subsequent coats of paint. The prime coat on metal surfaces is the first full coat and does not include solvent wash, grease emulsifiers, or other pretreatment applications.

30. Resurfacer/Resurfacing Material: A layer of cementitious and/or resin-based material used to fill or otherwise restore surface continuity to worn or damaged concrete surfaces.
31. Shelf Life: Maximum storage time a material may be stored without losing its usefulness.
32. Shop Coat: 1 or more coats applied in an off-site shop or plant before shipment to work site where field or finishing coat(s) are applied.
33. Spreading Rate: Area covered by a unit volume of paint at a specific thickness.
34. Stripe Coat: A separate brush coat of paint applied to all weld seams, pits, nuts/bolts/washers, and edges. This coat shall not be applied until previous coats have cured. Once applied, the coat shall be allowed to cure before subsequent coats are applied.
35. Tie Coat: An intermediate coat that bonds different types of paint material, improving succeeding coat adhesion.
36. Thick Film Coating System: A coating system applied with a minimum dry film thickness of 25 mils.
37. Touch-Up Painting: Application of paint on previously painted surfaces to repair marks, scratches, and deteriorated or damaged areas to restore the appearance and performance of the coating.
38. Water Blast: An alternative to air abrasive blast cleaning that can be used with or without abrasive injection. Water cleaning at pressures up to 5,000 pounds per square inch is called low-pressure water cleaning or power washing. High-pressure water cleaning uses water pressures between 5,000 and 10,000 pounds per square inch. Water jetting is water blasting with added abrasive at pressures between 10,000 and 25,000 pounds per square inch. Ultra-high-pressure water jetting is water blasting at pressures above 25,000 pounds per square inch.
39. Weld Splatter: Beads of non-structural weld metal that adhere to the surrounding surface, removed as part of surface preparation.

1.04 ABBREVIATIONS

- A. CSM - Coating System Manufacturer.
- B. CMU - Concrete Masonry Units.
- C. CSA - Coating System Applicator. Specialty subcontractor retained by the Contractor to install the coating systems specified in this Section.
- D. CTR - Coating System Manufacturer's Technical Representative.
- E. DFT - Dry-Film Thickness. Thickness of cured film, usually expressed in mils (0.001 inch).
- F. SSD - Surface Saturated Dry. Refers to concrete surface condition where the surface is saturated (damp) without the presence of standing water.
- G. TPC - Technical Practice Committee.
- H. VOC - Volatile Organic Compound. Portion of the coating that is a compound of carbon, is photochemically reactive, and evaporates during drying or curing;

expressed in grams per liter (g/l) or pounds per gallon (lb/gal). VOC is determined by EPA Method 24.

- I. WFT - Wet Film Thickness. Coating thickness as measured immediately after application. Usually expressed in mils (0.001 inch).

1.05 SUBMITTALS

- A. As specified in Section 01330 - Submittal Procedures, submit the following:
 - 1. Schedule of proposed coating materials.
 - 2. Schedule of surfaces to be coated with each coating material.
 - 3. Dehumidification and heating plan.
 - 4. Product data:
 - a. Physical properties of coatings, including the following:
 - 1) Solids content.
 - 2) Ingredient analysis.
 - 3) VOC content.
 - 4) Temperature resistance.
 - 5) Typical exposures and limitations.
 - 6) Manufacturer's standard color chips.
 - b. Compliance with regulatory requirements:
 - 1) VOC limitations.
 - 2) Lead compounds and polychlorinated biphenyls.
 - 3) Abrasives and abrasive blast cleaning techniques and disposal.
 - 4) Methods for tenting blasting areas and methods to protect existing equipment from dust and debris.
 - 5) NSF certification of coatings for potable water supply systems.
 - c. CSM's current printed recommendations and product data sheets for coating systems, including:
 - 1) Surface preparation recommendations.
 - 2) Primer type.
 - 3) Maximum dry and wet-mil thickness per coat and number of coats.
 - a) Coating Coverage Worksheets.
 - 4) Minimum and maximum curing time between coats, including atmospheric conditions for each.
 - 5) Curing time before submergence in liquid.
 - 6) Thinner to be used for each coating.
 - 7) Ventilation requirements.
 - 8) Minimum and maximum atmospheric conditions during which the paint shall be applied.
 - 9) Allowable application methods.
 - 10) Maximum allowable substrate moisture content.
 - 11) Maximum shelf life.
 - 12) Requirements for transportation and storage.
 - 13) Mixing instructions.
 - 14) Shelf life.
 - 15) Material Pot life.
 - 16) Precautions for applications free of defects.
 - 17) Method of application.
 - 18) Drying time of each coat, including prime coat.
 - 19) Compatible prime coats.

- 20) Limits of ambient conditions during and after application.
- 21) Required protection from sun, wind, and other conditions.
- 22) Touch-up requirements and limitations.
- 23) Minimum adhesion of each system submitted in accordance with ASTM D4541 and ASTM D7234.
- d. Samples: Include 8-inch square drawdowns or brushouts of topcoat finish when requested. Identify each sample as to finish, formula, color name and number, sheen name, and gloss units.
- e. Affidavits signed by an officer of the CSM's corporation attesting to full compliance of each coating system component with current federal, state, and local air pollution control regulations and requirements.
- f. List of cleaning and thinner solutions allowed by the CSMs.
- g. Storage requirements, including temperature, humidity, and ventilation for Coating System Materials as recommended by the CSMs.
- h. Thick film coating systems (greater than 25 mils):
 - 1) CSM's detailed written instructions for coating system treatment and graphic details for coating system terminations in coated structures, including pipe penetrations, metal embedments, gate frames, and other terminations encountered.
 - 2) Include detailed treatment for coating system at concrete joints.
 - 3) Manufacturer's Representative's (CTR) Field Reports.
- 5. Quality assurance submittals:
 - a. Quality assurance plan.
 - b. Qualifications of CSA, including:
 - 1) List of Similar Projects.
 - a) Name and address of project.
 - b) Year of installation.
 - c) Year placed in operation.
 - d) Point of contact: Name and phone number.
 - 2) Provide a minimum of 5 project references, each including contact name, address, and telephone number where similar coating work has been performed by their company in the past 5 years.
 - c. CSA Reports:
 - 1) Written daily quality control inspection reports.
 - d. CTR Reports:
 - 1) Reports on visits to project site to view and approve surface preparation of structures to be coated.
 - 2) Reports on visits to project site to observe and approve coating application procedures.
 - 3) Reports on visits to coating plants to observe and approve surface preparation and coating application on shop-coated items.

1.06 QUALITY ASSURANCE

- A. CSA qualifications:
 - 1. Minimum of 5 years of experience applying specified type or types of coatings under conditions similar to those of the Work:
 - a. Provide qualifications of applicator and references listing 5 similar projects completed in the past 5 years.

2. SSPC-QP 1 certified.
 3. Manufacturer-approved applicator when manufacturer has approved applicator program or when required in these specifications.
- B. CTR qualifications:
1. Certification, one of the following:
 - a. NACE Level 2 or 3 Certified Coating Inspector.
 - b. SSPC Level 3 Protective Coatings Inspector.
 2. Minimum of 5 years of experience evaluating application of manufacturer's coatings under conditions similar to those of the Work:
 - a. Provide CTR qualifications and references listing 5 similar projects completed in the past 5 years.
- C. Regulatory requirements: Comply with governing agencies' regulations by using coatings conforming to their VOC limits.
1. Lead-based coatings are not permitted.
 2. Do not use coal-tar epoxy in contact with drinking water or exposed to ultraviolet radiation.
- D. Pre-installation conference: Conduct as specified in Section 01312 - Project Meetings.
1. Coordinate Hold Point schedule.
- E. Field samples:
1. Prepare and coat a minimum 100-square-foot area of each system between corners or limits such as control or construction joints.
 2. Approved field sample may be part of the Work.
- F. Obtain approval before coating other surfaces. Use products by same manufacturer for prime coats, intermediate coats, and finish coats on same surface, unless specified otherwise.
- G. CSM services:
1. CSA shall arrange for CTR to attend pre-installation conferences.
 2. Visit the project site periodically to consult on and inspect specified surface preparation and application Hold Points.
 3. Visit coating plants to observe and approve surface preparation procedures and coating application of items to be shop primed and coated.
 4. CTR shall provide written inspection reports.
- H. Quality control requirements:
1. Contractor shall be responsible for the workmanship and quality of the coating system installation.
 - a. Inspections by Owner, Engineer, CSA, or CTR will not relieve or limit Contractor's responsibilities.
 2. Conform to this specification's requirements and the standards referenced in this Section. Changes in the coating system application requirements will be allowed only with the Engineer's written acceptance.

3. Specially trained crews with experience applying the specified coating system coating are required for:
 - a. Coating application using plural component spray equipment or other specialty equipment.
 - b. Coating with specialty linings for severe service conditions, including floor coatings, and with linings for corrosive headspaces or secondary containment areas.
4. CTR shall specially train personnel for coating systems as specified in Attachment B - Coating Detail Sheets.
 - a. CSM shall approve personnel in writing applying the coating system.
5. Do not use contaminated, outdated, diluted materials, and/or materials from previously opened containers.
6. Identify inspection access points used by Owner's or Engineer's personnel.
7. Provide ventilation, ingress, egress, or other means as necessary for Owner's or Engineer's personnel to safely access the work areas.
8. Conduct and continually inspect work so the coating system is installed as specified. The CSM shall provide written directions to correct coating work not conforming to the specifications or is otherwise unacceptable.
9. Provide written daily reports summarizing test data, work progress, surfaces covered, ambient conditions, quality control inspection test findings, and other information pertinent to the coating system application.
 - a. Determine relative humidity in accordance with ASTM E337. Confirm other conditions, such as proper protective measures for surfaces not to be coated and safety requirements for personnel.
 - 1) Measure daily at shift's beginning and end and at intervals not to exceed 4 hours during the shift.
 - 2) Determine the acceptability of weather and/or environmental conditions within the structure in accordance with the CSM's requirements.
 - b. Monitoring surface preparation: Spot check cleanliness, surface profile, and surface pH testing at least 3 times daily. Check each surface at least once. In accordance with:
 - 1) ASTM D4262.
 - 2) ASTM D4263.
 - 3) ASTM D4417.
 - 4) ICRI 310.2 requirements.
 - 5) SSPC Surface Preparation Standards.
 - c. Confirm that compressed air used for surface preparation or blow-down cleaning is free of oil and moisture.
 - d. Monitor surface preparation daily at shift's beginning and end and at intervals not to exceed 4 hours during the shift.
 - e. Do not apply coatings when environmental conditions are outside of the CSM's published limits.
 - f. Monitoring coatings application: Continuously inspect, measure, and record the wet film thickness and general film quality (visual inspection) for runs, sags, pinholes, holidays, etc. during coating.
 - 1) Perform WFT measurements in accordance with ASTM D4414.
 - g. Post cure evaluation: Measure and inspect the overall dry film thickness on all surfaces. Conduct a DFT survey and perform adhesion testing, holiday detection, or cure testing as required in this Section and/or the CSM's written instructions. Perform all applicable tests in accordance with

ASTM D4541, ASTM D4787, ASTM D5162, ASTM D7234, SSPC-PA 1, SSPC-PA 2, SSPC-PA 9, and other pertinent standards and recommended practices.

- I. Inspection at Hold Points:
 - 1. Conduct inspections at Hold Points during the coating system application and record the results.
 - 2. Coordinate Hold Points with the Engineer so the Engineer can observe Contractor's inspections on a scheduled basis.
 - 3. Provide the Engineer a minimum of 24 hours of notice before conducting Hold Point Inspections.
 - 4. Hold Points shall be as follows:
 - a. Conditions before surface preparation: Before starting surface preparation, observe, record, and confirm that oil, grease, and/or soluble salts are gone from the surface.
 - b. Post surface preparation: After completing surface preparation, measure and inspect for cleanliness and proper surface profile as specified in this Section and in the CSM's written instructions.
 - c. Coatings application: At the beginning of any coating system application, measure, record, and confirm acceptability of surface and ambient air temperature and humidity. Inspect applicator's equipment for serviceability and suitability for coatings application.
 - d. Post application inspection: Identify defects in application work on all surfaces, including pinholes, holidays, excessive runs or sags, inadequate or excessive film thickness, and other problems.
 - e. Follow-up corrective actions and final inspection: Measure and re-inspect corrective coating work performed to repair defects at prior Hold Points, and repeat until the surface condition is acceptable. Conduct final visual inspection with follow-up tests, such as holiday detection, adhesion tests, and DFT surveys.

1.07 PRODUCT DELIVERY, STORAGE, AND HANDLING

- A. Deliver, store, and handle products as specified in Section 01600 - Product Requirements.
- B. Immediately remove unspecified and unapproved coatings from Project site.
- C. Deliver new labeled, unopened containers:
 - 1. Do not deliver materials after manufacturer's expiration date or over 12 months from manufacturing date, whichever is more stringent. Store materials in well-ventilated enclosed structures and protect from weather and excessive heat or cold in accordance with the CSM's recommendations.
 - a. Store flammable materials in accordance with federal, state, and local requirements.
 - b. Store rags and cleanup materials appropriately to prevent fire and spontaneous combustion.
 - 2. Store and dispose of hazardous waste in accordance with federal, state, and local requirements. This requirement specifically applies to waste solvents and coatings.

3. Container labels shall show the following:
 - a. Brand name or product title.
 - b. CSM's batch number.
 - c. CSM's manufacture date.
 - d. CSM's name.
 - e. Generic material type.
 - f. Application and mixing instructions.
 - g. Hazardous material identification label.
 - h. Shelf life expiration date.
 - i. Color.
 - j. Mixing and reducing instructions.
4. Clearly mark containers to indicate safety hazards associated with the use of or exposure to materials.

1.08 PROJECT CONDITIONS

- A. Apply coatings to dry surfaces.
 1. Surface moisture: Comply with manufacturer's requirements or as specified in this Section.
 - a. Plaster and gypsum wallboard: 12 percent.
 - b. Masonry and concrete block: 12 percent.
 - c. Interior located wood: 15 percent.
 - d. Concrete floors: Moisture vapor transmission rate of no more than 3.0 pounds per 1,000 square feet per 24 hours in accordance with ASTM F1869 or relative humidity no greater than 80 percent if tested in accordance with ASTM F2170 unless the CSM's recommendations are more restrictive.
 - e. Concrete structures: Negative results from Plastic Sheet Test in accordance with ASTM D4263, and maximum of 80 percent relative humidity in accordance with ASTM F2170.
- B. Do not apply coatings when the following conditions exist. If such conditions exist, provide containment, covers, environmental controls, and other necessary measures.
 1. During rainy, misty, or damp weather, or to surfaces with frost or condensation.
 2. When the surface temperature is below 10 degrees Fahrenheit above the dew point.
 3. When ambient or surface temperature:
 - a. Is less than 55 degrees Fahrenheit unless manufacturer allows a lower temperature.
 - b. Is less than 65 degrees Fahrenheit for clear finishes, unless manufacturer allows a lower temperature.
 - c. Exceeds 90 degrees Fahrenheit, unless manufacturer allows a higher temperature.
 - d. Exceeds manufacturer's recommendation.
 4. When relative humidity is higher than 85 percent.
 5. Under dusty or adverse environmental conditions.
 6. When light on surfaces measures less than 15 foot-candles.
 7. When wind speed exceeds 15 miles per hour.

- C. Apply coating only under evaporation conditions rather than condensation.
 - 1. Use dehumidification equipment, fans, and/or heaters inside enclosed areas to maintain required atmospheric and surface temperature requirements for proper coating application and cure.
 - 2. Measure and record relative humidity and air and surface temperatures at the start and end of each shift to confirm proper humidity and temperature levels inside the work area.
 - a. Submit test results.
- D. Continuously ventilate, dehumidify, and heat enclosed spaces with high humidity during surface preparation, coating application, and curing.
 - 1. Maintain minimum air temperature of 55 degrees Fahrenheit and 10 degrees Fahrenheit above the dew point.
 - 2. Maintain dew point of at least 10 degrees Fahrenheit less than the temperature of the coldest part of the structure where work is performed.
 - 3. Reduce dew point temperature in conditioned space by at least 10 degrees Fahrenheit within 20 minutes.
 - 4. Seal work areas and maintain positive pressure per dehumidification equipment supplier's recommendations.
 - 5. Maintain these conditions before, during, and after application to ensure proper adhesion and cure of coatings for no less than:
 - a. Entire curing period.
 - b. 8 hours after coating.
- E. Systems:
 - 1. Internal combustion engine generators may be used.
 - a. Contractor to obtain required permits and provide air pollution and noise control devices on equipment as required by permitting agencies require.
 - b. Comply with state, federal, and local fire and explosion protection measures when locating and operating generator.
 - c. Locate engine generator outside hazardous classified areas per NFPA 820.
 - d. Provide daily fuel service for generator for duration of use.
 - 2. Dehumidification:
 - a. Provide desiccant or refrigeration drying.
 - b. Use only desiccant types with a rotary desiccant wheel capable of continuous operation.
 - c. Liquid, granular, or loose lithium chloride drying systems are not acceptable.
 - 3. Heating:
 - a. Use electric, indirect combustion, or steam coil.
 - b. Direct-fired combustion heaters are not acceptable heat sources during abrasive blasting, coating application, or coating cure.
 - 4. Filters:
 - a. Use a filtration system for dust removal designed to not interfere with dehumidification equipment's ability to control dew point and relative humidity inside the reservoir.
 - b. Do not allow air from the working area or dust filtration equipment to recirculate through their dehumidifier during coating application or when solvent vapors are present.

- 5. Design and submittals:
 - a. Prepare and submit dehumidification and heating plan, including all equipment and operating procedures.
 - b. Suppliers of services and equipment shall have at least 3 years of experience in similar applications.
- F. Provide containment and ventilation system components in accordance with SSPC-Guide 6, Level 3 and as required for hazardous materials.

1.09 MAINTENANCE

- A. Provide table of products applied organized by surface type. List coating manufacturer, color, color formulation, distributor name, telephone number, and address.

1.10 CTR RESPONSIBILITIES

- A. General:
 - 1. Attend pre-installation conference.
 - 2. Perform onsite application training.
 - 3. Periodically inspect coating system application.
- B. Coating system installation training:
 - 1. Provide a minimum of 8 hours of classroom and off-site training for application personnel and supervisory personnel in one of the following ways:
 - a. Train a minimum of 2 supervisory personnel and 2 application personnel.
 - b. Submit a letter from the CSM stating that CSM approves the supervisory and application personnel, listed by name and responsibility, and no additional training is required.
 - 2. CTR can train up to 14 application personnel and 3 supervisory personnel at a time.
 - 3. Minimum training requirements:
 - a. Explain in detail the mixing, application, curing, and termination requirements.
 - b. Provide hands-on demonstration of coating system mixing.
 - c. Explain in detail the ambient condition requirements for temperature and humidity.
 - d. Explain in detail the surface preparation requirements.
 - e. Explain in detail the re-coat times, cure times, and related ambient condition requirements.
 - f. Write a letter stating that training was satisfactorily completed by the personnel, listed by name and responsibility.
 - 4. Provide special training as specified in the Coating Detail Sheets.
- C. Coating system inspection:
 - 1. CTR inspection is in addition to the CSA's inspection as specified in this Section.
 - 2. Be on-site to oversee:
 - a. Coating application at least once a week.
 - b. End of surface preparation.
 - c. During coating application.

- d. Post-cure inspection.
- 3. Routinely inspect and verify in writing that application personnel have successfully performed surface preparation, filler/surfacer application, coating system application, and Quality Control Inspection in accordance with this Section and to warrantable quality.
- 4. Perform the following activities to confirm conformance with the specifications:
 - a. Inspect ambient conditions during coating system installation at Hold Points for conformance with the specified requirements.
 - b. Inspect each coated surface type and coating system applied to verify the following:
 - 1) Cleanliness.
 - 2) Surface pH for concrete substrates.
 - 3) Confirm surface preparation of substrates where coating system will terminate or will be applied for conformance to the specified application criteria.
 - c. Verify surface profile of substrates by completing the following:
 - 1) Inspect preparation and application of coating detail treatment at terminations, transitions, metal embedments in concrete, and joints and cracks in substrates.
 - 2) Inspect application of filler/surfacer materials for concrete and masonry substrates.
 - 3) Verify proper mixing of coating materials.
 - 4) Inspect application of primers and finish coats, including wet and dry film thickness.
 - 5) Inspect coating systems for proper cure times and conditions.
 - d. Review adhesion testing of cured coating systems.
 - e. Review coating system continuity testing.
 - f. Inspect and record representative-localized repairs.
 - g. Conduct final review of completed coating system installation.
 - h. Prepare and submit site visit reports after each site visit to document that the coating work is in accordance with the CSM's Recommendations.
- D. Final report:
 - 1. Prepare a final report, after coating work ends, summarizing each day's test data, observations, drawings, and photographs. Include substrate conditions, ambient conditions, and application procedures observed during the CTR's site visits. Include a statement that completed work was performed in accordance with the requirements of the CSM's recommendations.

PART 2 PRODUCTS

2.01 DESIGN AND PERFORMANCE CRITERIA

- A. Coating materials shall be formulated for environments encountered in water and wastewater treatment processes.
- B. Coating materials that come in contact with water distributed as potable water shall be certified in accordance with NSF 61.

2.02 MATERIALS

A. General:

1. Product requirements as specified in Section 01600 - Product Requirements.

2.03 COATING SYSTEMS IDENTIFICATION

A. Naming Conventions: Coating Systems Identifications contain the elements defined in Table 1.

Table 1 Coating System Identification Elements						
First Element	-	Second Element	-	Third Element	-	Fourth Element (optional)
3 or 4 alpha characters		1-3 alpha characters		1 number		3 or 4 alpha characters
Coating Type		Substrate		System Number		Additional Substrate or Special Condition
Example: EPX	-	C	-	6	-	BSC

- 1) First element identifies the coating type using the following abbreviations:
 - a) ACR: Acrylic.
 - b) CTE: Coal tar epoxy.
 - c) ELA: Elastomeric acrylic.
 - d) EPU: Epoxy-polyurethane.
 - e) EPX: Epoxy.
 - f) POL: Polyurethane.
 - g) SIL: Silicone.
 - h) SILX: Siloxane or silane.
 - i) VE: Vinyl ester.
- 2) Second element identifies the substrate using the following abbreviations:
 - a) C: Concrete or masonry.
 - b) F: Concrete flooring.
 - c) FRP: Fiber-reinforced plastic.
 - d) GM: Galvanized metal.
 - e) M: Metal.
 - f) PVC: Polyvinyl chloride, chlorinated polyvinyl chloride.
- 3) Third element identifies the sequential system number.
 - a) For example, EPX-C-2 is the second standard epoxy coating system for concrete substrates.
- 4) Fourth element is optional and identifies the additional substrate or special condition with the following abbreviations:
 - a) PWS: Potable water service applications (NSF-61 approved).
 - b) BSC: Biogenic sulfide corrosion-resistant applications in wastewater.
 - c) BG: Below grade or buried.
 - d) OZ: Organic zinc primer, epoxy polyurethane system.
 - e) SC: Secondary containment.

2.04 PRODUCTS FOR COATING SYSTEMS

A. Products: As specified in Attachment B - Coating Detail Sheets.

- B. Cleaning solvents:
 - 1. Requirements for solvent wash, solvent wipe, or cleaner used, including, but not limited to, those used for surface preparation in accordance with SSPC-SP 1:
 - a. Emulsifying type.
 - b. Containing no phosphates.
 - c. Biodegradable.
 - d. Does not damage zinc.
 - e. Compatible with the specified primer.
 - f. Complying with applicable air-quality control board requirements.
 - 2. Use clean white cloths and clean fluids in solvent cleaning.

PART 3 EXECUTION

3.01 GENERAL PROTECTION REQUIREMENTS

- A. Protect adjacent coated surfaces from coatings and damage associated with coating work. Repair damage resulting from inadequate or unsuitable protection.
- B. Use drop cloths and other coverings to protect adjacent surfaces not to be coated against spatter and droppings.
- C. Mask off surfaces of items not to be coated or remove items from area.
- D. Furnish and deploy sufficient drop cloths, shields, and protective equipment to prevent spray or droppings from fouling surfaces not being coated and, in particular, surfaces within storage and preparation areas.
- E. Place coating waste, cloths, and material that may pose a fire hazard in closed metal containers and remove daily from site.
- F. Remove electrical plates, surface hardware, fittings, and fasteners before coating application. Carefully store, clean, and replace items after completing coating in each area. Do not use solvent or degreasers to clean hardware that may remove permanent lacquer finishes.
- G. Erect and maintain protective enclosures in accordance with SSPC-Guide 6.
- H. Protect the following surfaces from abrasive blasting by masking or by other means:
 - 1. Threaded portions of valve and gate stems, grease fittings, and identification plates.
 - 2. Machined surfaces for sliding contact.
 - 3. Surfaces to be assembled against gaskets.
 - 4. Surfaces of shafting where sprockets will be fit.
 - 5. Surfaces of shafting where bearings will be fit.
 - 6. Machined bronze surfaces, including slide gates.
 - 7. Cadmium-plated items, except cadmium-plated, zinc-plated, or sherardized fasteners used to assemble equipment requiring abrasive blasting.
 - 8. Galvanized items, unless scheduled to be coated.

- I. Protect installed equipment, mechanical drives, and adjacent coated equipment from abrasive blasting to prevent damage caused by spent abrasive blast media, dust, or dirt entering such equipment.
- J. Schedule cleaning and coating to keep dust and spray from the cleaning process from falling on wet, newly coated surfaces.
 - 1. Whenever possible, coordinate with other trades and complete surface preparation and coating work before installing hardware, hardware accessories, nameplates, data tags, electrical fixtures, and similar uncoated items that will be in contact with coated surfaces. Mask machined surfaces, sprinkler heads, and other small items that will not be coated.
 - 2. After completing coating, reinstall removed items.
 - 3. Disconnect and move equipment adjacent to walls to clean and coat equipment and walls. Replace and reconnect equipment after coating.

3.02 GENERAL SURFACE PREPARATION REQUIREMENTS

- A. Prepare surfaces in accordance with CSM's instructions unless more stringent requirements are specified in this Section.
- B. Coating detail sheets in Attachment B - Coating Detail Sheets include additional surface preparation requirements.
- C. Follow more stringent requirement if information conflicts.
- D. Where required by the Owner's representative, a NACE International certified coatings inspector, provided by the Contractor, will inspect and approve surfaces to be coated before applying a coating.
 - 1. CSA shall coordinate coating inspections.
 - a. Identify coating inspection Hold Points during the pre-installation conference.
 - b. Provide at least 2 days' notice before inspection.
 - 2. Contractor shall correct surface defects identified by the inspector at no additional cost to Owner.

3.03 MECHANICAL AND ELECTRICAL EQUIPMENT PREPARATION

- A. Remove grilles, covers, and access panels for mechanical and electrical system and coat separately.
- B. Prepare and finish coat equipment primed by the manufacturer using specified intermediate and top coats, as applicable, and color selected by the Owner.
- C. Prepare, prime, and coat both insulated and bare pipes, conduits, boxes, insulated and bare ducts, hangers, brackets, collars, and supports, except where items are covered with material not requiring coating, or with a prefinished coating.
- D. Replace identification markings on mechanical or electrical equipment when coated over or spattered.

- E. Prepare and coat interior surfaces of air ducts and convector and baseboard heating cabinets visible through grilles and louvers with 1 coat of flat black paint to limit of sight line.
- F. Prepare and coat dampers exposed immediately behind louvers, grilles, and convector and baseboard heating cabinets to match face panels.
- G. Prepare and coat exposed conduit and appurtenances occurring in finished areas with color and texture to match adjacent surfaces.
- H. Prepare and coat sides' front, back, and edges of plywood backboards for electrical equipment before installing backboards and mounting equipment on them.
- I. Color code equipment, piping, conduit, and exposed ductwork and apply color banding and identification, such as flow arrows, naming, and numbering, in accordance with the Contract Documents.

3.04 CLEANING OF NEW AND PREVIOUSLY COATED OR NEW SURFACES

- A. Utilize cleaning agent to remove soluble salts, such as chlorides, from concrete and metal surfaces:
 - 1. Cleaning agent: Biodegradable non-flammable and containing no VOC.
 - 2. Manufacturers: The following or equal:
 - a. CHLOR*RID International, Inc.
 - 1) Complete soluble salt removal with steam or warm water cleaning.
 - 3. Test cleaned surfaces to ensure removal of soluble salts. Carry out additional cleaning as needed.
 - 4. Complete final surface preparation before applying new coating system in strict accordance with CSM's printed instructions.

3.05 BLAST CLEANING

- A. Surface preparation requirements:
 - 1. Do not reuse spent blast abrasive.
 - 2. Ensure that filter compressed air used for blast cleaning is free of condensed water and oil. Clean moisture traps at least once every 4 hours or more frequently, as required, to prevent moisture from entering the abrasive blasting equipment air supply. Check blast air for moisture and oil after each cleaning in accordance with ASTM D4285.
 - 3. Install oil separators just downstream of compressor discharge valves and at the discharge point of blast pot discharges. Check separators on the same frequency as the moisture traps.
 - 4. Keep regulators, gauges, filters, and separators on compressor air lines to blasting nozzles operational at all times.
 - 5. Install an air dryer or desiccant filter drying unit to dry the compressed air before blast pot connections. Use and maintain the dryer throughout surface preparation work.
 - 6. Use a venturi-type, or other high velocity-type, abrasive blast nozzles supplied with at least 100 pounds per square inch gauge air pressure at the nozzle and enough volume to obtain appropriate blast cleaning production rates and surface cleanliness.

7. Provide airborne particulate evacuation and filtering that meets OSHA safety standards. Maintain optimal visibility both to clean and provide the specified surface profile and to allow inspection of the substrate during surface preparation work.
 8. If prepared and cleaned metallic substrates become contaminated between final surface preparation work and coating system application, or if the prepared substrate darkens or changes color, re-clean by water blasting, or abrasive blast cleaning as appropriate until the specified degree of cleanliness is restored.
- B. Water jetting or water blasting:
1. Use water jetting or water blasting for recoating or relining where an adequate surface profile exists.
 2. Perform water jetting or water blasting in accordance with SSPC-SP 13 and SSPC-WJ-1, WJ-2, WJ-3, WJ-4.

3.06 PREPARATION REQUIREMENTS FOR CONCRETE SURFACES

- A. Cure for at least 28 days before coating.
- B. Remove degraded concrete using abrasive blast cleaning or high or ultra-high-pressure water jetting, chipping, or other abrading tools until achieving a sound, clean substrate. Remove all bruised or cracked concrete.
- C. Prepare substrate cracks and areas requiring resurfacing; perform detail treatment, including, but not limited to, terminating edges per the CSM's recommendations and as indicated on the Drawings.
1. Prepare concrete surfaces in accordance with SSPC-SP 13.
- D. Prepare concrete surfaces in accordance with SSPC-SP 13.
1. Inspect concrete surfaces to select appropriate surface preparation method to provide a suitable substrate for the specified coating system.
 2. Use blast cleaning or other means to expose the complete perimeter of air voids or bug holes. Do not leave shelled over, hidden air voids beneath the exposed concrete surface.
 3. Repair concrete defects and physical damage.
 4. Clean concrete surfaces of dust, mortar, formwork, fins, loose concrete particles, form release materials, oil, and grease.
- E. Provide clean substrate visually free of calcium sulfate, loose, coarse, or fine aggregate, laitance, loose hydrated cement paste, and otherwise harmful substances.
1. Confirm concrete surface minimum pH of 9.0 with surface pH testing.
 2. If after surface preparation the surface pH remains below 9.0, perform additional water blasting, cleaning, or abrasive blast cleaning until additional pH testing indicates an acceptable pH level.

- F. Prepare concrete surface for coating in accordance with SSPC-SP 13.
 - 1. Provide ICRI 310.2 minimum No. 3 concrete surface profile (CSP) or as specified on Coating Detail Sheets.
 - 2. Evaluate profile of the prepared concrete using ICRI 310.2 surface profile replicas.
- G. Blast clean cementitious repair mortars or grouts to the same profile and degree of cleanliness requirements required for concrete substrates.
- H. Blast clean polymer-based surfacers or waterborne modified cementitious surfaces only if they have exceeded the CSM's recommended recoat time.
- I. Vacuum all concrete surfaces before coating application, leaving a dust free, sound concrete substrate.
 - 1. Thoroughly clean concrete surfaces to be coated to remove loose dirt and spent abrasive.
 - 2. Remove debris produced by blast cleaning from the structures to be coated, and legally dispose of it off-site.
- J. Test moisture content of concrete to be coated:
 - 1. Conduct ASTM D4263 plastic sheet test at least once for every 500 square feet of surface area to be coated.
 - a. Any moisture on plastic sheet after test period constitutes a non-acceptable test, and the concrete must be dried further.
 - 2. Conduct ASTM F1869 test at least once for every 1,000 square feet of concrete floor surface area to be coated.
 - 3. Conduct ASTM F2170 one relative humidity moisture test at least once for each 500 square feet of non-floor concrete surface area where the opposite side is exposed to soil or water.
 - 4. Comply with specified minimum moisture content and CSM's written recommendations for moisture vapor transmission rates or relative humidity values.
- K. Masonry surfaces:
 - 1. Cure for at least 28 days before coating.
 - 2. Prepare masonry surfaces to remove chalk, laitance, loose dirt, dried mortar splatter, dust, peeling, or loose existing coatings, or otherwise deleterious substances to leave a clean, sound substrate.
 - 3. Wash and scrub masonry surfaces with clear water. Do not use muriatic acid.
 - 4. Seal or fill masonry surfaces with a sealer or block filler compatible with the specified primer after cleaning.
 - 5. Confirm that masonry surfaces are dry before coating application.
 - a. If using pressure washing or low-pressure water blast cleaning for preparation, allow the masonry to dry for at least 5 days under dry weather conditions or until the minimum ambient temperature is 70 degrees Fahrenheit before coating.

3.07 GENERAL PREPARATION REQUIREMENTS FOR METALLIC SURFACES

- A. Remove rust, scale, and welding slag and spatter.
 - 1. Remove and grind smooth all excessive weld material and weld spatter on metal surfaces before blast cleaning in accordance with NACE SP0178, Appendix C, Level C.
 - 2. Grind sharp edges on metal substrate to approximately 1/16-inch radius before abrasive blast cleaning.
- B. Prepare metallic surfaces in accordance with applicable portions of surface preparation specifications of the SSPC specified for each coating system.
 - 1. Remove grease and oil in accordance with SSPC-SP 1.
 - 2. Use solvent as recommended by the CSM.
 - 3. Measure profile depth of the surface to be coated in accordance with Method C of ASTM D4417. Contractor shall select blast particle size and gradation to produce the specified surface profile.
 - 4. Constantly monitor and maintain ambient environmental conditions to ensure cleanliness and that no "rust back" occurs before coating material application.
- C. Prepare metallic surfaces by blast cleaning in accordance with SSPC-VIS 1 (ASTM D2200). Prepare abrasive blast representative areas for the Owner's representative to inspect on the first day of cleaning.
- D. Unless otherwise specified, the requirements for blast cleaning steel, ductile iron, and stainless steel substrates are as follows:
 - 1. Ferrous metal surfaces not to be submerged: Abrasive blast in accordance with SSPC-SP 10 unless blasting may damage adjacent surfaces, is prohibited, or is specified otherwise. Where abrasive blasting is not possible, clean surfaces to bare metal with power tools in accordance with SSPC-SP 11.
 - 2. Ferrous metal surfaces to be submerged: Abrasive blast in accordance with SSPC-SP 5, unless specified otherwise, to clean and provide roughened surface profile with a depth between 2 and 4 mils.
 - 3. Remove traces of grit, dust, dirt, rust scale, friable material, loose corrosion products, or embedded abrasive from substrate before coating application.
 - 4. When abrasive blasted surfaces rust or discolor before coating, abrasive blast clean surfaces again.
- E. Field preparation of shop-primed surfaces:
 - 1. Smooth welds and prominences with power tools before applying field-applied coatings.
 - 2. Clean and dry shop-primed ferrous metal surfaces and fabricated assemblies before applying field coats.
 - 3. Prepare shop epoxy primed surfaces with light abrasive blasting or abrading and then vacuum before applying finish coats.
 - a. Follow CSM instructions for surface preparation when the primer recoat limit has been exceeded.
 - 4. Non-immersion service: Clean in accordance with SSPC-SP 2 (Hand Tool Cleaning) or SSPC-SP 3 (Power Tool Cleaning) and uniformly roughen.
 - 5. Immersion, BSC, and SC service: Remove shop primer in accordance with SSPC-SP 5 (Near-White Blast Cleaning).

- F. Damaged shop primer or rust bleeding:
 - 1. Ferrous metals: Clean in accordance with SSPC-SP 1 (Solvent Cleaning) and spot blast in accordance with SSPC-SP 10 (Near-White Metal Blast Cleaning) to achieve a uniform surface profile between 2.0 and 2.5 mils before recoating.
 - 2. Reject galvanized steel with rust bleeding.
- G. Damaged coating: Repair by abrasive blast cleaning surfaces as specified for the coating system; feather to a smooth transition before touching up.

3.08 PREPARATION REQUIREMENTS BY SURFACE TYPE

- A. Galvanized steel and non-ferrous metal surfaces:
 - 1. Degrease or solvent clean (SSPC-SP 1) to remove oily residue.
 - 2. Abrasive blast clean in accordance with SSPC-SP 16.
 - a. If abrasive blast cannot be performed, abrade in accordance with SSPC-SP 3 (Power Tool Cleaning).
 - 3. Apply metal pretreatment within 24 hours before coating galvanized surfaces that cannot be thoroughly abraded, such as bolts, nuts, or preformed channels.
 - 4. Test surface for contaminants using copper sulfate solution.
- B. Stainless-steel surfaces:
 - 1. Abrasive blast clean in accordance with SSPC-SP 16 to leave a clean, uniform appearance with surface profile between 1.5 and 2.5 mils.
- C. Ductile iron pipe and fittings to be lined or coated: Abrasive blast clean in accordance with NAPF 500-03.
- D. Sherardized, aluminum, copper, and bronze surfaces:
 - 1. Abrasive blast clean in accordance with SSPC-SP 16.
 - 2. Prepare in accordance with CSM's instructions.
- E. Cadmium-plated, zinc-plated, or sherardized fasteners:
 - 1. Abrasive blast in the same manner as uncoated metal when assembling equipment designated for abrasive blasting.
- F. PVC and FRP surfaces:
 - 1. Lightly sand surfaces to be coated.
 - a. Sand to remove gloss and establish uniform surface profile.
 - 2. Vacuum to remove loose dust, dirt, and other materials.
 - 3. Solvent clean with clean white rags and allow solvent to evaporate completely before applying coating materials.

3.09 APPLICATION REQUIREMENTS

- A. Apply coatings in accordance with manufacturer's instructions.
- B. Empty aboveground piping to be coated of contents when applying coatings.

- C. Mechanical equipment shop primed by the manufacturer.
 - 1. Pumps and valves: Shop coat with manufacturer's highest quality coating system meeting the project specifications.
 - a. Contractor shall provide CTR shop coating reports.
 - 2. Non-immersed equipment: Touch up shop primer, and coat in the field with specified coating system after installation.
 - a. If project requires equipment removal and reinstallation, complete touch-up coating after final installation.
 - 3. Immersed equipment not shop coated: Remove shop primer before surface preparation and field apply coating.
- D. Verify surface preparation immediately before applying coating in accordance with SSPC-SP COM and the SSPC visual standard for the specified surface preparation method.
- E. Allow surfaces to dry, except where coating manufacturer requires surface wetting before coating.
- F. Wash coat and prime sherardized, aluminum, copper, and bronze surfaces, or prime with manufacturer's recommended special primer.
- G. Do not apply coatings to a surface until it has been prepared as specified.
- H. Use equipment designed to apply materials specified.
 - 1. Use compressors with moisture traps and filters that remove water and oils from the air.
 - a. Perform a paper blotter test at the Engineer's request to verify air is sufficiently free of oil and moisture. Do not allow the amount of oil and moisture to exceed CSM-recommended amount.
 - 2. Equip spray equipment with properly sized mechanical agitators, pressure gauges, pressure regulators, and spray nozzles.
- I. Where 2 or more coats are required, tint prime coat intermediate coats as necessary to distinguish each coating and to help indicate coverage.
 - 1. Do not use color additives with chromium, lead or lead compounds that hydrogen sulfide, other corrosive gases, might destroy or alter. Apply the specified number of coats.
- J. Apply coating by brush, roller, trowel, or spray unless a specific application method is required by coating manufacturer's instructions or these Specifications.
 - 1. Apply primer or first coat by brush to power tool cleaned ferrous surfaces.
 - 2. Brush or spray-apply coats for blast-cleaned ferrous surfaces and subsequent coats for non-blast cleaned ferrous surfaces.
 - 3. After prime coat dries, mark, repair, and retest pinholes and holidays before intermediate or top coats are applied.
- K. Spray application:
 - 1. With a brush, stripe coat edges, welds, corners, nuts, bolts, and difficult-to-reach areas, as necessary, before spray application to ensure specified coating thickness along edges.

2. When using spray application, apply each coat to thickness no greater than recommended in coating manufacturer's instructions.
 3. Use airless spray method unless air spray method is required by CSM's instruction or these Specifications.
 4. Conduct spray coating under controlled conditions. Protect adjacent construction and property from coating mist, fumes, or overspray.
- L. Lightly sand and thoroughly clean surfaces to receive high-gloss finishes unless CSM instructs otherwise.
- M. Remove all dust on coatings between coats.
- N. Shop and field coats:
1. Prime coat: Shop-apply or field-apply prime coats as specified. Use shop-applied primer compatible with the specified field coating system and apply at the minimum dry film thickness recommended by the finish coat CSM.
 - a. Provide data sheets identifying the shop primer to on-site coating application personnel.
 - b. Perform adhesion tests on the shop primer.
 - c. Remove and recoat damaged, deteriorated, and poorly applied shop coatings.
 - d. If shop primer coat meets this Section's requirements, spot prime exposed metal of shop-primed surfaces before spray applying primer over the entire surface.
 2. Field coats: Apply field coats with 1 or more prime coats and finish coats to build up coating to dry film thickness specified for the coating system.
 - a. Do not apply finish coats until other work in the area is complete and previous coats are inspected.
 3. Adhesion confirmation: Perform adhesion tests after proper coating cure in accordance with ASTM D3359. Demonstrate that:
 - a. Prime coat adheres to the substrate.
 - b. Coatings adhere to the prime and intermediate coats.
 - 1) Coating 5 mils or more DFT: Achieve adhesion test result of 5A on immersed surfaces and 4A or better on other surfaces.
 - 2) Coating less than 5 mils DFT: Achieve adhesion test results of 5B on immersed surfaces and 4B or better on other surfaces.
- O. Brush, roll, trowel, or spray and back roll coats for concrete and masonry.
- P. Plural component coating application:
1. Premix contents of component drums if required by the CSM each day.
 2. Before starting application:
 - a. Verify gauges are working properly.
 - b. Complete ratio checks.
 - c. Sample the mix on plastic sheeting to ensure set time is appropriate and complete.
 - d. Label and retain all spray samples. Submit to Engineer when requested.

Q. Drying and recoating:

1. Provide fans, heating devices, or other means to prevent condensate or dew on substrate surface or between coats and during curing after applying the last coat.
2. Allow each coat to cure or dry thoroughly, in accordance with if required in CSM's printed instructions, before recoating.
3. Use CSM's printed instructions and the requirements specified in this Section to determine minimum required drying time.
 - a. Do not allow excessive drying time or exposure, which may impair bond between coats.
 - b. Recoat all coatings within time limits recommended by CSM.
 - c. If time limits are exceeded, abrasive blast clean and de-gloss clean before applying another coat.
4. If limitations on time between abrasive blasting and coating are not met before attaching components to surfaces that cannot be abrasive blasted, coat components before attachment.
5. Ensure primer and intermediate coats of coating are unscarred and completely integral when applying each succeeding coat.
6. Touch up suction spots between coats and apply additional coats where required to produce finished surface of solid, even color, free of defects.
7. Leave no holidays. Repair all holidays in accordance with the requirements on pertinent Coating Detail Sheets or as recommended by the CSM.
8. Sand and feather in to a smooth transition and recoat scratched, contaminated, or otherwise damaged coating surfaces so repairs are invisible to the naked eye.

R. Workmanship:

1. Ensure that coated surfaces are free from runs, drips, ridges, waves, laps, and brush marks. Coats shall be applied to produce a smooth, even film of uniform thickness completely coating corners and crevices.
2. Coat surfaces without drops, overspray, dry spray, excessive runs, ridges, waves, holidays, laps, or brush marks.
3. Remove splatter and droppings after coating work is completed.
4. Evenly apply each coat of material and sharply cut to a line created with masking tape or other suitable materials.
5. Avoid over spraying or spattering paint on surfaces not to be coated. Protect glass, hardware, floors, roofs, vehicles, and other adjacent areas and installations by taping, drop cloths, or other suitable measures.
6. When coating complex steel shapes, stripe coat welds, edges of structural steel shapes, metal cut-outs, pits in steel surfaces, or rough surfaces with the primer before overall coating system application.
 - a. Brush apply stripe coat to ensure proper coverage.
 - b. Do not stripe coat with spray or roller.
7. Ensure that finish coat, including repairs, has a uniform color and gloss.

S. Coating properties, mixing, and thinning:

1. Thin prime coat and apply as recommended by the CSM. Thinned coating must comply with prevailing air pollution control regulations.
2. If maximum recoat time is exceeded, prepare surface with solvent washing, light abrasive blasting, or other procedures per CSM's instructions.

3. Allow adequate drying time between coats as instructed by the CSM, adjusted as necessary for the site conditions.
 4. Ensure that coatings, when applied, provide a satisfactory film and a smooth even surface. Lightly sand glossy undercoats to provide a surface suitable for proper application and adhesion of subsequent coats. Thoroughly stir and strain coating materials during application and maintain uniform consistency.
 5. Mix coatings with 2 or more components in accordance with CSM's instructions.
 6. Where necessary to suit conditions of the surface, temperature, weather, and method of application, thin the coating per CSM's recommendations.
 - a. Ensure that volatile organic content (VOC) of the thinned coating complies with prevailing air pollution control regulations.
 - b. Thin coatings to only what is necessary to obtain proper application characteristics.
 - c. Use a thinner recommended by the CSM.
- T. Film thickness and continuity:
1. Apply coating to the specified thicknesses.
 - a. Apply additional coats when necessary to achieve specified thicknesses, especially at edges and corners.
 2. Verify WFT of the coating system first coat and after applying each subsequent coat.
 3. Do not allow the minimum thickness at any point to deviate more than 25 percent from the required average.
 4. Do not allow the surface area covered per gallon of coating for various types of surfaces to exceed those recommended by the CSM.
 - a. Provide coating coverage worksheets listing the maximum and minimum coverage for each unit volume of coating for concrete surfaces.
 5. Apply additional coats to achieve the specified dry film thickness if brush or roller application methods cannot achieve the specified film thicknesses per coat.
- U. Protecting coated surfaces:
1. Do not handle, work on, or otherwise disturb coated items until the coating is completely dry and hard.
 2. After installation, recoat shop-coated surfaces with specified coating system as necessary to match surrounding surfaces, and to coordinate with the specified color identification requirements.
- V. Special requirements:
1. Before erection, apply all but the final finish coat to interior surfaces of roof plates, roof rafters and supports, pipe hangers, piping in contact with hangers, and contact surfaces inaccessible after assembly. Apply final coat after erection.
 2. Coat structural slip-critical connections and high strength bolts and nuts after erection.
 3. Areas damaged during erection:
 - a. Prepare surface for spot repairs as specified for the coating system.
 - b. Recoat with prime coat before applying subsequent coats.
 - c. Touch up surfaces after installation.
 - d. Clean and dry surfaces to be coated at time of application.

4. Coat underside of equipment bases and supports not galvanized with at least 2 coats of primer specified before setting the equipment in place.
5. Coat aluminum in contact with concrete.

3.10 APPLICATION REQUIREMENTS FOR CONCRETE COATING SYSTEMS

- A. Apply filler/surfacer as recommended by CSM to fill bug holes and air voids in concrete or block texture in CMU, leaving a uniformly filled surface that does not produce blowholes or outgassing causing the coating system to pinhole.
 1. Allow filler/surfacers to cure sufficiently before applying prime coat as required by the CSM. Use the CSM-recommended drying time between coats.
- B. Apply surfacer or filler and let dry before coating application.
 1. Use the drying time between filler/surfacer and coating system specified by the CSM for the site conditions.
 - a. Let concrete substrate dry before applying filler/surfacers or coating system materials.
 2. If the maximum recoat time is exceeded, prepare surfaces by solvent washing, light abrasive blasting, and other procedures per CSM's instructions.
 3. Apply a complete parge coat of the specified filler/surfacer material over the entire substrate before applying the coating system.
 - a. Scrub filler/surfacer into the substrate to completely fill open air voids and bug holes.
 - b. Completely cover the substrate, unless otherwise specified, above such filled voids by 1/8 inch of thickness.
 - c. Provide relatively flat, uniformly even surface before coating application.
 4. Secondary containment: Place surfacer or filler 1/16 inch thick above concrete plane to create a monolithic surface free of pinholes.
 - a. Floor surfaces: Broadcast with aggregate to create a non-slip surface texture.
 - b. Remove excess aggregates and apply base coat to encapsulate embedded non-slip aggregate.
- C. Concrete substrate temperatures:
 1. Apply filler/surfacers and the coating system when temperatures are falling, typically late afternoon or evening.
 - a. Do not coat concrete with rising concrete substrate surface temperatures or substrates in direct sunlight, to minimize outgassing from the substrate and formation of pinholes, and/or blistering.
 2. Should bubbles, pinholes, or other discontinuities form in the applied coating system material, they shall be repaired.
 - a. Should discontinuities develop in the filler/surfacer material or in the first coat of the coating material, repair them before the next coat.
 - b. When discontinuities occur, open the air void behind or beneath the discontinuities and completely fill with specified coating material. Then, abrade the coated area around the discontinuities repair reapply coating over that area.

- D. Perform application detail work in accordance with these Specifications, the CSM's current written recommendations, and drawings, whichever is stricter.
- E. Concrete coating systems application requirements:
 - 1. Concrete coating minimum dry film thickness excludes parge coat, block filler, and sealer.

3.11 COATING SYSTEM SCHEDULE

- A. Attachment A - Schedule of Surfaces to be Field Coated specifies surfaces to be coated in the field with the coating systems required.

3.12 SURFACES NOT REQUIRING COATING

- A. Stainless steel piping, valves, pipe supports, instrument sunshades.
- B. Sliding surfaces on expansion joints, motor and pump shafts, machined surfaces at bearings and seals, grease fittings, etc.
- C. Galvanized structural steel framing, galvanized roof decking, galvanized pipe supports.
- D. Copper and brass pipe, fittings, valves, etc.
- E. Bronze valves, bearings, bushings, and fasteners.
- F. Corrosion resistant special alloys: Inconel, Alloy 20, Hastelloy, etc.
- G. Exterior Concrete.
- H. Plastic surfaces except coat PVC, CPVC, and other plastic piping system exposed to sunlight.
- I. Buried Piping that is encased in concrete or cement mortar.

3.13 QUALITY CONTROL

- A. Owner-provided inspection or inspection by others does not limit the Contractor's or CSA's responsibilities for quality workmanship or quality control as specified or as required by the CSM's instructions. Owner inspection is in addition to any inspection required of the Contractor.
- B. Owner may perform, or contract with an inspection agency to perform, quality control inspection and testing of the coating work covered by this Section. These inspections may include the following:
 - 1. Inspect materials upon receipt to ensure that the CSM supplied them.
 - 2. Verify that specified storage conditions for the coating system materials, solvents, and abrasives are provided.
 - 3. Inspect and record findings for substrate cleanliness.
 - 4. Inspect and record pH of concrete and metal substrates.
 - 5. Inspect and record substrate profile (anchor pattern).
 - 6. Measure and record ambient air and substrate temperature.

7. Measure and record relative humidity.
 8. Check for substrate moisture in concrete.
 9. Verify that mixing of coating system materials is in accordance with CSM's instructions.
 10. Inspect, confirm, and record that coating system materials' "pot life" is not exceeded during installation. Inspect to verify that recoat limitations for coating materials are not exceeded.
 11. Perform adhesion testing.
 12. Measure and record the coating system's thickness.
 13. Verify proper curing of the coating system in accordance with the CSM's instructions.
 14. Holiday or continuity testing in accordance with NACE SP0188 for coatings that will be immersed or exposed to aggressively corrosive conditions.
- C. Contractor shall perform holiday testing in accordance with NACE SP0188 to identify holidays or pinholes needing repair for coating over 100 percent of surfaces:
1. Coated steel that will be immersed or exposed to aggressively corrosive conditions.
 2. Coated concrete.
 3. Perform holiday tests after proper application and coating system cure.

3.14 CORRECTIVE MEASURES

- A. Repair pinholes or holidays identified by Holiday Testing as follows:
1. Remove the coating system with a grinder or other suitable power tool.
 2. Remove coating system at all pinholes and holidays at least 2 inches diameter around the defect back to expose substrate.
 3. Concrete voids: chip back to expose entire cavity in all directions.
 - a. Completely fill void with approved filler/surfacer material using a putty knife or other suitable tool and strike off. Cure per CSM's recommendations.
 4. Aggressively abrade or sand the intact coating system surface at least 3 inches beyond the removal area in all directions to produce a uniform 6- to 8-mil profile in the intact coating system.
 5. Vacuum the prepared area to remove all dust, dirt, etc., leaving clean, sound surfaces.
 6. Tape to mask the periphery of the prepared intact coating area to prevent coating repair application onto the prepared area.
 7. Apply the coating system with enough coats to achieve the specified finish coat thickness over the defect and coating removal area. Feather the coating onto the abraded coated surfaces around the removal area to avoid a lip and to achieve a neat repair outline.
 8. Follow curing time between coats as specified by CSM for the site conditions. Solvent wash and abrasive blast per CSM's instructions, if the maximum recoat time is exceeded.
 9. Apply coating at specified dry film thickness.

3.15 CLEANUP

- A. Remove surplus materials, protective coverings, and accumulated rubbish after completing coating. Thoroughly clean surfaces and repair overspray or other coating-related damage.

3.16 FINAL INSPECTION

- A. Conduct final inspection of coating system work to determine whether it meets specifications requirements.
- B. Conduct subsequent final inspection with Engineer to ensure work conforms to contract documents requirements.
- C. Mark any rework required.
 - 1. Re-clean and repair, as specified, at no additional cost to the Owner.

END OF SECTION

ATTACHMENT A - SCHEDULE OF SURFACES TO BE COATED

ATTACHMENT A
Schedule of Surfaces to be Coated

- A. The following schedule is incomplete. Coat unlisted surfaces with same coating system as similar listed surfaces. Contact Engineer for clarification.

EPU-M-1	Sheet metal above the metal deck
EPX-M-5	Aluminum surfaces in contact with concrete or masonry. Locations where Alkali-resistant bitumastic is specified.
Notes:	
1: Non-immersed ferrous metal surfaces include: a. Doors, doorframes, ventilators, louvers, grilles, exposed sheet metal, and flashing. b. Pipe, valves, pipe hangers, supports and saddles, conduit, cable tray hangers, and supports. c. Motors and motor accessory equipment. d. Drive gear, drive housing, coupling housings, and miscellaneous gear drive equipment. e. Valve and gate operators and stands. f. Structural steel. g. Crane and hoist rails. h. Exterior of tanks and other containment vessels. i. Mechanical equipment supports, drive units, and accessories. j. Bare electrical equipment: boxes, exposed conduit, and accessories. k. Pumps not submerged. l. Other miscellaneous metals. 2: Immersed ferrous metal surfaces include: a. Interior surfaces of ferrous metal tanks. b. Field priming of ferrous metal surfaces with defective shop-prime coat; including non-submerged service. c. Bell rings, underside of manhole covers and frames. d. Sump pumps, including underside of base plates and submerged suction and discharge piping. e. Exterior of submerged piping and valves other than stainless steel or PVC piping. f. Submerged pipe supports and hangers. g. Stem guides. h. Other submerged iron and steel metal unless specified otherwise.	

ATTACHMENT B - COATING DETAIL SHEETS

Attachment B			
Coating Detail Sheet			
Coating System	EPU-M-1		
Coating Material	Two coats epoxy with polyurethane finish coat		
Substrate	Metal		
Products: One of the following or equal:	Primer	Intermediate Coat	Finish Coat
Carboline	Carboguard 890	Carboguard 890	Carbothane 134 VOC
International Paint	Devran 224V	Devran 224V	Devthane 379H
PPG	Amerlock 2VOC	Amerlock 2VOC	Amershield VOC
Sherwin Williams	Macropoxy 646 100	Macropoxy 646 100	Hi Solids Polyurethane 250
Tnemec	Series 69	Series 69	Series 1095
Service Condition	Interior or Exterior, subject to direct sunlight. Non-immersion.		
Surface Preparation			
General	Prepare surfaces as specified in this Section and as follows.		
Ferrous Metal	Bare surfaces: SSPC-SP10, Near-White Blast Cleaning. Shop primed surfaces: SSPC-SP2, Hand Tool Cleaning or SSPC-SP3, Power Tool Cleaning. Damaged primer or rust: SSPC-SP10, Near White Blast Cleaning and spot prime.		
Nonferrous Metal	SSPC-SP16, Brush Blast Cleaning.		
Galvanized Metal	SSPC-SP16, Brush Blast Cleaning. Test for surface contaminants.		
Surface profile			
Ferrous Metal	2.5 to 3.0 mils		
Nonferrous Metal	1.5 to 2.0 mils		
Galvanized Metal	1.5 to 2.0 mils		
System Thickness (Dry Film)			
Total	10 to 13 mils		
Primer	4 to 5 mils		
Intermediate Coat	4 to 5 mils		
Finish Coat	2 to 3 mils		
Application			
Special CTR Training	Not required.		

Attachment B			
Coating Detail Sheet			
Coating System	EPX-M-5		
Coating Material	Epoxy mastic		
Substrate	Metal		
Products: One of the following or equal:	Primer	Intermediate Coat	Finish Coat
Carboline	CSM recommended	None applied	Carbomastic 15
International Paint	CSM recommended	Bar-Rust 231LV	Bar-Rust 231LV
PPG	No product specified	No product specified	No product specified
Sherwin Williams	CSM recommended	No product specified	No product specified
Tnemec	CSM recommended	Series 135	Series 135
Service Condition	Interior, corrosive environment, confined enclosures, where minimal surface preparation is possible.		
Surface Preparation			
General	Prepare surfaces as specified in this Section and as follows.		
Ferrous Metal	Bare surfaces: SSPC-SP11, Power to Cleaning to Bare Metal. Shop primed surfaces: SSPC-SP3, Power Tool Cleaning. Damaged primer or rust: SSPC-SP11, Power to Cleaning to Bare Metal.		
Nonferrous Metal	SSPC-SP16, Brush-Off Blast Cleaning.		
Surface profile			
Ferrous Metal	2.0 to 2.5 mils		
Nonferrous Metal	1.0 to 1.5 mils		
System Thickness (Dry Film)			
Total	15 to 19 mils		
Primer	2 to 4 mils		
Finish Coat	15 mils		
Application			
Special CTR Training	Not Required.		

SECTION 15052

COMMON WORK RESULTS FOR GENERAL PIPING

PART 1 GENERAL

1.01 SUMMARY

- A. Section includes:
 - 1. Basic materials and methods for metallic and plastic piping systems.

1.02 REFERENCES

- A. American Society of Mechanical Engineers (ASME):
 - 1. B16.5 - Pipe Flanges and Flanged Fittings: NPS 1/2 Through 24.
 - 2. B16.47 - Large Diameter Steel Flanges: NPS 26 Through NPS 60 Metric/Inch Standard.
- B. American Water Works Association (AWWA):
 - 1. C11 - Rubber-Gasket Joints for Ductile-Iron Pressure Pipe.
 - 2. C111 - Rubber-Gasket Joints for Ductile-Iron Pressure Pipe and Fittings.
 - 3. C151 - Ductile-Iron Pipe, Centrifugally Cast.
 - 4. C207 - Standard for Steel Pipe Flanges for Waterworks Services-Size 4 Inches Through 144 Inches.
- C. ASTM International (ASTM):
 - 1. A74 - Standard Specification for Cast Iron Soil Pipe and Fittings.
 - 2. A193 - Standard Specification for Alloy-Steel and Stainless Steel Bolting for High Temperature or High Pressure Service and Other Special Purpose Applications.
 - 3. A194 - Standard Specification for Carbon Steel, Alloy Steel, and Stainless Steel Nuts for Bolts for High Pressure or High Temperature Service, or Both.
 - 4. A307 - Standard Specification for Carbon Steel Bolts, Studs, and Threaded Rod 60,000 PSI Tensile Strength.
 - 5. A320 - Standard Specification for Alloy-Steel and Stainless Steel Bolting for Low-Temperature Service.
 - 6. A563 - Standard Specification for Carbon and Alloy Steel Nuts.
 - 7. B88 - Standard Specification for Seamless Copper Water Tube.
 - 8. D2000 - Standard Classification System for Rubber Products in Automotive Applications.
 - 9. D2513 - Standard Specification for Polyethylene (PE) Gas Pressure Pipe, Tubing and Fittings.
 - 10. F37 - Standard Test Methods for Sealability of Gasket Materials.
 - 11. F2329 - Standard Specification for Zinc Coating, Hot-Dip, Requirements of Application to Carbon and Alloy Steel Bolts, Screws, Washers, Nuts, and Special Threaded Fasteners.
- D. California Health and Safety Code.

- E. NSF International (NSF):
 - 1. 61 - Drinking Water System Components - Health. Effects.

1.03 DEFINITIONS

- A. Buried Pipes: Pipes that are buried in the soil with or without a concrete pipe encasement.
- B. Exposed Pipe: Pipes that are located above ground, or located inside a structure, supported by a structure, or cast into a concrete structure.
- C. Pipes Adjacent to a Wet Wall: Pipe centerline within 10 inches of the wet wall.
- D. Underground Pipes: Buried pipes - see A. above.
- E. Underwater Pipes: Pipes below the top of walls in basins or tanks containing water.
- F. Wet Wall: A wall with water on at least 1 side.

PART 2 PRODUCTS

2.01 GENERAL

- A. Materials as specified in Section 01600 - Product Requirements including special requirements for materials in contact with drinking water.
- B. Coatings and linings requirements stated in the Pipe Schedule as modified in the individual pipe Technical Sections and Section 09960 - High-Performance Coatings.

2.02 FLANGE BOLTS AND NUTS

- A. General:
 - 1. Washer:
 - a. Provide a washer for each nut.
 - b. Washer shall be of the same material as the nut.
 - 2. Nuts: Heavy hex-head.
 - 3. Cut and finish flange bolts to project:
 - a. Face of the bolt shall exceed face of nut by 1/16 inch minimum.
 - b. A maximum of 1/4 inch beyond outside face of nut after assembly.
 - 4. Tap holes for cap screws or stud bolts when used.
 - 5. Lubricant for stainless steel bolts and nuts:
 - a. Chloride-free.
 - b. Manufacturers: One of the following or equal:
 - 1) Huskey FG-1800 Anti-Seize.
 - 2) Weicon Anti-Seize High-Tech.
- B. Steel pipe:
 - 1. On exposed pipes:
 - a. For ASME B16.5 Class 150 flanges and AWWA C207 Class D flanges:
 - 1) Bolts: In accordance with ASTM A307, Grade B.

- 2) Nuts: In accordance with ASTM A563, Grade A.
 - 3) Bolts and Nuts: Hot-dip galvanized in accordance with ASTM F2329.
- b. For ASME B16.5 and B16.47 Class 300 flanges and AWWA C207 Class E and F flanges:
 - 1) Bolts: In accordance with ASTM A193, Grade B7.
 - 2) Nuts: In accordance with ASTM A194, Grade 2H.
- 2. On underwater pipes and pipes adjacent to wet walls:
 - a. Bolts: In accordance with ASTM A193, Grade B8M.
 - b. Nuts: In accordance with ASTM A194, Grade 8M.
- 3. Low-temperature service: Stainless steel, Type 316:
 - a. Bolts: In accordance with ASTM A320, Grade B8M, Class 1, heavy hex.
 - b. Nuts: In accordance with ASTM A194, Grade B8M, heavy hex.
 - c. Washers: Alloy group matching bolts and nuts.
- 4. High-temperature service or high-pressure service: Stainless steel, Type 316:
 - a. Bolts: In accordance with ASTM A193, Grade B8M, Class 1, heavy hex.
 - b. Nuts: In accordance with ASTM A194, Grade 8, heavy hex.
 - c. Washers: Alloy group matching bolts and nuts.

2.03 GASKETS

- A. General:
 - 1. Gaskets shall be suitable for the specific fluids, pressure, and temperature conditions.
 - 2. Capable of being applied on surface of piping with cavities to provide for an improved seal with the internal piping pressure.
- B. Gaskets for flanged joints in ductile iron or steel drinking water piping meeting NSF 61 requirements:
 - 1. Suitable for hot or cold water, pressures equal to or less than 150 pounds per square inch gauge, and temperatures equal to or less than 160 degrees Fahrenheit.
 - 2. Material:
 - a. EPDM material with 80 Shore A durometer rating.
 - 3. Manufacturers: One of the following or equal:
 - a. Garlock, 98206.
 - b. John Crane, similar product.

PART 3 EXECUTION

3.01 INSTALLATION

- A. General:
 - 1. Piping drawings:
 - a. Except in details, piping is indicated diagrammatically. Not every offset and fitting, or structural difficulty that may be encountered has been indicated on the Drawings. Sizes and locations are indicated on the Drawings.

- b. Perform minor modifications to piping alignment where necessary to avoid structural, mechanical, or other type of obstructions that cannot be removed or changed.
 - 1) Modifications are intended to be of minor scope, not involving a change to the design concept or a change to the Contract Price or Contract Times.
 - 2. Piping alternatives:
 - a. Provide piping as specified in this Section, unless indicated on the Drawings or specified otherwise.
 - b. Alternative pipe ratings:
 - 1) Piping with greater pressure rating than specified may be substituted in lieu of specified piping without changes to the Contract Price.
 - 2) Piping of different material may not be substituted in lieu of specified piping.
 - c. Valves in piping sections: Capable of withstanding specified test pressures for piping sections and fabricated with ends to fit piping.
 - d. Grooved joints: Use couplings, flange adapters, and fittings of the same manufacturer.
 - 1) Manufacturer's factory trained representative:
 - a) Provide on-site training for Contractor's field personnel.
 - b) Periodically visit the jobsite to verify Contractor is following best recommended practices.
 - 2) Distributor's representative is not considered qualified to conduct the training or jobsite visits.
 - e. Flanged joints: where 1 of the joining flanges is raised face type, provide a matching raised face type flange for the other joining flange.
 - 3. Unless otherwise indicated on the Drawings, piping at pipe joints, fittings, couplings, and equipment shall be installed without rotation, angular deflection, vertical offset, or horizontal offset.
- B. Exposed piping:
 - 1. Install exposed piping in straight runs parallel to the axes of structures, unless otherwise indicated on the Drawings:
 - a. Install piping runs plumb and level, unless otherwise indicated on the Drawings.
 - 1) Slope plumbing drain piping with a minimum of 1/4-inch per foot downward in the direction of flow.
 - 2. Install exposed piping after installing equipment and after piping and fitting locations have been determined.
 - 3. Support piping as indicated on Drawings and according to specifications:
 - a. Do not transfer pipe loads and strain to equipment.
 - 4. In addition to the joints indicated on the Drawings, provide unions, flexible couplings, flanged joints, flanged coupling adapters, and other types of joints or means which are compatible with and suitable for the piping system, and necessary to allow ready assembly and disassembly of the piping.
 - 5. Assemble piping without distortion or stresses caused by misalignment:
 - a. Match and properly orient flanges, unions, flexible couplings, and other connections.
 - b. Do not subject piping to bending or other undue stresses when fitting piping.

- c. Do not correct defective orientation or alignment by distorting flanged joints or subjecting flange bolts to bending or other undue stresses.
 - d. Flange bolts, union halves, flexible connectors, and other connection elements shall slip freely into place.
 - e. Alter piping assembly to fit when proper fit is not obtained.
 - f. Install eccentric reducers or increasers with the top horizontal for pump suction piping.
- C. Restraining above ground piping:
 - 1. Restrain piping at valves and at fittings where piping changes direction, changes sizes, and at ends:
 - a. When piping is aboveground or underwater, use mechanical or structural restraints.
 - b. Determine thrust forces by multiplying the nominal cross-sectional area of the piping by design test pressure of the piping.
 - 2. Provide restraints with ample size to withstand thrust forces resulting from test pressures:
 - c. During testing, provide suitable temporary restraints where piping does not require permanent restraints.
- D. Connections to existing piping:
 - 1. Expose existing piping to which connections are to be made with sufficient time to permit, where necessary, field adjustments in line, grade, or fittings:
 - a. Protect domestic water/potable water supplies from contamination:
 - 1) Make connections between domestic water supply and other water systems in accordance with requirements of public health authorities.
 - 2) Provide devices approved by Owner of domestic water supply system to prevent flow from other sources into the domestic supply system.
 - 2. Make connections to existing piping and valves after sections of new piping to be connected have been tested and found satisfactory.
 - 3. Provide sleeves, flanges, nipples, couplings, adapters, and other fittings needed to install or attach new fittings to existing piping and to make connections to existing piping.
 - 4. For flanged connections, provide stainless steel bolts with isolation bushings and washers, and full-face flange gaskets.
- E. Connections between ferrous and nonferrous metals:
 - 1. Connect ferrous and nonferrous metal piping, tubing, and fittings with dielectric couplings especially designed for the prevention of chemical reactions between dissimilar metals.
 - 2. Nonferrous metals include aluminum, copper, and copper alloys.
- F. Flanged connections between dissimilar metals such as ductile iron pipe and steel pipe:
 - 1. Provide stainless steel bolts with isolation bushings and washers, and full-face flange gaskets.

3.02 CLEANING

- A. Piping cleaning:
 - 1. Upon completion of installation, clean piping interior of foreign matter and debris.
 - 2. Perform special cleaning when required by the Contract Documents.
- B. Conduct pressure and leak test, as indicated on the Drawings.

END OF SECTION

SECTION 15121

PIPE COUPLINGS

PART 1 GENERAL

1.01 SUMMARY

- A. Section includes:
 - 1. Pipe couplings for ductile iron piping.
 - 2. Pipe couplings for carbon steel piping.
 - 3. Pipe couplings for stainless steel piping.

1.02 REFERENCES

- A. American National Standards Institute (ANSI).
- B. American Society of Mechanical Engineers (ASME):
 - 1. B31.1 - Power Piping.
 - 2. B31.9 - Building Services Piping.
- C. American Water Works Association (AWWA):
 - 1. C111 - Standard for Rubber-Gasket Joints for Ductile-Iron Pressure Pipe and Fittings.
 - 2. C207 - Standard for Steel Pipe Flanges for Waterworks Service - Sizes 4 Inches Through 144 Inches.
 - 3. C213 - Standard for Fusion-Bonded Epoxy Coatings and Linings for Steel Water Pipe and Fittings.
 - 4. C606 - Standard for Grooved and Shouldered Joints.
- D. ASTM International (ASTM):
 - 1. A36 - Standard Specification for Carbon Structural Steel.
 - 2. A53 - Standard Specification for Pipe, Steel, Black and Hot-Dipped, Zinc-Coated, Welded and Seamless.
 - 3. A193 - Standard Specification for Alloy Steel and Stainless Steel Bolting Materials for High Temperature or High Pressure Service and Other Special Purpose Applications.
 - 4. A351 - Standard Specification for Castings, Austenitic, for Pressure-Containing Parts.
 - 5. A449 - Standard Specification for Hex Cap Screws, Bolts and Studs, Steel, Heat Treated, 120/105/9 ksi Minimum Tensile Strength, General Use.
 - 6. A536 - Standard Specification for Ductile Iron Castings.
 - 7. A563 - Standard Specification for Carbon and Alloy Steel Nuts.
 - 8. A576 - Standard Specification for Steel Bars, Carbon, Hot-Wrought, Special Quality.
 - 9. C425 - Standard Specification for Compression Joints for Vitrified Clay Pipe and Fittings.
 - 10. C443 - Standard Specification for Joints for Concrete Pipe and Manholes, Using Rubber Gaskets.

11. C564 - Standard Specification for Rubber Gasket for Cast Iron Pipe and Fittings.
12. C1173 - Standard Specification for Flexible Transition Couplings for Underground Piping Systems.
13. D1869 - Standard Specification for Rubber Rings for Asbestos-Cement Pipe.
14. D2000 - Standard Classification System for Rubber Products in Automotive Applications.
15. D5926 - Standard Specification for Poly (Vinyl Chloride) (PVC) Gaskets for Drain, Waste, and Vent (DWV), Sewer, Sanitary, and Storm Plumbing Systems.
16. F593 - Standard Specification for Stainless Steel Bolts, Hex Cap Screws, and Studs.
17. F594 - Standard Specification for Stainless Steel Nuts.
18. F3125 - Standard Specification for High Strength Structural Bolts, Steel and Alloy Steel, Heat Treated, 120 ksi and 150 ksi Minimum Tensile Strength.

E. NSF International (NSF):

1. 61 - Drinking Water System Components - Health Effects.
2. 372 - Drinking Water System Components - Lead Content.

1.03 SUBMITTALS

- A. Submit as specified in Section 01330 - Submittal Procedures.
- B. Product data:
 1. For each product in this Section as applicable:
 - a. Design features.
 - b. Load capacities.
 - c. Material designations by UNS alloy number or ASTM Specification and Grade.
 - d. Data needed to verify compliance with the Specifications.
 - e. Catalog data.
 - f. Clearly mark submittal information to show specific items, materials, and accessories or options being furnished.
- C. Calculations:
 1. Provide calculations in accordance with NSF 372 for materials in contact with drinking water.

1.04 WARRANTY

- A. Provide warranty as specified in Section 01783 - Warranties and Bonds.

PART 2 PRODUCTS

2.01 GENERAL

- A. As specified in Section 01600 - Product Requirements:
 1. Materials in contact with drinking waters: In accordance with NSF 61 and NSF 372.

- B. Known acceptable manufacturers are listed by specific products.
- C. Provide references as specified in this Section by specific product.
- D. Manufacturer's representatives requirements as specified this Section by specific product.
- E. Gaskets for flexible couplings and flanged coupling adapters:
 - 1. Provide gasket materials for piping applications as follows:
 - a. Low-pressure and high-pressure air, steam, hot water: EPDM.
 - b. All other piping applications: Buna-N.

2.02 PIPE COUPLINGS FOR CARBON STEEL PIPING

- A. Flexible couplings:
 - 1. Manufacturers:
 - a. Smith-Blair, Inc., Series 411.
 - 2. Materials:
 - a. Center sleeve and follower flanges: Ductile iron or low carbon steel having a minimum yield strength of 30,000 pounds per square inch.
 - b. Bolts and hex nuts:
 - 1) Aboveground: High strength, low alloy steel in accordance with AWWA C111.
 - 2) Buried and underwater: Type 316 stainless steel bolts in accordance with ASTM F593.
 - 3. Coating and lining: Manufacturer's standard fusion bonded epoxy, NSF 61 certified.
 - 4. Center sleeve dimensions: Provide center sleeves with lengths in accordance with following table:

Nominal Pipe Diameter	Sleeve Length
2-1/2 inch and smaller	Manufacturer's standard
3 inch through 6 inch	7 inch
8 inch through 14 inch	7 inch
Greater than 14 inches	10 inch

PART 3 EXECUTION

3.01 INSTALLATION

- A. In underground and underwater installations, coat the exterior of coupling with a protective coating in accordance with manufacturer's instructions.
- B. Joints and flexible connections shall be installed centered with no angular deflection unless otherwise indicated on the Drawings.

- C. Flexible couplings and flange coupling adapters: Install with gap between pipe ends in accordance with the following table unless a greater gap is indicated on the Drawings. Maximum gap tolerance shall be within 1/8 inch.
1. Install flexible coupling with pipe gap located in middle of center sleeve.
 2. Install flanged coupling adapter with end of plain end pipe in middle of flanged coupling body.

Center Ring Length	Gap Dimension and Tolerance
4 inch through 6 inch	3/8 inch
7 inch	5/8 inch
10 inch and greater	7/8 inch

- D. Provide harnesses (tie-downs) for flexible couplings unless otherwise indicated on the Drawings with a written note.
1. Design harnesses (tie-downs) for the test pressures indicated on the Drawings.
- E. Bolted, split-sleeve couplings:
1. Inspect each coupling to ensure that there are no damaged portions of the coupling.
 - a. Pay particular attention to the sealing pad/sealing plate area.
 - b. Before installation, thoroughly clean each coupling of any foreign substance which may have collected thereon and shall be kept clean at all time.
 2. Wrenches:
 - a. Conform to manufacturer instructions.
 - b. Bolts and studs shall be tightened so as to secure a uniform gasket compression between the coupling and the body of the pipe with all bolts or studs tightened approximately the same amount.
 - c. Final tightening shall be done by hand (no air impact wrenches) and is complete when the coupling is in uniform contact with the outside surface of the pipe all around the circumference of the pipe.
 3. No joint shall be misfit in any plane.
 4. On the fixed ends of bolted, split-sleeve couplings, the shoulders shall bear on the restraint rings all around with no visible gap.
 5. Ends of piping where coupler are installed shall be smooth and free of defects.
 - a. Remove weld splatter and grind smooth.
 - b. Grind pipe seam welds flush with pipe wall and smooth.

END OF SECTION

Plot Date: 10-JUL-2023 9:53:40 AM

User: HGarcia

Model: Layout1 ColorTable: gshade.ctb DesignScript: Carollo Std Pen_v0905.pen PlotScale: 1:1

tumadhay



CITY OF ROSEVILLE

BARTON ROAD WATER TREATMENT PLANT EAST APPLIED PIPELINE PROJECT



VICINITY MAP

BID SUBMITTAL
JUNE 2023

VOLUME 2 OF 2

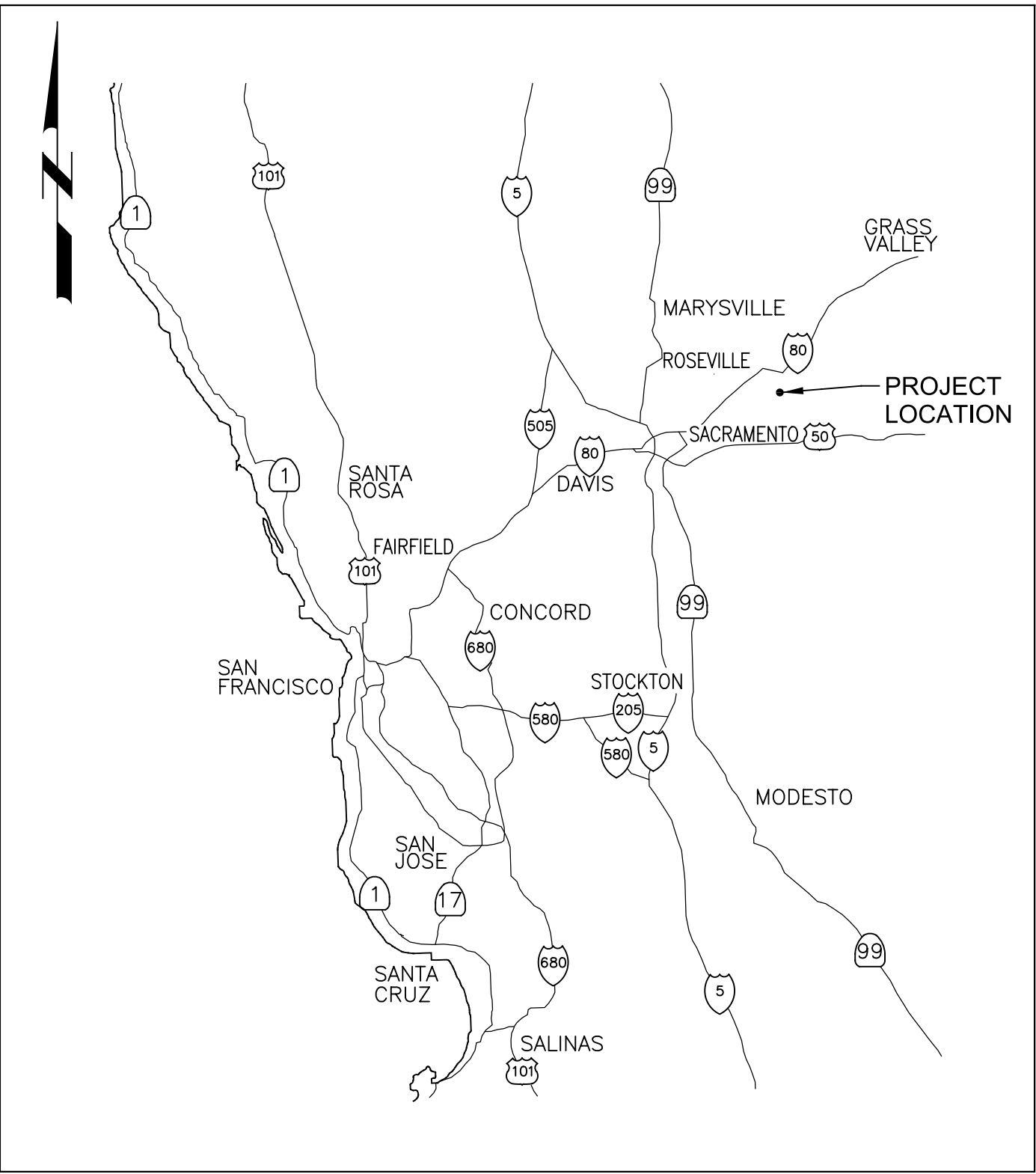
Felicia L. James



APPROVAL
RECOMMENDED BY: *Jonathan Cummings* DATE: 7-10-2023
JONATHAN CUMMINGS
ASSOCIATE ENGINEER
DEPARTMENT OF ENVIRONMENTAL UTILITIES
CITY OF ROSEVILLE

APPROVED BY: *Sean Bigley* DATE: 7-19-2023
SEAN BIGLEY
ASSISTANT ENVIRONMENTAL UTILITIES DIRECTOR
ENVIRONMENTAL UTILITIES - WATER UTILITY & GOVERNMENT RELATIONS
CITY OF ROSEVILLE

SUBMITTED BY: *Felicia L. James* DATE: 7-10-2023
FELICIA JAMES, P.E.
PROJECT MANAGER
CAROLLO ENGINEERS, INC.



LOCATION MAP



[illegible]

Plot Date: 06-JUL-2023 4:37:30 PM

User: HGarcia

Model: Layout1 ColorTable: gshade.ctb DesignScript: Carollo Std Pen_v0905.pen PlotScale: 1:1

LAST SAVED BY: tumadhy



1 PHOTO
02S01 SCALE: NO SCALE
FILE: 20110502D01A



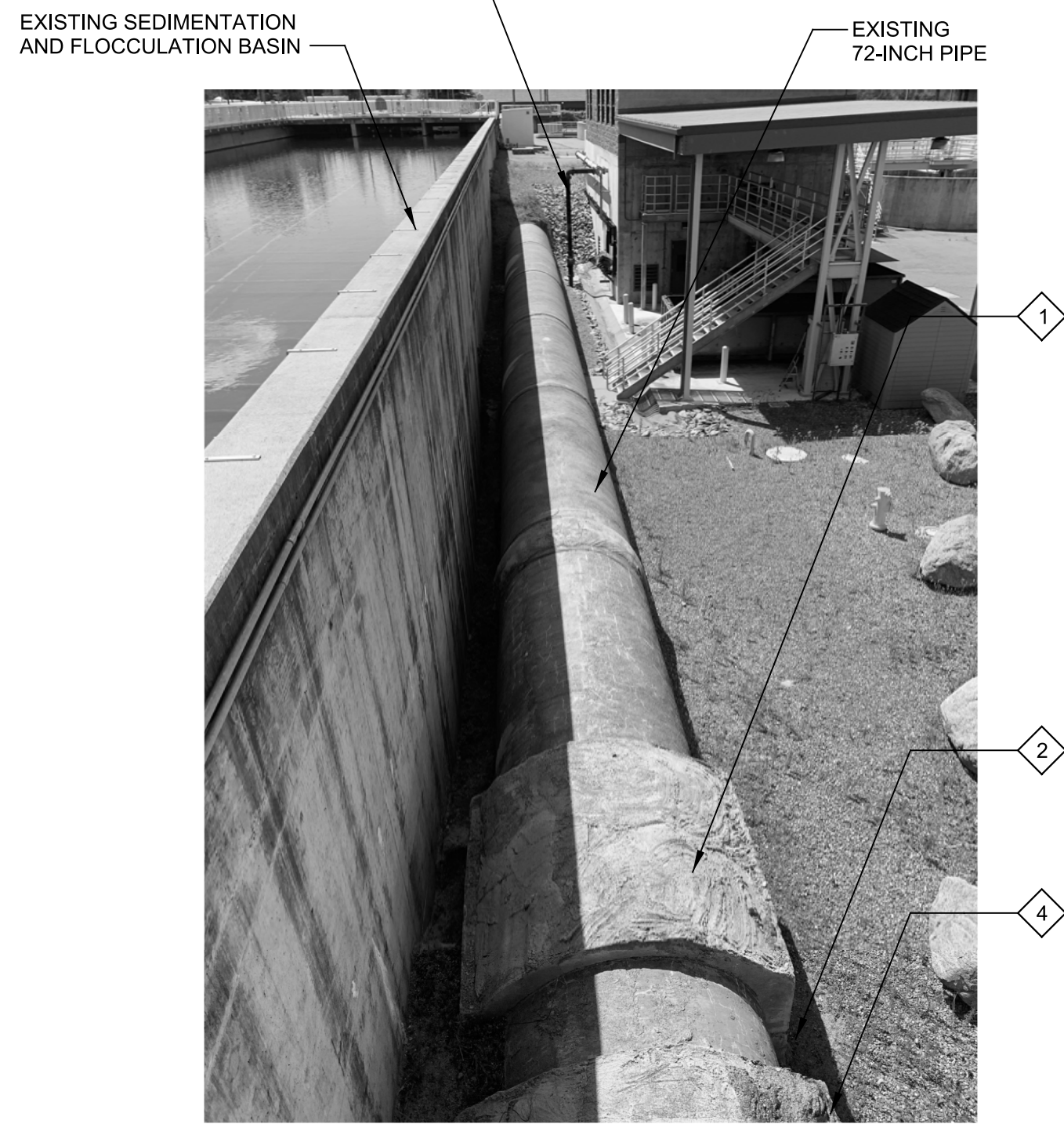
2 PHOTO
02S01 SCALE: NO SCALE
FILE: 20110502D01B

GENERAL NOTES:

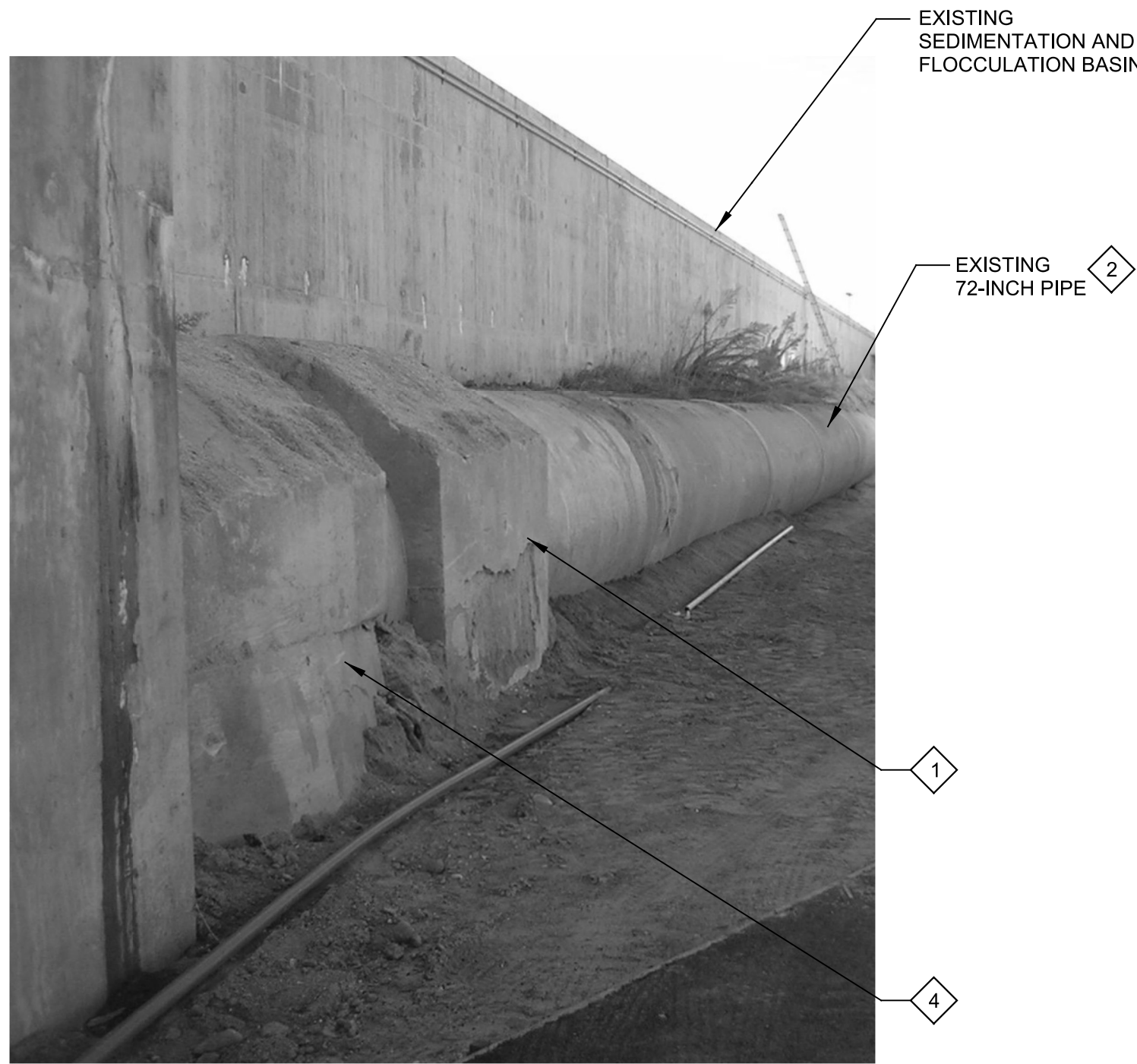
- CONTRACTOR TO FIELD VERIFY EXISTING CONDITIONS AND ALL DIMENSIONS PRIOR TO STARTING ANY DEMOLITION OR NEW WORK.

KEY NOTES:

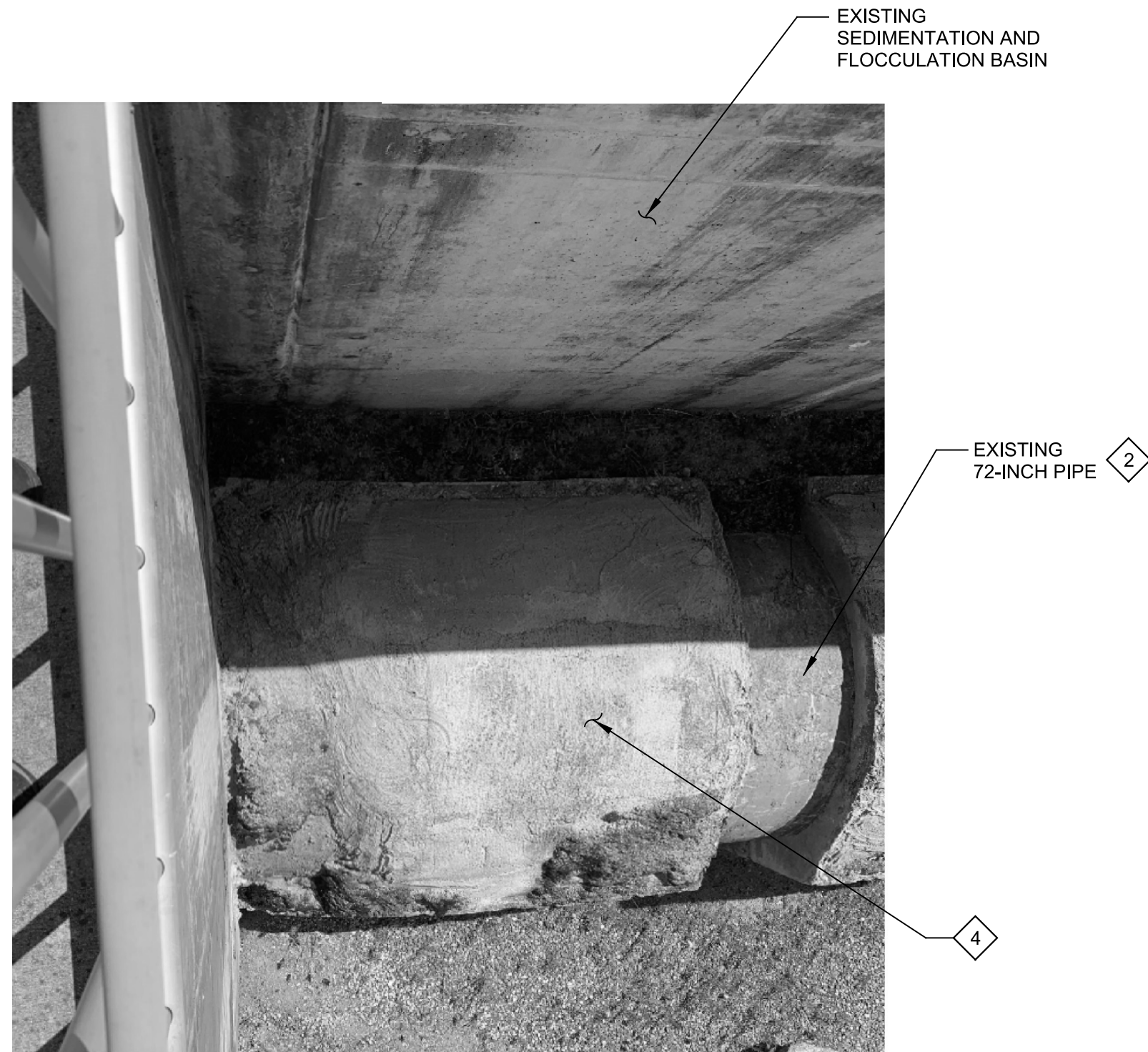
- EXISTING CONCRETE COLLAR TO BE REMOVED BY CONTRACTOR. USE HAND-HELD CHIPPING EQUIPMENT TO AVOID DAMAGE TO ANCHOR LUGS TO REMAIN.
- EXCAVATE AROUND THE EXISTING PIPE AS REQUIRED TO INSTALL THE NEW PIPE SUPPORTS, CANOPY SUPPORTS, AND TO EXPOSE THE EXISTING PIPE SUPPORT FOOTING. PER RECORD DRAWINGS, THE TOP OF THE CONCRETE FOR THE PIPE SUPPORT FOOTING IS AT ELEVATION 384.5+/- AND THE EXISTING FINISHED GRADE IS AT ELEVATION 388.0+/-, SEE STRUCTURAL DRAWINGS FOR ADDITIONAL DETAILS.
- POTENTIAL CONFLICT BETWEEN EXISTING PIPE AND NEW CANOPY METAL DECK. SEE KEY NOTE 1 ON DRAWING 2S02.
- CONTRACTOR TO SAWCUT CONCRETE COLLAR 1/2-INCH DEEP FOR THE PERIMETER OF THE PIPE, 18-INCHES FROM THE WALL. THIS PIECE OF CONCRETE COLLAR TO REMAIN IN PLACE. REMOVE REMAINING EXISTING CONCRETE COLLAR TO COMPLETELY EXPOSE THE TIE RODS, FLEXIBLE COUPLING AND ANCHOR LUGS. USE HAND-HELD CHIPPING EQUIPMENT TO AVOID DAMAGE TO ANCHOR LUGS TO REMAIN.



3 PHOTO
02S01 02GC03 SCALE: NO SCALE
FILE: 20110502D01C



4 PHOTO
02GC03 SCALE: NO SCALE
FILE: 20110502D01D



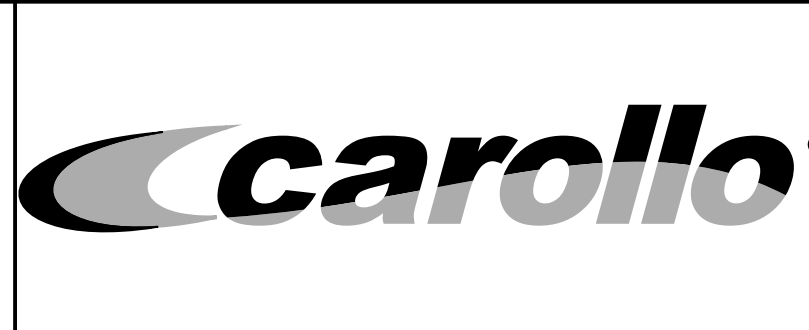
5 PHOTO
02GC03 SCALE: NO SCALE
FILE: 20110502D01E

REV	DATE	BY	DESCRIPTION

DESIGNED	IKC
DRAWN	TU
CHECKED	EQ
DATE	JUNE 2023



Digitally signed by Edgardo Quiroz
Contact info: Carollo Engineers, Inc.
Date: 2023.07.06 08:49:26-0700



CITY OF ROSEVILLE
BARTON ROAD WATER TREATMENT PLANT
EAST APPLIED PIPELINE PROJECT
DEMOLITION
DEMOLITION PHOTOS

VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

JOB NO.	201105
DRAWING NO.	02D01
SHEET NO.	5 OF 13

Plot Date: 06-JUN-2023 11:48:11 AM

User: svcPW

PlotScale: 1:1

Model: Layout1 ColorTable: gshade.ctb DesignScript: Carollo Std Pen_v0905.pen

LAST SAVED BY: lumadhay



GENERAL NOTES:

1. CONTRACTOR TO FIELD VERIFY EXISTING CONDITIONS AND ALL DIMENSIONS PRIOR TO STARTING ANY DEMOLITION OR NEW WORK.

KEY NOTES:

1. APPROXIMATE LOCATION OF CONTRACTOR'S STAGING AREA. MAINTAIN 5 FEET BETWEEN THE STAGING AREA AND THE EXISTING SEDIMENTATION AND FLOCCULATION BASINS. EXISTING SLOPES WITHIN THE STAGING AREA MAY REDUCE USABLE SPACE AVAILABLE WITHIN THE DELINEATED BOUNDARY.

MECHANICAL DEWATERING BUILDING
72-INCH EAST APPLIED PIPELINE
SEDIMENTATION AND FLOCCULATION BASINS

1

A

PLAN

SCALE: NO SCALE
FILE: 20110500GC01A

REV	DATE	BY	DESCRIPTION

DESIGNED FJ
DRAWN TU
CHECKED EQ
DATE JUNE 2023



Digitally signed by Felicia L. James
Contact info: Carollo Engineers, Inc.
Date: 2023.06.19 13:59:26-0700
Felicia L. James



CITY OF ROSEVILLE
BARTON ROAD WATER TREATMENT PLANT
EAST APPLIED PIPELINE PROJECT
CIVIL
OVERALL EXISTING SITE PLAN

VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

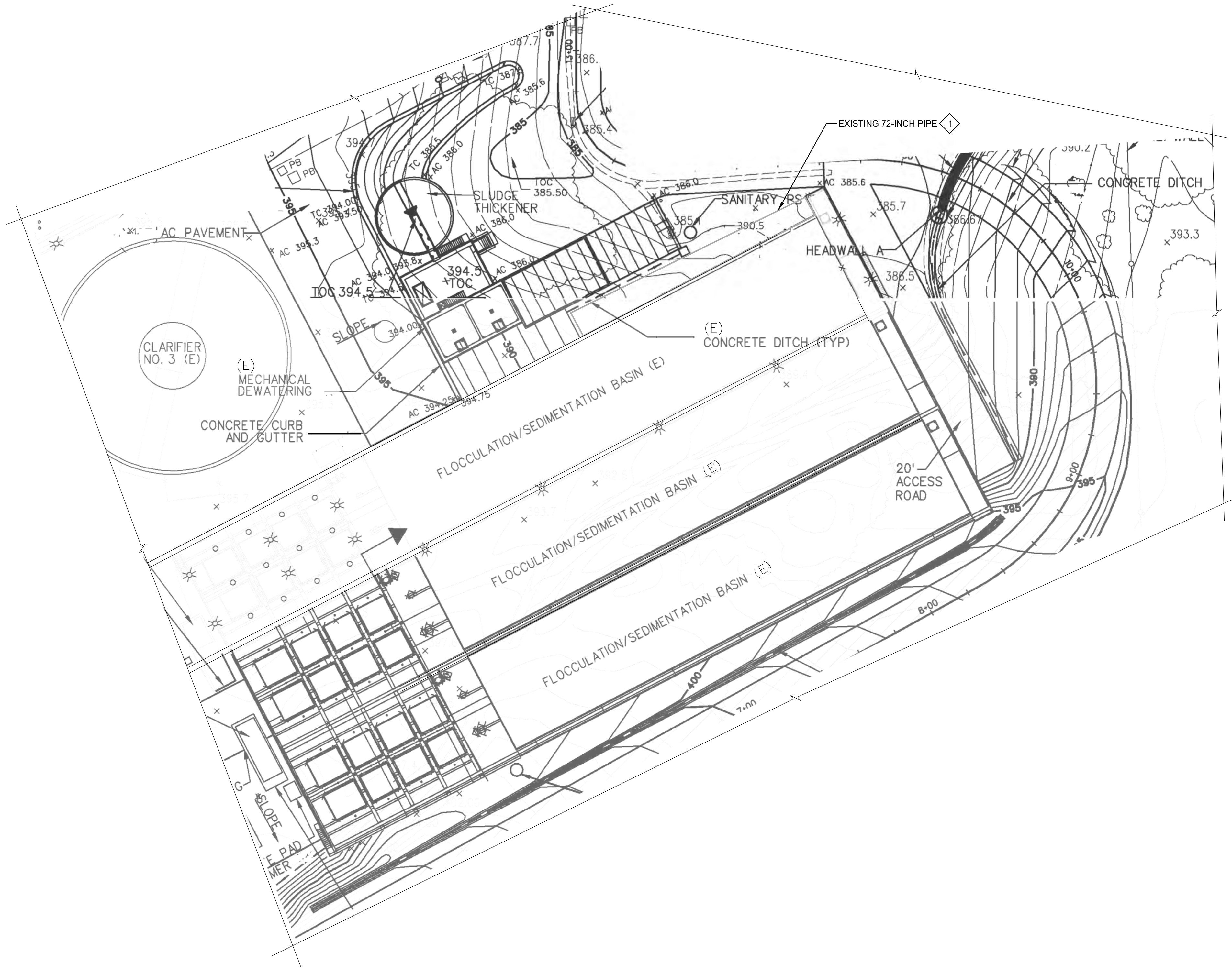
JOB NO. 201105
DRAWING NO. 00GC01
SHEET NO. 6 OF 13

Plot Date: 06-JUN-2023 11:48:21 AM

User: svcPW

Model: Layout1 ColorTable: gshade.ctb DesignScript: Carollo Std Pen_v0905.pen PlotScale: 1:1

LAST SAVED BY: lumadhay



GENERAL NOTES:

- PLANS HEREIN HAVE BEEN PRODUCED BY SCANNING RECORD DRAWING OR SITE PHOTOS OF EXISTING ELEMENTS. A FIELD VERIFICATION WAS PERFORMED AND MAJOR DEVIATIONS HAVE BEEN NOTED. CONTRACTOR SHALL FIELD VERIFY SITE CONDITIONS PRIOR TO STARTING ANY DEMOLITION OR NEW WORK.

KEY NOTES:

- EXCAVATE AROUND THE EXISTING PIPE AS REQUIRED TO INSTALL THE NEW PIPE SUPPORTS, CANOPY SUPPORTS, AND TO EXPOSE THE EXISTING PIPE SUPPORT FOOTING, PER RECORD DRAWINGS. THE TOP OF THE CONCRETE FOR THE PIPE SUPPORT FOOTING IS AT ELEVATION 384.5+/- AND THE EXISTING FINISHED GRADE IS AT ELEVATION 388.0+/-, SEE STRUCTURAL DRAWINGS FOR ADDITIONAL DETAILS.

B PLAN
SCALE: NO SCALE
FILE: 201105GC02A

REV	DATE	BY	DESCRIPTION

DESIGNED FJ
DRAWN TU
CHECKED EQ
DATE JUNE 2023



Digitally signed by Felicia L. James
Contact Info: Carollo Engineers, Inc.
Date: 2023.06.19 13:06:11 -0700
Felicia L. James



CITY OF ROSEVILLE BARTON ROAD WATER TREATMENT PLANT EAST APPLIED PIPELINE PROJECT CIVIL GRADING PLAN
--

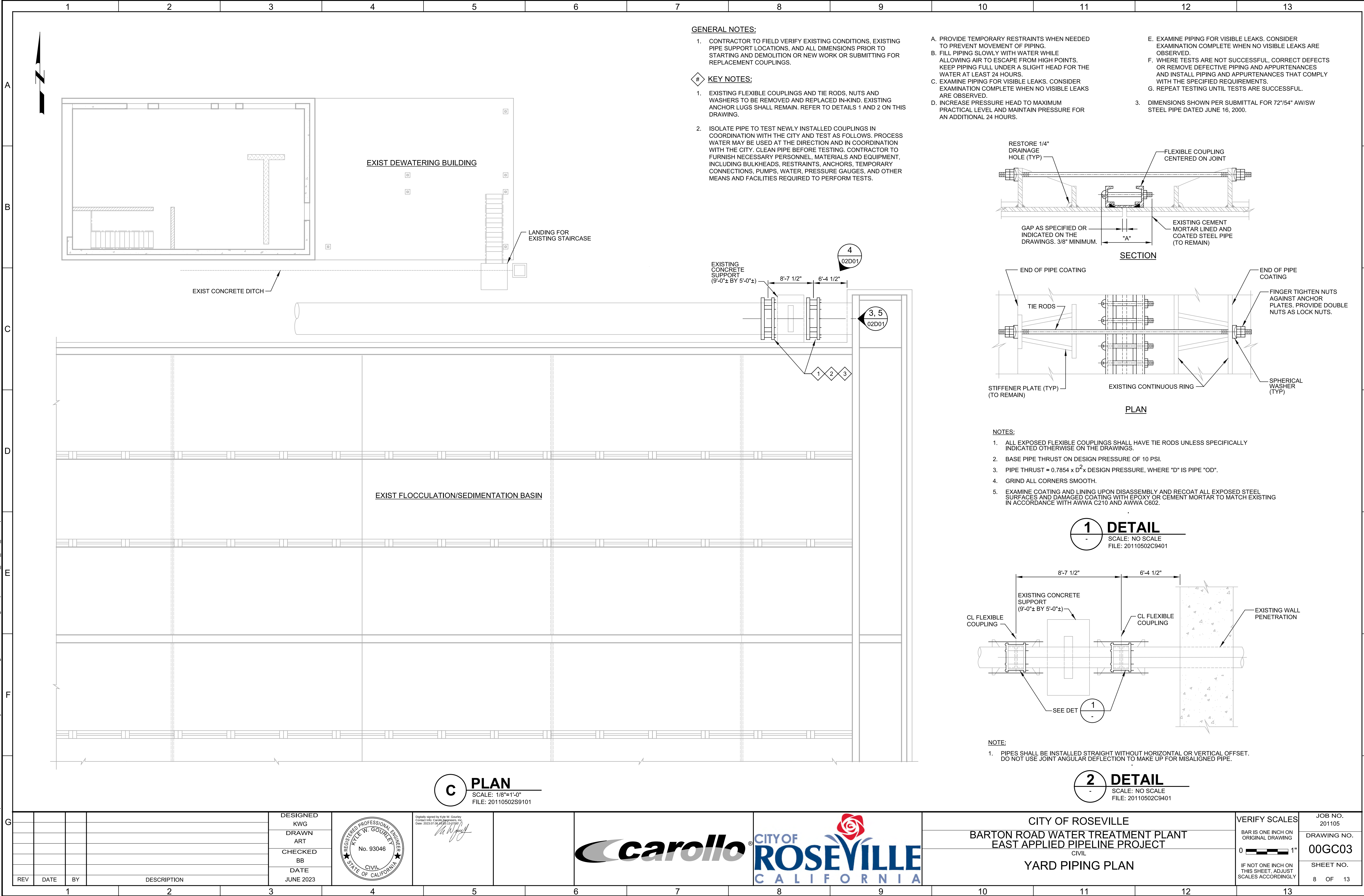
VERIFY SCALES BAR IS ONE INCH ON ORIGINAL DRAWING 0 1" IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY	JOB NO. 201105 DRAWING NO. 00GC02 SHEET NO. 7 OF 13
--	--

Plot Date: 06-JUL-2023 4:02:35 PM

User: HGarcia

Model: Layout1 ColorTable: gshade.ctb DesignScript: Carollo_Std_Pen_v0905.pen PlotScale: 1:1

LAST SAVED BY: tumadhay



GENERAL NOTES:

- CONTRACTOR TO FIELD VERIFY EXISTING CONDITIONS, EXISTING PIPE SUPPORT LOCATIONS, AND ALL DIMENSIONS PRIOR TO STARTING AND DEMOLITION OR NEW WORK OR SUBMITTING FOR REPLACEMENT COUPLINGS.

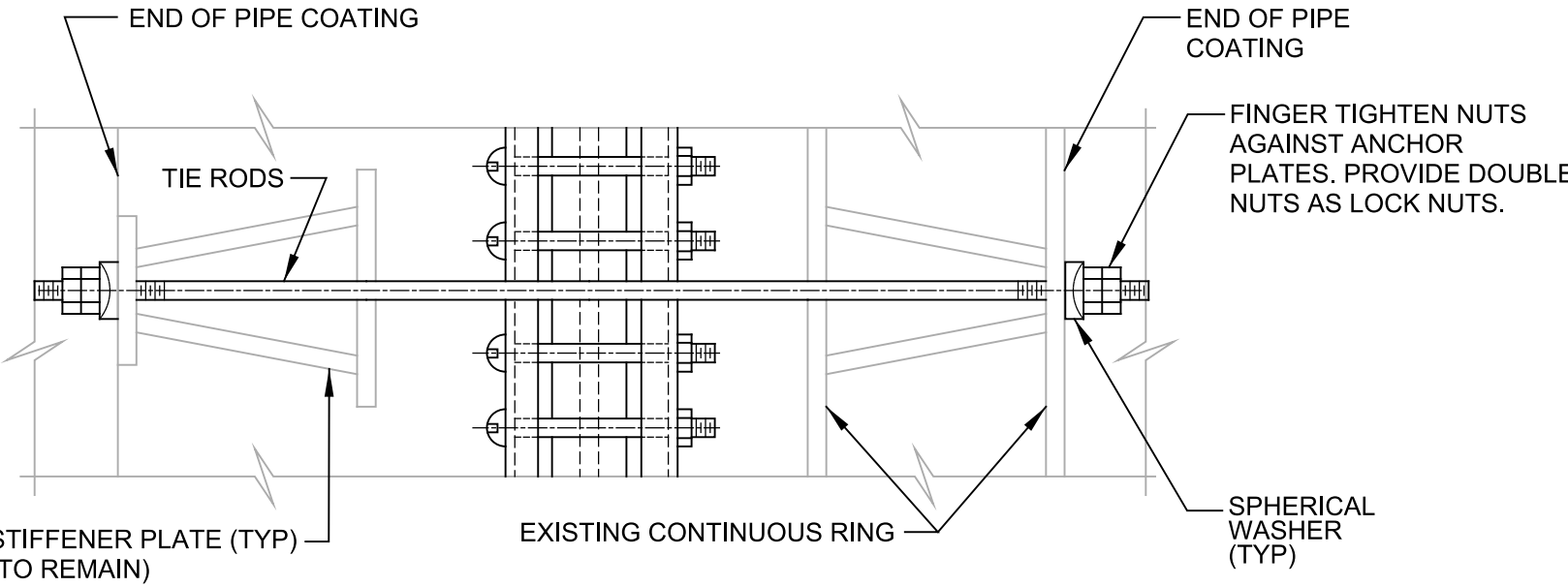
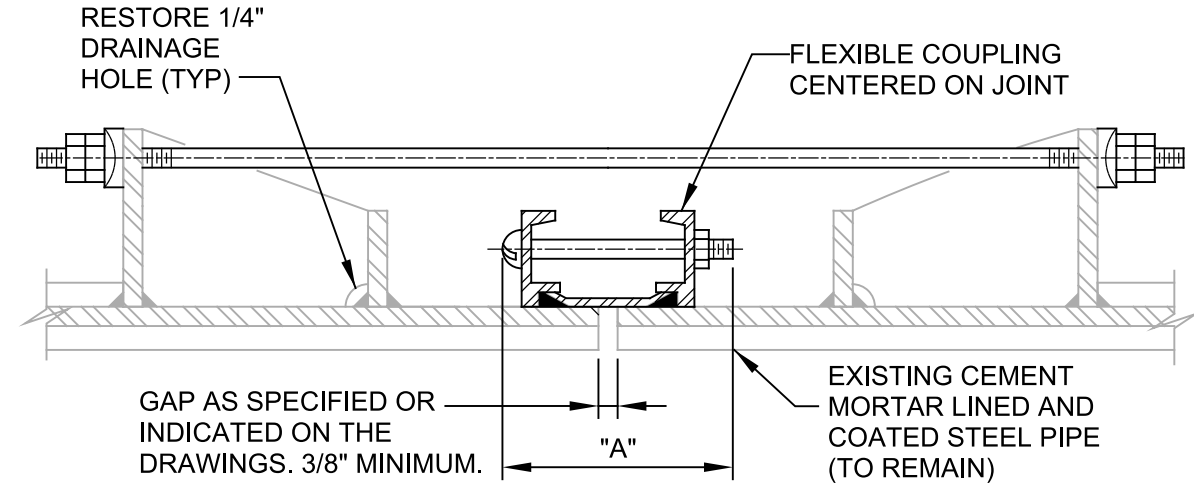
KEY NOTES:

- EXISTING FLEXIBLE COUPLINGS AND TIE RODS, NUTS AND WASHERS TO BE REMOVED AND REPLACED IN-KIND. EXISTING ANCHOR LUGS SHALL REMAIN. REFER TO DETAILS 1 AND 2 ON THIS DRAWING.
- ISOLATE PIPE TO TEST NEWLY INSTALLED COUPLINGS IN COORDINATION WITH THE CITY AND TEST AS FOLLOWS. PROCESS WATER MAY BE USED AT THE DIRECTION AND IN COORDINATION WITH THE CITY. CLEAN PIPE BEFORE TESTING. CONTRACTOR TO FURNISH NECESSARY PERSONNEL, MATERIALS AND EQUIPMENT, INCLUDING BULKHEADS, RESTRAINTS, ANCHORS, TEMPORARY CONNECTIONS, PUMPS, WATER, PRESSURE GAUGES, AND OTHER MEANS AND FACILITIES REQUIRED TO PERFORM TESTS.

- PROVIDE TEMPORARY RESTRAINTS WHEN NEEDED TO PREVENT MOVEMENT OF PIPING.
- FILL PIPING SLOWLY WITH WATER WHILE ALLOWING AIR TO ESCAPE FROM HIGH POINTS. KEEP PIPING FULL UNDER A SLIGHT HEAD FOR THE WATER AT LEAST 24 HOURS.
- EXAMINE PIPING FOR VISIBLE LEAKS. CONSIDER EXAMINATION COMPLETE WHEN NO VISIBLE LEAKS ARE OBSERVED.
- INCREASE PRESSURE HEAD TO MAXIMUM PRACTICAL LEVEL AND MAINTAIN PRESSURE FOR AN ADDITIONAL 24 HOURS.

- EXAMINE PIPING FOR VISIBLE LEAKS. CONSIDER EXAMINATION COMPLETE WHEN NO VISIBLE LEAKS ARE OBSERVED.
- WHERE TESTS ARE NOT SUCCESSFUL, CORRECT DEFECTS OR REMOVE DEFECTIVE PIPING AND APPURTENANCES AND INSTALL PIPING AND APPURTENANCES THAT COMPLY WITH THE SPECIFIED REQUIREMENTS.
- REPEAT TESTING UNTIL TESTS ARE SUCCESSFUL.

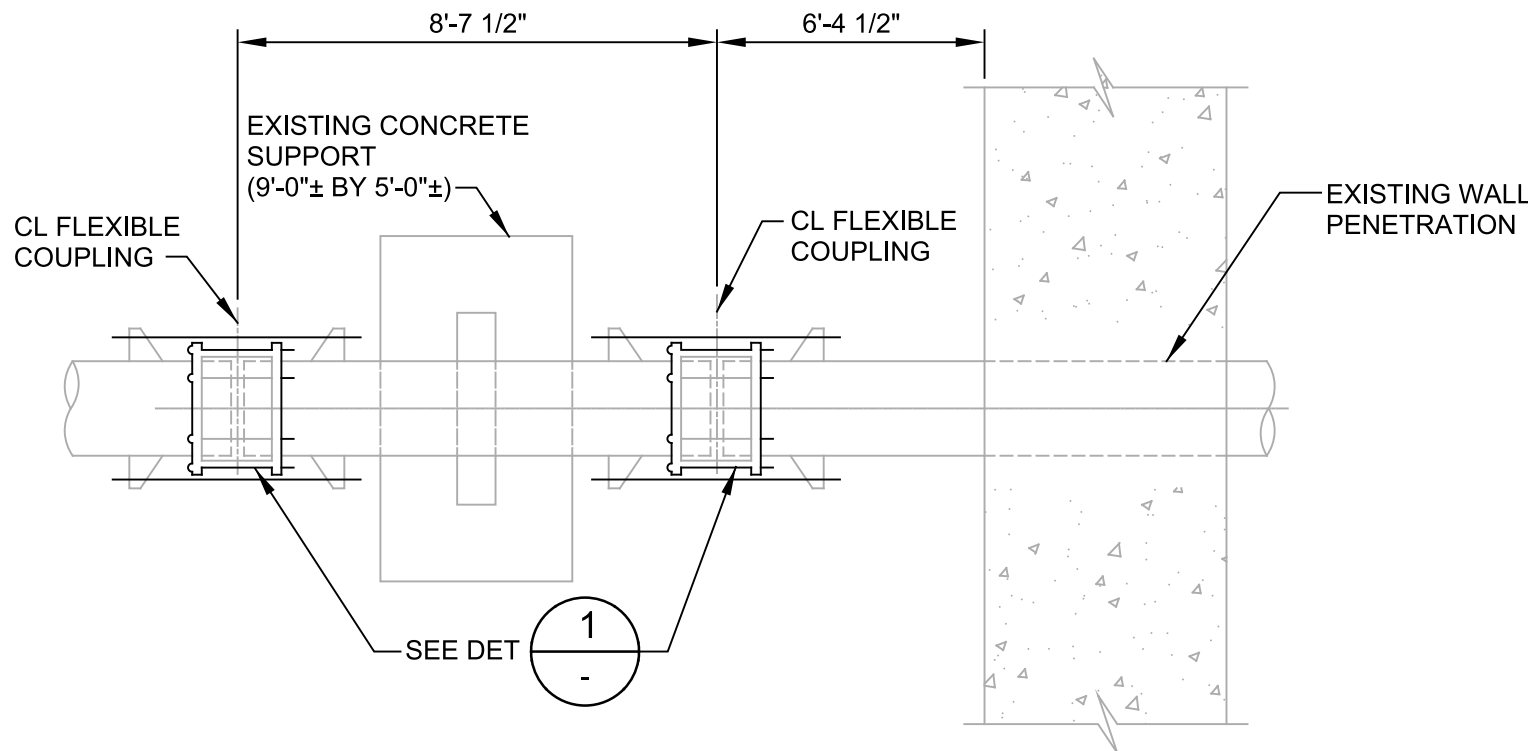
- DIMENSIONS SHOWN PER SUBMITTAL FOR 72"x54" AW/SW STEEL PIPE DATED JUNE 16, 2000.



NOTES:

- ALL EXPOSED FLEXIBLE COUPLINGS SHALL HAVE TIE RODS UNLESS SPECIFICALLY INDICATED OTHERWISE ON THE DRAWINGS.
- BASE PIPE THRUST ON DESIGN PRESSURE OF 10 PSI.
- PIPE THRUST = $0.7854 \times D^2 \times \text{DESIGN PRESSURE}$, WHERE "D" IS PIPE "OD".
- GRIND ALL CORNERS SMOOTH.
- EXAMINE COATING AND LINING UPON DISASSEMBLY AND RECOAT ALL EXPOSED STEEL SURFACES AND DAMAGED COATING WITH EPOXY OR CEMENT MORTAR TO MATCH EXISTING IN ACCORDANCE WITH AWWA C210 AND AWWA C602.

1 DETAIL
SCALE: NO SCALE
FILE: 20110502C9401



NOTE:

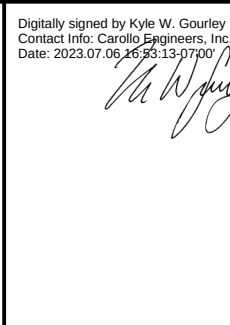
- PIPES SHALL BE INSTALLED STRAIGHT WITHOUT HORIZONTAL OR VERTICAL OFFSET. DO NOT USE JOINT ANGULAR DEFLECTION TO MAKE UP FOR MISALIGNED PIPE.

2 DETAIL
SCALE: NO SCALE
FILE: 20110502C9401

C PLAN
SCALE: 1/8"=1'-0"
FILE: 20110502S9101

REV	DATE	BY	DESCRIPTION

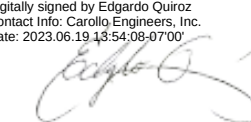
DESIGNED	KWG
DRAWN	ART
CHECKED	BB
DATE	JUNE 2023



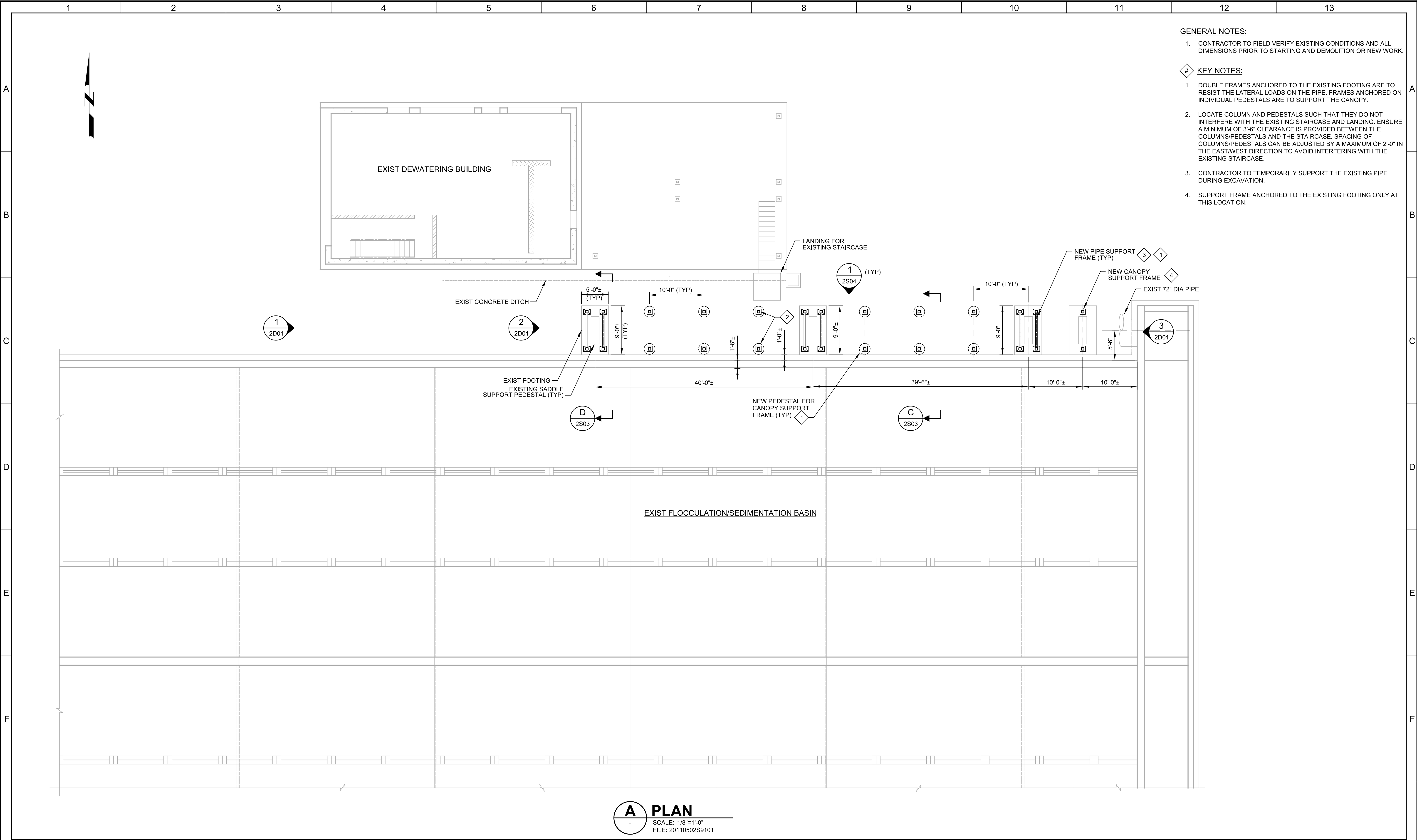
CITY OF ROSEVILLE
BARTON ROAD WATER TREATMENT PLANT
EAST APPLIED PIPELINE PROJECT
CIVIL
YARD PIPING PLAN

VERIFY SCALES	JOB NO. 201105
BAR IS ONE INCH ON ORIGINAL DRAWING	DRAWING NO. 00GC03
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY	SHEET NO. 8 OF 13

Plot Date: 06-JUN-2023 11:41:28 AM User: svcPW Model: Layout1 ColorTable: gshade.ctb DesignScript: Carollo Std Pen_v0905.pen PlotScale: 1:1 LAST SAVED BY: tumadhay

	1	2	3	4	5	6	7	8	9	10	11	12	13																																														
A	GENERAL NOTES: 1. USE STRUCTURAL DRAWINGS IN CONJUNCTION WITH PROJECT DRAWINGS BY OTHER DISCIPLINES AND WITH THE SPECIFICATIONS. 2. UNLESS DETAILED, SPECIFIED, OR INDICATED OTHERWISE, CONSTRUCTION SHALL BE AS INDICATED IN THE GENERAL NOTES AND TYPICAL DETAILS. 3. PRESENTATION CONVENTIONS FOR STRUCTURAL DRAWINGS: A. SCREENED LINE WORK INDICATES EXISTING CONDITIONS. B. WRITTEN DIMENSIONS TAKE PRECEDENCE OVER SCALED SIZES. C. PLANS ARE TREATED AS HORIZONTAL SECTIONS. (I.E.: "PLAN AT ELEVATION 110" SHOWS CONSTRUCTION AT AND BELOW ELEVATION 110.) 4. VERIFY DIMENSIONS AND CONDITIONS BEFORE BEGINNING WORK. ADVISE ENGINEER IMMEDIATELY OF DISCREPANCIES BETWEEN EXISTING CONDITIONS AND DIMENSIONS, AND INFORMATION SHOWN ON THESE DRAWINGS.			GEOTECHNICAL REPORT / FOUNDATION DESIGN CRITERIA: 1. GEOTECHNICAL INVESTIGATION REPORT: TITLE: BARTON ROAD WATER TREATMENT PLANT CONDITION ASSESSMENT. PREPARED BY: CRAWFORD & ASSOCIATES. REPORT NO: 21-727.1 DATED: OCTOBER 2021. 2. FOUNDATION DESIGNS ARE BASED ON RECOMMENDATIONS IN THE GEOTECHNICAL INVESTIGATION REPORT. A. NET ALLOWABLE BEARING PRESSURE: 4000 POUNDS PER SQUARE FEET. TYPICAL STRUCTURAL MATERIALS: 1. MATERIALS SHALL CONFORM TO THE FOLLOWING REQUIREMENTS UNLESS OTHERWISE INDICATED ON THE DRAWINGS. 2. SEE PROJECT SPECIFICATIONS AND NOTES ON DRAWINGS OF SPECIFIC STRUCTURES FOR DETAILED AND LOCATION-SPECIFIC REQUIREMENTS. <u>STRUCTURAL STEEL:</u> 1. SECTIONS A. SHAPES W, WT: ASTM A 992 (Fy = 50 KSI) B. SHAPES S, ST, M, MT, HP, C, MC, L: ASTM A 36 (Fy = 36 KSI) C. PLATES AND BARS: ASTM A 36 (Fy = 36 KSI) D. PIPES: ASTM A 53, GRADE B (Fy = 35 KSI) E. HOLLOW STRUCTURAL SECTIONS: ROUND: ASTM A 500, GRADE B (Fy = 42 KSI) SQUARE AND RECTANGULAR: ASTM A 500, GRADE B (Fy = 46 KSI) 2. CONNECTIONS: A. BOLTS - STEEL TO STEEL: ASTM F 3125 GRADE A325 HIGH-STRENGTH BOLTS, WITH LOAD INDICATOR WASHERS. B. BOLTS - STEEL TO CONCRETE OR MASONRY: ANCHOR BOLTS WITH HEX FORGED HEAD. ASTM F 593, STAINLESS TYPE 316 (304) ASTM F 1554, GRADE 36 GALVANIZED. C. WELDS - SHIELDED METAL ARC PROCESS USING E70-XX ELECTRODES.			CONSTRUCTION: CONFORM TO THE FOLLOWING REQUIREMENTS UNLESS OTHERWISE INDICATED ON THE DRAWINGS. <u>EXCAVATION AND BACKFILLING:</u> 1. EXPOSE AND PREPARE SUBGRADE AS SHOWN ON THE DRAWINGS AND SPECIFIED. OBTAIN ENGINEER'S OBSERVATION OF SUBGRADE SURFACES, AS EXPOSED AND AS PREPARED, BEFORE PROCEEDING WITH FOUNDATION CONSTRUCTION. 2. DO NOT PLACE BACKFILL AGAINST WALLS UNTIL STRUCTURES SUPPORTING THE TOP OF THE WALL ARE IN PLACE, ARE COMPLETE, AND (IN THE CASE OF CONCRETE) HAVE CURED TO THEIR MINIMUM SPECIFIED 28-DAY COMPRESSIVE STRENGTH. 3. WHERE BACKFILL MUST BE PLACED AGAINST WALLS BEFORE STRUCTURES ABOVE ARE COMPLETE, PROVIDE BRACING FOR WALLS. KEEP BRACING IN PLACE UNTIL THE STRUCTURE ABOVE IS COMPLETE AND (IN THE CASE OF CONCRETE) HAS CURED TO ITS MINIMUM SPECIFIED 28-DAY COMPRESSIVE STRENGTH. <u>STEEL, STAINLESS STEEL, AND ALUMINUM - CONNECTIONS:</u> 1. BOLTED: A. MADE USING 3/4-INCH DIAMETER BOLTS. B. HAVING A MINIMUM OF 2 BOLTS, SPACED NOT CLOSER THAN 3 INCHES ON CENTER. C. WITH A DISTANCE OF AT LEAST 1 1/2 INCHES FROM CENTER OF BOLT TO ANY EDGE OF A PLATE OR STRUCTURAL ELEMENT. 2. WELDED: A. FILLET WELDS: PER AWS CODE BASED ON THE THICKNESS OF THE MATERIALS BEING JOINED, AND FULL LENGTH OF THE JOINT. 3. INTERFACE BETWEEN MATERIALS: A. AT BOLTED CONNECTIONS THAT INCLUDE DIFFERENT METALS (E.G.: STEEL AND STAINLESS STEEL, OR ALUMINUM AND STEEL) PROVIDE ISOLATING SLEEVES AND WASHERS AS SPECIFIED IN SECTION 05190. B. WHERE ALUMINUM IS IN CONTACT WITH MASONRY OR CONCRETE, COAT ALUMINUM SURFACES AS SPECIFIED IN SECTION 09960. 4. POST-INSTALLED ANCHORS IN CONCRETE AND MASONRY: A. INSTALL IN FULL COMPLIANCE WITH ACCEPTED BUILDING CODE EVALUATION REPORT AND MANUFACTURER'S INSTRUCTIONS. B. DO NOT CUT, DAMAGE, OR INTERRUPT EXISTING REINFORCEMENT TO INSTALL ANCHORS. USE NON-DESTRUCTIVE TESTING EQUIPMENT TO IDENTIFY LOCATIONS OF REINFORCEMENT IN MEMBERS BEFORE DRILLING HOLES FOR ANCHORS.			SPECIAL INSPECTION: 1. SPECIAL INSPECTION IS REQUIRED FOR THE FOLLOWING STRUCTURAL MATERIALS AND CONSTRUCTION. SEE SPECIFICATION SECTION 01455 FOR DETAILS. 2. DIVISION 2 SITE CONSTRUCTION (EARTHWORK) A. EXCAVATION DEPTH. B. ADEQUACY OF EXPOSED SURFACE TO PROVIDE REQUIRED SUPPORT. C. PREPARATION OF SOILS/SURFACES SUPPORTING CONSTRUCTION. D. FILL AND BACKFILL. 3. DIVISION 5 METALS A. GENERAL ALL METALS: 1) MEMBER LOCATIONS. 2) MEMBER SIZES/TYPES. 3) ANCHORS - CAST-IN AND BUILT-IN ANCHOR BOLTS. 4) ANCHORS - POST-INSTALLED MECHANICAL AND ADHESIVE. B. STRUCTURAL STEEL (CARBON AND STAINLESS). 1) HIGH-STRENGTH BOLTING. 2) WELDING. C. STEEL DECKING. 1) CONNECTIONS TO SUPPORTS. 2) SIDE CONNECTIONS BETWEEN ADJACENT SHEETS.			STRUCTURAL SYMBOLS: 1. SEE DRAWING 00G03 FOR KEY TO DRAWING TITLES AND SECTION CUTS, AND FOR DEFINITION OF MATERIALS SHADING PATTERNS. 2. WELDING: SYMBOLS: IN ACCORDANCE WITH AMERICAN WELDING SOCIETY (AWS) A2.4. STRUCTURAL ABBREVIATIONS: 1. SEE DRAWING 00G04 FOR GENERAL LIST OF ABBREVIATIONS USED ON DRAWINGS. 2. ABBREVIATIONS FOR NAMES OF TECHNICAL GROUPS MAY BE FOUND IN THE PROJECT SPECIFICATIONS. 3. STRUCTURAL MEMBERS: A. STEEL: ABBREVIATIONS AND DESIGNATIONS ARE IN ACCORDANCE WITH THE AMERICAN INSTITUTE OF STEEL CONSTRUCTION'S STEEL CONSTRUCTION MANUAL, CURRENT EDITION. B. ALUMINUM: ABBREVIATIONS AND DESIGNATIONS ARE IN ACCORDANCE WITH THE ALUMINUM ASSOCIATION'S ALUMINUM DESIGN MANUAL, CURRENT EDITION. 4. ABBREVIATIONS FOR STRUCTURAL DRAWINGS: WHEN USED ON THE STRUCTURAL DRAWINGS, THE FOLLOWING ABBREVIATIONS HAVE THE MEANINGS LISTED. <table><tr><td><u>REINFORCEMENT:</u></td><td><u>OTHER:</u></td></tr><tr><td>BO BOTTOM OF</td><td>L ANGLE</td></tr><tr><td>EF EACH FACE</td><td>PL PLATE</td></tr><tr><td>I.F. INSIDE FACE</td><td></td></tr><tr><td>O.F. OUTSIDE FACE</td><td></td></tr><tr><td>T.O. TOP OF</td><td></td></tr><tr><td># NUMBER (REINFORCING BAR SIZE)</td><td></td></tr></table>			<u>REINFORCEMENT:</u>	<u>OTHER:</u>	BO BOTTOM OF	L ANGLE	EF EACH FACE	PL PLATE	I.F. INSIDE FACE		O.F. OUTSIDE FACE		T.O. TOP OF		# NUMBER (REINFORCING BAR SIZE)																															
<u>REINFORCEMENT:</u>	<u>OTHER:</u>																																																										
BO BOTTOM OF	L ANGLE																																																										
EF EACH FACE	PL PLATE																																																										
I.F. INSIDE FACE																																																											
O.F. OUTSIDE FACE																																																											
T.O. TOP OF																																																											
# NUMBER (REINFORCING BAR SIZE)																																																											
B	STRUCTURAL DESIGN CRITERIA - GENERAL: SEE DRAWINGS OF INDIVIDUAL STRUCTURES FOR SPECIFIC DESIGN CRITERIA BASED ON THESE OVERALL CRITERIA FOR THE SITE. 1. <u>BUILDING CODE:</u> A. 2022 CALIFORNIA BUILDING CODE ("CBC 2022") WITH ASCE 7-16. 2. STRUCTURE RISK CATEGORY: SEE PLANS FOR EACH STRUCTURE. 3. <u>DEAD LOADS:</u> CALCULATED FOR STRUCTURE SELF-WEIGHT. 4. <u>LIVE LOADS:</u> A. ROOF LIVE LOAD: 20 PSF. 5. <u>FLUID PRESSURE LOADS:</u> 63 PSF/FT (UNO). 6. <u>WIND DESIGN DATA:</u> A. SPECIAL WIND REGION: NO B. WIND-BORNE DEBRIS REGION: NO C. BASIC WIND SPEED (3 SEC GUST, 33 FEET ABOVE GROUND): 100 MPH. 7. <u>EARTHQUAKE DESIGN DATA:</u> A. SITE CLASS: D B. MAPPED SPECTRAL RESPONSE ACCELERATIONS: Ss = 0.214 g S1 = 0.419 g C. SITE COEFFICIENTS: Fa = 1.465 Fv = 2.183 D. MAXIMUM CONSIDERED ACCELERATIONS:* Sms = 0.614 g Sm1 = 0.467 g E. DESIGN SPECTRAL RESPONSE ACCELERATIONS:* Sds = 0.409 g Sd1 = 0.311 g (* 5% DAMPED) 8. <u>CONSTRUCTION LOADS:</u> STRUCTURES HAVE BEEN DESIGNED FOR OPERATING LOADS ON COMPLETED FACILITIES. UNTIL CONSTRUCTION IS COMPLETE AND MEMBERS HAVE ACHIEVED THEIR DESIGN STRENGTH, PROTECT STRUCTURES AS REQUIRED BY SHORING, BRACING, AND BALANCING.																																																										
C																																																											
D																																																											
E																																																											
F																																																											
G	<table><tr><td>REV</td><td>DATE</td><td>BY</td><td>DESCRIPTION</td></tr><tr><td> </td><td> </td><td> </td><td> </td></tr><tr><td> </td><td> </td><td> </td><td> </td></tr><tr><td> </td><td> </td><td> </td><td> </td></tr><tr><td> </td><td> </td><td> </td><td> </td></tr></table>	REV	DATE	BY	DESCRIPTION																	<table><tr><td>DESIGNED</td><td>IKC</td></tr><tr><td>DRAWN</td><td>TU</td></tr><tr><td>CHECKED</td><td>EQ</td></tr><tr><td>DATE</td><td>JUNE 2023</td></tr></table>	DESIGNED	IKC	DRAWN	TU	CHECKED	EQ	DATE	JUNE 2023		Digitally signed by Edgardo Quiroga Contact info: Carollo Engineers, Inc. Date: 2023.06.15 15:54:06 -0700 				<table><tr><td colspan="2">CITY OF ROSEVILLE</td><td>VERIFY SCALES</td><td>JOB NO.</td></tr><tr><td colspan="2">BARTON ROAD WATER TREATMENT PLANT</td><td rowspan="2">0  1" IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY</td><td>201105</td></tr><tr><td colspan="2">EAST APPLIED PIPELINE PROJECT</td><td>DRAWING NO.</td></tr><tr><td colspan="2">STRUCTURAL</td><td></td><td>00GS01</td></tr><tr><td colspan="2">GENERAL NOTES, LEGEND AND SYMBOLS</td><td></td><td>SHEET NO.</td></tr><tr><td colspan="2"></td><td></td><td>9 OF 13</td></tr></table>	CITY OF ROSEVILLE		VERIFY SCALES	JOB NO.	BARTON ROAD WATER TREATMENT PLANT		0  1" IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY	201105	EAST APPLIED PIPELINE PROJECT		DRAWING NO.	STRUCTURAL			00GS01	GENERAL NOTES, LEGEND AND SYMBOLS			SHEET NO.				9 OF 13
REV	DATE	BY	DESCRIPTION																																																								
DESIGNED	IKC																																																										
DRAWN	TU																																																										
CHECKED	EQ																																																										
DATE	JUNE 2023																																																										
CITY OF ROSEVILLE		VERIFY SCALES	JOB NO.																																																								
BARTON ROAD WATER TREATMENT PLANT		0  1" IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY	201105																																																								
EAST APPLIED PIPELINE PROJECT			DRAWING NO.																																																								
STRUCTURAL			00GS01																																																								
GENERAL NOTES, LEGEND AND SYMBOLS			SHEET NO.																																																								
			9 OF 13																																																								
	1	2	3	4	5	6	7	8	9	10	11	12	13																																														

Plot Date: 06-JUN-2023 11:40:54 AM
User: svcPW
Model: Layout1 ColorTable: gshade.ctb DesignScript: Carollo Std Pen_v0905.pen PlotScale: 1:1
LAST SAVED BY: lumadhay



- GENERAL NOTES:**
- CONTRACTOR TO FIELD VERIFY EXISTING CONDITIONS AND ALL DIMENSIONS PRIOR TO STARTING AND DEMOLITION OR NEW WORK.
- KEY NOTES:**
- DOUBLE FRAMES ANCHORED TO THE EXISTING FOOTING ARE TO RESIST THE LATERAL LOADS ON THE PIPE. FRAMES ANCHORED ON INDIVIDUAL PEDESTALS ARE TO SUPPORT THE CANOPY.
 - LOCATE COLUMN AND PEDESTALS SUCH THAT THEY DO NOT INTERFERE WITH THE EXISTING STAIRCASE AND LANDING. ENSURE A MINIMUM OF 3'-6" CLEARANCE IS PROVIDED BETWEEN THE COLUMNS/PEDESTALS AND THE STAIRCASE. SPACING OF COLUMNS/PEDESTALS CAN BE ADJUSTED BY A MAXIMUM OF 2'-0" IN THE EAST/WEST DIRECTION TO AVOID INTERFERING WITH THE EXISTING STAIRCASE.
 - CONTRACTOR TO TEMPORARILY SUPPORT THE EXISTING PIPE DURING EXCAVATION.
 - SUPPORT FRAME ANCHORED TO THE EXISTING FOOTING ONLY AT THIS LOCATION.

A PLAN
SCALE: 1/8"=1'-0"
FILE: 20110502S9101

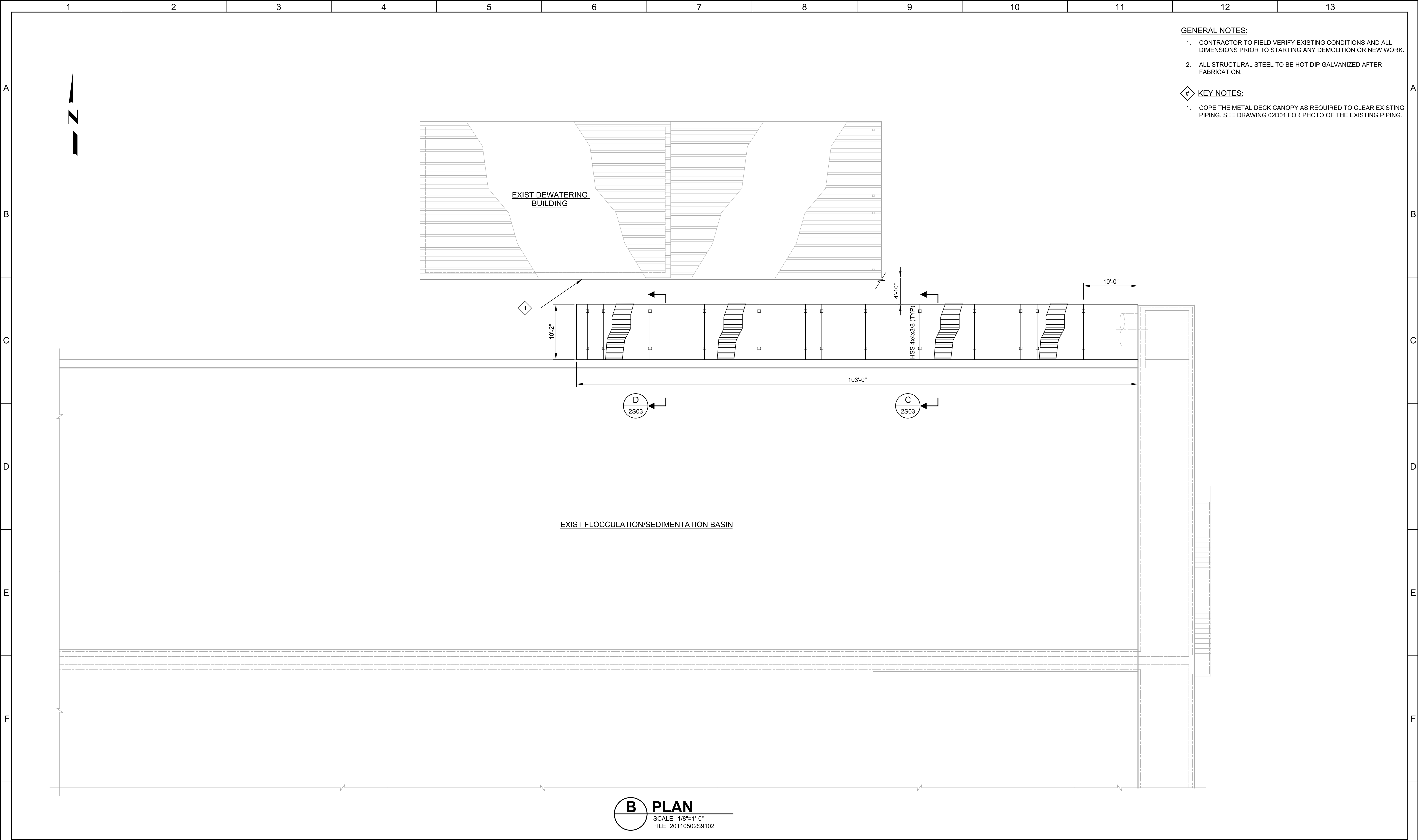
G																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																														</
---	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	----

Plot Date: 08-JUN-2023 2:34:43 PM

User: svcPW

Model: Layout1 ColorTable: gshade.ctb DesignScript: Carollo Std Pen_v0905.pen PlotScale: 1:1

LAST SAVED BY: lumadhay



- GENERAL NOTES:**
- CONTRACTOR TO FIELD VERIFY EXISTING CONDITIONS AND ALL DIMENSIONS PRIOR TO STARTING ANY DEMOLITION OR NEW WORK.
 - ALL STRUCTURAL STEEL TO BE HOT DIP GALVANIZED AFTER FABRICATION.
- KEY NOTES:**
- COPE THE METAL DECK CANOPY AS REQUIRED TO CLEAR EXISTING PIPING. SEE DRAWING 02D01 FOR PHOTO OF THE EXISTING PIPING.

B PLAN
SCALE: 1/8"=1'-0"
FILE: 20110502S9102

REV	DATE	BY	DESCRIPTION

DESIGNED IKC
DRAWN TU
CHECKED EQ
DATE JUNE 2023



Digitally signed by Edgardo Quiroz
Contact Info: Carollo Engineers, Inc.
Date: 2023.06.19 15:53:46 -0700



CITY OF ROSEVILLE
BARTON ROAD WATER TREATMENT PLANT
EAST APPLIED PIPELINE PROJECT
STRUCTURAL
PIPE ENCLOSURE
TOP PLAN

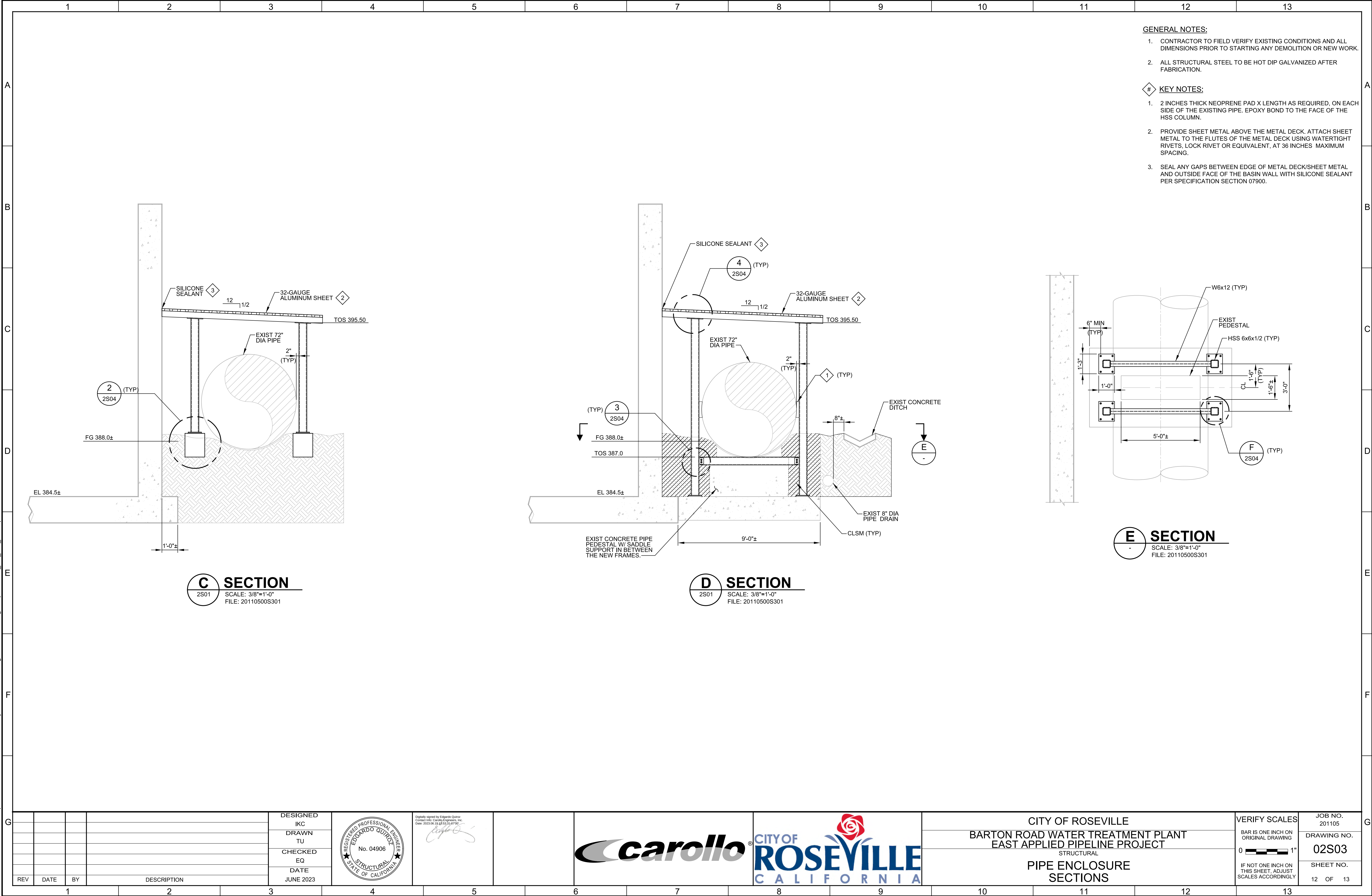
VERIFY SCALES	JOB NO. 201105
BAR IS ONE INCH ON ORIGINAL DRAWING 0 1"	DRAWING NO. 02S02
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY	SHEET NO. 11 OF 13

Plot Date: 08-JUN-2023 2:51:30 PM

User: svcPW

Model: Layout1 ColorTable: gshade.ctb DesignScript: Carollo Std Pen_v0905.pen PlotScale: 1:1

LAST SAVED BY: tumadhay



REV	DATE	BY	DESCRIPTION
1			
2			
3			

DESIGNED	IKC
DRAWN	TU
CHECKED	EQ
DATE	JUNE 2023



Digitally signed by Edgardo Quiroz
Contact Info: Carollo Engineers, Inc.
Date: 2023.06.15 15:53:35 -0700



CITY OF ROSEVILLE BARTON ROAD WATER TREATMENT PLANT EAST APPLIED PIPELINE PROJECT STRUCTURAL PIPE ENCLOSURE SECTIONS

VERIFY SCALES BAR IS ONE INCH ON ORIGINAL DRAWING 0 1" IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY	JOB NO. 201105 DRAWING NO. 02S03 SHEET NO. 12 OF 13
--	--

Plot Date: 06-JUN-2023 12:01:00 PM

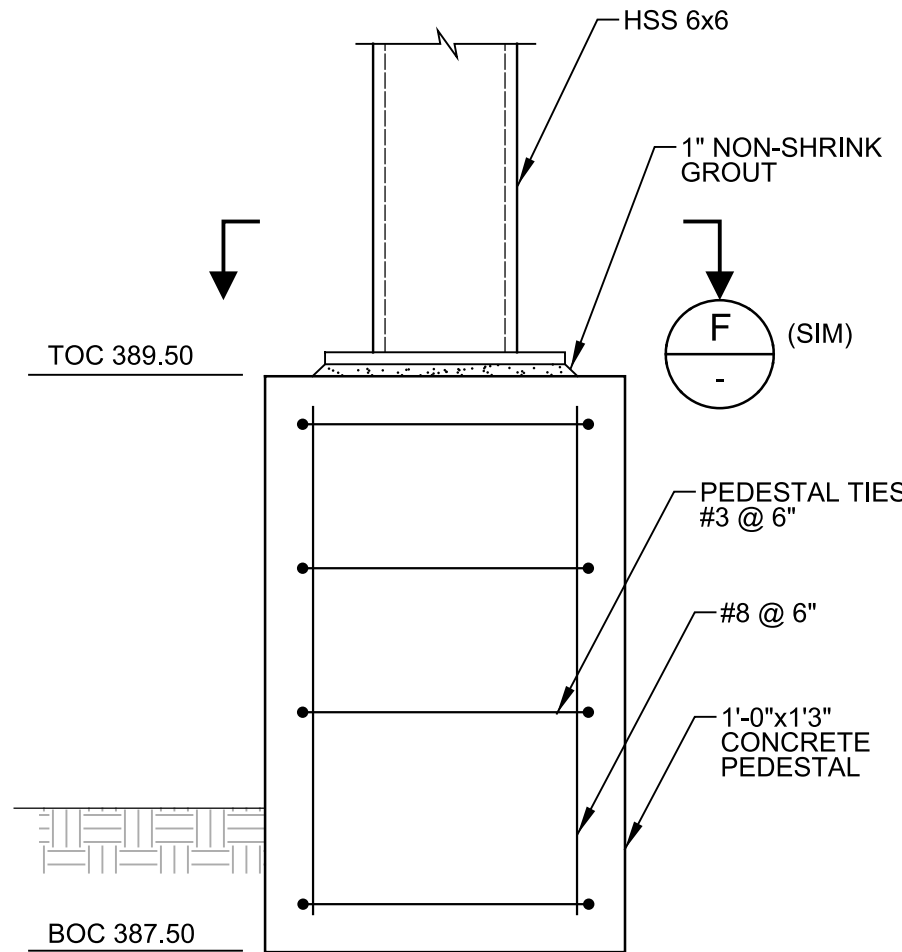
User: svcPW

Model: Layout1 ColorTable: gshade.ctb DesignScript: Carollo Std Pen_v0905.pen PlotScale: 1:1

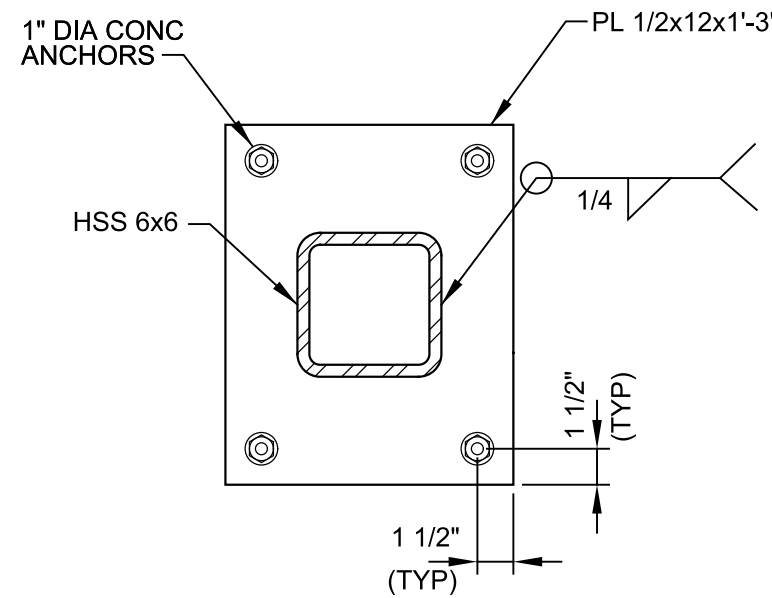
LAST SAVED BY: lumadhay



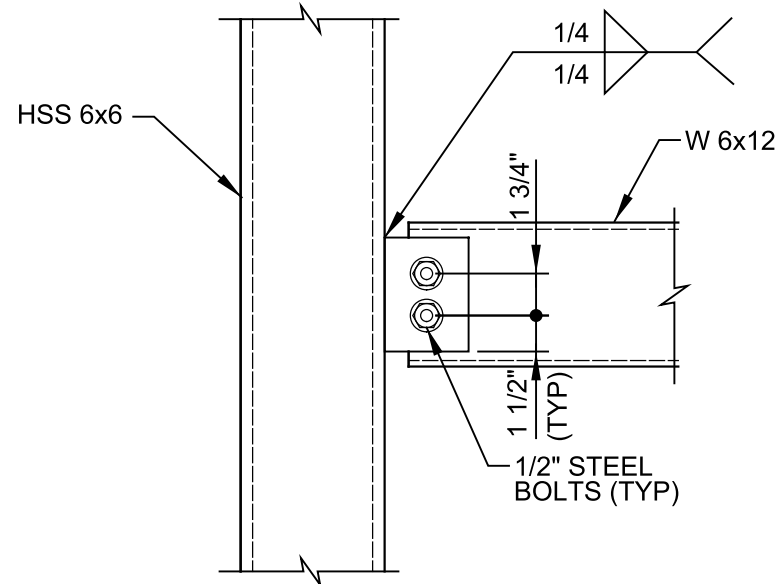
1 PHOTO
2S01 SCALE: NO SCALE
FILE: 2011052S04A



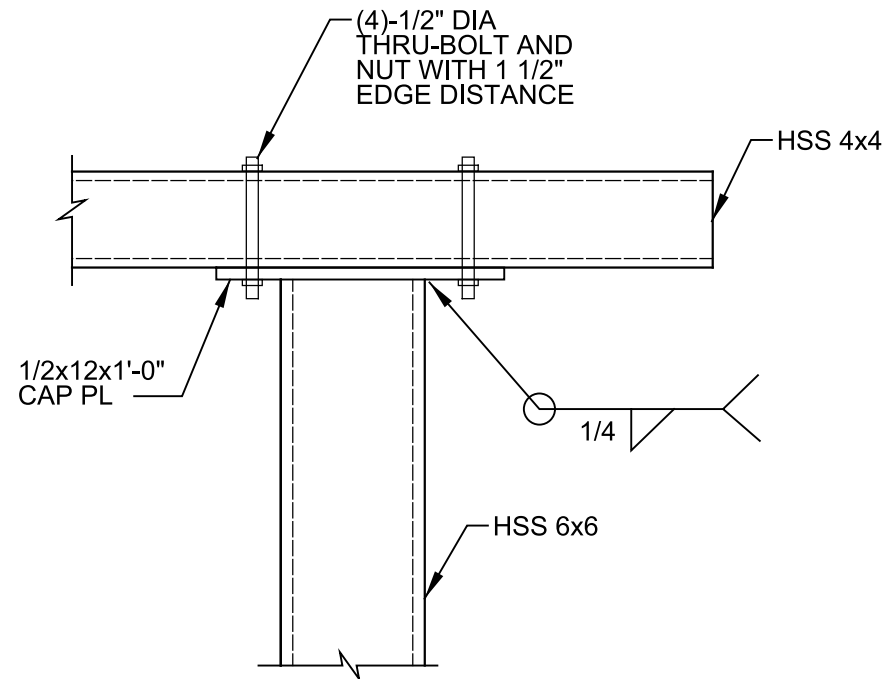
2 DETAIL
2S03 SCALE: 1 1/2"=1'-0"
FILE: 2011052S301



F SECTION
SCALE: 1 1/2"=1'-0"
FILE: 20110500S301



3 DETAIL
2S03 SCALE: 1 1/2"=1'-0"
FILE: 2011052S301



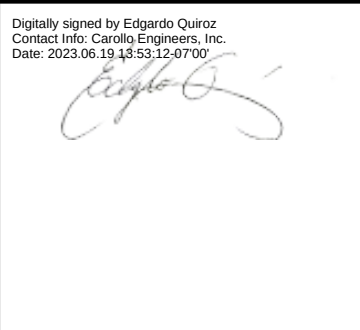
4 DETAIL
2S03 SCALE: 1 1/2"=1'-0"
FILE: 2011052S301

GENERAL NOTES:

1. CONTRACTOR TO FIELD VERIFY EXISTING CONDITIONS AND ALL DIMENSIONS PRIOR TO STARTING ANY DEMOLITION OR NEW WORK.
2. ALL STRUCTURAL STEEL TO BE HOT DIP GALVANIZED AFTER FABRICATION.

REV	DATE	BY	DESCRIPTION

DESIGNED	IKC
DRAWN	TU
CHECKED	EQ
DATE	JUNE 2023



CITY OF ROSEVILLE
BARTON ROAD WATER TREATMENT PLANT
EAST APPLIED PIPELINE PROJECT
STRUCTURAL
PIPE ENCLOSURE
SECTION, DETAILS AND PHOTO

VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

JOB NO.	201105
DRAWING NO.	02S04
SHEET NO.	13 OF 13



Notice of Exemption

To: Placer County Clerk
Recorder's Office
2954 Richardson Drive
Auburn, CA 95603

From: City of Roseville
Development Services Dept.
311 Vernon Street
Roseville, CA 95678

Project Title: Barton Road Water Treatment Plant – East Applied Pipeline Rehabilitation and Improvements

Project Location(s): City of Roseville Barton Road Water Treatment Plant, 9595 Barton Road, Granite Bay, Placer County CA.

Project Description: A previously conducted condition assessment included a non-invasive visual inspection of the 72-inch East Applied Pipeline, which serves as the primary effluent pipe for the treatment plants three (3) flocculation and sedimentation basins. Originally designed and constructed as a subgrade alignment, approximately 100-ft of the pipeline has been partially exposed since 2006 as a result of the excavation requirements for the adjacent construction of the mechanical dewatering building, completed as part of the WTP Expansion Phase III Project.

To extend the longevity of the pipeline, the project will implement the recommendations resulting from the visual inspection, which includes rehabilitation and improvements to the pipelines exterior condition, structural support, drainage, and connection to the flocculation and sedimentation basins.

Public Agency Approving Project: Roseville City Council

Agency/Individual Carrying Out Project: City of Roseville Environmental Utilities Department

Reason why this Project is Exempt: The project qualifies for a Class 1 Categorical Exemption as described in Section 15301 of the California Environmental Quality Act (CEQA) guidelines which states:

"Class 1 consists of the...repair, maintenance, of existing facilities...including...replacement or reconstruction of existing utility systems involving negligible or no expansion of capacity."

The project consists of rehabilitation and improvements to an existing pipeline, and would not result in expansion of use. Consequently the Class 1 Categorical Exemption applies.

Lead Agency Contact Person: Jonathan Cummings, Associate Engineer, Roseville Department of Environmental Utilities (774-5566).

Signature: _____

A handwritten signature in blue ink, appearing to read "Terri Shirhall", is written over a horizontal line.

Terri Shirhall, Environmental Coordinator
City of Roseville

Date: 02-09-2022



COUNCIL COMMUNICATION

CC #: 2862
File #: 0900-02

Title: Regional Pump Station 26 and Force Main Capacity Improvements Project - Award of Contract
Contact: Rana Moore 916-774-5581 rcmoore@roseville.ca.us

Meeting Date: 8/16/2023
Item #: 6.6.

RECOMMENDATION TO COUNCIL

Staff recommends that the City Council:

1. Adopt a resolution to approve a Construction Agreement for the Regional Pump Station 26 and Force Main Capacity Improvement Project with Syblon Reid in the amount of \$926,000 and authorize the City Manager to execute it; and
2. Authorize the City Manager or his designee to approve and pay for contract change orders for this project that could increase the contract amount by no more than 10 percent (\$92,600), or a not-to-exceed total contract amount of \$1,018,600.

BACKGROUND

The City of Roseville's sewer system hydraulic model indicates that the South Placer Wastewater Authority (SPWA) trunk sewer on Old Auburn Road could be subject to overflows, and this capacity deficiency will be further exacerbated under buildout development.

The wastewater collection system improvements included in this Project will address the capacity limitations and improve dependability of Pump Station 26. Pump Station 26 is located at 9705 Sierra College Blvd., Roseville, CA 95661. The work to address the capacity deficiency covers the upsizing of existing 8-inch and 10-inch diameter PVC gravity sewer pipes, installation of a new weir manhole and pump, and electrical improvements to Pump Station 26.

On February 2, 2023, a Request for Proposals (RFP) for construction services for the Project was released. One bid was received and opened on March 13, 2023. The bid significantly exceeded the engineer's estimate and project budget.

A strategy to reformat the Schedule of Bid Items was identified, which allowed greater flexibility in awarding only the crucial portions of the Project should bids come in higher than expected again. In addition, both the City and the design consultant reached out to a larger group of contractors in an effort to attract additional bidders.

At the May 3, 2023 City Council meeting, per staff's recommendation and request, the City Council rejected the bid, approved the revised Regional Pump Station 26 and Force Main Capacity Improvement Project's construction plans and specifications, and authorized staff to re-advertise the Project and accept bids from prospective bidders.

The Project was re-advertised on May 4, 2023. On June 13, 2023, three (3) firms submitted proposals to the City Clerk's office and a public bid opening identified Syblon Reid as the apparent low bidder.

Due to the time sensitive nature of the work on the Pump Station 26 site and the low bidder's proposed cost for the additive work, only the Base Bid Schedule items are being awarded. Staff intends to return to City Council at a later date to award the remaining work, in combination with other similar work, to create a more attractive bid package and provide a better value for the City. The Base Bid Schedule recommended for award includes all necessary work at the Pump Station 26 site, including upgraded pumps and electrical improvements.

Staff reviewed the proposal/bid documents and checked Syblon Reid's project references. With that, staff recommends that the construction contract be awarded to Syblon Reid.

FISCAL IMPACT

The total not-to-exceed contract value of the agreement with Syblon Reid is in the amount of \$1,018,600. Funding is provided by the South Placer Wastewater Authority (SPWA) and can be accommodated within the existing project budget.

ENVIRONMENTAL REVIEW

The proposed project involves conversions to a small facility. This activity is categorically exempt from CEQA as a Class 3 Exemption (State CEQA Guidelines Section 15303). The proposed project also involves minor alteration in the condition of the land, which will not remove healthy, mature scenic trees. This activity is categorically exempt from CEQA as a Class 4 Exemption (State CEQA Guidelines Section 15304). The Exemption has been prepared and no further CEQA action is required.

CITY COUNCIL STRATEGIC PLAN/OVERARCHING GOALS

Goal F - Invest in well-planned infrastructure and growth

Respectfully Submitted,

Rana Moore, Associate Engineer

Richard Plecker, Environmental Utilities Director

A handwritten signature in blue ink, consisting of several overlapping loops and a final horizontal stroke.

Dominick Casey, City Manager

ATTACHMENTS:

Description

Resolution 23-333

Agreement

Bid Summary Sheet

CEQA