File ID: 2026-00151 2/24/2026

[Contract] Construction Management for Resident Engineer, Inspection, and Material Testing, Construction Contract, and SacSewer Reimbursement Agreement for Del Rio Trail Sewer Force Main Rehabilitation Project [Published for 10-Day Review 02/13/2026]

File ID: 2026-00151

Location: District 4, 5, 6, and 7

Recommendation: Adopt a **Resolution** authorizing the City Manager or designee to: 1) execute a reimbursement agreement with the Sacramento Area Sewer District (SacSewer) in the amount of $22,392,209 for expenditures associated with the Del Rio Trail Sewer Force Main Rehabilitation Project; 2) increase the revenue and expense budgets for the Del Rio Trail 72-inch Force Main Rehabilitation Project (X14170100, Fund 6206) by $20,792,209; 3) execute a Professional Services Agreement with MCK America, Inc. for construction management services for the Del Rio Trail 72-inch Force Main Rehabilitation Project, for an amount not-to-exceed $489,903.24; 4) approve the contract plans and specifications for the Del Rio Trail 72-inch Force Main Rehabilitation Project; 5) award the construction contract to Insituform Technologies LLC for an amount not-to-exceed $16,966,203; and 6) execute the construction contract with Insituform Technologies LLC.

Contact: Angelo Vasquez, Project Manager, (916) 808-1701, arvasquez@cityofsacramento.org; Sherill Huun, Engineering & Water Resources Division Manager, (916) 808-1455, shuun@cityofsacramento.org; Dalia Fadl, Director, (916) 808-3765, dfadl@cityofsacramento.org; Department of Utilities

Presenter: None

Attachments:
1-Description/Analysis
2-Professional Services Agreement - MCK America, Inc.
3-Construction Contract - Insituform Technologies LLC
4-Reimbursement Agreement - SacSewer
5-Resolution

Description/Analysis
Issue Detail: The City of Sacramento (City) and SacSewer share ownership, operations and maintenance responsibilities of several different wastewater facilities within the City of Sacramento.

These responsibilities are defined in the Operating Agreement between the two agencies executed in 2013. One key asset included in this agreement is the 72-inch force main that connects the City's Sump 2 station to the City's Combined Wastewater Treatment Plant (CWTP). Under the agreement, SacSewer retains ownership and financial responsibility for this asset, while the City is responsible for operation and maintenance.

After it was determined that the force main is suffering from extreme corrosion and requires rehabilitation, the City was selected to deliver the project because of its operational familiarity with the asset and SacSewer committed to provide the necessary funding. The total project budget is estimated to be $22,392,209. To facilitate this, the City and SacSewer propose entering into a reimbursement agreement in the amount of $22,392,209, which would provide funding to the Del Rio Trail 72-inch Force Main Rehabilitation Project (X14170100, Fund 6206) for all project related-activities. The reimbursement agreement is scheduled for review and approval by the SacSewer Board on February 11, 2026. Upon completion of the hearing and approval by the Board, the agreement will be executed by SacSewer and returned for the City's approval for a fully executed agreement between both parties. Staff recommends Council approve this reimbursement agreement.

Staff also recommends Council approve a professional services agreement with MCK America, Inc. (MCK), to perform the services of Resident Engineer, Inspection, and Material Testing Services for the Del Rio Trail 72-inch Force Main Rehabilitation Project. These services are essential to ensure that the construction of the Del Rio Trail 72-inch Force Main Rehabilitation Project complies with project specifications and plan, remains within budget and schedule, and minimizes impacts to residents, businesses and traffic.

Additionally, Staff recommends Council award a construction agreement to Insituform Technologies LLC, to rehabilitate roughly 5,900 linear feet of 72-inch reinforced concrete pipe (RCP) along the Del Rio Trail, beginning just south of Sutterville Road and ending at the CWTP just south of Fruitridge Road.

Policy Considerations: City Council approval is required for professional service agreements and construction agreements of $250,000 or more per City Code 3.56.090. The action requested conforms with City Code Chapter 3.60, Articles I and III, which provide for award of competitively bid contacts to the lowest responsible bidder.

Sacramento City Code Section 4.04.020 and the City Council Rules of Procedure (Chapter 7 Section E.2.d) mandate that unless waived by a 2/3 vote of the City Council, all labor agreements, and all agreements greater than $1,000,000 shall be made available to the public at least 10 days prior to City Council action. This item was published for 10-day review on February 13, 2026, in compliance with the City Code.

Economic Impacts: This project is expected to create 67 total jobs (39 direct jobs and 28 jobs

through indirect and induced activities) and create $10,475,527.55 in total economic output ($6,602,805.09 of direct output and another $3,872,722.46 of output through indirect and induced activities).

The indicated economic impacts are estimates calculated using a calculation tool developed by the Center for Strategic Economic Research (CSER). CSER utilized the IMPLAN input-output model (2009 coefficients) to quantify the economic impacts of a hypothetical $1 million of spending in various construction categories within the City of Sacramento in an average one-year period. Actual impacts could differ significantly from the estimates and neither the City of Sacramento nor CSER shall be held responsible for consequences resulting from such differences.

Environmental Considerations: The subject projects were reviewed and determined to be categorically exempt from the California Environmental Quality Act (CEQA). This project consists of the operation, repair, maintenance, permitting, leasing, or minor alteration of existing public or private structures, facilities, mechanical equipment, or topographical features, involving negligible or no expansion of existing or former use. Because the project consists of rehabilitating the existing force main, access manholes, and replacing a failing blow-off valve, it qualifies under a Class 1 categorical exemption (CEQA Guidelines Section 15301).

Sustainability: The proposed project supports the goals of the 2040 General Plan, specifically Policies PFS-3.1 and PFS-3.2, by rehabilitating aging infrastructure to ensure the continued delivery of reliable wastewater and stormwater utility services. This strategic investment in existing systems promotes operational continuity and enhances the resilience of critical infrastructure against future environmental and climate-related challenges.

Commission/Committee Action: Not applicable.

Rationale for Recommendation:

Professional Services

On September 23, 2025, a Request for Proposals (RFP No. P25141311011) was advertised and issued via PlanetBids for Resident Engineer, Inspection, and Material Testing Services. By the proposal due date of October 28, 2025, one (1) proposal was received from the following firm:

1. MCK America, Inc.

A four-member evaluation panel, consisting of staff from the Department of Utilities (DOU) and two representatives from SacSewer, reviewed and evaluated the proposal. MCK America, Inc. was determined to be qualified to perform the required services.

Construction

The project was advertised on October 30, 2025 (B25131311013) and two (2) bids were received and opened on December 10, 2025. Insituform Technologies LLC was the lowest responsible bidder.

The bid results are as follows:

Contractor	Amount	Ranking
SAK Construction LLC	$22,936,086	2
Insituform Technologies LLC	$16,966,203	1

The Engineer's construction cost estimate was $21,674,000.

Additionally, the proposed reimbursement agreement between SacSewer and the City is critical to the success of the project, as it provides the necessary funding from SacSewer for the City to deliver the rehabilitation work. The reimbursement agreement is scheduled for review and approval by the SacSewer Board on February 11, 2026. Upon completion of the hearing and approval of the Board, the agreement will be executed by SacSewer and returned for the City's approval for a fully executed agreement between both parties.

Financial Considerations: The current funding for the Del Rio Trail 72-inch Force Main Rehabilitation Project is $1,600,000. Staff is recommending an increase in the revenue and expense budgets for the Combined Sewer System Pipe Program (X14170100, Fund 6206) of $20,792,209 to provide the necessary funding for the expenditures associated with this project.

No General Fund resources are allocated or anticipated for this project.

Local Business Enterprise (LBE): MCK America, Inc. is a LBE. Insituform Technologies LLC is not LBE, however, their subcontractor, McGuire & Hester, is an LBE and fulfills the 5% requirement.

Background: In 2021 and 2023, SacSewer retained V&A Consulting Engineers to perform condition assessments on several combined wastewater facilities. One of the assets evaluated was the 72-inch reinforced concrete pipe (RCP) force main-designated as N29 by SacSewer-which runs from the City's Sump 2 Facility to the Combined Wastewater Treatment Plant (CWTP).

The assessment revealed severe concrete surface damage and corrosion along the force main. V&A recommended rehabilitation within two to five years to prevent potential catastrophic failure.

In response, the City, in collaboration with SacSewer, initiated a project to rehabilitate approximately 5,900 feet of the 72-inch RCP force main, originally constructed in 1960. In 2024, the City hired Woodard and Curran to design the necessary rehabilitation effort that will occur along the Del Rio Trail corridor, from Sutterville Road to the CWTP.

It was determined that the best rehabilitation method would be to utilize the water-cured pressure cured-in-place pipe (CIPP) method, a trenchless technology that minimizes surface disruption while effectively rehabilitating large-diameter pipelines. The primary objective is to restore the structural integrity of the pipeline and extend its useful life by an estimated 50 years.

City of SACRAMENTO
Office of the City Clerk

CONTRACT ROUTING SHEET

Contract Cover/Routing Form: Must Accompany ALL Contracts; however, it is NOT part of the contract.

General Information (Required)

Original Contract # (supplements only): _____ Supplement/Addendum #: _____

Assessor's Parcel Number(s): _____

Contract Effective Date: _____ Contract Expiration Date (if applicable): 12/31/2026

$ Amount (Not to Exceed): $489,903.24 Adjusted $ Amount (+/-): _____

Other Party: MCK Americas, Inc.

Project Title: Del Rio Trail 72-Inch Force Main Rehabilitation Project

Project #: X14170114 Bid/RFQ/RFP #: P25141311011

City Council Approval: YES if YES, Council File ID#: 2026-00151

Contract Processing Contacts

Department: Utilities Project Manager: Angelo Vasquez Angelo Vasquez (Dec 22, 2025 08:36:17 PST)

Contract Coordinator: Sarah Williams Email: sewilliams@cityofsacramento.org

Department Review and Routing

Construction Mgmt:	(Signature)	(Date) Dec 22, 2025
Supervisor:	(Signature)	(Date) Dec 22, 2025
Division Manager:	(Signature) Sherill Huun (Dec 22, 2025 15:39:04 PST)	(Date) Dec 22, 2025
Other:	(Signature) Gabriel [illegible] Dec 22, 2025 15:04:01 PST)	(Date) Dalia Fadl (Dec 23, 2025 10:55:35 PST)
	Fiscal:	O&M: Barry Nan (Dec 22, 2025 10:48:27 PST) Director of Utilities:

Special Instruction/Comments (i.e. recording requested, other agency signatures required, etc.)

Recording Requested **Other Party Signature Required**

----------FOR CLERK & IT DEPARTMENTS ONLY – DO NOT WRITE BELOW THIS LINE----------

CONTRACT #: P25141311011
CONTRACT NAME: Del Rio Trail 72-Inch Force Main Rehabilitation Project
CONTRACT PROJECT #: X14170114
DEPARTMENT: Utilities
DIVISION: Wastewater Engineering

CITY OF SACRAMENTO

PROFESSIONAL SERVICES AGREEMENT
FOR ARCHITECTS, LANDSCAPE ARCHITECTS,
ENGINEERS, AND LAND SURVEYORS

THIS CONTRACT is made at Sacramento, California, by and between the **CITY OF SACRAMENTO,** a charter city and municipal corporation ("CITY"), and

MCK Americas, Inc.
1614 19th Street, Suite B
Sacramento, CA 95811
Phone: 279-346-6941

("CONTRACTOR"), as of the Effective Date, as defined below.

The City and Contractor agree as follows:

1. **Effective Date.** This Contract shall be effective beginning .

2. **Contract Documents.** All exhibits and documents attached or referred to in this Contract are incorporated as if set forth herein, Including Exhibit A (titled "Scope of Services") and Exhibit B (titled "Payment").

   If there is a conflict between the terms and conditions of any document prepared or provided by the Contractor and made a part of this Contract and the other terms or conditions of the Contract, the other terms and conditions of the Contract control.

3. **Services.** Subject to the terms and conditions set forth in this Contract, CONTRACTOR shall provide to CITY the services described in Exhibit A ("Services").

   CONTRACTOR will not be compensated for services outside the scope of Exhibit A ("Additional Services") unless, before providing Additional Services: (a) CONTRACTOR notifies CITY and CITY agrees that the Additional Services are outside the scope of Exhibit A; (b) CONTRACTOR estimates the additional compensation required for these Additional Services; and (c) CITY, after notice, approves in writing a Supplemental Contract specifying the Additional Services and the amount of additional compensation to be paid Contractor.

   CITY will have no obligations whatsoever under this Contract or any Supplemental Contract, unless and until this Contract or any Supplemental Contract is approved by the City as required

by the Sacramento City Code. As used in this Contract, the term “Services” includes both Services and Additional Services as applicable.

4. **Payment.** CITY shall pay CONTRACTOR at the times and in the manner set forth in Exhibit B. CONTRACTOR shall submit all invoices to CITY in the manner specified in Exhibit B.

5. **Facilities and Equipment.** Except as set forth below, CONTRACTOR shall, at its sole cost and expense, furnish all facilities and equipment required for CONTRACTOR to perform this Contract. CITY shall furnish to CONTRACTOR only the facilities and equipment listed below, if any.

6. **Insurance.** Contractor shall, at its sole cost and expense, maintain the insurance coverage described in the attached Exhibit C.

7. **General Conditions.** Contractor shall comply with the terms and conditions set forth in the attached Exhibit D.

8. **Additional Requirements for Surveying, Material Testing, and Inspection Services.** If this Contract includes any land surveying, material testing, or inspection services provided for a City construction project, during the design, pre-construction, construction, or post-construction phases of the project, the Contractor and any subcontractor or subconsultant performing any such services shall comply with the provisions specified in Exhibit E.

9. **Non-Discrimination in Employee Benefits.** This Contract may be subject to Sacramento City Code chapter 3.54, Non- Discrimination in Employee Benefits by City Contractors. A summary of the requirements, entitled "Requirements of the Non-Discrimination in Employee Benefits Code (Equal Benefits Ordinance),” can be viewed at: https://www.cityofsacramento.org/Finance/Procurement/Contract-Ordinances.

   Contractor acknowledges and represents that Contractor has read and understands the requirements and shall fully comply with all applicable requirements of Sacramento City Code chapter 3.54. If requested by City, Contractor shall promptly provide any documents and information required by City to verify Contractor's compliance.

   Contractor's violation of Sacramento City Code chapter 3.54 constitutes a material breach of this Contract, for which the City may terminate the Contract and pursue all available legal and equitable remedies.

10. **Considering Criminal Conviction Information in the Employment Application Process.** This Contract may be subject to the requirements of Sacramento City Code chapter 3.62, Procedures for Considering Criminal Conviction Information in the Employment Application Process. A summary of the requirements, entitled “Ban-The-Box Requirements,” can be viewed at:

    https://www.cityofsacramento.org/Finance/Procurement/Contract-Ordinances.

The Ban-The-Box Requirements are applicable to certain contracts with the City in an amount of $250,000 or more (either initial value or total value after amendment) or if the total value of all Contractor's contracts with the City is $250,000 or more over a 12-month period.

Contractor acknowledges and represents that Contractor has read and understands these requirements and shall fully comply with all applicable requirements of Sacramento City Code chapter 3.62. If requested by City, Contractor shall promptly provide any documents and information required by City to verify Contractor's compliance. Contractor shall require applicable subcontractors to fully comply with all applicable requirements of Sacramento City Code chapter 3.62 and include these requirements in all subcontracts covered by Sacramento City Code chapter 3.62.

Contractor's violation of Sacramento City Code chapter 3.62 constitutes a material breach of this Contract, for which the City may terminate the Contract and pursue all available legal and equitable remedies.

11. **Local Business Enterprise Program**. The Local Business Enterprise Program Participation Requirements ("LBE Participation Requirements") may be applicable to this Contract. A summary of the requirements, entitled "LBE Participation Requirements," can be viewed at:

https://www.cityofsacramento.org/Finance/Procurement/Contract-Ordinances.

Contractor acknowledges and represents that Contractor has read and understands these requirements and shall fully comply with all applicable requirements of Sacramento City Code chapter 3.60. If requested by City, Contractor shall promptly provide any documents and information required by City to verify Contractor's compliance. Contractor shall require applicable subcontractors to fully comply with all applicable requirements of Sacramento City Code chapter 3.60 and include these requirements in all subcontracts covered by Sacramento City Code chapter 3.60.

Contractor's violation of Sacramento City Code chapter 3.60 constitutes a material breach of this Contract, for which the City may terminate the Contract and pursue all available legal and equitable remedies.

12. **Authority.** The person signing this Contract for CONTRACTOR represents and warrants that he or she has read, understands, and agrees to all the Contract terms and is fully authorized to sign this Contract on behalf of the CONTRACTOR and to bind the CONTRACTOR to the performance of the Contract's obligations.

[Signature Pages Follow Exhibits]

EXHIBIT A

SCOPE OF SERVICES

1. Representatives.

The CITY Representative for this Agreement is:

Angelo Vasquez / Assistant Civil Engineer
1395 35th Avenue
Sacramento, CA 95822
Phone: 916-808-1701 Email: ARVasquez@cityofsacramento.org

The CONTRACTOR Representative for this Agreement is:

MCK Americas, Inc.
1614 19th Street, Suite B
Sacramento, CA 95811
Phone: 279-346-6941

Unless otherwise provided in this Contract, all Contractor questions and correspondence pertaining to this Contract must be addressed to the City Representative. All City questions and correspondence must be addressed to the Contractor Representative.

2. Scope of Services. Contractor shall provide Services to City as set forth in Attachment 1 to this Exhibit A.

3. Time of Performance. The Services described in this Contract shall be provided for One Year, through *December 31, 2026.* Contractor shall provide the Services in accordance with any schedule in Attachment 1 to this Exhibit A. Contractor shall immediately notify the City if Contractor is unable to make delivery of Goods or perform Services in compliance with this Contract.

4. Conflict of Interest Requirements. The individual(s) who will provide Services pursuant to this Contract are "Consultants" within the meaning of the Political Reform Act and the City's Conflict of Interest Code: ____ yes __X__ no *[check one]*

Contractor shall cause the following to occur within 30 days after execution of this Contract:

(A) Identify the individuals who will provide Services or perform Work under this Contract as "Consultants"; and

(B) Cause these individuals to file with the City Representative the "assuming office" statements of economic interests required by the City's Conflict of Interest Code.

Thereafter, throughout the term of the Contract, Contractor shall cause these individuals to file with the City Representative annual statements of economic interests and "leaving office" statements of economic interests, as required by the City's Conflict of Interest Code. The City may withhold all or a portion of any payment due under this Contract or impose fines on the individuals until all required statements are filed.

TAB F
PROJECT PLAN

PROJECT PLAN

MCK's approach to the Del Rio Trail 72-Inch Force Main Rehabilitation Project is grounded in one goal: help the City deliver a high-quality project that stays on schedule and avoids the rework, confusion, and delays experienced on nearby efforts. We understand the Department of Utilities is looking for a partner who brings steady hands, field awareness, and transparent reporting to every phase. From notice to proceed through final completion, our role will be to keep the work predictable, safe, and fully documented. We do that by staying close to the field, verifying that what is built matches what was designed, and communicating early when conditions change. The project schedule anticipates approximately six months of work between April and October, requiring careful sequencing, defined inspection checkpoints, and consistent reporting.

Pre-Construction (Jan 6 – Apr 1)

The groundwork for success begins long before the first excavation. Our team will review the contractor's baseline schedule, submittals, and specifications line by line to flag inconsistencies or potential conflicts. We will coordinate with City staff and the design engineer to confirm design intent and align on access needs, insertion pit locations, and sequencing. We will verify that submittals for the CIPP liner, bypass plan, and environmental protections meet City standards before approval. Early attention to these details prevents costly rework later. During this phase, we will also prepare the reporting framework in Procore, establishing shared folders, naming conventions, and dashboards so progress and documentation remain transparent to City staff throughout construction.

Deliverables:

- Submittal review and constructability comments
- Confirmed baseline schedule and phasing plan
- Approved bypass and traffic control plans
- Pre-construction meeting notes and kickoff summary

SCHEDULE OVERVIEW

PHASE	DURATION	KEY MILESTONES / DELIVERABLES
Pre-Construction	Jan 6–Apr 1 2026	• Submittal Review (1/6–1/24) • Lining Order & Delivery (1/27–4/1) • Baseline Schedule Approved • Pre-Construction Meeting Completed
Construction	Apr 2–Oct 23 2026	• Bypass to 84-inch Main (4/2–4/8) • CIPP Lining & Manhole Work (4/9–10/9) • Clean & Inspect 84-inch Main (10/10–10/16) • Surface Restoration (10/17–10/23)
Closeout	Oct 24–Nov 20 2026	• Substantial Completion 10/24 • Final Completion 11/20 • As-Built Verification • Warranty Package • Final Acceptance

Construction (Apr 2 – Oct 23)

Once construction begins, MCK's construction management team serves as the City's eyes and ears in the field. Each day, we will verify that work is progressing according to plan and that safety and quality standards are maintained. We will begin with the bypass to the 84-inch force main, confirming that flow control and shutdowns are properly coordinated. During CIPP lining and manhole rehabilitation, our inspector will monitor liner installation, curing temperatures, and pressure testing while documenting results in real time through Procore. As work advances, we will perform field walk-throughs with the contractor to verify alignment, trench stability, and compliance with environmental commitments. When it is time to clean and inspect the 84-inch force main, we will coordinate closely with the contractor and City staff to confirm flow isolation, inspection results, and acceptance criteria before surface restoration. Throughout construction, MCK will conduct weekly progress meetings, maintain a rolling three-week look-ahead schedule, and issue concise field reports so City staff can track progress without surprises.

1.1 Project Management

MCK begins each assignment by confirming alignment among the City, design engineer, and contractor on scope, sequencing, and expectations. We will review the baseline schedule, submittals, and work plans to identify key milestones and potential risks. A kickoff meeting will establish communication protocols, safety expectations, and documentation standards. A project management log will track deliverables, decisions, and outstanding items, while a live Action Item Register in Procore will keep DOU staff and project partners updated in real time.

1.2 Construction Contract Administration

All project documentation and correspondence will be managed through Procore for accuracy and version control. RFIs and submittals will be reviewed promptly, with turnaround times tracked and reported. Weekly progress meetings will review construction status, field issues, and schedule adherence. Contractor pay applications will be verified against field reports and quantities before approval. Recordkeeping will follow DOU and SacSewer standards to ensure a clear and auditable record from notice to proceed through closeout.

1.3 Change Order Management

Change management will be proactive and transparent. MCK will maintain a Change Order Log tracking all potential changes, approved modifications, and pending negotiations. Each potential change will include supporting documentation, cost evaluation, and schedule impact analysis. Our estimating team will review pricing for fairness and consistency with contract unit rates, allowing the City to make informed, timely decisions.

1.4 Field Inspection

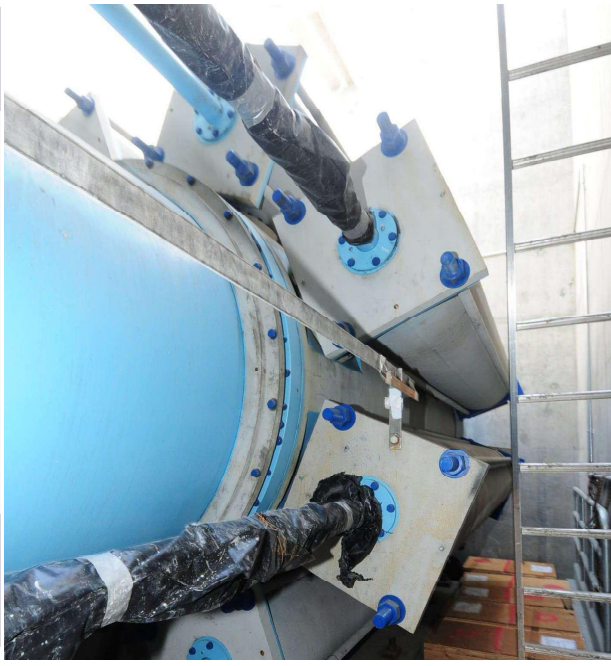
Field inspection anchors quality assurance and safety oversight. Dan Anderson will provide daily on-site inspection to verify compliance with contract documents, specifications, and City standards. Field activities include CIPP installation, access pit construction, bypass pumping, and surface restoration. Crawford & Associates will perform materials testing under Dan's direction, including compaction, concrete, and asphalt testing per Caltrans, ASTM, and City standards. Daily test results and inspection notes will be uploaded to Procore, and any issues will be communicated immediately to the contractor and DOU for correction.

Additional deliverables:

- Daily inspection reports with photos and test results
- Weekly meeting notes and updated look-ahea schedules
- RFI and submittal tracking through Procore
- Monthly progress summaries with schedule and budget status

TASK 1 DELIVERABLES AND RESPONSIBILITIES

TASK	MCK LEAD	SUPPORTING STAFF	DELIVERABLES
1.1 Project Management	Nate Gavzy	Deb Hart, PE	Kickoff agenda, schedule review, communication plan
1.2 Contract Administration	Nate Gavzy	Project Team	Submittal/RFI logs, meeting minutes, payment verification
1.3 Change Order Management	Nate Gavzy	MCK Estimating	PCO log, cost analysis, change documentation
1.4 Field Inspection	Dan Anderson	Subconsultant: Crawford & Associates	Daily reports, materials test results, photo logs



Post-Construction / Closeout (Oct 24 – Nov 20)

2.1 Substantial and Final Completion Services

MCK will confirm substantial completion milestones through a detailed punch list review with the City, contractor, and design engineer. Incomplete or deficient items will be tracked until resolved. Our team will ensure safe demobilization, site restoration, and readiness for City inspection.

2.3 Record Compilation

All documentation, including submittals, test results, inspection reports, and meeting minutes, will be compiled in a complete electronic record. Using Procore as the central repository, the archive will allow the City to locate and reference any document after project completion.

2.4 Warranty and Lien Release

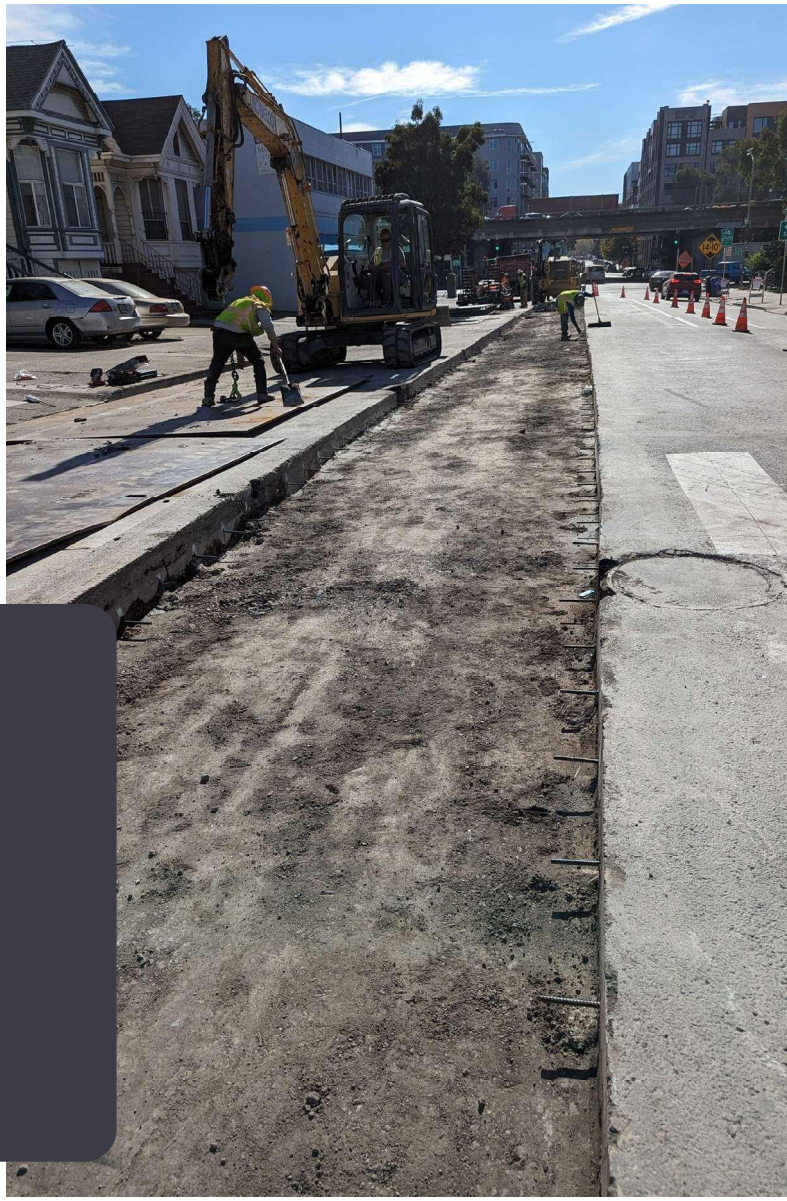
MCK will verify that the contractor has provided all warranties, maintenance bonds, and lien releases before final payment. We will ensure all documents are accurate, complete, and properly cataloged in the City's system.

2.5 Final Electronic Submittals

The project record will be delivered electronically in both PDF and native file formats per DOU standards. Submittals and test results will be properly labeled, cross-referenced, and transmitted for final acceptance.

Quality Assurance and Continuous Verification

The City's concerns about recent project performance are not lost on us. Our plan is built around proactive quality assurance and continuous verification. We will establish early benchmarks for workmanship and documentation, then measure progress against them throughout the job. Any deviation from contract requirements will be addressed immediately, with corrective actions logged and tracked in Procore. Regular coordination meetings with City staff will focus on progress, quality, and risk management, keeping everyone informed and confident the project is on track. Every submittal, test, and inspection record will be available in real time, creating a clear audit trail and giving the Department of Utilities full visibility into construction progress and compliance.



CONCLUSION

MCK's project plan reflects a practical and organized approach to construction management, inspection, and closeout. Through proactive management, clear communication, reliable field oversight, and consistent QA/QC practices, we will deliver a project that meets all City standards, stays on schedule, and provides lasting value for the City of Sacramento.

EXHIBIT B

PAYMENT

1. **CONTRACTOR's Compensation.** The total of all fees paid to the CONTRACTOR for the provision of Services as set forth in Exhibit A, including any authorized reimbursable expenses, shall not exceed the total sum of $ $489,903.24 **.** The payments specified in this Exhibit B shall be the only payments made to Contractor unless the City approves a Supplemental Contract.

2. **Billable Rates.** Contractor shall be paid for the performance of Services on an hourly rate, daily rate, flat fee, lump sum, or other basis, as set forth in Exhibit A or Attachment 1 to this Exhibit B and any applicable special provisions included in the request for bids or proposals. If there is a conflict between Exhibit A or Exhibit B and the Special Provisions, Exhibit A or Exhibit B controls.

3. **CONTRACTOR's Reimbursable Expenses.** "Reimbursable Expenses" are limited to actual expenditures of CONTRACTOR for expenses that are necessary for the proper satisfaction of the Contract and are only payable if specifically authorized in advance in writing by the City. No charges or markup will be allowed unless specified in the Contract, including charges for travel and transportation.

4. **Payments to CONTRACTOR.** Contractor is responsible for supplying all documentation necessary to verify invoices to the City's satisfaction.

   A. Payments to CONTRACTOR shall be made within a reasonable time after receipt of CONTRACTOR's invoice, in proportion to services performed or as otherwise specified in Attachment 1 to Exhibit B. CONTRACTOR may request payment on a monthly basis. CONTRACTOR shall be responsible for the cost of supplying all documentation necessary to verify the monthly billings to the satisfaction of CITY.

   B. Invoices must be submitted to either of the addresses specified below.
   (1) Email. Submit email invoices and any attachments to:
   apinvoices@cityofsacramento.org

   (2) Postal Mail. If emailing is not an option, mail to:
   A/P Processing Center
   City of Sacramento
   915 I Street, Floor 4
   Sacramento, CA 95814-2608

   C. All invoices submitted by CONTRACTOR must contain the following information:

   (1) Job/Project Name
   (2) CITY's current Purchase Order Number
   (3) CONTRACTOR's Invoice Number
   (4) Date of Invoice Issuance
   (5) Work Order Number (if applicable)
   (6) CITY representative identified on the Purchase Order

(7) CONTRACTOR's remit address
(8) Description of services billed under Invoice
(9) Amount of Invoice (itemize all authorized Reimbursable Expenses)
(10) Total Billed to Date under Contract (if applicable)

D. Items must be separated into Services and Reimbursable Expenses. Invoices that do not conform to the format outlined above will be returned to CONTRACTOR for correction. CITY is not responsible for delays in payment to CONTRACTOR resulting from CONTRACTOR's failure to comply with the invoice format described above.

5. Additional Services. Additional Services shall be provided only when a Supplemental Contract authorizing the Additional Services is approved in writing by the City in accordance with the City's contract amendment procedures. The City reserves the right to perform any Additional Services with its own staff or to retain other contractors to perform the Additional Services.

6. Accounting Records of CONTRACTOR. During performance of this Contract and for a period of three years after completion of performance, CONTRACTOR shall maintain all accounting and financial records related to this Contract, in accordance with generally accepted accounting practices, including records of Contractor's costs for performance under this Contract and records of Contractor's Reimbursable Expenses. Contractor shall keep and make records available for inspection and audit by representatives of the CITY upon reasonable written notice.

7. Tax Payments. CONTRACTOR shall pay, when and as due, any and all taxes incurred as a result of CONTRACTOR's compensation hereunder, including estimated taxes, and shall provide CITY with proof of the payment upon request. CONTRACTOR hereby agrees to indemnify CITY for any claims, losses, costs, fees, liabilities, damages or injuries suffered by CITY arising out of CONTRACTOR's breach of this section.

ATTACHMENT 1 TO EXHIBIT B

I. COMPENSATION AND PAYMENT

A. CONTRACTOR shall not commence performance until a written "Notice to Proceed" has been issued by CITY Project Manager.

B. CONTRACTOR shall be reimbursed for services at the specific rate of compensation in the approved 10-H Form(s). Unless specifically identified as some other method, the specified rates shall include direct/base hourly rate, fringe benefits, overhead, and profit.

C. CONTRACTOR shall be reimbursed for Other Direct Costs (ODC), at rates as identified on the approved 10-H Form(s) with receipts for actual costs. Any travel costs outside identified ODC will require prior written approval by CITY Project Manager.

D. If applicable, CONTRACTOR shall pay prevailing wages to those workers employed on public works contracts performing applicable duties as required by the State Labor Code and City Code 3.60.180. CONTRACTOR shall be responsible for any future adjustments to prevailing wage rates including, but not limited to, base hourly rates and employer payments as determined by the Department of Industrial Relations. Based on prevailing adjustments, CONTRACTOR may request an adjustment in the rate(s) in the 10-H form. These adjusted rates will not go into effect until the approval date by the City of the Supplemental Agreement. CONTRACTOR is responsible for paying the appropriate rate, including escalations that take place during the term of the Agreement. A mistake, inadvertence, or neglect by CONTRACTOR in failing to pay the correct rates of prevailing wage will be remedied solely by CONTRACTOR and will not, under any circumstances, be considered as the basis of a claim against CITY on this Agreement.

E. Unless specifically stated, the contract shall be a not-to-exceed by task, Other Direct Cost (ODC) line item, and total budget as included in the Cost Proposal. Written approval by CITY Project Manager is required for reallocation of budget between tasks, between ODC line items, or between tasks and ODCs. All reallocation requests must include a revised Cost Proposal. If the reallocation will directly or indirectly require an increase in the total contract amount, it will be require a Supplemental Agreement to be approved by the CITY as described in Section G.

1. Any addition or substitution shall be paid at the same or lower rate of the previously approved or similar classification.

2. If a substitution involves Key Staff, CONTRACTOR shall request and justify the need for substitution and obtain written approval from CITY Project Manager. The justification shall include a resume of the proposed new Key Staff.

If the staff addition or substitution will include a new classification, any rate increase, or will directly or indirectly require an increase in total contract amount, it will require a Supplemental Agreement to be approved by the CITY as described in Section G.

No work shall commence until written approval by the CITY Project Manager. Any work not in compliance with the above, and performed prior to the date of approval by the City, shall not be reimbursed.

F. Supplemental Agreements are required for any changes to the scope and terms of the agreement, including but not limited to the following:

1. Increasing the Agreement not-to-exceed amount.
   a. Any increase to the not-to-exceed amount shall include a cost proposal documenting the increase.

2. Adding task(s) within the advertised scope.

3. Adding new classifications or adjusting rates:
   a. Updated 10-H Form(s) for CONTRACTOR and all SUBCONTRACTORS shall be included.
   b. CONTRACTOR may request cost of living increases in base salary of staff after the contract has been in effect for two years. The maximum increase, if approved, shall be the annual Cost of Living Adjustment (COLA) increase as calculated and used by the Social Security Administration. Any approved increase shall not go into effect until a Supplemental Agreement is executed.

4. Adding SUBCONTRACTORS.

5. Adding new Other Direct Cost (ODC) items not included in 10-H Form.

6. Extending the sunset date of the Agreement.

No work shall commence until the Supplemental Agreement is executed and written notification has been provided by CITY Project Manager. Any work not in compliance with the above, and performed prior to the date of the execution of the Supplemental Agreement by the City, shall not be reimbursed.

G. Monthly Invoices

1. Invoices shall be made in arrears based on services provided at specific hourly rates and other direct cost(s) incurred per the approved 10-H Form(s).

2. CONTRACTOR AND SUBCONTRACTOR invoices shall be submitted using the City-template and include the following:
   a. Task, Budget, and Billing Summary.
   b. A copy of all invoices for Other Direct Costs and appropriate back up documentation, at rates consistent with the approved 10-H Form(s).
   c. A copy of SUBCONTRACTOR invoices using the City template.
   d. CONTRACTOR Project Manager's signature certifying that all charges have been reviewed and are in compliance with the contract terms.
   e. Written approval of CITY Project Manager for any overtime expenses for Prevailing Wage staff consistent with the approved 10-H Form(s).
   f. Written approval by CITY and CONTRACTOR of Reallocation of Budget between Tasks or between Tasks and Other Direct Costs.

3. For non-federally funded projects, CONTRACTOR shall meet the 5% Local Business Enterprise (LBE) participation requirement, unless an LBE waiver has been obtained by CITY Project Manager prior to the agreement being executed. CONTRACTOR will track LBE utilization, including for all subcontractors, and include the percentage achieved with each invoice. The 5% requirement only applies to those agreements awarded for a not-to-exceed amount over $250,000.

4. For federally funded projects in compliance with 49 CFR 26.37, a Disadvantaged Business Enterprises Utilization Report (Form ADM-3069) is required, as specified in this Agreement.

5. CONTRACTOR may include SUBCONTRACTOR costs that are treated by the CONTRACTOR as accrued due to such costs having been billed by the SUBCONTRACTOR to CONTRACTOR and recognized by CONTRACTOR and CITY as valid, undisputed, due and payable.

6. CONTRACTOR shall not add a mark-up to SUBCONTRACTORs for professional services or other direct costs included in the approved 10-H form(s).
    a. Cost of equipment must not exceed State of California, California State Transportation Agency, Department of Transportation, Division of Construction Labor Surcharge and Equipment Rental Rates effective time of work is performed.

7. Invoices for approved monthly services shall be submitted by CONTRACTOR and received by CITY Project Manager within 45 calendar days of the completion of the approved monthly services specified in the Task, Budget, and Billing Summary.

II. COST PRINCIPLES

A. All costs must be applied consistently and fairly to all contracts. All documentation of compliance must be retained in the project files.

B. For federally funded projects, all costs must be in accordance with the cost principles of Title 48 Code of Federal Regulations (CFR), Part 31, Contract Cost Principles and Procedures (48 CFR 31 et seq.).

C. For federally funded projects, CONTRACTOR agrees to comply with federal procedures in accordance with Title 49 CFR, Part 18, Uniform Administrative Requirements for Grants and Cooperative Agreements to State and Local Governments (49 CFR 18).

D. Any costs for which payment had been made to CONTRACTOR that are determined by subsequent audit to be unallowable under 48 CFR 31 or 49 CFR 18 are subject to repayment by CONTRACTOR to CITY.

III. CONFLICT OF INTEREST

A. CONTRACTOR shall disclose any financial, business, or other relationship with CITY that may have an impact upon the outcome of this contract, or any ensuing CITY construction project. CONTRACTOR shall list current clients who may have a financial interest in the outcome of this contract, or any ensuing CITY construction project, which will follow.

B. CONTRACTOR certifies that it does not now have, nor shall it acquire in the future, any financial or business interest that would conflict with the performance of services under this contract.

C. Any subcontract entered into as a result of this contract, shall contain all of the provisions of this Article III.

D. CONTRACTOR certifies that neither CONTRACTOR, nor any firm affiliated with CONTRACTOR will bid on any construction contract, or on any contract to provide construction inspection for any construction project resulting from this contract. An affiliated firm is one, which is subject to the control of the same persons through joint-ownership, or otherwise.

E. Except for SUBCONTRACTORS whose services are limited to providing surveying or materials testing information, no SUBCONTRACTOR who has provided design services in connection with this contract shall be eligible to bid on any construction contract, or on any contract to provide construction inspection for any construction project resulting from this contract.

IV. PROVISIONS FOR REBATES, KICKBACKS OR OTHER UNLAWFUL CONSIDERATION

CONTRACTOR warrants that this contract was not obtained or secured through rebates kickbacks or other unlawful consideration, either promised or paid to any CITY employee. In the event of breach or violation of this warranty, CITY shall have the right in its discretion: to terminate the contract without liability; to pay only for the value of the work actually performed; or to deduct from the contract price; or otherwise recover the full amount of such rebate, kickback or other unlawful consideration.

V. PROHIBITION OF EXPENDING CITY STATE OR FEDERAL FUNDS FOR LOBBYING

A. CONTRACTOR certifies to the best of his or her knowledge and belief that:

1. No state, federal or CITY appropriated funds have been paid, or will be paid by-or-on behalf of CONTRACTOR to any person for influencing or attempting to influence an officer or employee of any state or federal agency; a Member of the State Legislature or United States Congress; an officer or employee of the Legislature or Congress; or any employee of a Member of the Legislature or Congress, in connection with the awarding of any state or federal contract; the making of any state or federal grant; the making of any state or federal loan; the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any state or federal contract, grant, loan, or cooperative agreement.

2. If any funds other than federal appropriated funds have been paid, or

will be paid to any person for influencing or attempting to influence an officer or employee of any federal agency; a Member of Congress; an officer or employee of Congress, or an employee of a Member of Congress; in connection with this federal contract, grant, loan, or cooperative agreement; CONTRACTOR shall complete and submit Standard Form-LLL, "Disclosure Form to Report Lobbying", in accordance with its instructions.

B. This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by Section 1352, Title 31, US. Code. Any person who fails to file the required certification shall be subject to a civil penalty of not less than $10,000 and not more than $100,000 for each such failure.

C. CONTRACTOR also agrees by signing this document that he or she shall require that the language of this certification be included in all lower-tier subcontracts, which exceed $100,000, and that all such sub recipients shall certify and disclose accordingly.

VI. AUDIT REVIEW PROCEDURES

A. Any dispute concerning a question of fact arising under an interim or post audit of this contract that is not disposed of by agreement, shall be reviewed by CITY'S Chief Financial Officer.

B. Not later than 30 days after issuance of the final audit report, CONTRACTOR may request a review by CITY'S Chief Financial Officer of unresolved audit issues. The request for review will be submitted in writing.

C. Neither the pendency of a dispute nor its consideration by CITY will excuse CONTRACTOR from full and timely performance, in accordance with the terms of this contract.

D. CONTRACTOR and SUBCONTRACTORS' contracts, including cost proposals and indirect cost rates (ICR), are subject to audits or reviews such as, but not limited to, a Contract Audit, an Incurred Cost Audit, an ICR Audit, or a certified public accountant (CPA) ICR Audit Workpaper Review. If selected for audit or review, the contract, cost proposal and ICR and related workpapers, if applicable, will be reviewed to verify compliance with 48 CFR, Part 31 and other related laws and regulations. In the instances of a CPA ICR Audit Workpaper Review it is CONTRACTOR's responsibility to ensure federal, state, or local government officials are allowed full access to the CPA's workpapers. The contract, cost proposal, and ICR shall be adjusted by CONTRACTOR and approved by CITY contract manager to

conform to the audit or review recommendations. CONTRACTOR agrees that individual terms of costs identified in the audit report shall be incorporated into the contract by this reference if directed by CITY at its sole discretion. Refusal by CONTRACTOR to incorporate audit or review recommendations, or to ensure that the Federal, State, or local governments have access to CPA workpapers, will be considered a breach of contract terms and cause for termination of the contract and disallowance of prior reimbursed costs.

VII. SUBCONTRACTING

A. CONTRACTOR shall perform the work contemplated with resources available within its own organization; and no portion of the work pertinent to this contract shall be subcontracted without written authorization by CITY'S Contract Administrator, except that, which is expressly identified in the approved Cost Proposal.

B. Any subcontract entered into as a result of this contract, shall contain all the provisions stipulated in this contract to be applicable to SUBCONTRACTORS.

C. Any substitution of SUBCONTRACTORS must be approved in writing by CITY's Contract Administrator prior to the start of work by the SUBCONTRACTOR.

VIII. RETENTION OF RECORDS/AUDIT

A. For the purpose of determining compliance with Public Contract Code 10115, et seq. and Title 21, California Code of Regulations, Chapter 21, Section 2500 et seq., when applicable and other matters connected with the performance of the contract pursuant to Government Code 8546.7; CONTRACTOR, SUBCONTRACTORS, and CITY shall maintain and make available for inspection all books, documents, papers, accounting records, and other evidence pertaining to the performance of the contract, including but not limited to, the costs of administering the contract. All parties shall make such materials available at their respective offices at all reasonable times during the contract period and for three years from the date of final payment under the contract. The state, State Auditor, CITY, FHWA, or any duly authorized representative of the Federal Government shall have access to any books, records, and documents of CONTRACTORS that are pertinent to the contract for audit, examinations, excerpts, and transactions, and copies thereof shall be furnished if requested. All subcontracts shall contain this provision.

***All referenced forms and sample templates will be provided by CITY.**

City of Sacramento, Department of Utilities
Construction Management for Resident Engineer, Inspection, and Material Testing Services
Del Rio Trail 72-inch Force Main Rehab Project

ASSUMPTIONS: *Based on 10 month total schedule including pre-construction, construction and closeout; sub markup is 3.5%

			Staffing	DEBORAH HART (MCK) Resident Engineer	NATE GAVZY (MCK) Project Manager/Office Engineer	DAN ANDERSON (MCK) Inspection	(Crawford) Material Testing	Total Hours	Total Cost
			Direct Rate	$ 95.00	$ 82.00	$ 73.00	$ 47.00		
			Overhead	$ 118.75	$ 102.50	$ 91.25	$ 96.35		
			Fully Burdened	$ 213.75	$ 184.50	$ 164.25	$ 148.37		
Task 1 Services NTP to Task 1.1 Start (March 2026)			**TOTAL**	**10**	**5**	**5**	**0**	**20**	**$ 3,881**
1	Pre-Construction meetings, Project/system setup, Coordination, Kickoff Meeting, Any additional needs of city		Hours	10	5	5		**20**	$ 3,881.25
Task 1.1 Project Management (April 2026 to Oct 2026)			**TOTAL**	**417**	**440**	**0**	**0**	**857**	**$ 170,313.75**
1	Schedule preparation (schedule shall be coordinated with the Contractor's schedule);		Hours	15	5			**20**	$ 4,128.75
2	Schedule evaluation (actual vs. planned progress);		Hours	20				**20**	$ 4,275.00
3	Record Management		Hours	5	30			**35**	$ 6,603.75
4	Evaluate and coordinate traffic control plans with City Public Works staff and applicable affected organizations;		Hours	12				**12**	$ 2,565.00
5	Maintaining and monitoring the project schedule and budget; development, administering and tracking construction change orders;		Hours	40	20			**60**	$ 12,240.00
6	Conducting weekly meetings with the Contractor and subcontractors to ensure Project goals are met;		Hours	43	10			**53**	$ 11,036.25
7	Identification and resolution of safety issues;		Hours	20				**20**	$ 4,275.00
8	Verification of construction staking by the Contractor;		Hours	5				**5**	$ 1,068.75
9	Monitoring of Contractor's daily activities to assure compliance with the contract documents;		Hours	12	20			**32**	$ 6,255.00
10	Photo and video documentation of the site before and during construction;		Hours	5	30			**35**	$ 6,603.75
11	Monitoring of the Best Management Practices (BMPs) within the project site;		Hours	20	5			**25**	$ 5,197.50
12	Preparation of progress pay estimates, review of certified payrolls, preparation of Record Drawings;		Hours	20	40			**60**	$ 11,655.00
13	Change order management including cost tracking and estimated vs. actual expenditures;		Hours	20	40			**60**	$ 11,655.00
14	Proposed Changed Orders including cost tracking and estimated vs. actual expenditures for accuracy and relevance to the contract documents;		Hours	20	40			**60**	$ 11,655.00
15	Communication with Contractor, City Project Manager, Design Engineer(s), O&M staff and external utility representatives as required;		Hours	40	5			**45**	$ 9,472.50
16	Preparation and submittal of monthly project progress reports with monthly progress paymentrequests. The monthly progress report shall include: o A summary listing and describing the work accomplished during the previous month; o A summary listing and describing work to be accomplished the following month;		Hours		10			**10**	$ 1,845.00
17	A list of problems addressed or concerns identified, if any, and proposed corrective actions;		Hours	15				**15**	$ 3,206.25
18	Coordination of General Health and Safety Protocols		Hours	5	10			**15**	$ 2,913.75
19	Construction Management Integrated Software (CMIS) will be used for construction management of this project.		Hours		15			**15**	$ 2,767.50
20	Other tasks as necessary		Hours	100	160			**260**	$ 50,895.00
Task 1.2 Construction Contract Administration (April 2026 to Oct 2026)			**TOTAL**	**185**	**130**	**0**	**0**	**315**	**$ 63,528.75**
1	Participation including leadership in the Preconstruction Conference and weekly meetings;		Hours	50	10			**60**	$ 12,532.50
2	Coordination of site meetings with the Contractor, Design Engineer and City staff, and preparation and distribution of meeting minutes;		Hours	10	30			**40**	$ 7,672.50
3	Review of Contractor's contract execution for compliance with Contract documentation requirements (i.e., certified payroll, labor compliance, etc.);		Hours	5	10			**15**	$ 2,913.75
4	Review of Contractor's submittals for compliance with Contract Documents;		Hours	15	30			**45**	$ 8,741.25
5	Review of Contractor's requests for information (RFIs) and either provide information from Contract Documents back to the Contractor or route request to Design Engineer for resolution;		Hours	40	10			**50**	$ 10,395.00
6	Completion of daily logs and weekly statement of working days (WSWD);		Hours	5	15			**20**	$ 3,836.25
7	Review of Contractor's pay requests and recommendations to City as to acceptability of request;		Hours	5	15			**20**	$ 3,836.25
8	Communication with Contractor regarding acceptability of work; and		Hours	30	5			**35**	$ 7,335.00

9	Coordination of the Contractor's test plan and quality control plan.	Hours	25	5			30	$ 6,266.25
Task 1.3 Change Order Management (April 2026 to Oct 2026)		**TOTAL**	**129**	**69**	**0**	**0**	**198**	**$ 40,304.25**
1	Support City staff in presenting in community meetings, as needed, workshops, and coordinate with design and public outreach teams, (assume 24 meetings).	Hours	24	24			48	$ 9,558.00
2	Disseminate project information to the public and media, as directed by the City.	Hours	5	20			25	$ 4,758.75
3	Evaluate and create a Time Impact Analysis (TIA)	Hours	30				30	$ 6,412.50
4	Investigation and inspection of site conditions that differ from those described in the Contract Documents;	Hours	30				30	$ 6,412.50
5	Review of submittals in support, and recommendations for resolution of claims and disputes	Hours	40	25			65	$ 13,162.50
Task 1.4 Field Inspection (April 2026 to Oct 2026)		**TOTAL**	**0**	**0**	**848**	**275**	**1123**	**$ 180,084.99**
1	Review and inspection of Contractor's work for compliance with Contract Documents on a daily basis;	Hours			400		400	$ 65,700.00
2	Monitoring of corrective actions taken by Contractor needed to fix work that is not in compliance with the Contract Documents;	Hours			150		150	$ 24,637.50
3	Field inspection daily diaries;	Hours			120		120	$ 19,710.00
4	Maintain digital photographic records of construction in progress;	Hours			110		110	$ 18,067.50
5	[illegible]	Hours				275	275	$ 40,800.99
6	Review of Contractor's compliance with all regulatory permits and mitigation measures;	Hours			20		20	$ 3,285.00
7	Review of Contractor's compliance with workplace safety and health standards and notification ofCity of non-compliance;	Hours			40		40	$ 6,570.00
8	Review and approval of Contractor's survey layouts.	Hours			8		8	$ 1,314.00
Task 2.1 Substantial and Final Completion Services (Nov 2026)		**TOTAL**	**16**	**18**	**24**	**0**	**58**	**$ 10,683.00**
1	Site inspection to determine if facilities are complete and in compliance with Contract documents.	Hours			24		24	$ 3,942.00
2	Preparation of punchlist and inspection of punchlist item corrective actions.	Hours	8	10			18	$ 3,555.00
3	Recommendation to City as to the release of payments and retention to Contractor.	Hours	8	8			16	$ 3,186.00
Task 2.3 Record Compliation and Submittal (Dec 2026)		**TOTAL**	**31**	**25**	**0**	**0**	**56**	**$ 11,238.75**
1	Preparation and submittal of a complete set of organized construction contract documentation;	Hours	5	15			20	$ 3,836.25
2	Review submittals of any as-built drawings made by the Contractor during construction.	Hours	10	5			15	$ 3,060.00
3	[illegible]	Hours	16	5			21	$ 4,342.50
Task 2.4 Obtaining Warranty and Lien Release Information from Contract		**TOTAL**	**12**	**8**	**0**	**0**	**20**	**$ 4,041.00**
1	The Consultant shall work with the Contractor to obtain all warranty and lien release information.	Hours	12	8			20	$ 4,041.00
Task 2.5 Final Electronic Submittals (Dec 2026)		Hours	**10**	**20**	**0**	**0**	**30**	**$ 5,827.50**
1	Project files, similar to the Caltrans file system;	Hours	10	20			30	$ 5,827.50
	TOTAL HOURS		**810**	**715**	**877**	**275**		

TOTAL HOURS	TOTAL NTE & T&M ESTIMATE
2,402	$ 449,102.25
275	$ 40,800.99
TOTAL COST	**$ 489,903.24**

CITY OF SACRAMENTO 10-H FORM

Approved with Supplement # (type Original if it is the Original):

CONTRACTOR Name: MCK AMERICAS INC. Date: 11/21/2025

Project Name: DEL RIO TRAIL 72-INCH FORCE MAIN

Project #: X14170114

Fringe Benefit %	+	*Overhead %	=	Combined %
34.49%		79.80%		114.29%

Profit %: 5.00%

[Actual Base Hourly Rate Paid to Employee + (Actual Base Hourly Rate Paid to Employee x Combined %)] = A

A x Profit % = B A + B = Actual Fully Loaded Hourly Rate

Key Staff	Prevailing Wage	Classification	Name	Actual Base Hourly Rate Paid to Employee For Reference Only (Does not Include any Fringe or OH)	Actual Fully Loaded Hourly Rate For Reference Only (Includes Fringe, OH & Profit)		Approved Flat Hourly Billing Rate	RATE CHECK (Column J-L) difference should be > or = 0
X		Resident Engineer	Deborah Hart	$95.00	$213.75			$213.75
X		Project Manager/Office Engineer	Nate Gavzy	$82.00	$184.50			$184.50
X		Inspector	Dan Anderson	$73.00	$164.25	#		$164.25
					$0.00			$0.00
					$0.00			$0.00
					$0.00			$0.00
					$0.00			$0.00
					$0.00			$0.00
					$0.00			$0.00
					$0.00			$0.00
					$0.00			$0.00
					$0.00			$0.00
					$0.00			$0.00

Other Direct Costs (ODC) Items and Rates

Estimated ODC Budgets Shall Be Included in Cost Proposal.

Description	Rate	Total
Material Testing & Special Inspection - Crawford Associates	Estimate of $40,800.99	$ 40,800.99
		$ -
		$ -
ODCs need to be itemized and compliant		$ -
with note 9 below. No misc. descriptions.		$ -
Examples on 10-H Instructions tab.		$ -
(this message will not print)		$ -
	TOTAL	$ 40,800.99

1. List all Professional and Supervisory staff by Classification and Name. For staff not listed by name but by classification only, a current payroll document identifying their actual base hourly rate shall be provided with every invoice where an unlisted staff bills time. The approved flat hourly billing rates for all employees will be calculated and reimbursed based on their actual base hourly rates per the date noted above unless CITY Project Manager assigns a fair and reasonable flat hourly billing rate for selected employees. For staff not listed by name but by classification only, the reimbursement will not exceed the approved flat hourly billing rate for that classification. Approved flat hourly billing rates for new employees hired after the date of this cost proposal will not exceed (or shall be in line with) the rates of similar personnel with similar experience listed on this cost proposal. The approved flat hourly billing rate shall be all-inclusive, including all mark-ups, fringe, and overhead expenses and profit.
2. Key Staff shall be determined by CITY Project Manager. (i.e., named Project Manager, a specific Principal Engineer, a specific Structural Engineer, etc. Note Key staff with an "X" in the Key Staff column.
3. The employees' actual base hourly rates used to negotiate the flat hourly billing rates in this 10-H Form are the rates that were effective per the date noted above. Addition of new staff, new classifications, or addition of a SUBCONTRACTOR not previously listed on the approved 10-H Form(s) shall require written approval from the CITY. No work shall commence until the approval is provided by the CITY. New staff shall be paid at the same or lower approved flat hourly billing rate of the previously approved or similar classification. In addition, if the substitution involves Key Staff, CONTRACTOR must request and justify the need for the substitution and obtain approval from CITY Project Manager. Substituted Key Staff shall be as qualified as the original.
4. Approved flat hourly billing rates include all standard equipment including laptop, camera, cell phone, truck, standard personal safety equipment. CITY Project Manager shall approve any other direct costs.
5. Note employees/classifications that are subject to prevailing wage requirements with an "X" in the Prevailing Wage column. Prevailing Wage specified is based on current Department of Industrial Relations (DIR) determination. CONTRACTOR shall be responsible for any future adjustments to the prevailing wage, including but not limited to, base hourly rates and employer payments as determined by the DIR. CONTRACTOR is responsible for paying the appropriate rate, including escalations that take place during the term of the Agreement. CONTRACTOR shall be reimbursed at the above listed approved flat hourly billing rates.
6. Overtime may be reimbursed to classifications where it is required by their union contracts (Prevailing Wage classifications). Overtime will not be charged unless prior written approval is received by CITY Project Manager. CITY shall pay CONTRACTOR at the approved overtime rates noted above. CONTRACTOR shall pay prevailing wage employees per prevailing wage guidelines.
7. Local transportation costs resulting from commuting to and from the employee's residence to the office or job site are not reimbursable.
8. The Project will not reimburse CONTRACTOR for costs to relocate its staff to the geographic area of the contract. The Project will not reimburse CONTRACTOR for any per diem.
9. ODC items are to be in compliance with Code of Federal Regulations, Title 48 Part 31 [Federal Acquisition Regulations (FAR) cost principles] and the firm's company-wide allocation policies and charging practices with all clients including federal government, state government, local agencies and private clients.

By signing here, you agree to the terms above, and attest that all information is accurate and true.

sign here (this message will not print)

CONTRACTOR/SUBCONTRACTOR'S AUTHORIZED PERSON SIGNATURE

(type/print name here)

EXHIBIT C

INSURANCE

1. **Insurance Requirements**. During the entire term of this Contract, Contractor shall maintain the insurance coverage described in the Insurance Terms below. Full compensation for all premiums that Contractor is required to pay for the insurance coverage described herein shall be included in the compensation specified under this Contract. No additional compensation will be provided for Contractor's insurance premiums. Any available insurance proceeds in excess of the specified minimum limits and coverages shall be available to the City.

   Contractor's liability to the City is not in any way limited to or affected by the amount of insurance coverage required or carried by the Contractor in connection with this Contract.

2. **General Liability Minimum Scope and Limits of Insurance Coverage.** Commercial General Liability Insurance is required providing coverage at least as broad as ISO CGL Form 00 01 on an occurrence basis for bodily injury, including death, of one or more persons, property damage, and personal injury, arising out of activities performed by or on behalf of the Contractor and subcontractors, products and completed operations of Contractor and subcontractors, and premises owned, leased, or used by Contractor and subcontractors, with limits of not less than one million dollars ($1,000,000) per occurrence. The policy shall provide contractual liability and products and completed operations coverage for the term of the policy.

   The City, its officials, employees and volunteers shall be covered by policy terms or endorsement as additional insureds as respects general liability arising out of: activities performed by or on behalf of Contractor and subcontractors; products and completed operations of Contractor and subcontractors; and premises owned, leased, or used by Contractor and subcontractors.

3. **Automobile Liability Minimum Scope and Limits of Insurance Coverage**. (*Check the applicable provision*.)

   _X_ Automobile Liability Insurance is required providing coverage at least as broad as ISO Form CA 00 01 for bodily injury, including death, of one or more persons, property damage and personal injury, with limits of not less than one million dollars ($1,000,000) per occurrence. The policy shall provide coverage for owned, non-owned and/or hired autos as appropriate to the operations of the Contractor.

   The City, its officials, employees and volunteers shall be covered by policy terms or endorsement as additional insureds as respects auto liability.

   ___ No automobile liability insurance is required, and by signing this Contract, Contractor certifies as follows:

   "Contractor certifies that a motor vehicle will not be used in the performance of any work or services under this agreement. If, however, Contractor does transport items under this Contract, or this Contract is amended to require any employees of Contractor to use a

vehicle to perform services under the Contract, Contractor understands that it must maintain and provide evidence of Automobile Liability Insurance providing coverage at least as broad as ISO Form CA 00 01 for bodily injury, including death, of one or more persons, property damage and personal injury, with limits of not less than one million dollars ($1,000,000*)* per occurrence. The policy shall provide coverage for owned, non-owned and/or hired autos as appropriate to the operations of the Contractor."

4. **Excess Insurance**. The minimum limits of insurance required above may be satisfied by a combination of primary and umbrella or excess insurance coverage, provided that any umbrella or excess insurance contains, or is endorsed to contain, a provision that it will apply on a primary basis for the benefit of the City, and any insurance or self-insurance maintained by City, its officials, employees, or volunteers will be in excess of Contractor's umbrella or excess coverage and will not contribute to it.

5. **Workers' Compensation Minimum Scope and Limits of Insurance Coverage.** (*Check the applicable provision*.)

_X_ Workers' Compensation Insurance is required with statutory limits and Employers' Liability Insurance with limits of not less than one million dollars ($1,000,000). The Workers' Compensation policy shall include a waiver of subrogation in favor of the City.

___ No work or services will be performed on or at CITY facilities or CITY Property, therefore a Workers' Compensation waiver of subrogation in favor of the CITY is not required.

___ No Workers' Compensation insurance is required, and by signing this Contract, Contractor certifies as follows:

"Contractor certifies that its business has no employees, and that it does not employ anyone, and is therefore exempt from the legal requirements to provide Workers' Compensation insurance. If, however, Contractor hires any employee during the term of this Contract, Contractor understands that Workers' Compensation with statutory limits and Employer's Liability Insurance with a limit of not less than one million dollars ($1,000,000) is required. The Workers' Compensation policy will include a waiver of subrogation in favor of the City."

6. **Professional Liability Minimum Scope and Limits of Insurance Coverage.** Professional Liability Insurance providing coverage on a claims-made basis for errors and omissions, or malpractice with limits of not less than one million dollars ($1,000,000):

Is _X_ Is not _____ *[check one]* required for this Agreement.

If required, such coverage must be continued for at least 3 year(s) following the completion of all Services under this Contract. The retroactive date must be prior to the date this Contract is approved or any Services are performed.

7. **Other Insurance Provisions.** The policies must contain, or be endorsed to contain, the following provisions:

   A. Contractor's insurance coverage, including excess insurance, shall be primary insurance as respects the City, its officials, employees and volunteers. Any insurance or self-insurance maintained by the City, its officials, employees or volunteers will be in excess of Contractor's insurance and will not contribute with it.

   B. Any failure to comply with reporting provisions of the policies will not affect coverage provided to the City, its officials, employees or volunteers.

   C. Coverage shall state that Contractor's insurance applies separately to each insured against whom claim is made or suit is brought, except with respect to the limits of the insurer's liability.

   D. Contractor shall provide the City with 30 days written notice of cancellation or material change in the policy language or terms.

8. **Acceptability of Insurance**. Insurance must be placed with insurers with a Bests' rating of not less than A:VI. Self-insured retentions, policy terms or other variations that do not comply with the requirements of this Exhibit C must be declared to and approved by the City in writing before execution of this Contract.

9. **Verification of Coverage.**

   A. Contractor shall furnish City with certificates and required endorsements evidencing the insurance required. Certificates of insurance must be signed by an authorized representative of the insurance carrier. Copies of policies shall be delivered to the City Representative on demand.

   B. Contractor shall send all insurance certificates and endorsements, including policy renewals, during the term of this Contract directly to:

      City of Sacramento
      c/o Exigis LLC
      PO Box 947
      Murrieta, CA 92564

   C. Certificate Holder must be listed as:

      City of Sacramento
      c/o Exigis LLC
      PO Box 947
      Murrieta, CA 92564

   D. The City may withdraw its offer of Contract or cancel this Contract if the certificates of insurance and endorsements required have not been provided before execution of this Contract. The City may withhold payments to Contractor and/or cancel the Contract if the insurance is canceled or Contractor otherwise ceases to be insured as required herein.

10. **Subcontractor Insurance Coverage**. Contractor shall require and verify that all subcontractors maintain insurance coverage that meets the minimum scope and limits of insurance coverage specified in this Exhibit C.

CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY): 11/24/2025

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

IMPORTANT: If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must have ADDITIONAL INSURED provisions or be endorsed. If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

PRODUCER
AssuredPartners Design Professionals Insurance Services, LLC
3697 Mt. Diablo Blvd Suite 230
Lafayette CA 94549

License#: 6003745

CONTACT NAME: Helen Jang
PHONE (A/C, No, Ext): 626-696-1892 **FAX (A/C, No):**
E-MAIL ADDRESS: CertsDesignPro@AssuredPartners.com

INSURER(S) AFFORDING COVERAGE	NAIC #
INSURER A : Trumbull Insurance Company	27120
INSURER B : Hartford Casualty Insurance Company	29424
INSURER C : Hartford Underwriters Insurance Company	30104
INSURER D : US Specialty Insurance Company	29599
INSURER E :	
INSURER F :	

INSURED
MCK Americas, Inc. dba: MCK Associates, LLC
150 Executive Park Blvd. Ste 2150
San Francisco CA 94134

MCKAMER-01

COVERAGES **CERTIFICATE NUMBER:** 1041348936 **REVISION NUMBER:**

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

INSR LTR	TYPE OF INSURANCE	ADDL INSD	SUBR WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS	
C	X **COMMERCIAL GENERAL LIABILITY**	Y	Y	57SBWBN1PG4	7/29/2025	7/29/2026	EACH OCCURRENCE	$ 2,000,000
	[ ] CLAIMS-MADE [X] OCCUR						DAMAGE TO RENTED PREMISES (Ea occurrence)	$ 1,000,000
	X Contractual Liab						MED EXP (Any one person)	$ 10,000
	[ ] Included						PERSONAL & ADV INJURY	$ 2,000,000
	GEN'L AGGREGATE LIMIT APPLIES PER:						GENERAL AGGREGATE	$ 4,000,000
	[ ] POLICY [X] PRO-JECT [ ] LOC						PRODUCTS - COMP/OP AGG	$ 4,000,000
	[ ] OTHER:							$
A	**AUTOMOBILE LIABILITY**	Y	Y	57UEGFM1054	7/29/2025	7/29/2026	COMBINED SINGLE LIMIT (Ea accident)	$ 1,000,000
	X ANY AUTO						BODILY INJURY (Per person)	$
	[ ] OWNED AUTOS ONLY [ ] SCHEDULED AUTOS						BODILY INJURY (Per accident)	$
	[ ] HIRED AUTOS ONLY [ ] NON-OWNED AUTOS ONLY						PROPERTY DAMAGE (Per accident)	$
								$
C	X **UMBRELLA LIAB** [X] OCCUR	Y	Y	57SBWBN1PG4	7/29/2025	7/29/2026	EACH OCCURRENCE	$ 1,000,000
	[ ] **EXCESS LIAB** [ ] CLAIMS-MADE						AGGREGATE	$ 1,000,000
	[ ] DED [X] RETENTION $ 10,000							$
B	**WORKERS COMPENSATION AND EMPLOYERS' LIABILITY** Y / N		Y	57WEGBH8ZRB	7/29/2025	7/29/2026	X PER STATUTE [ ] OTH-ER	
	ANYPROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? [ ] **(Mandatory in NH)**	N / A					E.L. EACH ACCIDENT	$ 1,000,000
	If yes, describe under DESCRIPTION OF OPERATIONS below						E.L. DISEASE - EA EMPLOYEE	$ 1,000,000
							E.L. DISEASE - POLICY LIMIT	$ 1,000,000
D	Professional Liability			USS2535830	7/29/2025	7/29/2026	Per Claim Aggregate Limit	$2,000,000 $2,000,000

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (ACORD 101, Additional Remarks Schedule, may be attached if more space is required)
The following policies are included in the underlying schedule of insurance for umbrella/excess liability: General Liability/Auto Liability/Employers Liability.
Project: City of Sacramento Department of Utilities, Del Rio Trail 72-Inch Force Main Rehabilitation Project, Bid Transaction #P25141311011.
The City of Sacramento, its officials, employees and volunteers are named as an additional insured as respects general liability and auto liability as required per written contract. General Liability and Auto Liability are Primary/Non-Contributory per policy form wording. Insurance coverage includes waiver of subrogation per the attached endorsement(s).

CERTIFICATE HOLDER

City of Sacramento
c/o EXIGIS LLC
P.O. Box 947
Murrieta CA 92564

CANCELLATION 30 Day Notice of Cancellation

SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS.

AUTHORIZED REPRESENTATIVE

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Policy Number: 57 UEG FM1054

THIS ENDORSEMENT CHANGES THE POLICY. PLEASE READ IT CAREFULLY.

NOTICE OF CANCELLATION TO CERTIFICATE HOLDER(S)

This policy is subject to the following additional Conditions:

A. If this policy is cancelled by the Company, other than for nonpayment of premium, notice of such cancellation will be provided at least thirty (30) days in advance of the cancellation effective date to the certificate holder(s) with mailing addresses on file with the agent of record or the Company.

B. If this policy is cancelled by the Company for nonpayment of premium, or by the insured, notice of such cancellation will be provided within (10) days of the cancellation effective date to the certificate holder(s) with mailing addresses on file with the agent of record or the Company.

If notice is mailed, proof of mailing to the last known mailing address of the certificate holder(s) on file with the agent of record or the Company will be sufficient proof of notice.

Any notification rights provided by this endorsement apply only to active certificate holder(s) who were issued a certificate of insurance applicable to this policy's term.

Failure to provide such notice to the certificate holder(s) will not amend or extend the date the cancellation becomes effective, nor will it negate cancellation of the policy. Failure to send notice shall impose no liability of any kind upon the Company or its agents or representatives.

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THIS ENDORSEMENT CHANGES THE POLICY. PLEASE READ IT CAREFULLY.

BLANKET ADDITIONAL INSURED BY CONTRACT

This endorsement modifies insurance provided under the following:

BUSINESS LIABILITY COVERAGE FORM

Except as otherwise stated in this endorsement, the terms and conditions of the Policy apply.

A. The following is added to Section **C. WHO IS AN INSURED**:

Additional Insureds When Required By Written Contract, Written Agreement Or Permit

The person(s) or organization(s) identified in Paragraphs **a**. through **f**. below are additional insureds when you have agreed, in a written contract or written agreement, or when required by a written permit issued by a state or governmental agency or subdivision or political subdivision that such person or organization be added as an additional insured on your Coverage Part, provided the injury or damage occurs subsequent to the execution of the contract or agreement, or the issuance of the permit.

A person or organization is an additional insured under this provision only for that period of time required by the contract, agreement or permit.

However, no such person or organization is an additional insured under this provision if such person or organization is included as an additional insured by any other endorsement issued by us and made a part of this Coverage Part.

The insurance afforded to such additional insured will not be broader than that which you are required by the contract, agreement, or permit to provide for such additional insured.

The insurance afforded to such additional insured only applies to the extent permitted by law.

The limits of insurance that apply to additional insureds are described in Section **D. LIABILITY AND MEDICAL EXPENSES LIMITS OF INSURANCE**. How this insurance applies when other insurance is available to an additional insured is described in the Other Insurance Condition in Section **E. LIABILITY AND MEDICAL EXPENSES GENERAL CONDITIONS.**

a. Vendors

Any person(s) or organization(s) (referred to below as vendor), but only with respect to "bodily injury" or "property damage" arising out of "your products" which are distributed or sold in the regular course of the vendor's business and only if this Coverage Part provides coverage for "bodily injury" or "property damage" included within the "products-completed operations hazard".

(1) The insurance afforded to the vendor is subject to the following additional exclusions:

This insurance does not apply to:

(a) "Bodily injury" or "property damage" for which the vendor is obligated to pay damages by reason of the assumption of liability in a contract or agreement. This exclusion does not apply to liability for damages that the vendor would have in the absence of the contract or agreement;

(b) Any express warranty unauthorized by you;

(c) Any physical or chemical change in the product made intentionally by the vendor;

(d) Repackaging, except when unpacked solely for the purpose of inspection, demonstration, testing, or the substitution of parts under instructions from the manufacturer, and then repackaged in the original container;

(e) Any failure to make such inspections, adjustments, tests or servicing as the vendor has agreed to make or normally undertakes to make in the usual course of business, in connection with the distribution or sale of the products;

(f) Demonstration, installation, servicing or repair operations, except such operations performed at the vendor's premises in connection with the sale of the product;

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(g) Products which, after distribution or sale by you, have been labeled or relabeled or used as a container, part or ingredient of any other thing or substance by or for the vendor; or

(h) "Bodily injury" or "property damage" arising out of the sole negligence of the vendor for its own acts or omissions or those of its employees or anyone else acting on its behalf. However, this exclusion does not apply to:

(i) The exceptions contained in Paragraphs **(d)** or **(f)**; or

(ii) Such inspections, adjustments, tests or servicing as the vendor has agreed to make or normally undertakes to make in the usual course of business, in connection with the distribution or sale of the products.

(2) This insurance does not apply to any insured person or organization from whom you have acquired such products, or any ingredient, part or container, entering into, accompanying or containing such products.

b. Lessors Of Equipment

(1) Any person or organization from whom you lease equipment; but only with respect to their liability for "bodily injury", "property damage" or "personal and advertising injury" caused, in whole or in part, by your maintenance, operation or use of equipment leased to you by such person or organization.

(2) With respect to the insurance afforded to these additional insureds, this insurance does not apply to any "occurrence" which takes place after you cease to lease that equipment.

c. Lessors Of Land Or Premises

(1) Any person or organization from whom you lease land or premises, but only with respect to liability arising out of the ownership, maintenance or use of that part of the land or premises leased to you.

(2) With respect to the insurance afforded to these additional insureds, this insurance does not apply to:

(a) Any "occurrence" which takes place after you cease to lease that land or be a tenant in that premises; or

(b) Structural alterations, new construction or demolition operations performed by or on behalf of such person or organization.

d. Architects, Engineers Or Surveyors

(1) Any architect, engineer, or surveyor, but only with respect to liability for "bodily injury", "property damage" or "personal and advertising injury" caused, in whole or in part, by your acts or omissions or the acts or omissions of those acting on your behalf:

(a) In connection with your premises;

(b) In the performance of your ongoing operations performed by you or on your behalf; or

(c) In connection with "your work" and included within the "products-completed operations hazard", but only if:

(i) The written contract, written agreement or permit requires you to provide such coverage to such additional insured; and

(ii) This Coverage Part provides coverage for "bodily injury" or "property damage" included within the "products-completed operations hazard".

(2) With respect to the insurance afforded to these additional insureds, the following additional exclusion applies:

This insurance does not apply to "bodily injury", "property damage" or "personal and advertising injury" arising out of the rendering of or the failure to render any professional services, including:

(i) The preparing, approving, or failure to prepare or approve, maps, shop drawings, opinions, reports, surveys, field orders, change orders, designs or drawings and specifications; or

(ii) Supervisory, surveying, inspection, architectural or engineering activities.

This exclusion applies even if the claims allege negligence or other wrongdoing in the supervision, hiring, employment, training or monitoring of others by an insured, if the “bodily injury”, “property

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damage", or "personal and advertising injury" arises out of the rendering of or the failure to render any professional service.

e. State Or Governmental Agency Or Subdivision Or Political Subdivision Issuing Permit

(1) Any state or governmental agency or subdivision or political subdivision, but only with respect to operations performed by you or on your behalf for which the state or governmental agency or subdivision or political subdivision has issued a permit.

(2) With respect to the insurance afforded to these additional insureds, this insurance does not apply to:

(a) "Bodily injury", "property damage" or "personal and advertising injury" arising out of operations performed for the federal government, state or municipality; or

(b) "Bodily injury" or "property damage" included within the "products-completed operations hazard".

f. Any Other Party

(1) Any other person or organization who is not in one of the categories or classes listed above in Paragraphs **a**. through **e**. above, but only with respect to liability for "bodily injury", "property damage" or "personal and advertising injury" caused, in whole or in part, by your acts or omissions or the acts or omissions of those acting on your behalf:

(a) In the performance of your ongoing operations performed by you or on your behalf;

(b) In connection with your premises owned by or rented to you; or

(c) In connection with "your work" and included within the "products-completed operations hazard", but only if:

(i) The written contract, written agreement or permit requires you to provide such coverage to such additional insured; and

(ii) This Coverage Part provides coverage for "bodily injury" or "property damage" included within the "products-completed operations hazard".

(2) With respect to the insurance afforded to these additional insureds, the following additional exclusion applies:

This insurance does not apply to "bodily injury", "property damage" or "personal and advertising injury" arising out of the rendering of, or the failure to render, any professional architectural, engineering or surveying services, including:

(a) The preparing, approving, or failure to prepare or approve, maps, shop drawings, opinions, reports, surveys, field orders, change orders, designs or drawings and specifications; or

(b) Supervisory, surveying, inspection, architectural or engineering activities.

This exclusion applies even if the claims allege negligence or other wrongdoing in the supervision, hiring, employment, training or monitoring of others by an insured, if the "bodily injury", "property damage", or "personal and advertising injury" arises out of the rendering of or the failure to render any professional service described in Paragraphs **f.(2)(a)** or **f.(2)(b)** above.

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a. "Bodily injury" to a co-"employee" of the person operating the watercraft; or

b. "Property damage" to property owned by, rented to, in the charge of or occupied by you or the employer of any person who is an insured under this provision.

No person or organization is an insured with respect to the conduct of any current or past partnership, joint venture or limited liability company that is not shown as a Named Insured in the Declarations.

D. LIABILITY AND MEDICAL EXPENSES LIMITS OF INSURANCE

1. The Most We Will Pay

The Limits of Insurance shown in the Declarations and the rules below fix the most we will pay regardless of the number of:

a. Insureds;

b. Claims made or "suits" brought; or

c. Persons or organizations making claims or bringing "suits".

2. Aggregate Limits

The most we will pay for:

a. Damages because of "bodily injury" and "property damage" included in the "products-completed operations hazard" is the Products-Completed Operations Aggregate Limit shown in the Declarations.

b. Damages because of all other "bodily injury", "property damage" or "personal and advertising injury", including medical expenses, is the General Aggregate Limit shown in the Declarations.

This General Aggregate limit does not apply to "property damage" to premises while rented to you or temporarily occupied by you with permission of the owner, arising out of fire, lightning or explosion.

3. Each Occurrence Limit

Subject to **2.a.** or **2.b** above, whichever applies, the most we will pay for the sum of all damages because of all "bodily injury", "property damage" and medical expenses arising out of any one "occurrence" is the Liability and Medical Expenses Limit shown in the Declarations.

The most we will pay for all medical expenses because of "bodily injury" sustained by any one person is the Medical Expenses Limit shown in the Declarations.

4. Personal And Advertising Injury Limit

Subject to **2.b.** above, the most we will pay for the sum of all damages because of all "personal and advertising injury" sustained by any one person or organization is the Personal and Advertising Injury Limit shown in the Declarations.

5. Damage To Premises Rented To You Limit

The Damage To Premises Rented To You Limit is the most we will pay under Business Liability Coverage for damages because of "property damage" to any one premises, while rented to you, or in the case of damage by fire, lightning or explosion, while rented to you or temporarily occupied by you with permission of the owner.

In the case of damage by fire, lightning or explosion, the Damage to Premises Rented To You Limit applies to all damage proximately caused by the same event, whether such damage results from fire, lightning or explosion or any combination of these.

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6. How Limits Apply To Additional Insureds

The most we will pay on behalf of a person or organization who is an additional insured under this Coverage Part is the lesser of:

a. The limits of insurance required in a written contract, written agreement or permit; or

b. The Limits of Insurance shown in the Declarations.

Such amount shall be a part of and not in addition to the Limits of Insurance shown in the Declarations and described in this Section.

If more than one limit of insurance under this Policy and any endorsements attached thereto applies to any claim or "suit", the most we will pay under this Policy and the endorsements is the single highest limit of liability of all

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coverages applicable to such claim or "suit". However, this paragraph does not apply to the Medical Expenses limit set forth in Paragraph **3.** above.

The Limits of Insurance of this Coverage Part apply separately to each consecutive annual period and to any remaining period of less than 12 months, starting with the beginning of the policy period shown in the Declarations, unless the policy period is extended after issuance for an additional period of less than 12 months. In that case, the additional period will be deemed part of the last preceding period for purposes of determining the Limits of Insurance.

E. LIABILITY AND MEDICAL EXPENSES GENERAL CONDITIONS

1. Bankruptcy

Bankruptcy or insolvency of the insured or of the insured's estate will not relieve us of our obligations under this Coverage Part.

2. Duties In The Event Of Occurrence, Offense, Claim Or Suit

a. Notice Of Occurrence Or Offense

You or any additional insured under this Coverage Part must see to it that we are notified as soon as practicable of an "occurrence" or an offense which may result in a claim. To the extent possible, notice should include:

(1) How, when and where the "occurrence" or offense took place;

(2) The names and addresses of any injured persons and witnesses; and

(3) The nature and location of any injury or damage arising out of the "occurrence" or offense.

b. Notice Of Claim

If a claim is made or "suit" is brought against any insured, you or any additional insured under this Coverage Part must:

(1) Immediately record the specifics of the claim or "suit" and the date received; and

(2) Notify us as soon as practicable.

You or any additional insured under this Coverage Part must see to it that we receive a written notice of the claim or "suit" as soon as practicable.

c. Assistance And Cooperation Of The Insured

You and any other involved insured must:

(1) Immediately send us copies of any demands, notices, summonses or legal papers received in connection with the claim or “suit”;

(2) Authorize us to obtain records and other information;

(3) Cooperate with us in the investigation, settlement of the claim or defense against the "suit"; and

(4) Assist us, upon our request, in the enforcement of any right against any person or organization that may be liable to the insured because of injury or damage to which this insurance may also apply.

d. Obligations At The Insured's Own Cost

No insured will, except at that insured's own cost, voluntarily make a payment, assume any obligation, or incur any expense, other than for first aid, without our consent.

e. Additional Insured's Other Insurance

If we cover a claim or "suit" under this Coverage Part that may also be covered by other insurance available to an additional insured under this Coverage Part, such additional insured must submit such claim or "suit" to the other insurer for defense and indemnity.

However, this provision does not apply to the extent that you have agreed in a written contract, written agreement or permit that this insurance is primary and non-contributory with such additional insured's own insurance.

f. Knowledge Of An Occurrence, Offense, Claim Or Suit

Paragraphs **a.** and **b.** apply to you or to any additional insured under this Coverage Part only when such "occurrence", offense, claim or "suit" is known to:

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(1) You or any additional insured under this Coverage Part that is an individual;

(2) Any partner, if you or an additional insured under this Coverage Part is a partnership;

(3) Any manager, if you or an additional insured under this Coverage Part is a limited liability company;

(4) Any "executive officer" or insurance manager, if you or an additional insured under this Coverage Part is a corporation;

(5) Any trustee, if you or an additional insured under this Coverage Part is a trust; or

(6) Any elected or appointed official, if you or an additional insured under this Coverage Part is a political subdivision or public entity.

This Paragraph **f.** applies separately to you and any additional insured under this Coverage Part.

3. Legal action Against Us

No person or organization has a right under this Coverage Part:

a. To join us as a party or otherwise bring us into a "suit" asking for damages from an insured; or

b. To sue us on this Coverage Part unless all of its terms have been fully complied with.

A person or organization may sue us to recover on an agreed settlement or on a final judgment against an insured; but we will not be liable for damages that are not payable under the terms of this insurance or that are in excess of the applicable limit of insurance. An agreed settlement means a settlement and release of liability signed by us, the insured and the claimant or the claimant's legal representative.

4. Separation Of Insureds

Except with respect to the Limits of Insurance, and any rights or duties specifically assigned in this Policy to the first Named Insured, this insurance applies:

a. As if each Named Insured were the only Named Insured; and

b. Separately to each insured against whom a claim is made or "suit" is brought.

5. Representations

a. When You Accept This Policy

By accepting this Policy, you agree:

(1) The statements in the Declarations are accurate and complete;

(2) Those statements are based upon representations you made to us; and

(3) We have issued this Policy in reliance upon your representations.

b. Unintentional Failure To Disclose Hazards

If unintentionally you should fail to disclose all hazards relating to the conduct of your business at the inception date of this Coverage Part, we shall not deny any coverage under this Coverage Part because of such failure.

6. Other Insurance

If other valid and collectible insurance is available for a loss we cover under this Coverage Part, our obligations are limited as follows:

a. Primary Insurance

This insurance is primary except when **b.** below applies. If other insurance is also primary, we will share with all that other insurance by the method described in **c.** below.

b. Excess Insurance

This insurance is excess over any of the other insurance, whether primary, excess, contingent or on any other basis:

(1) Your Work

That is Fire, Extended Coverage, Builder's Risk, Installation Risk, Owner Controlled Insurance Program or OCIP, Contractor Controlled Insurance Program or CCIP, Wrap Up Insurance or similar coverage for "your work";

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(2) Premises Rented To You

That is fire, lightning or explosion insurance for premises rented to you or temporarily occupied by you with permission of the owner;

(3) Tenant Liability

That is insurance purchased by you to cover your liability as a tenant for "property damage" to premises rented to you or temporarily occupied by you with permission of the owner;

(4) Aircraft, Auto Or Watercraft

If the loss arises out of the maintenance or use of aircraft, "autos" or watercraft to the extent not subject to Exclusion **g.** of Section **B.** Exclusions.

(5) Property Damage To Borrowed Equipment Or Use Of Elevators

If the loss arises out of "property damage" to borrowed equipment or the use of elevators to the extent not subject to Exclusion **k.** of Section **B.** Exclusions.

(6) When You Are Added As An Additional Insured To Other Insurance

That is other insurance available to you covering liability for damages arising out of the premises or operations, or products and completed operations, for which you have been added as an additional insured by that insurance; or

(7) When You Add Others As An Additional Insured To This Insurance

That is other insurance available to an additional insured.

However, the following provisions apply to other insurance available to any person or organization who is an additional insured under this Coverage Part:

(a) Primary Insurance When Required By Contract

This insurance is primary if you have agreed in a written contract, written agreement or permit that this insurance be primary. If other insurance is also primary, we will share with all that other insurance by the method described in **c.** below.

(b) Primary And Non-Contributory To Other Insurance When Required By Contract

If you have agreed in a written contract, written agreement or permit that this insurance is primary and non-contributory with the additional insured's own insurance, this insurance is primary and we will not seek contribution from that other insurance.

Paragraphs **(a)** and **(b)** do not apply to other insurance to which the additional insured has been added as an additional insured.

When this insurance is excess, we will have no duty under this Coverage Part to defend the insured against any "suit" if any other insurer has a duty to defend the insured against that "suit". If no other insurer defends, we will undertake to do so, but we will be entitled to the insured's rights against all those other insurers.

When this insurance is excess over other insurance, we will pay only our share of the amount of the loss, if any, that exceeds the sum of:

(1) The total amount that all such other insurance would pay for the loss in the absence of this insurance; and

(2) The total of all deductible and self-insured amounts under all that other insurance.

We will share the remaining loss, if any, with any other insurance that is not described in this Excess Insurance provision and was not bought specifically to apply in excess of the Limits of Insurance shown in the Declarations of this Coverage Part.

c. Method Of Sharing

If all the other insurance permits contribution by equal shares, we will follow this method also. Under this approach, each insurer contributes equal amounts until it has paid its applicable limit of insurance or none of the loss remains, whichever comes first.

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If any of the other insurance does not permit contribution by equal shares, we will contribute by limits. Under this method, each insurer's share is based on the ratio of its applicable limit of insurance to the total applicable limits of insurance of all insurers.

7. Transfer Of Rights Of Recovery Against Others To Us

a. Transfer Of Rights Of Recovery

If the insured has rights to recover all or part of any payment, including Supplementary Payments, we have made under this Coverage Part, those rights are transferred to us. The insured must do nothing after loss to impair them. At our request, the insured will bring "suit" or transfer those rights to us and help us enforce them. This condition does not apply to Medical Expenses Coverage.

b. Waiver Of Rights Of Recovery (Waiver Of Subrogation)

If the insured has waived any rights of recovery against any person or organization for all or part of any payment, including Supplementary Payments, we have made under this Coverage Part, we also waive that right, provided the insured waived their rights of recovery against such person or organization in a contract, agreement or permit that was executed prior to the injury or damage.

F. LIABILITY AND MEDICAL EXPENSES DEFINITIONS

1. "Advertisement" means a notice that is broadcast or published to the general public or specific market segments about your goods, products or services for the purpose of attracting customers or supporters. For the purpose of this definition:

a. Notices that are published include material placed on the Internet or on similar electronic means of communication; and

b. Regarding web sites, only that part of a web site that is about your goods, products or services for the purpose of attracting customers or supporters is considered an advertisement.

2. "Advertising idea" means any idea for an "advertisement".

3. "Asbestos hazard" means an exposure or threat of exposure to the actual or alleged properties of asbestos and includes the mere presence of asbestos in any form.

4. "Auto" means:

a. A land motor vehicle, trailer or semi-trailer designed for travel on public roads, including any attached machinery or equipment; or

b. Any other land vehicle that is subject to a compulsory or financial responsibility law or other motor vehicle insurance or motor vehicle registration law where it is licensed or principally garaged.

However, "auto" does not include "mobile equipment".

5. "Bodily injury" means physical:

a. Injury;

b. Sickness; or

c. Disease

sustained by a person and, if arising out of the above, mental anguish or death at any time.

6. "Coverage territory" means:

a. The United States of America (including its territories and possessions), Puerto Rico and Canada;

b. International waters or airspace, but only if the injury or damage occurs in the course of travel or transportation between any places included in **a.** above;

c. All other parts of the world if the injury or damage arises out of:

(1) Goods or products made or sold by you in the territory described in **a.** above;

(2) The activities of a person whose home is in the territory described in **a.** above, but is away for a short time on your business; or

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THIS ENDORSEMENT CHANGES THE POLICY. PLEASE READ IT CAREFULLY.

AMENDMENT - AGGREGATE LIMITS (PER PROJECT)

This endorsement modifies insurance provided under the following:

BUSINESS LIABILITY COVERAGE FORM

Except as otherwise stated in this endorsement, the terms and conditions of the Policy apply.

A. The following changes are made to Section **D. LIABILITY AND MEDICAL EXPENSES LIMITS OF INSURANCE**:

1. The following provision is added to Paragraph **2. Aggregate Limits**:

The General Aggregate Limit under Section **D. LIABILITY AND MEDICAL EXPENSES LIMIT OF INSURANCE** applies separately to each of your "projects".

2. The following provision is added to Paragraph **2. Aggregate Limits**:

When coverage for liability arising out of the “products-completed operations hazard” is provided, any payments for damages because of “bodily injury” or “property damage” included in the “products-completed operations hazard” will reduce the Products-Completed Operations Aggregate Limit, and not reduce the General Aggregate Limit.

B. The following changes are made to Section **F. LIABILITY AND MEDICAL EXPENSES DEFINITIONS**:

1. The following definition is added:

“Project” means a premises, site or location that is away from a premises, site or location owned or rented to you and at which “your work” at said premises, site or location has not yet been completed, as completion is described in the “products-completed operation hazard”. All of “your work” at such premises, site or location is deemed to involve a single project, regardless of whether “your work” is abandoned, delayed, or restarted, or if “your work” deviates from plans, blueprints, designs, specifications or timetables.

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POLICY NUMBER: 57SBWBN1PG4

THIS ENDORSEMENT CHANGES THE POLICY. PLEASE READ IT CAREFULLY.

NOTICE OF CANCELLATION TO CERTIFICATE HOLDER(S)

This policy is subject to the following additional Conditions:

A. If this policy is cancelled by the Company, other than for non-payment of premium, notice of such cancellation will be provided at least thirty (30) days in advance of the cancellation effective date to the certificate holder(s) with mailing addresses on file with the agent of record or the Company.

B. If this policy is cancelled by the company for non-payment of premium, or by the insured, notice of such cancellation will be provided within ten (10) days of the cancellation effective date to the certificate holder(s) with mailing addresses on file with the agent of record or the Company.

If notice is mailed, proof of mailing to the last known mailing address of the certificate holder(s) on file with the agent of record or the Company will be sufficient proof of notice.

Any notification rights provided by this endorsement apply only to active certificate holder(s) who were issued a certificate of insurance applicable to this policy's term.

Failure to provide such notice to the certificate holder(s) will not amend or extend the date the cancellation becomes effective, nor will it negate cancellation of the policy. Failure to send notice shall impose no liability of any kind upon the Company or its agents or representatives.

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THIS ENDORSEMENT CHANGES THE POLICY. PLEASE READ IT CAREFULLY.

WAIVER OF OUR RIGHT TO RECOVER FROM OTHERS ENDORSEMENT - CALIFORNIA

Policy Number: 57WEGBH8ZRB **Endorsement Number:**
Effective Date: 07/29/2025 Effective hour is the same as stated on the Information Page of the policy.
Named Insured and Address: MCK Americas, Inc. dba: MCK Associates, LLC
150 Executive Park Blvd. Ste 2150
San Francisco, CA 94134

We have the right to recover our payments from anyone liable for an injury covered by this policy. We will not enforce our right against the person or organization named in the Schedule. (This agreement applies only to the extent that you perform work under a written contract that requires you to obtain this agreement from us.)

You must maintain payroll records accurately segregating the remuneration of your employees while engaged in the work described in the Schedule.

The additional premium for this endorsement shall be 2 % of the California workers' compensation premium otherwise due on such remuneration.

SCHEDULE

Person or Organization	**Job Description**
Any person or organization from whom you are required by written contract or agreement to obtain this waiver of rights from us	

Countersigned by _____
Authorized Representative

THIS ENDORSEMENT CHANGES THE POLICY. PLEASE READ IT CAREFULLY.

COMMERCIAL AUTOMOBILE BROAD FORM ENDORSEMENT

This endorsement modifies insurance provided under the following:

BUSINESS AUTO COVERAGE FORM

To the extent that the provisions of this endorsement provide broader benefits to the "insured" than other provisions of the Coverage Form, the provisions of this endorsement apply.

1. BROAD FORM INSURED

Paragraph .1. - WHO IS AN INSURED - of Section II - Liability Coverage is amended to add the following:

d. Subsidiaries and Newly Acquired or Formed Organizations

The Named Insured shown in the Declarations is amended to include:

(1) Any legal business entity other than a partnership or joint venture, formed as a subsidiary in which you have an ownership interest of more than 50% on the effective date of the Coverage Form. However, the Named Insured does not include any subsidiary that is an "insured" under any other automobile policy or would be an "insured" under such a policy but for its termination or the exhaustion of its Limit of Insurance.

(2) Any organization that is acquired or formed by you and over which you maintain majority ownership. However, the Named Insured does not include any newly formed or acquired organization:

(a) That is a partnership or joint venture,

(b) That is an "insured" under any other policy,

(c) That has exhausted its Limit of Insurance under any other policy, or

(d) 180 days or more after its acquisition or formation by you, unless you have given us notice of the acquisition or formation.

Coverage does not apply to "bodily injury" or "property damage" that results from an "accident" that occurred before you formed or acquired the organization.

e. Employees as Insureds

(1). Any "employee" of yours while using a covered "auto" you don't own, hire or borrow in your business or your personal affairs.

f. Lessors as Insureds

(1). The lessor of a covered "auto" while the "auto" is leased to you under a written agreement if:

(a) The agreement requires you to provide direct primary insurance for the lessor and

(b) The "auto" is leased without a driver.

Such a leased "auto" will be considered a covered "auto" you own and not a covered "auto" you hire.

g. Additional Insured if Required by Contract

(1) When you have agreed, in a written contract or written agreement, that a person or organization be added as an additional insured on your business auto policy, such person or organization is an "insured", but only to the extent such person or organization is liable for "bodily injury" or "property damage" caused by the conduct of an "insured" under paragraphs a. or b. of Who Is An Insured with regard to the ownership, maintenance or use of a covered "auto."

The insurance afforded to any such additional insured applies only if the "bodily injury" or "property damage" occurs:

(a) During the policy period, and

(b) Subsequent to the execution of such written contract, and

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(c) Prior to the expiration of the period of time that the written contract requires such insurance be provided to the additional insured.

(2) How Limits Apply

If you have agreed in a written contract or written agreement that another person or organization be added as an additional insured on your policy, the most we will pay on behalf of such additional insured is the lesser of:

(a) The limits of insurance specified in the written contract or written agreement; or

(b) The Limits of Insurance shown in the Declarations.

Such amount shall be a part of and not in addition to Limits of Insurance shown in the Declarations and described in this Section.

(3) Additional Insureds Other Insurance

If we cover a claim or "suit" under this Coverage Part that may also be covered by other insurance available to an additional insured, such additional insured must submit such claim or "suit" to the other insurer for defense and indemnity.

However, this provision does not apply to the extent that you have agreed in a written contract or written agreement that this insurance is primary and non-contributory with the additional insured's own insurance.

(4) Duties in The Event Of Accident, Claim, Suit or Loss

If you have agreed in a written contract or written agreement that another person or organization be added as an additional insured on your policy, the additional insured shall be required to comply with the provisions in LOSS CONDITIONS 2. - DUTIES IN THE EVENT OF ACCIDENT, CLAIM , SUIT OR LOSS – OF SECTION IV – BUSINESS AUTO CONDITIONS, in the same manner as the Named Insured.

2. Primary and Non-Contributory if Required by Contract

Only with respect to insurance provided to an additional insured in A.1.g. - Additional Insured If Required by Contract, the following provisions apply:

(1) Primary Insurance When Required By Contract

This insurance is primary if you have agreed in a written contract or written agreement that this insurance be primary. If other insurance is also primary, we will share with all that other insurance by the method described in Other Insurance 5.d.

(2) Primary And Non-Contributory To Other Insurance When Required By Contract

If you have agreed in a written contract or written agreement that this insurance is primary and non-contributory with the additional insured's own insurance, this insurance is primary and we will not seek contribution from that other insurance.

Paragraphs **(1)** and **(2)** do not apply to other insurance to which the additional insured has been added as an additional insured.

When this insurance is excess, we will have no duty to defend the insured against any "suit" if any other insurer has a duty to defend the insured against that "suit". If no other insurer defends, we will undertake to do so, but we will be entitled to the insured's rights against all those other insurers.

When this insurance is excess over other insurance, we will pay only our share of the amount of the loss, if any, that exceeds the sum of:

(1) The total amount that all such other insurance would pay for the loss in the absence of this insurance; and

(2) The total of all deductible and self-insured amounts under all that other insurance.

We will share the remaining loss, if any, by the method described in SECTION IV- Business Auto Conditions, B. General Conditions, Other Insurance 5.d.

3. AUTOS RENTED BY EMPLOYEES

Any "auto" hired or rented by your "employee" on your behalf and at your direction will be considered an "auto" you hire.

The SECTION IV- Business Auto Conditions, B. General Conditions, 5. OTHER INSURANCE Condition is amended by adding the following:

e. If an "employee's" personal insurance also applies on an excess basis to a covered "auto" hired or rented by your "employee" on your behalf and at your direction, this insurance will be primary to the "employee's" personal insurance.

4. AMENDED FELLOW EMPLOYEE EXCLUSION

EXCLUSION 5. - FELLOW EMPLOYEE - of SECTION II - LIABILITY COVERAGE does not apply if you have workers' compensation insurance in-force covering all of your "employees".

Coverage is excess over any other collectible insurance.

5. HIRED AUTO PHYSICAL DAMAGE COVERAGE

If hired "autos" are covered "autos" for Liability Coverage and if Comprehensive, Specified Causes of Loss, or Collision coverages are provided under this Coverage Form for any "auto" you own, then the Physical Damage Coverages provided are extended to "autos" you hire or borrow, subject to the following limit.

The most we will pay for "loss" to any hired "auto" is:

(1) $100,000;

(2) The actual cash value of the damaged or stolen property at the time of the "loss"; or

(3) The cost of repairing or replacing the damaged or stolen property,

whichever is smallest, minus a deductible. The deductible will be equal to the largest deductible applicable to any owned "auto" for that coverage. No deductible applies to "loss" caused by fire or lightning. Hired Auto Physical Damage coverage is excess over any other collectible insurance. Subject to the above limit, deductible and excess provisions, we will provide coverage equal to the broadest coverage applicable to any covered "auto" you own.

We will also cover loss of use of the hired "auto" if it results from an "accident", you are legally liable and the lessor incurs an actual financial loss, subject to a maximum of $1000 per "accident".

This extension of coverage does not apply to any "auto" you hire or borrow from any of your "employees", partners (if you are a partnership), members (if you are a limited liability company), or members of their households.

6. PHYSICAL DAMAGE - ADDITIONAL TEMPORARY TRANSPORTATION EXPENSE COVERAGE

Paragraph A.4.a. of SECTION III - PHYSICAL DAMAGE COVERAGE is amended to provide a limit of $50 per day and a maximum limit of $1,000.

7. LOAN/LEASE GAP COVERAGE

Under SECTION III - PHYSICAL DAMAGE COVERAGE, in the event of a total "loss" to a covered "auto", we will pay your additional legal obligation for any difference between the actual cash value of the "auto" at the time of the "loss" and the "outstanding balance" of the loan/lease.

"Outstanding balance" means the amount you owe on the loan/lease at the time of "loss" less any amounts representing taxes; overdue payments; penalties, interest or charges resulting from overdue payments; additional mileage charges; excess wear and tear charges; lease termination fees; security deposits not returned by the lessor; costs for extended warranties, credit life Insurance, health, accident or disability insurance purchased with the loan or lease; and carry-over balances from previous loans or leases.

8. AIRBAG COVERAGE

Under Paragraph B. EXCLUSIONS - of SECTION III - PHYSICAL DAMAGE COVERAGE, the following is added:

The exclusion relating to mechanical breakdown does not apply to the accidental discharge of an airbag.

9. ELECTRONIC EQUIPMENT - BROADENED COVERAGE

a. The exceptions to Paragraphs B.4 - EXCLUSIONS - of SECTION III - PHYSICAL DAMAGE COVERAGE are replaced by the following:

Exclusions **4.c.** and **4.d.** do not apply to equipment designed to be operated solely by use of the power from the "auto's" electrical system that, at the time of "loss", is:

(1) Permanently installed in or upon the covered "auto";

(2) Removable from a housing unit which is permanently installed in or upon the covered "auto";

(3) An integral part of the same unit housing any electronic equipment described in Paragraphs (1) and (2) above; or

(4) Necessary for the normal operation of the covered "auto" or the monitoring of the covered "auto's" operating system.

b. Section III, Physical Damage Coverage, Limit of Insurance, Paragraph C.2. is amended to add the following:

$1,500 is the most we will pay for "loss" in any one "accident" to all electronic equipment (other than equipment designed solely for the reproduction of sound, and accessories used with such equipment) that reproduces, receives or transmits audio, visual or data signals which, at the time of "loss", is:

(1) Permanently installed in or upon the covered "auto" in a housing, opening or other location that is not normally used by the "auto" manufacturer for the installation of such equipment;

(2) Removable from a permanently installed housing unit as described in Paragraph 2.a. above or is an integral part of that equipment; or

(3) An integral part of such equipment.

c. For each covered "auto", should loss be limited to electronic equipment only, our obligation to pay for, repair, return or replace damaged or stolen electronic equipment will be reduced by the applicable deductible shown in the Declarations, or $250, whichever deductible is less.

10. EXTRA EXPENSE - BROADENED COVERAGE

Under Paragraph A. - COVERAGE - of SECTION III - PHYSICAL DAMAGE COVERAGE, we will pay for the expense of returning a stolen covered "auto" to you.

11. GLASS REPAIR - WAIVER OF DEDUCTIBLE

Under Paragraph D. - DEDUCTIBLE - of SECTION III - PHYSICAL DAMAGE COVERAGE, the following is added:

No deductible applies to glass damage if the glass is repaired rather than replaced.

12. TWO OR MORE DEDUCTIBLES

Under Paragraph D. - DEDUCTIBLE - of SECTION III - PHYSICAL DAMAGE COVERAGE, the following is added:

If another Hartford Financial Services Group, Inc. company policy or coverage form that is not an automobile policy or coverage form applies to the same "accident", the following applies:

(1) If the deductible under this Business Auto Coverage Form is the smaller (or smallest) deductible, it will be waived;

(2) If the deductible under this Business Auto Coverage Form is not the smaller (or smallest) deductible, it will be reduced by the amount of the smaller (or smallest) deductible.

13. AMENDED DUTIES IN THE EVENT OF ACCIDENT, CLAIM, SUIT OR LOSS

The requirement in LOSS CONDITIONS 2.a. - DUTIES IN THE EVENT OF ACCIDENT, CLAIM, SUIT OR LOSS - of SECTION IV - BUSINESS AUTO CONDITIONS that you must notify us of an "accident" applies only when the "accident" is known to:

(1) You, if you are an individual;

(2) A partner, if you are a partnership;

(3) A member, if you are a limited liability company; or

(4) An executive officer or insurance manager, if you are a corporation.

14. UNINTENTIONAL FAILURE TO DISCLOSE HAZARDS

If you unintentionally fail to disclose any hazards existing at the inception date of your policy, we will not deny coverage under this Coverage Form because of such failure.

15. HIRED AUTO - COVERAGE TERRITORY

SECTION IV, BUSINESS AUTO CONDITIONS, PARAGRAPH B. GENERAL CONDITIONS, 7. - POLICY PERIOD, COVERAGE TERRITORY - is added to include the following:

(6) For short-term hired "autos", the coverage territory with respect to Liability Coverage is anywhere in the world provided that if the "insured's" responsibility to pay damages for "bodily injury" or "property damage" is determined in a "suit," the "suit" is brought in the United States of America, the territories and possessions of the United States of America, Puerto Rico or Canada or in a settlement we agree to.

16. WAIVER OF SUBROGATION

Paragraph 5. TRANSFER OF RIGHTS OF RECOVERY AGAINST OTHERS TO US - of SECTION IV - BUSINESS AUTO CONDITIONS A. Loss Conditions is amended by adding the following:

We waive any right of recovery we may have against any person or organization with whom you have a written contract that requires such waiver because of payments we make for damages under this Coverage Form.

17. RESULTANT MENTAL ANGUISH COVERAGE

The definition of "bodily injury" in SECTION V-DEFINITIONS, C. is replaced by the following:

"Bodily injury" means bodily injury, sickness or disease sustained by any person, including mental anguish or death resulting from any of these.

18. EXTENDED CANCELLATION CONDITION

Paragraph 2. of the COMMON POLICY CONDITIONS - CANCELLATION - applies except as follows:

If we cancel for any reason other than nonpayment of premium, we will mail or deliver to the first Named Insured written notice of cancellation at least 60 days before the effective date of cancellation.

19. HYBRID, ELECTRIC, OR NATURAL GAS VEHICLE PAYMENT COVERAGE

In the event of a total loss to a "non-hybrid" auto for which Comprehensive, Specified Causes of Loss, or Collision coverages are provided under this Coverage Form, then such Physical Damage Coverages are amended as follows:

a. If the auto is replaced with a "hybrid" auto or an auto powered solely by electricity or natural gas, we will pay an additional 10%, to a maximum of $2,500, of the "non-hybrid" auto's actual cash value or replacement cost, whichever is less,

b. The auto must be replaced and a copy of a bill of sale or new lease agreement received by us within 60 calendar days of the date of "loss,"

c. Regardless of the number of autos deemed a total loss, the most we will pay under this Hybrid, Electric, or Natural Gas Vehicle Payment Coverage provision for any one "loss" is $10,000.

For the purposes of the coverage provision,

a. A "non-hybrid" auto is defined as an auto that uses only an internal combustion engine to move the auto but does not include autos powered solely by electricity or natural gas.

b. A "hybrid" auto is defined as an auto with an internal combustion engine and one or more electric motors; and that uses the internal combustion engine and one or more electric motors to move the auto, or the internal combustion engine to charge one or more electric motors, which move the auto.

20. VEHICLE WRAP COVERAGE

In the event of a total loss to an "auto" for which Comprehensive, Specified Causes of Loss, or Collision coverages are provided under this Coverage Form, then such Physical Damage Coverages are amended to add the following:

In addition to the actual cash value of the "auto", we will pay up to $1,000 for vinyl vehicle wraps which are displayed on the covered "auto" at the time of total loss. Regardless of the number of autos deemed a total loss, the most we will pay under this Vehicle Wrap Coverage provision for any one "loss" is $5,000. For purposes of this coverage provision, signs or other graphics painted or magnetically affixed to the vehicle are not considered vehicle wraps.

EXHIBIT D

GENERAL CONDITIONS

1. Independent Contractor.

A. It is understood and agreed that CONTRACTOR (including CONTRACTOR's employees) is an independent contractor and that no relationship of employer-employee exists between the parties hereto for any purpose whatsoever. Neither CONTRACTOR nor CONTRACTOR's assigned personnel will be entitled to any benefits payable to CITY employees. CITY is not required to make any deductions or withholdings from the compensation payable to CONTRACTOR under the provisions of this Contract, and CONTRACTOR will be issued a Form 1099 for its services hereunder. As an independent contractor, CONTRACTOR hereby agrees to indemnify and hold CITY harmless from any and all claims that may be made against CITY based upon any contention by any of CONTRACTOR's employees or by any third party, including any state or federal agency, that an employer-employee relationship or a substitute therefor exists for any purpose whatsoever by reason of this Contract or by reason of the nature and/or performance under this Contract.

B. It is further understood and agreed by the parties that CONTRACTOR, in the performance of its obligations, is subject to the City's control and direction as to the designation of tasks to be performed and the results to be accomplished under this Contract, but not as to the means, methods, or sequence used by CONTRACTOR for accomplishing the results. To the extent that CONTRACTOR obtains permission to, and does, use CITY facilities, space, equipment or support services in the performance of this Contract, this use will be at the CONTRACTOR's sole discretion based on the CONTRACTOR's determination that the use will promote CONTRACTOR's efficiency and effectiveness. Except as may be specifically provided elsewhere in this Contract, the CITY does not require that CONTRACTOR use CITY facilities, equipment or support services or work in CITY locations in the performance of this Contract. As used in this Contract, "sole discretion" or "sole judgment" means that the party authorized to exercise its discretion or judgment may do so based on an unfettered assessment of its own interests, without considering how its decision affects the other party, and unconstrained by the implied covenant of good faith and fair dealing.

C. If, in the performance of this Contract, any third persons are employed by CONTRACTOR, such persons will be entirely and exclusively under the direction, supervision, and control of CONTRACTOR. Except as otherwise provided in this Contract, all terms of employment, including hours, wages, working conditions, discipline, hiring, and discharging, or any other terms of employment or requirements of law, shall be determined by CONTRACTOR. It is further understood and agreed that CONTRACTOR will issue W-2 or 1099 Forms for income and employment tax purposes for all CONTRACTOR's assigned personnel and subcontractors.

D. The provisions of this section will survive any expiration or termination of this Contract. Nothing in this Contract creates an exclusive relationship between CITY and CONTRACTOR. CONTRACTOR may represent, perform services for, or be employed by

any additional persons or companies so long as CONTRACTOR does not violate the provisions of Section 5, below.

2. **Licenses; Permits, Etc.** CONTRACTOR represents and warrants that CONTRACTOR has, and shall maintain at all times during the term of this Contract at its sole cost and expense, all licenses, permits, qualifications, and approvals of any nature that are legally required for CONTRACTOR to practice its profession or fulfill the terms of this Contract, including a City Business Operations Tax Certificate and any required certification issued by the California Secretary of State.

3. **Time.** Time is off the essence in the performance of this Contract. CONTRACTOR shall devote the necessary time and effort to its performance under this Contract. Neither party will be considered in default of this Contract, to the extent that party's performance is prevented or delayed by any cause, present or future, that is beyond the reasonable control of that party.

4. **CONTRACTOR Not Agent.** Except as CITY may specify in writing, CONTRACTOR and CONTRACTOR's personnel have no authority, express or implied, to act on behalf of CITY in any capacity whatsoever as an agent. CONTRACTOR and CONTRACTOR's personnel shall have no authority, express or implied, to bind CITY to any obligations whatsoever.

5. **Conflicts of Interest.** CONTRACTOR covenants that neither it, nor any officer or principal of its firm, has or will acquire any interest, directly or indirectly, that would conflict in any manner with the CITY's interests or that would in any way hinder CONTRACTOR's performance under this Contract. CONTRACTOR further covenants that in the performance of this Contract, no person having any such interest will be employed by it as an officer, employee, agent or subcontractor, without the City's written consent.

   CONTRACTOR agrees to avoid conflicts of interest or the appearance of any conflicts of interest with the City's interests during the performance of this Contract. If CONTRACTOR is or employs a former officer or employee of the CITY, CONTRACTOR and any former City officer or employee shall comply with the provisions of Sacramento City Code Section 2.16.090 pertaining to appearances before the City Council or any CITY department, board, commission, or committee.

6. **Hazardous Substances.** "Hazardous Substances" means any substance, material, waste, or other pollutant or contaminant that is or becomes designated, classified, or regulated as hazardous or toxic under any law, regulation, rule, order, decree, or other governmental requirement now in effect or later enacted. If Contractor is shipping Hazardous Substances, Contractor must supply a Safety Data Sheet ("SDS") with the first shipment of Hazardous Substances to each City location receiving the Hazardous Substances. If the content of an SDS is revised, Contractor must provide a revised SDS to each City location receiving Hazardous Substances.

7. **Confidentiality of CITY Information.** During performance of this Contract, CONTRACTOR may gain access to and use CITY information regarding inventions, machinery, products, prices, apparatus, costs, discounts, future plans, business affairs, governmental affairs, processes, trade secrets, technical matters, systems, facilities, customer lists, product design, copyright, data, and other vital information (hereafter collectively referred to as "City Information") that are valuable, special and unique assets of the CITY.

CONTRACTOR agrees to protect all City Information and treat it as strictly confidential, and further agrees that CONTRACTOR shall not at any time, either directly or indirectly, divulge, disclose or communicate in any manner any City Information to any third party without the City's prior written consent.

In addition, CONTRACTOR must comply with all CITY policies governing the use of the CITY network and technology systems, as set forth in applicable provisions of the City of Sacramento Administrative Policy Instructions # 30. A violation by CONTRACTOR of this section is a material violation of this Contract and shall justify legal and equitable relief.

8. CONTRACTOR Information.

A. CITY shall have full ownership and control, including ownership of any copyrights, of all information prepared, produced, or provided by CONTRACTOR under this Contract. In this Contract, the term "information" means and includes: any and all work product, submittals, reports, plans, specifications, and other deliverables consisting of documents, writings, handwritings, typewriting, printing, photostatting, photographing, computer models, and any other computerized data and every other means of recording any form of information, communications, or representation, including letters, works, pictures, drawings, sounds, or symbols, or any combination thereof. CONTRACTOR shall not be responsible for any unauthorized modification or use of such information for other than its intended purpose by CITY.

B. CONTRACTOR shall fully defend, indemnify and hold harmless CITY, its officers and employees, and each of them, from and against any and all claims, actions, lawsuits or other proceedings alleging that all or any part of the information prepared, produced, or provided by CONTRACTOR under this Contract infringes upon any third party's trademark, trade name, copyright, patent or other intellectual property rights. CITY shall make reasonable efforts to notify CONTRACTOR not later than ten days after CITY is served with any such claim, action, lawsuit or other proceeding. However, City's failure to provide notice within the ten-day period does not relieve CONTRACTOR of its obligations hereunder, which survive any termination or expiration of this Contract.

C. All proprietary and other information received from CONTRACTOR by CITY, whether received in connection with CONTRACTOR's proposal to CITY or in connection with Contractor's performance, will be disclosed upon receipt of a request for disclosure, in accordance with the California Public Records Act; provided, however, that, if any information is set apart and clearly marked "trade secret" when it is provided to CITY, CITY shall give notice to CONTRACTOR of any request for the disclosure of such information. The CONTRACTOR will then have five days from the date it receives notice to petition the court for a protective order to prevent the disclosure of the information. The CONTRACTOR shall have sole responsibility for defense of the actual "trade secret" designation of such information.

D. The parties understand and agree that any failure by CONTRACTOR to respond to the notice provided by CITY and seek a protective order, in accordance with the provisions of subsection C, above, constitutes a complete waiver by CONTRACTOR of any rights regarding the information designated "trade secret" by CONTRACTOR, and the

information will be disclosed by CITY in accordance with the Public Records Act.

9. **Notification of Material Changes in Business.** Contractor agrees that if it experiences any material changes in its business, including a reorganization, refinancing, restructuring, leveraged buyout, bankruptcy, name change, or loss of key personnel, it will immediately notify the City of the changes. Contractor also agrees to immediately notify the City of any condition that may jeopardize the scheduled delivery or fulfillment of Contractor's obligations to the City under this Contract.

10. **Standard of Performance.** CONTRACTOR shall perform in the manner and according to the standards currently observed by a competent practitioner of CONTRACTOR's profession in California and in compliance with all requirements of this Contract. All products that CONTRACTOR delivers to CITY under this Contract must be prepared in a professional manner and conform to the standards of quality normally observed by a person currently practicing in CONTRACTOR's profession.

    CONTRACTOR shall assign only competent personnel to perform on its behalf under this Contract. CONTRACTOR must notify the CITY in writing of any changes in CONTRACTOR's staff assigned to perform under this Contract, before any performance by the new staff member. If the CITY, in its sole discretion, determines that any person assigned by the Contractor to perform under this Contract is not performing in accordance with the standards required herein, City shall provide notice to Contractor. CONTRACTOR shall immediately remove the assigned person upon receipt of the notice.

11. **Performance or Different Terms and Conditions.** The City's subsequent performance will not be construed as either acceptance of additional or different terms and conditions or a counteroffer by the Contractor, nor will the City's subsequent performance be viewed as acceptance of any provision of the Uniform Commercial Code, as adopted by any State, that is contrary to the terms and conditions contained herein. Contractor's performance shall conform to the applicable requirements of the Sacramento City Charter, Sacramento City Code, and all applicable State and Federal laws, and all the requirements of this Contract. The California Commercial Code will apply except as otherwise provided in the Contract.

12. **Emergency/Declared Disaster Requirements.** If an emergency is declared by the City Manager, or if any portion of the City is declared a disaster area by the county, state or federal government, this Contract may be subjected to increased usage. The Contractor shall serve the City during a declared emergency or disaster, subject to the same terms and conditions that apply during non-emergency / non-disaster conditions. The pricing set forth in this Contract will apply, without mark-up, regardless of the circumstances. If the Contractor is unable to fulfill the terms of the Contract because of a disruption in its chain of supply or service, then the Contractor shall provide proof of the disruption. Acceptable forms of proof will include a letter or notice from the Contractor's source stating the reason for the disruption

13. **Term; Suspension; Termination.**

    A. This Contract is effective on the Effective Date and continues in effect until both parties have fully performed their respective obligations under this Contract, unless sooner terminated as provided herein.

B. CITY shall have the right at any time to suspend CONTRACTOR's performance hereunder, in whole or in part, by giving a written notice of suspension to CONTRACTOR. Upon receipt of such notice, CONTRACTOR shall immediately suspend its activities under this Contract, as specified in the notice.

C. The CITY shall have the right to terminate this Contract at any time by giving a written notice of termination to CONTRACTOR. Upon receipt of such notice, CONTRACTOR shall immediately cease performance under this Contract as specified in the notice. If the CITY terminates this Contract:

(1) CONTRACTOR shall, not later than five days after receipt of the notice, deliver all information prepared under this Contract to the City.

(2) The CITY shall pay CONTRACTOR the reasonable value of Goods or Services provided by CONTRACTOR before termination; provided, however, CITY shall not in any manner be liable for lost profits that might have been made by CONTRACTOR had the Contract not been terminated or had CONTRACTOR completed performance required by this Contract. CONTRACTOR shall furnish to the CITY any financial information requested by the City to determine the reasonable value of the Goods or Services provided by CONTRACTOR. The foregoing is cumulative and does not affect any right or remedy that CITY may have in law or equity.

14. Default by Contractor. In case of default by the Contractor, the City reserves the right to procure the Goods or Services from other sources and deduct from any monies due, or that may thereafter become due to the Contractor, the difference between the price named in this Contract and the actual cost to the City to procure from an alternate source. Prices paid by the City will be considered the prevailing market price at the time such purchase is made.

15. Indemnity.

A. Indemnity*:* Contractor shall defend, hold harmless, and indemnify City, its officers, and employees, and each and every one of them, to the fullest extent permitted under law, from and against all actions, damages, costs, liabilities, claims, demands, losses, judgments, penalties, and expenses of every type and description, whether arising on or off the site of the work or services performed under this Contract, including any fees and costs reasonably incurred by City's staff attorneys or outside attorneys and any fees and expenses incurred in enforcing this provision (hereafter collectively referred to as "Claims"), including Claims for personal injury or death, damage to personal, real, or intellectual property, damage to the environment, contractual or other economic damages, or regulatory penalties, that arise out of, pertain to, or relate to any negligent act or omission, recklessness, or willful misconduct related in any way to the performance of or failure to perform this Contract by Contractor, any subcontractor (including lower-tier subcontractors) or agent of Contractor, their respective officers and employees, and anyone else for whose acts of omissions any of them may be liable, whether or not the Claims are litigated, settled, or reduced to judgment; provided that the foregoing indemnity does not apply to liability for damages for death or bodily injury

to persons, injury to property, or other loss, damage, or expense, to the extent arising from the active negligence or willful misconduct of, or defects in design furnished by, City, its agents, servants, or independent contractors who are directly responsible to City, except when such agents, servants, or independent contractors are under the supervision and control of Contractor or any subcontractor (including lower-tier subcontractors) or agent of Contractor. While Contractor's defense costs ordinarily cannot exceed Contractor's proportionate percentage of fault, if one or more defendants is unable to pay its share of defense costs due to bankruptcy or dissolution, the Contractor shall meet and confer with the City and other parties regarding the unpaid defense costs.

B. Insurance Policies; Intellectual Property Claims: The existence or acceptance by City of any of the insurance policies or coverages described in this Contract will not affect or limit any of City's rights under this Section, nor will the limits of any insurance limit the liability of Contractor hereunder. This Section will not apply to any intellectual property claims, actions, lawsuits or other proceedings subject to the provisions of the Contractor Information Section, above.

C. Survival. The provisions of this section will survive any expiration or termination of this Contract.

16. Funding Availability.

A. This Contract is subject to the budget and fiscal provisions of the Charter and the Sacramento City Code.

B. The City's payment obligation under this Contract will not exceed the amount of funds appropriated and approved for this Contract by the Sacramento City Council.

C. This Section shall govern over any other contrary provision of the Contract.

17. Equal Employment Opportunity. During the performance of this Contract, CONTRACTOR, for itself, its assignees and successors in interest, agrees as follows:

A. Compliance With Regulations: CONTRACTOR shall comply with all state, local, and federal anti-discrimination laws and regulations, including the Executive Order 11246 entitled "Equal Opportunity in Federal Employment", as amended by Executive Order 11375, 12086, and 13672, and as supplemented in Department of Labor regulations (41 CFR Chapter 60), referred to collectively as the "Regulations."

B. Nondiscrimination: CONTRACTOR, with regards to the work performed by it after award and before completion of the work under this Contract, shall not discriminate on the ground of race, color, religion, sex, national origin, age, marital status, physical handicap or sexual orientation in selection and retention of subcontractors, including procurement of materials and leases of equipment. CONTRACTOR shall not participate either directly or indirectly in discrimination prohibited by the Regulations.

C. Solicitations for Subcontractors, Including Procurement of Materials and Equipment: In

all solicitations either by competitive bidding or negotiations made by CONTRACTOR for work to be performed under any subcontract, including all procurement of materials or equipment, each potential subcontractor or supplier shall be notified by CONTRACTOR of CONTRACTOR's obligation under this Contract and the Regulations relative to nondiscrimination on the ground of race, color, religion, sex, national origin, age, marital status, physical handicap or sexual orientation.

D. Information and Reports: CONTRACTOR shall provide all information and reports required by the Regulations, or by any orders or instructions issued pursuant thereto, and shall permit access to its books, records, accounts, other sources of information and its facilities as may be determined by the CITY to be pertinent to ascertain compliance with the Regulations, orders and instructions. Where any information required of CONTRACTOR is in the exclusive possession of another who fails or refuses to furnish this information, CONTRACTOR shall so certify to the CITY, and shall set forth what efforts it has made to obtain the information.

E. Sanctions for Noncompliance: In the event of noncompliance by CONTRACTOR with the nondiscrimination provisions of this Contract, the CITY shall impose any sanctions it determines are appropriate including:

(1) Withholding of payments to CONTRACTOR under this Contract until CONTRACTOR complies;
(2) Cancellation, termination, or suspension of this Contract, in whole or in part.

F. Incorporation of Provisions: CONTRACTOR shall include the provisions of subsections A through E, above, in every subcontract, including procurement of materials and leases of equipment, unless exempted by the Regulations, or by any order or instructions issued pursuant thereto. The City may direct CONTRACTOR to take specific actions to enforce these provisions, including sanctions for noncompliance; provided, however, that if CONTRACTOR becomes involved in, or is threatened with, litigation with a subcontractor or supplier as a result of such direction, CONTRACTOR may request that the CITY join such litigation to protect the City's interests.

18. Entire Agreement. This Contract, including all Exhibits and documents referenced herein, contains the entire agreement between the parties and supersedes whatever oral or written understanding they may have had before the execution of this Contract. No alteration to the terms of this Contract shall be valid unless approved in writing by CONTRACTOR, and by CITY, in accordance with applicable provisions of the Sacramento City Code.

19. Modification of Contract. The Contractor shall take no direction from any City employee that changes the executed terms and conditions of the Contract, including Exhibit A, or any change that impacts the cost, price, or schedule, before receiving a written, signed modification to the Contract.

20. Severability. If a court with jurisdiction rules that any portion of this Contract or its application to any person or circumstance is invalid or unenforceable, the remainder of this Contract will not be affected thereby and will remain valid and enforceable as written, to the greatest extent permitted by law.

21. **Waiver.** Neither the CITY's acceptance of, or payment for, any Goods or Services, nor any waiver by either party of any default, breach or condition precedent, will be construed as a waiver of any provision of this Contract, nor as a waiver of any other default, breach or condition precedent or any other right hereunder. No waiver will be effective unless it is in writing and signed by the waiving party.

22. **Governing Law.** This Contract shall be governed, construed and enforced in accordance with the laws of the State of California, except that the rule of interpretation in California Civil Code section 1654 will not apply. Venue of any litigation arising out of this Contract will lie exclusively in the state trial court or Federal District Court located in Sacramento County in the State of California, and the parties consent to jurisdiction over their persons and over the subject matter of any such litigation in such courts, and consent to service of process issued by such courts.

23. **Assignment Prohibited.** The expertise and experience of CONTRACTOR are material considerations for this Contract. CITY has a strong interest in the qualifications and capability of the persons and entities that will fulfill the obligations imposed on CONTRACTOR under this Agreement. In recognition of this interest, CONTRACTOR shall not assign any right or obligation pursuant to this Contract without the written consent of the CITY. Any attempted or purported assignment without CITY's written consent shall be void and of no effect.

24. **Binding Effect.** This Contract is binding on the heirs, executors, administrators, successors and assigns of the parties, subject to the provisions of Section 23, above.

25. **Compliance with Laws.** The Contractor shall be responsible for strict compliance with all applicable laws, regulations, court orders and other legal requirements applicable to the work to be accomplished under the Contract, including the California Occupational Safety and Health Act and all applicable safety orders issued by the Division of Occupational Safety and Health, Department of Industrial Relations, State of California, and all applicable requirements of Underwriters Laboratories and the Federal Communication Commission.

26. **Debarment Certification**

A. Pursuant to 2 CFR, Part 200, and applicable Executive Orders, the City is restricted in its ability to contract with certain parties that are debarred, suspended, or otherwise excluded or ineligible for participating in Federal assistance programs or activities. By signing this Agreement, CONTRACTOR warrants and certifies under penalty of perjury under the laws of the State of California that Contractor, including any owner, partner, director, officer, or principal of the CONTRACTOR, or any person in a position with management responsibility or responsibility for the administration of federal funds:

(1) Is not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from covered transactions by any federal or state department/agency;

(2) Has not within a three-year period preceding this certification been convicted of or had a civil judgment rendered against it for: commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public transaction or contract (federal, state, or local); violation of federal or state antitrust statutes; or

commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, receiving stolen property, or other criminal felony;

(3) Is not presently indicted for or otherwise criminally or civilly charged by a governmental entity (federal, state, or local) with commission of any of the offenses enumerated in paragraph (b) above; or

(4) Has not, within a three-year period preceding this certification, had one or more public contracts (federal, state, or local) or transactions terminated for cause or default.

(5) Has not been notified, within a three-year period preceding this certification, been notified of any delinquent Federal taxes in an amount that exceeds $3,500 for which the liability remains unsatisfied. Federal taxes are considered delinquent if the tax liability has been finally determined and the taxpayer is delinquent in making payment, as defined in Section 52.209-5 of the Federal Acquisition Regulations.

B. CONTRACTOR further warrants and certifies that it shall not knowingly enter into any transaction with any subcontractor, material supplier, or vendor who is debarred, suspended, declared ineligible, or voluntarily excluded from covered transactions by any federal or state department/agency. Any exceptions to the warranties and certifications in this Section must be disclosed to the City.

C. Exceptions will not necessarily result in denial of recommendation for award, but will be considered in determining Contractor's responsibility. Disclosures must indicate to whom exceptions apply, the initiating agency, and dates of action.

D. City will review the Federal Government's System for Award Management Exclusions maintained by the General Services Administration for eligibility, prior to the execution of this Agreement. The CONTRACTOR shall provide immediate written notice to the City if, at any time prior to execution, the CONTRACTOR learns this certification is erroneous or has become erroneous by reason of changed circumstances. If it is later determined that the Contractor's warranties and certification in this Section were erroneous, the City may terminate this Agreement for default.

EXHIBIT E

ADDITIONAL REQUIREMENTS FOR SURVEYING, MATERIAL TESTING, AND INSPECTION SERVICES

The Services provided under this Contract include land surveying, material testing, or inspection services provided for a City construction project during the design, pre-construction, construction, or post-construction phases of the project. Therefore, the services include "Public Work" under the California Labor Code and is subject to the following requirements:

A. Payment of Prevailing Wages: Contractor and any subcontractor(s) performing any Public Work shall comply with the provisions of Sacramento City Code section 3.60.180 and applicable provisions of the California Labor Code, which require, among other things, that CONTRACTOR and all subcontractors pay not less than the prevailing rate of wages, as determined by the Director of the California Department of Industrial Relations ("DIR") in accordance with California Labor Code section 1773. CONTRACTOR and every subcontractor shall maintain payroll records and submit certified payrolls and other labor compliance documentation electronically when and as required by CITY. In addition, Labor Code Section 1771.4 requires the CONTRACTOR and any subcontractor performing any Public Work to furnish electronic payroll records directly to the Labor Commissioner. Contractor shall include these requirements in every subcontract.

   This Agreement is subject to compliance monitoring and enforcement by the DIR, as specified in California Labor Code section 1771.4. The Contractor and any subcontractor will be subject to withholding and penalties for violation of prevailing wage requirements in accordance with applicable law, including Labor Code Sections 1726, 1741, 1771.5, and 1775, and City Code Section 3.60.180. Questions regarding the City's Labor Compliance Program should be directed to the City Representative.

B. DIR Registration: California Labor Code Section 1725.5 requires the CONTRACTOR and all subcontractors performing Public Works services to be currently registered with the DIR, as specified in California Labor Code Section 1725.5. California Labor Code Section 1771.1 provides 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 California Public Contract Code), or engage in the performance of any contract for Public Work, unless currently registered and qualified to perform Public Work in accordance with California Labor Code Section 1725.5.

   Further information can be found on DIR's website at http://www.dir.ca.gov/Public-Works/Contractors.html. The above summary is provided solely for informational purposes and does not in any way affect the CONTRACTOR's and subcontractors' obligation to comply in all respects with all other applicable laws and regulations. The CONTRACTOR shall disseminate these provisions to all subcontractors.

   Before the performance of work by Contractor or any subcontractor(s) under this Contract, Contractor shall furnish Contractor's and any subcontractors' current DIR

registration number(s). The Contractor's current DIR registration number and the current DIR registration number of all subcontractors will be listed on the Subcontractor and LBE Participation Verification Form, incorporated herein.

To be completed by the City Representative if this Agreement is for the performance of any Public Work:

Contractor DIR registration #: 2000001269

C. Workers' Compensation Certification. In accordance with California Labor Code Section 1861, by signing this Contract, Contractor acknowledges and represents that Contractor is aware of the provisions of section 3700 of the California Labor Code which requires every employer to be insured against liability for workers' compensation or to undertake self-insurance in accordance with the provisions of that code, and that Contractor will comply with the provisions of the Labor Code before commencing performance under this Contract.

D. Apprentices. If this Contract is for the performance of any Public Work, and the amount of the Contract is $30,000 or more, the Contractor and any subcontractors performing any Public Work under this Contract must comply with and be subject to enforcement under, the provisions of Sacramento City Code Section 3.60.190, Section 1777.5 et seq. of the California Labor Code, and implementing regulations set forth in Title 8 of the California Code of Regulations, governing the employment of apprentices. The Contractor and any subcontractors performing Public Work will be subject to penalties for apprenticeship violations in accordance with Labor Code Section 1777.7.

E. Working Hours. If this Contract is for the performance of any Public Work, Contractor and any subcontractors performing any Public Work under this Contract must comply with and be subject to enforcement under, the provisions of Sacramento City Code Section 3.60.180 and California Labor Code Section 1810 et seq., governing the working hours of employees performing Public Work.

F. Failure to Comply with Labor Compliance. If all applicable labor compliance requirements are not met, the City will have the right to withhold or reject a payment request and/or invoice, in whole or in part, without in any way relieving Contractor or its subcontractors of any obligations under this Contract.

G. Subcontractors. The Contractor shall include these provisions A through F in every subcontract or sub-agreement for any subcontractors performing work under this Contract.

Executed as of the day and year first above stated.

CITY OF SACRAMENTO
A Municipal Corporation

By: _____

Print Name: Ryan Moore

Title: Assistant City Manager

For: City Manager

APPROVED AS TO FORM:

Michael Voss Dec 22, 2025

City Attorney

ATTEST:

_____

City Clerk

CONTRACTOR

MCK Americas, Inc

NAME OF FIRM

94-3367252

Federal I.D. No.

3796728

State I.D. No.

1041918

City Business Op. Tax Cert. No.

TYPE OF BUSINESS ENTITY (check one):

____ Individual/Sole Proprietor
__X__ Corp. (may require 2 signatures)
____ Limited Liability Company
____ Partnership
____ Other (*specify*:_____)

Brendan McDevitt Dec 22, 2025

Signature of Authorized Person

Brendan McDevitt President

Print Name and Title

Nate Gavzy Dec 22, 2025
Nate Gavzy (Dec 22, 2025 08:38:32 PST)

Siganture of Authorized Person

Nathan Gavsky Executive Vice President

Print Name and Title

Stephen McDevitt Dec 22, 2025
Stephen McDevitt (Dec 22, 2025 08:49:29 PST)

Signature of Authorized Person

Steve McDevitt Chief Operations Officer

Print Name and Title

LOCAL BUSINESS ENTERPRISE (LBE) PREFERENCE VERIFICATION FORM

All FIRMS must complete and sign this form. Failure to complete and sign this form may result in rejection of submittal

a. LBE SELECTION PREFERENCE

The Sacramento City Council has adopted a Local Business Enterprise Preference program to provide enhanced opportunities for the participation of local business enterprises (LBEs) in the City's contracting and procurement activities. To receive this evaluation preference, a firm must be qualified prior to the submittal due date.

A Local Business Enterprise means a business enterprise, including but not limited to, a sole proprietorship, partnership, Limited Liability Company, corporation, or other business entity that has a legitimate business presence in the City of Sacramento or unincorporated County of Sacramento. Evidence of legitimate business presence shall be as follows:

Having a current City of Sacramento Business Operation Tax (BOTC) Number or a County of Sacramento Business License (CBL) Number; and

Having either of the following type of office or workspace operating legally within the City of Sacramento or the unincorporated County of Sacramento:

The LBE's principle business office or workspace;

OR

The LBE's regional, branch, or satellite office with at least one full time employee.

b. LOCAL BUSINESS ENTERPRISE (LBE) DOCUMENTATION

Is the submitting firm qualified as a Local Business Enterprise? Check the appropriate box:

☒ YES - the firm submitting is qualified as a local business enterprise.

☐ NO - the firm submitting is not qualified as a local business enterprise.

If "YES", provide submitting firm's BOTC or CBL Number, and local office or workspace address*:

BOTC or CBL No.: 1041918 (must be current)

Local Office or Workspace Address:
MCK Americas, Inc.
1614 19th Street, Suite B
Sacramento, CA 95811

* Address must be a local physical office or workspace address. This excludes P.O. Boxes.

ATTACHMENT 5 - LOCAL BUSINESS ENTERPRISE (LBE) PARTICIPATION VERIFICATION FORM

City of SACRAMENTO

Local Business Enterprise (LBE)

Participation Verification Form

Professional and Nonprofessional Service Agreements of $250,000 or More

Proposer/Bidder Name: MCK Americas, Inc.

Proposal/Bid Amount: $492,749.26 Is the Proposer/Bidder an LBE? X Yes _____ No

IF THE PROPOSER/BIDDER IS USING SUBCONTRACTORS OR SUB-TIER SUPPLIERS TO SATISFY THE LBE PARTICIPATION REQUIREMENT OF THIS SOLICITATION, THIS FORM MUST BE SUBMITTED WITH THE PROPOSAL OR BID FOR THE PROPOSER OR BIDDER TO BE CONSIDERED FOR AWARD.

THIS FORM MUST BE INCLUDED WITH THE SEALED COST ESTIMATE IF THE REQUEST FOR PROPOSAL REQUIRES A SEPARATE SEALED COST ESTIMATE.

To be eligible for this agreement, the proposer or bidder shall list below all the business entities (subcontractors or suppliers) used to attain the 5% LBE participation requirement. Estimated dollar values shall be provided for all work, services or supplies listed. The failure to attain the 5% LBE participation or the inclusion of false information or the omission of required information will render the proposal or bid non-responsive.

LBE Business Entity Name and Address (subject to verification)	Description of Work, Services or Supplies to be provided	Estimated Dollar Value of Work, Services or Supplies
MCK Americas, Inc. 1614 19th Street, Suite B Sacramento, CA 95811	Construction Management & Inspection	$ 452,145.38
Crawford & Associates 1100 Corporate Way, Suite 230 Sacramento, CA 95831	Material Testing	$ 40,603.89
		$
		$

COPY AND ATTACH ADDITIONAL SHEETS AS NECESSARY

The Proposer/Bidder hereby certifies that each business entity listed on this LBE Participation Verification Form has been notified that it has been listed and has consented in writing to its name being submitted for this proposal or bid. The Proposer/Bidder also certifies that it will notify each business entity listed on this Form in writing if the agreement is awarded to the Proposer/Bidder, and will make all documentation relevant to the listed business entities and LBE participation available to the City of Sacramento upon request. The Proposer/Bidder further certifies that all the information contained in this Form is true and correct and acknowledges that the City will rely on the accuracy of this information in awarding the agreement.

TAXABLE YEAR

CALIFORNIA FORM

2025 Withholding Exemption Certificate 590

The payee completes this form and submits it to the withholding agent. The withholding agent keeps this form with their records.

Withholding Agent Information

Name

City of Sacramento

Payee Information

Name

MCK Americas, Inc.

☐ SSN or ITIN ☑ FEIN ☐ CA Corp no. ☐ CA SOS file no.

94-3367252

Address (apt./ste., room)

150 Executive Park Blvd. Suite 2150

City (If you have a foreign address, see instructions.)

San Francisco

State: CA

ZIP code: 94134

Exemption Reason

Check only one box.

By checking the appropriate box below, the payee certifies the reason for the exemption from the California income tax withholding requirements on payment(s) made to the entity or individual.

☐ **Individuals — Certification of Residency:**
I am a resident of California and I reside at the address shown above. If I become a nonresident at any time, I will promptly notify the withholding agent. See instructions for General Information D, Definitions.

☑ **Corporations:**
The corporation has a permanent place of business in California at the address shown above or is qualified through the California Secretary of State (SOS) to do business in California. The corporation will file a California tax return. If this corporation ceases to have a permanent place of business in California or ceases to do any of the above, I will promptly notify the withholding agent. See instructions for General Information D, Definitions.

☐ **Partnerships or Limited Liability Companies (LLCs):**
The partnership or LLC has a permanent place of business in California at the address shown above or is registered with the California SOS, and is subject to the laws of California. The partnership or LLC will file a California tax return. If the partnership or LLC ceases to do any of the above, I will promptly inform the withholding agent. For withholding purposes, a limited liability partnership (LLP) is treated like any other partnership.

☐ **Tax-Exempt Entities:**
The entity is exempt from tax under California Revenue and Taxation Code (R&TC) Section 23701 _____ (insert letter) or Internal Revenue Code Section 501(c) _____ (insert number). If this entity ceases to be exempt from tax, I will promptly notify the withholding agent. Individuals cannot be tax-exempt entities.

☐ **Insurance Companies, Individual Retirement Arrangements (IRAs), or Qualified Pension/Profit-Sharing Plans:**
The entity is an insurance company, IRA, or a federally qualified pension or profit-sharing plan.

☐ **California Trusts:**
At least one trustee and one noncontingent beneficiary of the above-named trust is a California resident. The trust will file a California fiduciary tax return. If the trustee or noncontingent beneficiary becomes a nonresident at any time, I will promptly notify the withholding agent.

☐ **Estates — Certification of Residency of Deceased Person:**
I am the executor of the above-named person's estate or trust. The decedent was a California resident at the time of death. The estate will file a California fiduciary tax return.

☐ **Nonmilitary Spouse of a Military Servicemember:**
I am a nonmilitary spouse of a military servicemember and I meet the Military Spouse Residency Relief Act (MSRRA) requirements. See instructions for General Information E, MSRRA.

CERTIFICATE OF PAYEE: Payee must complete and sign below.

Our privacy notice can be found in annual tax booklets or online. Go to **ftb.ca.gov/privacy** to learn about our privacy policy statement, or go to **ftb.ca.gov/forms** and search for **1131** to locate FTB 1131 EN-SP, Franchise Tax Board Privacy Notice on Collection. To request this notice by mail, call 800.338.0505 and enter form code **948** when instructed.

Under penalties of perjury, I declare that I have examined the information on this form, including accompanying schedules and statements, and to the best of my knowledge and belief, it is true, correct, and complete. I further declare under penalties of perjury that if the facts upon which this form are based change, I will promptly notify the withholding agent.

Type or print payee's name and title Brendan McDevitt

Telephone (415) 656-3264

Payee's signature ▶

Date 11/26/2025

Form **W-9**
(Rev. March 2024)
Department of the Treasury
Internal Revenue Service

Request for Taxpayer Identification Number and Certification

Go to *www.irs.gov/FormW9* for instructions and the latest information.

Give form to the requester. Do not send to the IRS.

Before you begin. For guidance related to the purpose of Form W-9, see *Purpose of Form*, below.

Print or type. See ***Specific Instructions*** on page 3.

1 Name of entity/individual. An entry is required. (For a sole proprietor or disregarded entity, enter the owner's name on line 1, and enter the business/disregarded entity's name on line 2.)

MCK Americas, Inc.

2 Business name/disregarded entity name, if different from above.

3a Check the appropriate box for federal tax classification of the entity/individual whose name is entered on line 1. Check only **one** of the following seven boxes.

☐ Individual/sole proprietor ☐ C corporation ☑ S corporation ☐ Partnership ☐ Trust/estate

☐ LLC. Enter the tax classification (C = C corporation, S = S corporation, P = Partnership) . . . . .

Note: Check the "LLC" box above and, in the entry space, enter the appropriate code (C, S, or P) for the tax classification of the LLC, unless it is a disregarded entity. A disregarded entity should instead check the appropriate box for the tax classification of its owner.

☐ Other (see instructions)

4 Exemptions (codes apply only to certain entities, not individuals; see instructions on page 3):

Exempt payee code (if any)

Exemption from Foreign Account Tax Compliance Act (FATCA) reporting code (if any)

(Applies to accounts maintained outside the United States.)

3b If on line 3a you checked "Partnership" or "Trust/estate," or checked "LLC" and entered "P" as its tax classification, and you are providing this form to a partnership, trust, or estate in which you have an ownership interest, check this box if you have any foreign partners, owners, or beneficiaries. See instructions . . . . . ☐

5 Address (number, street, and apt. or suite no.). See instructions.

150 Executive Park Boulevard, Suite 2150

6 City, state, and ZIP code

San Francisco, CA 94134

Requester's name and address (optional)

7 List account number(s) here (optional)

Part I Taxpayer Identification Number (TIN)

Enter your TIN in the appropriate box. The TIN provided must match the name given on line 1 to avoid backup withholding. For individuals, this is generally your social security number (SSN). However, for a resident alien, sole proprietor, or disregarded entity, see the instructions for Part I, later. For other entities, it is your employer identification number (EIN). If you do not have a number, see *How to get a TIN*, later.

Note: If the account is in more than one name, see the instructions for line 1. See also *What Name and Number To Give the Requester* for guidelines on whose number to enter.

Social security number

			–		–				

or

Employer identification number

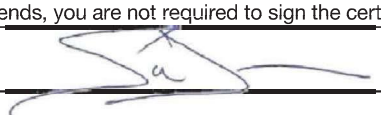
9	4	–	3	3	6	7	2	5	2

Part II Certification

Under penalties of perjury, I certify that:

1. The number shown on this form is my correct taxpayer identification number (or I am waiting for a number to be issued to me); and
2. I am not subject to backup withholding because (a) I am exempt from backup withholding, or (b) I have not been notified by the Internal Revenue Service (IRS) that I am subject to backup withholding as a result of a failure to report all interest or dividends, or (c) the IRS has notified me that I am no longer subject to backup withholding; and
3. I am a U.S. citizen or other U.S. person (defined below); and
4. The FATCA code(s) entered on this form (if any) indicating that I am exempt from FATCA reporting is correct.

Certification instructions. You must cross out item 2 above if you have been notified by the IRS that you are currently subject to backup withholding because you have failed to report all interest and dividends on your tax return. For real estate transactions, item 2 does not apply. For mortgage interest paid, acquisition or abandonment of secured property, cancellation of debt, contributions to an individual retirement arrangement (IRA), and, generally, payments other than interest and dividends, you are not required to sign the certification, but you must provide your correct TIN. See the instructions for Part II, later.

Sign Here **Signature of U.S. person**  **Date** January 27, 2025

General Instructions

Section references are to the Internal Revenue Code unless otherwise noted.

Future developments. For the latest information about developments related to Form W-9 and its instructions, such as legislation enacted after they were published, go to *www.irs.gov/FormW9*.

What's New

Line 3a has been modified to clarify how a disregarded entity completes this line. An LLC that is a disregarded entity should check the appropriate box for the tax classification of its owner. Otherwise, it should check the "LLC" box and enter its appropriate tax classification.

New line 3b has been added to this form. A flow-through entity is required to complete this line to indicate that it has direct or indirect foreign partners, owners, or beneficiaries when it provides the Form W-9 to another flow-through entity in which it has an ownership interest. This change is intended to provide a flow-through entity with information regarding the status of its indirect foreign partners, owners, or beneficiaries, so that it can satisfy any applicable reporting requirements. For example, a partnership that has any indirect foreign partners may be required to complete Schedules K-2 and K-3. See the Partnership Instructions for Schedules K-2 and K-3 (Form 1065).

Purpose of Form

An individual or entity (Form W-9 requester) who is required to file an information return with the IRS is giving you this form because they

City of SACRAMENTO
Finance Department

BUSINESS OPERATIONS TAX CERTIFICATE

Business Name	**MCK AMERICAS, INC.**
Business Address	**1614 19TH ST B**
Owner	**BRENDAN MCDEVITT**
Type of Business	**Contractors - Construction**
Tax Classification	**Gross Receipts**
Expires	**09/30/2026**
Mailing Address	**MCK AMERICAS, INC.** **150 EXECUTVE PARK BLVD 2150** **SAN FRANCISCO, CA 94134**

1041918

MUST BE POSTED IN CONSPICUOUS PLACE

This certificate is not to be construed as a business license or imply that the City of Sacramento has investigated, or approves or recommends, the holder of this certificate. Any representation to the contrary is fraudulent. This certificate must be renewed within 30 days of expiration.

Starting January 1, 2021, Assembly Bill 1607 requires the prevention of gender-based discrimination of business establishments. A full notice is available in English or other languages by going to: https://www.dca.ca.gov/publications/

1041918

TOTAL PAID:
$34.00

THIS STUB MAY BE FOLDED/DETACHED BEFORE POSTING

City of SACRAMENTO
Office of the City Clerk

CONTRACT ROUTING SHEET

Contract Cover/Routing Form: Must Accompany ALL Contracts; however, it is NOT part of the contract.

General Information (Required)

Original Contract # (supplements only): _____ Supplement/Addendum #: _____

Assessor's Parcel Number(s): _____

Contract Effective Date: _____ Contract Expiration Date (if applicable): _____

$ Amount (Not to Exceed): $16,966,203.00 Adjusted $ Amount (+/-): _____

Other Party: Insituform Technologies, LLC

Project Title: Del Rio Sewer Force Main Rehabilitation

Project #: X14170114 Bid/RFQ/RFP #: B25141311013

City Council Approval: YES if YES, Council File ID#: 2026-00151

Contract Processing Contacts

Department: Utilities Project Manager: Angelo Vasquez Angelo Vasquez (Jan 15, 2026 20:56 PST)

Contract Coordinator: Sarah Williams Email: sewilliams@cityofsacramento.org

Department Review and Routing

Construction Mgmt:	(Signature)	(Date) Jan 20, 2026
Supervisor:	(Signature)	(Date) Jan 20, 2026
Division Manager:	(Signature) Sherill Huun (Jan 22, 2026 09:27:19 PST)	(Date) Jan 22, 2026
Other:	(Signature) Gabriel Alcala (Jan 20, 2026 13:22:25 PST) / Barry Nolt (Jan 20, 2026 13:30:21 PST)	(Date) Dalia Fadl (Jan 22, 2026 10:53:14 PST)
	Fiscal:	O&M: Director of Utilities:

Special Instruction/Comments (i.e. recording requested, other agency signatures required, etc.)

Recording Requested **Other Party Signature Required**

----------FOR CLERK & IT DEPARTMENTS ONLY – DO NOT WRITE BELOW THIS LINE----------

City of SACRAMENTO
Department of Utilities

ENGINEERING SERVICES DIVISION

CONTRACT SPECIFICATIONS
FOR

Del Rio Sewer Force Main Rehabilitation
PN: X14170114

B25141311013

Engineer's Estimate: $21,674,000.00

For Pre-Bid Information Call:

Angelo Vasquez
Assistant Civil Engineer
(916) 808-1701

Separate Plans

Bid to be received before 2:00 PM
12/3/2025
Security Desk, 1st Floor (City Clerk in-box)
New City Hall
915 I Street, Sacramento, CA 95814

LBE PROGRAM PARTICIPATION

For information on meeting the City of Sacramento's Local Business Enterprise (LBE) project goals, please contact Procurement Services at (916) 808-6240, or visit the City of Sacramento's small business web site at: http://portal.cityofsacramento.org/Finance/Procurement/Bid-Information#bidding-options

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Bid Proposal Guarantee

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Requirements of the Non-Discrimination in Employee Benefits Code

Construction and Demolition (C&D) Debris Recycling Requirements

LBE Requirements

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- Payment Bond

CWTA Requirements

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C &D Debris Haulers & Facilities

C & D Debris Waste Log

CALIFORNIA LABOR CODE RELATING TO APPRENTICES
http://www.dir.ca.gov/dlse/dlsePublicWorks.html

TAX FORMS (REQUIRED UPON AWARD)
W-9.....https://www.irs.gov/pub/irs-pdf/fw9.pdf
CA Form 590 https://www.ftb.ca.gov/forms/2022/2022-590.pdf
CA Form 587.....https://www.ftb.ca.gov/forms/2021/2021-587.pdf

SPECIAL PROVISIONS

LBE INFORMATION

The City of Sacramento's Local Business Development program establishes an annual local business enterprise (LBE) participation goal for City contracts, and authorizes City departments to require minimum LBE participation levels in individual contracts. Under City Code section 3.60.270, all bidding contractors must meet or exceed the minimum LBE participation requirement specified in the contract's bid specifications to qualify as a responsive bidder.

For information on meeting the City of Sacramento's Local Business Enterprise (LBE) project goals, please contact Procurement Services at (916) 808-6240, or visit the City of Sacramento's small business web site at: http://portal.cityofsacramento.org/Finance/Procurement/Bid-Information#bidding-options

NOTICE TO CONTRACTORS

CITY OF SACRAMENTO

Sealed Proposals will be received by the City Clerk of the City of Sacramento at the Office of the City Clerk, New City Hall, located at 915 I Street, 5th Floor, Mayor's Reception Desk, up to the hour of 2:00 p.m. on **12/3/2025** and opened at and read after 2:00 p.m. on **12/3/2025**, or as soon thereafter as business allows, in the Hearing Room, 2nd Floor Room, in Historic City Hall, for construction of:

Del Rio Sewer Force Main Rehabilitation

(PN: X14170114) (B25141311013)

as set forth in the Contract Documents.

Proposals received and work performed thereunder shall comply with the requirements of Chapter 3.60 of the Sacramento City Code. Each Bid Proposal shall be accompanied by bid security of at least 10% of the sum the Bid Proposal. The City reserves the right to reject proposals or to waive any error or omission in any Bid Proposal received. Signed proposals shall be submitted on the printed forms contained herein and enclosed in an envelope marked:

SEALED PROPOSAL FOR

Del Rio Sewer Force Main Rehabilitation

(PN: X14170114) (B25141311013)

You can view and download the plans and Contract Documents from:

PLANET BIDS
http://www.planetbids.com/portal/portal.cfm?CompanyID=15300#

The contractor and all subcontractors shall comply with the rates of wages currently established by the Director of Industrial Relations under provisions of Sections 1773 of the Labor Code of the State of California, a copy of which is on file in the office of the City Clerk and available to any interested party on request. In accordance with Sacramento City Code Section 3.60.180 and Section 1771.5 of the California Labor Code, the payment of the general prevailing rate of per diem wages or the general prevailing rate of per diem wages for holiday and overtime is not required for any construction project of $25,000 or less, or an alteration, demolition, repair, and maintenance project of $15,000 or less. The City of Sacramento has an approved Labor Compliance Program. **The City uses an electronic system for the submission of Labor Compliance Reports, which became effective May 1, 2007.** The contractor and every lower-tier subcontractor shall submit certified payrolls and labor compliance documentation electronically at the discretion of and in the manner specified by the City of Sacramento.

Electronic submittal is via a web-based system, accessed on the World Wide Web by a web browser. Each contractor and subcontractor is given a Log On identification and password to access the City of Sacramento's reporting system.

Use of the system may entail additional data entry of weekly payroll information including employee identification, labor classification, total hours worked and hours worked on this project, wage and benefit rates paid, etc. The contractor's payroll and accounting software might be capable of generating a 'comma delimited file' that will interface with the software.

Department of Industrial Relations Registration and Reporting Requirements (SB 854)

Labor Code Section 1725.5 (enacted by SB 854) requires all contractors bidding on this contract, all subcontractors listed in a bid for this contract, and any contractor or subcontractor performing any work under this contract, to be currently registered with the California Department of Industrial Relations (DIR), as specified in Labor Code Section 1725.5. Labor Code Section 1771.1 (enacted by SB 854) provides 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, unless currently registered and qualified to perform public work pursuant to Labor Code Section 1725.5. Every bidding contractor shall list the contractor's current DIR registration number, and the current DIR registration number of all listed subcontractors, on the Subcontractor and Local Business Enterprise (LBE) Participation Verification Form included in the contractor's bid.

Pursuant to Labor Code Section 1771.1(b): (1) any bid received from a contractor that is not currently registered and qualified to perform public work pursuant to Labor Code Section 1725.5 **shall be rejected as non-responsive**; and (2) any bid listing one or more subcontractors on the bidder's Subcontractor and Local Business Enterprise (LBE) Participation Verification Form that are not currently registered and qualified to perform public work pursuant to Labor Code Section 1725.5, **shall be rejected as non-responsive**, unless the listing was an inadvertent error and any of the conditions specified in Labor Code Section 1771.1(c) apply.

This contract also is subject to compliance monitoring and enforcement by the DIR. For all contracts awarded on or after April 1, 2015, California Labor Code Section 1771.4 (enacted by SB 854) requires the contractor and all subcontractors to furnish electronic payroll records directly to the Labor Commissioner (in addition to City staff via the City's electronic system).

A Fact Sheet summarizing the provisions of SB 854 is attached. This is provided solely for informational purposes, and does not in any way affect the contractor's and subcontractors' obligation to comply in all respects with the provisions of SB 854, including the provisions referenced above, as well as all other applicable laws and regulations.

The contractor shall disseminate these provisions to every lower-tier subcontractor and vendor required to provide labor compliance documentation.

All questions regarding the City's Labor Compliance Program should be directed to the Department's contracts staff or the Labor Compliance Officer at (916) 808-4011.

Pursuant to Sacramento City Code Section 3.60.190, all contractors and subcontractors shall comply with Section 1777.5 et seq., of the California Labor Code governing the employment of apprentices. Pursuant to Sacramento City Code Section 3.60.250 and Public Contract Code Section 22300, any contract awarded pursuant to this invitation to bid shall contain a provision permitting the substitution of securities for monies withheld to ensure performance under the contract, in accordance with the requirements and form specified by the City.

Bid protests must be filled and maintained in accordance with the provisions of Sections 3.60.460 through 3.60.560 of the Sacramento City Code. Bid protests that do not comply with Sections 3.60.460 through 3.60.560 of the Sacramento City Code shall be invalid and shall not be considered. A bid protest fee of $750.00 is required at the time of filing. The term "bid protest" includes any bid protest that (1) claims that one or more bidders on this contract should be disqualified or rejected for any reason, (2) contests a City staff recommendation to award this contract to a particular bidder, or (3) contests a City staff recommendation to disqualify or reject one or more bidders on this contract. A copy of Sections 3.60.460 through 3.60.560 of the Sacramento City Code may be obtained from the Project Manager, or from the City Clerk, located at 915 I Street, 5th Floor, Sacramento, CA 95814.

The Project Manager's contact information is:

Angelo Vasquez, Department of Utilities, Engineering & Water Resource Division
1395 35th Avenue, Sacramento, CA 95822
Phone: (916) 808-1701 / Fax: (916) 808-1497/Email: arvasquez@cityofsacramento.org

BAN-THE-BOX REQUIREMENTS

INTRODUCTION

On September 6, 2016, the City of Sacramento enacted an ordinance regarding criminal conviction information in the employment application process (the "Ban-the-Box Ordinance"), which added Chapter 3.62 to the Sacramento City Code and amended Section 2.40.050 of the Sacramento City Code. The Ban-the-Box Ordinance prohibits "covered employers" from asking an applicant for employment to disclose, orally or in writing, information concerning the criminal conviction history of the applicant, including any inquiry about criminal conviction history on any employment application, until the employer has determined the applicant meets the minimum employment qualifications stated in any notice issued for the position.

APPLICATION

"City Contract"

The Ban-the-Box Ordinance applies to all "city contracts." The term "city contract" means a contract awarded after January 1, 2017 to a "covered employer" for services or a public project in return for compensation of $250,000 or more. The term "city contract" includes contracts for services or public projects that were awarded for an amount less than $250,000 but were amended to increase the total compensation to $250,000 or more. The Ban-the-Box Ordinance also applies when the aggregate value of all contracts for services or public projects the City has awarded to the same "covered employer" within the previous 12 months is $250,000 or more.

The Ban-the-Box Ordinance does not apply to: (1) contracts awarded by the City Manager in response to an emergency; and (2) contracts for the purchase or lease of equipment, supplies, or other personal property, even if they include incidental services such as delivery, installation, or maintenance.

"Covered Employer"

The Ban-the-Box Ordinance only applies to "covered employers." The term "covered employer" means a person who is a party to a "city contract" and has at least 20 employees working either full or part time. The number of employees that a contractor has is determined by adding the contractor's employees and the employees of any "related person." A person is a "related person" when any of the following circumstances exists:

(1) The person and the person that is a party to a "city contract" are both corporations and:

   (a) Share a majority of members of their governing boards; or
   (b) Have two or more officers in common; or
   (c) Are controlled by the same majority shareholder or shareholders (control means more than 50% of the corporation's voting power); or
   (d) Are in a parent-subsidiary relationship (such a relationship exists when one corporation directly or indirectly owns shares possessing more than 50% of another corporation's voting power).

(2) The person otherwise controls and directs, or is controlled and directed by, the person that is a party to a city contract, as determined by the City Manager, or City Manager designee.

The term "covered employer" includes a subcontractor providing services under a "city contract" if the subcontractor has at least 20 employees, whether full- or part-time, or the amount of the subcontract is at least 25% of the amount of the "city contract."

The term "covered employer" does not include any unit of federal, state or local government.

Exceptions

The Ban-the-Box Ordinance provisions do not apply to: (1) a position for which a "covered employer" is otherwise required by law to conduct a criminal conviction history background check; or (2) a position that will not involve work pursuant to a "city contract." Additionally, the Ban-the-Box Ordinance does not prevent a "covered employer" from conducting a criminal conviction history background check in subsequent stages of the application process after initially determining whether the applicant meets the minimum employment qualifications.

COMPLIANCE

It is the contractor's responsibility to determine whether the aggregate value of $250,000 or more has been met, and to notify the City in writing whenever this is the case. It is also the contractor's responsibility to ensure that all of its subcontractors who are covered by the Ban-the-Box Ordinance comply with the provisions of the Ban-the-Box Ordinance by including these requirements in all subcontracts covered by the Ban-the-Box Ordinance.

VIOLATIONS AND MONITORING

The Ban-the-Box Ordinance provides that any violation of the Ban-the-Box Ordinance by a "covered employer" constitutes a material breach of the contract, and authorizes the City to terminate the contract. The City may also enforce the Ban-the-Box Ordinance by investigating any alleged violation (but any failure of the City to investigate does not create a right of action against the City). The City may further require "covered employers" to verify compliance.

ADDITIONAL INFORMATION

For a complete description of the Ban-the-Box Ordinance provisions related to City contracts, refer to the Ban-the-Box Ordinance, codified at Sacramento City Code Chapter 3.62. The Sacramento City Code is available on the internet at www.cityofsacramento.org.

For more information on the City's Ban-the-Box Ordinance, contact Procurement Services at 916-808-6240 or email Purchasing@cityofsacramento.org.

THE FOLLOWING DOCUMENTS

ARE TO BE COMPLETED AND

SUBMITTED WITH THE BID PACKAGE

Contractor's Name: _____
(Please print)

CITY OF SACRAMENTO

SEALED PROPOSAL

(MUST BE SIGNED BY BIDDER)

The Sealed Proposal will be received not later than **12/3/2025**, at the Office of the City Clerk, New City Hall, at 915 I Street, 5th Floor, Mayor's Reception Desk, Sacramento, California and opened at 2:00 PM, or as soon thereafter as business allows, on **12/3/2025**, by the Office of the City Clerk, 915 I Street, Historic City Hall, 2nd Floor, Hearing Room, Sacramento, California.

TO THE HONORABLE CITY COUNCIL:

The undersigned hereby proposes and agrees to furnish any and all required labor, material, transportation, and services for

Del Rio Sewer Force Main Rehabilitation

(PN: X14170114) (B25141311013)

in the City and County of Sacramento, California.

TOTAL BID: _____ ($_____).

The work herein described is to be performed in strict conformity with the Plans, City of Sacramento Standard Specifications (Resolution No. 89-216) and these Special Provisions, all as on file in the Office of the City Clerk, at the following unit prices.

Item No.	Description	Estimated Quantity	Unit	Unit Price	Total
1	Mobilization / Demobilization (5%)	1	Lump Sum		
2	Temporary Traffic Control	1	Lump Sum		
3	Dewatering	1	Allowance		
4	Sheeting, Shoring, and Bracing	1	Lump Sum		
5	Potholing	20	Each		
6	Pre-CIPP 72-inch FM Cleaning	1	Allowance		
7	Pre-CIPP 72-inch FM CCTV Inspection	11,914	Linear Foot		
8	CIPP Rehabilitation of 72-inch FM	5,813	Linear Foot		
9	Lining Launch and Reception Locations with FRPMP Pipe Closures	10	Each		
10	Carbon Fiber Wrap Overlay	144	Linear Foot		
11	Post-CIPP 72-inch CCTV Inspection	5,813	Linear Foot		
12	84-inch FM Cleaning	9,450	Linear Foot		
13	84-inch FM CCTV Inspection	9,450	Linear Foot		

Item No.	Description	Estimated Quantity	Unit	Unit Price	Total
14	New Manholes A, B, C and D (within Shaft Excavation)	4	Each		
15	Manhole Rehabilitation	4	Each		
16	Blowoff Replacement	1	Lump Sum		
17	Site Restoration and Vehicle Gate Installation	1	Lump Sum		
18	N11 Bypass	1	Lump Sum		
19	Hazardous Waste Handling, Testing, Stockpiling, Hauling, and Disposal - Kettleman Hills (Revocable)	200	Cubic Yards		
20	SWPPP Compliance	1	Lump Sum		

TOTAL BID: $_____

REQUIRED DOCUMENT IN SEALED BID PROPOSAL

Contractor's Name: Insituform Technologies, LLC
(Please print)

CITY OF SACRAMENTO

SEALED PROPOSAL

(MUST BE SIGNED BY BIDDER)

The Sealed Proposal will be received not later than **12/3/2025**, at the Office of the City Clerk, New City Hall, at 915 I Street, 5th Floor, Mayor's Reception Desk, Sacramento, California and opened at 2:00 PM, or as soon thereafter as business allows, on **12/3/2025**, by the Office of the City Clerk, 915 I Street, Historic City Hall, 2nd Floor, Hearing Room, Sacramento, California.

TO THE HONORABLE CITY COUNCIL:

The undersigned hereby proposes and agrees to furnish any and all required labor, material, transportation, and services for

Del Rio Sewer Force Main Rehabilitation

(PN: X14170114) (B25141311013)

in the City and County of Sacramento, California.

TOTAL BID: Sixteen million nine hundred sixty six thousand two hundred three ($16,966,203.00).

The work herein described is to be performed in strict conformity with the Plans, City of Sacramento Standard Specifications (Resolution No. 89-216) and these Special Provisions, all as on file in the Office of the City Clerk, at the following unit prices.

Item No.	Description	Estimated Quantity	Unit	Unit Price	Total
1	Mobilization / Demobilization (5%)	1	Lump Sum		
2	Temporary Traffic Control	1	Lump Sum		
3	Dewatering	1	Allowance		
4	Sheeting, Shoring, and Bracing	1	Lump Sum		See addendum Item C
5	Potholing	20	Each		
6	Pre-CIPP 72-inch FM Cleaning	1	Allowance		
7	Pre-CIPP 72-inch FM CCTV Inspection	~~11,914~~ 6326	Linear Foot		
8	CIPP Rehabilitation of 72-inch FM	5,813	Linear Foot		
9	Lining Launch and Reception Locations with FRPMP Pipe Closures	10	Each		
10	Carbon Fiber Wrap Overlay	144	Linear Foot		
11	Post-CIPP 72-inch CCTV Inspection	5,813	Linear Foot		
12	84-inch FM Cleaning	9,450	Linear Foot		
13	84-inch FM CCTV Inspection	9,450	Linear Foot		

Item No.	Description	Estimated Quantity	Unit	Unit Price	Total
14	New Manholes A, B, C and D (within Shaft Excavation)	4	Each		
15	Manhole Rehabilitation	4	Each		
16	Blowoff Replacement	1	Lump Sum		
17	Site Restoration and Vehicle Gate Installation	1	Lump Sum		
18	N11 Bypass	1	Lump Sum		
19	Hazardous Waste Handling, Testing, Stockpiling, Hauling, and Disposal - Kettleman Hills (Revocable)	200	Cubic Yards		
20	SWPPP Compliance	1	Lump Sum		

TOTAL BID: $16,966,203.00

Attachment C - Updated Bid Schedule

Bid Item No.	Bid Item Description	Estimated Quantity	Unit	Unit Price	Total
1	Mobilization / Demobilization (5%)	1	Lump Sum	780,000.00	780,000.00
2	Temporary Traffic Control	1	Lump Sum	311,200.00	311,200.00
3	Dewatering	1	Allowance	$ 250,000	$ 250,000
4	Sheeting, Shoring, and Bracing	1	Lump Sum	316,871.00	316,871.00
5	Potholing	20	Each	4560.00	91,200.00
6	Pre-CIPP 72-inch FM Cleaning	1	Allowance	$ 525,000	$ 525,000
7	Pre-CIPP 72-inch FM CCTV Inspection	**11,626**	Linear Foot	5.00	58,130.00
8	CIPP Rehabilitation of 72-inch FM	5,813	Linear Foot	1592.00	9,254,296.00
9	Lining Launch and Reception Locations with FRPMP Pipe Closures	10	Each	256,303.00	2,563,030.00
10	Carbon Fiber Wrap Overlay	144	Linear Foot	3015.00	434,160.00
11	Post-CIPP 72-inch CCTV Inspection	5,813	Linear Foot	4.00	23,252.00
12	84-inch FM Cleaning	9,450	Linear Foot	40.00	378,000.00
13	84-inch FM CCTV Inspection	9,450	Linear Foot	5.00	47,250.00
14	New Manholes A, B, C and D (within Shaft Excavation)	4	Each	118,280.00	473,120.00
15	Manhole Rehabilitation	4	Each	65,985.00	263,940.00
16	Blowoff Replacement	1	Lump Sum	112,703.00	112,703.00
17	Site Restoration and Vehicle Gate Installation	1	Lump Sum	573,067.00	573,067.00
18	N11 Bypass	1	Lump Sum	332,470.00	332,470.00
19	Hazardous Waste Handling, Testing, Stockpiling, Hauling, and Disposal - Kettleman Hills (Revocable)	200	Cubic Yards	600.00	120,000.00
20	SWPPP Compliance	1	Lump Sum	58,514.00	58,514.00

The undersigned agrees to execute the Agreement and provide City the executed Agreement, the required insurance certificates, endorsements, and waivers of subrogation, and the required surety bonds within ten (10) calendar days after the undersigned's receipt of the City's notice that the undersigned will be recommended for Contract award and prior to award of the Contract by the City Council.

In determining the amount bid by each bidder, City shall disregard mathematical errors in addition, subtraction, multiplication and division that appear obvious on the face of the Proposal. When such a mathematical error appears on the Proposal, the City shall have the right to correct such error and to compute the total amount bid by said bidder on the basis of the corrected figure or figures.

When the unit price of an item is required to be set forth in the Proposal, and the total for the item set forth separately does not agree with a figure derived by multiplying the item unit price times the Engineer's estimate of the quantity of work to be performed for said item, the item unit price shall prevail over the sum set forth as the total for the item unless, in the sole discretion of the City, such a procedure would be inconsistent with the policy of the City's bidding procedures. The total paid for each such item of work shall be based upon the item unit price and not the total price.

Should the Proposal contain only a total price for an item and the item unit price is omitted, the City shall determine the item unit price by dividing the total price of the item by the Engineer's estimate of the quantity of work to be performed for the item of work.

If the Proposal contains neither the item price nor the total price for the item, then it shall be deemed incomplete and the Proposal shall be disregarded.

It is understood that this bid is based upon completion of the work within a period **of 267 working days** commencing on the date specified in the Notice to Proceed.

The amount of liquidated damages to be paid by the Contractor for failure to complete the work by the completion date (as extended, if applicable) shall be **$13,200 for each working day**, continuing to the time at which the work is completed. Such amount is the actual cash value agreed upon as the loss to the City resulting from the default of the Contractor.

The undersigned represents and warrants that he/she has examined the location of the proposed work and is familiar with the conditions at the place where the work is to be done. The undersigned further represents that he/she has reviewed and understands the Plans, Special Provisions, and other contract documents, and the undersigned is satisfied with all conditions for the performance of the work. **Additionally, the undersigned shall include written documentation with the Sealed Proposal of minimum qualifications which meet the requirements of the Special Provisions.**

The undersigned has carefully checked all of the above figures and understands that the City of Sacramento will not be responsible for any errors or omissions on the part of the undersigned in making up this bid.

This proposal shall not be withdrawn for the time periods specified in Section 3-2 of the City of Sacramento Standard Specifications for award of contract to respective low bidders. This proposal is submitted in accordance with Chapter 3.60 of the Sacramento City Code and Sections 1, 2, and 3 of the City of Sacramento Standard Specifications.

In accordance with Standard Specification Section 3-2, the City shall award this contract to the lowest responsible bidder, if such award is made, within sixty (60) working days after opening of the Proposals. The City reserves the right to reject any and all bids.

REQUIRED DOCUMENT IN SEALED BID PROPOSAL

BID DEPOSIT ENCLOSED IN THE FOLLOWING FORM:

$_____ not less than ten (10) percent of amount bid.

_____CERTIFIED CHECK

_____MONEY ORDER

_____CASHIERS' CHECK

__X__BID BOND

FOR CITY USE ONLY

TYPE OF DEPOSIT

- [X] Bid Bond
- [ ] Cashier/Certified Check
- [ ] Other_____

Reviewer's Initials: _____

CONTRACTOR

Addendum No. 1 11/25/2025

Addendum No. 2 12/4/2025

Addendum No. 3 _____

Addendum No. 4 _____

Insituform Technologies, LLC

By: Whittney Schulte
(Signature)

Title Whittney Schulte, Contracting & Attesting Officer

Address 580 Goddard Avenue
No PO Box – Physical Address ONLY

Chesterfield, MO 63005
City STATE Zip Code

Telephone No. 636-530-8000

Fax No. 636-530-8701

Email WSchulte@Azuria.com

(Federal Tax ID # or Social Security #)
Under penalty of perjury, I certify that the Taxpayer Identification Number and all other information provided here are correct.

13-3032158

DIR Registration Number: 1000009689

Valid Contractor's License No. 758411 Classification A is held by the bidder.

Expiration date 7/31/2026 Representation made herein are true and correct under penalty of perjury

(PN: X14170114) (B25141311013)

City of SACRAMENTO

REQUIRED DOCUMENT IN SEALED BID PROPOSAL

BID PROPOSAL GUARANTEE

PRINCIPAL (Contractor legal name and business address)	Type of Organization ("X" one)
Insituform Technologies, LLC 580 Goddard Avenue, Chesterfield, MO 63005	☐ Individual ☐ Partnership ☐ Corporation ☑ Limited Liability Co. ☐ Other: _____ State of Organization formation: Delaware

SURETY (Name and business address,) (agent name and phone number)

Travelers Casualty and Surety Company of America — Andrew P. Thome

One Tower Square, Hartford, CT 06183 — (314) 594-2700

a corporation duly organized under the laws of the State of Connecticut and duly licensed to issue this bond as authorized by the State of California. California License No. 0G99003

OBLIGATION: We, the Principal and the Surety, bind ourselves, our heirs, executors, administrators and successors, jointly and severally, to the City of Sacramento ("City") as Obligee for the penal sum of ten percent (10%) of the total amount of the Principal's bid proposal submitted to the City for the project described below, to guarantee that Principal will accept the City's award of the project contract.

THE CONDITION OF THIS OBLIGATION IS -
That if the Principal has submitted a bid proposal to the City by the bid proposal due date as set forth in the invitation to bid, which date may be extended by City, for the project described as follows:

Project Name: Del Rio Sewer Force Main Rehabilitation
Project Number: X14170114
Bid Transaction Number: B25141311013

AND if the City awards the contract for the project to the Principal within the time and manner required under the invitation to bid, and the Principal (i) enters into a written contract, in the prescribed form, in accordance with the bid proposal, (ii) files two bonds with the City to guarantee faithful performance and payment for labor and materials, and (iii) files the required insurance policies with the City, all as required by the invitation to bid or by law, then the obligation shall be null and void; otherwise it shall be and remain in full force and effect. The Surety agrees that this obligation is not impaired by any extensions of the time for the award of the contract Principal may grant to City, and any notice to Surety of such time extension is waived. In the event suit is brought upon this bond by the Obligee and judgment is recovered, the Surety shall pay all costs incurred by the Obligee in such suit, including a reasonable attorney's fee to be fixed by the court, which sums shall be additional to the principal amount of this bond.

IN WITNESS WHEREOF, Surety has executed this Bid Proposal Guarantee on the day set forth in the attached notary acknowledgment. Attach Surety power of attorney form to verify signator's authority.

Principal/Contractor: Insituform Technologies, LLC

By: Whittney Schulte
Name:

Title: Whittney Schulte, Contracting & Attesting Officer

Surety: Travelers Casualty and Surety Company of America

By: _____
Name:

Title: Andrew P. Thome, Attorney-in-Fact

(Seal)

TRAVELERS CASUALTY AND SURETY COMPANY OF AMERICA SEAL

Revised: 2020

ACKNOWLEDGMENT

A notary public or other officer completing this certificate verifies only the identity of the individual who signed the document to which this certificate is attached, and not the truthfulness, accuracy, or validity of that document.

State of ~~California~~ Missouri
County of St. Louis)

On 12/03/2025 before me, Christina A. Culotta, Notary Public
(insert name and title of the officer)

personally appeared Andrew P. Thome, Attorney-in-Fact,
who proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

CHRISTINA A. CULOTTA
Notary Public - Notary Seal
STATE OF MISSOURI
St. Louis County
My Commission Expires: Aug. 5, 2027
Commission # 19313442

Signature _____ **(Seal)**
Christina A. Culotta, Notary Public

TRAVELERS

Travelers Casualty and Surety Company of America
Travelers Casualty and Surety Company
St. Paul Fire and Marine Insurance Company

POWER OF ATTORNEY

KNOW ALL MEN BY THESE PRESENTS: That Travelers Casualty and Surety Company of America, Travelers Casualty and Surety Company, and St. Paul Fire and Marine Insurance Company are corporations duly organized under the laws of the State of Connecticut (herein collectively called the "Companies"), and that the Companies do hereby make, constitute and appoint **ANDREW P THOME** of **CHESTERFIELD**, **Missouri**, their true and lawful Attorney(s)-in-Fact to sign, execute, seal and acknowledge any and all bonds, recognizances, conditional undertakings and other writings obligatory in the nature thereof on behalf of the Companies in their business of guaranteeing the fidelity of persons, guaranteeing the performance of contracts and executing or guaranteeing bonds and undertakings required or permitted in any actions or proceedings allowed by law.

IN WITNESS WHEREOF, the Companies have caused this instrument to be signed, and their corporate seals to be hereto affixed, this **21st** day of **April**, **2021**.

State of Connecticut

By: _____
Robert L. Raney, Senior Vice President

City of Hartford ss.

On this the **21st** day of **April**, **2021**, before me personally appeared **Robert L. Raney**, who acknowledged himself to be the Senior Vice President of each of the Companies, and that he, as such, being authorized so to do, executed the foregoing instrument for the purposes therein contained by signing on behalf of said Companies by himself as a duly authorized officer.

IN WITNESS WHEREOF, I hereunto set my hand and official seal.

My Commission expires the **30th** day of **June**, **2026**

_____
Anna P. Nowik, Notary Public

This Power of Attorney is granted under and by the authority of the following resolutions adopted by the Boards of Directors of each of the Companies, which resolutions are now in full force and effect, reading as follows:

RESOLVED, that the Chairman, the President, any Vice Chairman, any Executive Vice President, any Senior Vice President, any Vice President, any Second Vice President, the Treasurer, any Assistant Treasurer, the Corporate Secretary or any Assistant Secretary may appoint Attorneys-in-Fact and Agents to act for and on behalf of the Company and may give such appointee such authority as his or her certificate of authority may prescribe to sign with the Company's name and seal with the Company's seal bonds, recognizances, contracts of indemnity, and other writings obligatory in the nature of a bond, recognizance, or conditional undertaking, and any of said officers or the Board of Directors at any time may remove any such appointee and revoke the power given him or her; and it is

FURTHER RESOLVED, that the Chairman, the President, any Vice Chairman, any Executive Vice President, any Senior Vice President or any Vice President may delegate all or any part of the foregoing authority to one or more officers or employees of this Company, provided that each such delegation is in writing and a copy thereof is filed in the office of the Secretary; and it is

FURTHER RESOLVED, that any bond, recognizance, contract of indemnity, or writing obligatory in the nature of a bond, recognizance, or conditional undertaking shall be valid and binding upon the Company when (a) signed by the President, any Vice Chairman, any Executive Vice President, any Senior Vice President or any Vice President, any Second Vice President, the Treasurer, any Assistant Treasurer, the Corporate Secretary or any Assistant Secretary and duly attested and sealed with the Company's seal by a Secretary or Assistant Secretary; or (b) duly executed (under seal, if required) by one or more Attorneys-in-Fact and Agents pursuant to the power prescribed in his or her certificate or their certificates of authority or by one or more Company officers pursuant to a written delegation of authority; and it is

FURTHER RESOLVED, that the signature of each of the following officers: President, any Executive Vice President, any Senior Vice President, any Vice President, any Assistant Vice President, any Secretary, any Assistant Secretary, and the seal of the Company may be affixed by facsimile to any Power of Attorney or to any certificate relating thereto appointing Resident Vice Presidents, Resident Assistant Secretaries or Attorneys-in-Fact for purposes only of executing and attesting bonds and undertakings and other writings obligatory in the nature thereof, and any such Power of Attorney or certificate bearing such facsimile signature or facsimile seal shall be valid and binding upon the Company and any such power so executed and certified by such facsimile signature and facsimile seal shall be valid and binding on the Company in the future with respect to any bond or understanding to which it is attached.

I, **Kevin E. Hughes**, the undersigned, Assistant Secretary of each of the Companies, do hereby certify that the above and foregoing is a true and correct copy of the Power of Attorney executed by said Companies, which remains in full force and effect.

Dated this 03rd day of December, 2025.

_____
Kevin E. Hughes, Assistant Secretary

To verify the authenticity of this Power of Attorney, please call us at 1-800-421-3880.
Please refer to the above-named Attorney(s)-in-Fact and the details of the bond to which this Power of Attorney is attached.

City of SACRAMENTO

SUBCONTRACTOR AND LOCAL BUSINESS ENTERPRISE PARTICIPATION FORM

FOR PUBLIC PROJECTS OVER $250,000

THIS FORM MUST BE SUBMITTED WITH THE SEALED BID PROPOSAL

To be eligible for award of this contract, the bidder shall list the business entities used to attain the 5% LBE requirement. Additionally, the bidder shall list all other subcontractors who perform work, render service, or provide materials in an amount in excess of one-half of 1 percent of the total bid amount. In the case of bids for the construction of streets and highways, including bridges, subcontractors whose subcontract value exceeds one-half of 1 percent of the total bid or ten thousand dollars ($10,000), whichever is greater, shall be listed. Estimated dollar values shall be provided for all work, services or materials listed. No contractor or subcontractor may be listed on a bid proposal for a public works project unless registered with the Department of Industrial Relations pursuant to Labor Code section 1725.5 [with limited exceptions from this requirement for bid purposes only under Labor Code section 1771.1(a)]. The failure to attain the 5% LBE participation or the inclusion of false information or the omission of required information will render the bid non-responsive.

COPY AND ATTACH ADDITIONAL SHEETS AS NECESSARY

Prime Contractor Name	Insituform Technologies, LLC
(REQUIRED) Prime Contractor DIR Registration #	1000009689

Business Name	McGuire and Hester	**Subcontractor or Supplier?** *(Concrete delivery companies, temp fence companies that perform labor of installing or removing fencing and surveyors require DIR Registration)*	☒ Subcontractor ☐ Supplier
CSLB/Professional License #	95879	**DIR Registration #** *(10 digits)*	1000000033
Address	1011e N. Market Blvd	**Does this subcontractor or supplier qualify as an LBE?**	YES
City, State, Zip	Sacramento CA 95834	**Estimated dollar value of work, services or materials to be performed of provided**	$ 4,511,250.00
Contact Person	Travis O'Connor	**Type of Work, Services, or Materials to be provided to complete contract.**	
Email Address	toconnor@mcguireandhester.com	Pit excavation, misc exc, potholing, misc sdcs.	
Phone	916-372-8910		

Business Name	Right Traffic California	**Subcontractor or Supplier?** *(Concrete delivery companies, temp fence companies that perform labor of installing or removing fencing and surveyors require DIR Registration)*	☒ Subcontractor ☐ Supplier
CSLB/Professional License #	1135096	**DIR Registration #** *(10 digits)*	1000580328
Address	5150 Fair Oaks Blvd. #101-322	**Does this subcontractor or supplier qualify as an LBE?**	YES
City, State, Zip	Carmichael CA 95608	**Estimated dollar value of work, services or materials to be performed of provided**	$ 125,000.00
Contact Person	Brice Hughes	**Type of Work, Services, or Materials to be provided to complete contract.**	
Email Address	Brice@wbetc.com	Traffic Control & Flagging	
Phone	707-771-5870		

I hereby certify that each subcontractor listed on this LBE Participation Form has been notified that it has been listed and has consented in writing to its name being submitted for this contract. The Prime Contractor also certifies that it will notify each subcontractor listed on this Form in writing if the contract award is made to the Prime Contractor, and will make all documentation relevant to the subcontractor and LBE participation available to City of Sacramento upon request. The Prime Contractor further certifies that all of the information contained in this Form is true and correct and acknowledges that the City will rely on the accuracy of this information in awarding the contract.

Whittney Schulte	Whittney Schulte Contracting & Attesting Officer	12/10/2025	$ 4,636,250.00
Signature (Principal of Firm)	**Title**	**Date**	**Total Bid Amount (including additive alternates if applicable)**

City of SACRAMENTO

SUBCONTRACTOR AND LOCAL BUSINESS ENTERPRISE PARTICIPATION FORM

FOR PUBLIC PROJECTS OVER $250,000

THIS FORM MUST BE SUBMITTED WITH THE SEALED BID PROPOSAL

To be eligible for award of this contract, the bidder shall list the business entities used to attain the 5% LBE requirement. Additionally, the bidder shall list all other subcontractors who perform work, render service, or provide materials in an amount in excess of one-half of 1 percent of the total bid amount. In the case of bids for the construction of streets and highways, including bridges, subcontractors whose subcontract value exceeds one-half of 1 percent of the total bid or ten thousand dollars ($10,000), whichever is greater, shall be listed. Estimated dollar values shall be provided for all work, services or materials listed. No contractor or subcontractor may be listed on a bid proposal for a public works project unless registered with the Department of Industrial Relations pursuant to Labor Code section 1725.5 [with limited exceptions from this requirement for bid purposes only under Labor Code section 1771.1(a)]. The failure to attain the 5% LBE participation or the inclusion of false information or the omission of required information will render the bid non-responsive.

COPY AND ATTACH ADDITIONAL SHEETS AS NECESSARY

Prime Contractor Name	Insituform Technologies, LLC
(REQUIRED) Prime Contractor DIR Registration #	1000009689

Business Name	Tully Consulting Group	**Subcontractor or Supplier?** *(Concrete delivery companies, temp fence companies that perform labor of installing or removing fencing and surveyors require DIR Registration)*	☐ Subcontractor ☒ Supplier
CSLB/Professional License #	C64354	**DIR Registration #** *(10 digits)*	N/A
Address	1650 N. Lincoln St. # A	**Does this subcontractor or supplier qualify as an LBE?**	NO
City, State, Zip	Dixon CA 95620	**Estimated dollar value of work, services or materials to be performed of provided**	$ 27,500.00
Contact Person	Gunner Bermudez	**Type of Work, Services, or Materials to be provided to complete contract.**	
Email Address	estimating@tullygroup	SWPPP plans, permits etc.	
Phone	707-693-1926		

Business Name	Techno Coatings	**Subcontractor or Supplier?** *(Concrete delivery companies, temp fence companies that perform labor of installing or removing fencing and surveyors require DIR Registration)*	☒ Subcontractor ☐ Supplier
CSLB/Professional License #	796517	**DIR Registration #** *(10 digits)*	1000005841
Address	785 E. Debra Ln	**Does this subcontractor or supplier qualify as an LBE?**	NO
City, State, Zip	Anaheim CA 92805	**Estimated dollar value of work, services or materials to be performed of provided**	$ 81,800.00
Contact Person	Wyatt Joy	**Type of Work, Services, or Materials to be provided to complete contract.**	
Email Address		MH Rehab & coating	
Phone	714-635-1130		

I hereby certify that each subcontractor listed on this LBE Participation Form has been notified that it has been listed and has consented in writing to its name being submitted for this contract. The Prime Contractor also certifies that it will notify each subcontractor listed on this Form in writing if the contract award is made to the Prime Contractor, and will make all documentation relevant to the subcontractor and LBE participation available to City of Sacramento upon request. The Prime Contractor further certifies that all of the information contained in this Form is true and correct and acknowledges that the City will rely on the accuracy of this information in awarding the contract.

Whittney Schulte	Whittney Schulte Contracting & Attesting Officer	12/10/2025	$ 109,300.00
Signature (Principal of Firm)	**Title**	**Date**	**Total Bid Amount (including additive alternates if applicable)**

DRUG-FREE WORKPLACE POLICY AND AFFIDAVIT

BID MAY BE DECLARED NONRESPONSIVE IF THIS FORM (COMPLETED) IS NOT ATTACHED.
Pursuant to City Council Resolution CC90-498 dated 6/26/90 the following is required.

The undersigned contractor certifies that it and all subcontractors performing under this contract will provide a drug-free workplace by:

1. Publishing a "Drug-Free Workplace" statement notifying employees that the unlawful manufacture, distribution, dispensing, possession or use of a controlled substance is prohibited in the contractor's workplace and specifying the actions that will be taken against employees for violations of such prohibition.

2. Establishing a Drug-Free Awareness Program to inform employees about:

   a. The dangers of drug abuse in the workplace.
   b. The contractor's policy of maintaining a drug-free workplace.
   c. Any available drug counseling, rehabilitation, and employee assistance program.
   d. The penalties that may be imposed upon employees for drug abuse violations occurring in the workplace.

3. Notify employees that as a condition of employment under this contract, employees will be expected to:

   a. Abide by the terms of the statement.
   b. Notify the employer of any criminal drug statute conviction for a violation occurring in the workplace.

4. Making it a requirement that each employee to be engaged in the performance of the contract be given a copy on the "Drug-Free Workplace" statement.

5. Taking one of the following appropriate actions, within thirty (30) days of receiving notice from an employee or otherwise receiving such notice, that said employee has received a drug conviction for a violation occurring in the workplace:

   a. Taking appropriate disciplinary action against such an employee, up to and including termination; or
   b. Requiring such employee to participate satisfactorily in a drug abuse assistance or rehabilitation program approved for such purposes by a federal, state, or local health, law enforcement or other appropriate agency.

* I certify that no person employed by this company, corporation, or business has been convicted of any criminal drug statute violation on any job site or project where this company, corporation, or business was performing work within three (3) years of the date of my signature below.

EXCEPTION:

Date	Violation Type	Place of Occurrence

If additional space is required use back of this form.

*The above statement will also be incorporated as a part of each subcontract agreement for any and all subcontractors selected for performance on this project.

IN THE EVENT THIS COMPANY, CORPORATION, OR BUSINESS IS AWARDED THIS CONSTRUCTION CONTRACT, AS A RESULT OF THIS BID; THE CONTRACTOR WITH HIS/HER SIGNATURE REPRESENTS TO THE CITY THAT THE INFORMATION DISCLOSED IN THIS DOCUMENT IS COMPLETE AND ACCURATE. IT IS UNDERSTOOD AND AGREED THAT FALSE CERTIFICATION IS SUBJECT TO IMMEDIATE TERMINATION BY THE CITY.

The Representations Made Herein On This Document Are Made Under Penalty Of Perjury.

CONTRACTOR'S NAME: Insituform Technologies, LLC

BY: Whittney Schulte Date: December 10, 2025

Signature Title

Whittney Schulte, Contracting & Attesting Officer

Effects of violations: a. Suspension of payments under this contract. b. Suspension or termination of the contract. c. Suspension or debarment of the contractor from receiving any contract from the City of Sacramento for a period not to exceed five years.
FM 681 7/10/9

MINIMUM QUALIFICATIONS QUESTIONNAIRE

Sacramento City Code Section 3.60.020 authorizes the Sacramento City Council to adopt standard minimum qualifications for bidders on competitively bid public works construction projects, and requires, among other provisions, that a bidder meet such minimum qualifications at the time of bid opening in order to bid. On July 31, 2007, the City Council adopted Resolution No. 2007-574 establishing these standard minimum qualifications. Pursuant to City Code section 3.60.020, a bidder failing to meet these minimum qualifications at the time of bid opening shall not be considered a responsible bidder for purposes of bidding on the subject project.

All bidders must demonstrate compliance with the minimum qualifications established by Resolution No. 2007-574 by completing all of the questions contained in this questionnaire. Bidder responses shall be limited to those operating business units, offices, branches and/or subsidiary divisions of the bidder that will be involved with the performance of any project work if awarded the contract. If a bidder answers "yes" to any single question, fails to submit a fully completed questionnaire, or submits false information, this will result in a determination that the minimum qualifications are not met, and the bidder shall not be considered a qualified bidder for purposes of bidding on this contract. If two or more entities submit a bid on a contract as a Joint Venture, each entity within the Joint Venture must separately meet these minimum qualifications for the Joint Venture to be considered a qualified bidder.

The City of Sacramento ("City") shall make its determination on the basis of the submitted questionnaire, as well as any relevant information that is obtained from others or as a result of investigation by the City. While it is the intent of this questionnaire to assist the City in determining whether bidders possess the minimum qualifications necessary to submit bids on the City's competitively bid public works construction contracts, the fact that a bidder submits a questionnaire demonstrating that it meets these minimum qualifications shall not in any way limit or affect the City's ability to: (1) review other information contained in the bid submitted by the bidder, and additional relevant information, and determine whether the contractor is a responsive and/or responsible bidder; or (2) establish pre-qualification requirements for a specific contract or contracts.

By submitting this questionnaire, the bidder consents to the disclosure of its questionnaire answers: (i) to third parties for purposes of verification and investigation; (ii) in connection with any protest, challenge or appeal of any action taken by the City; and (iii) as required by any law or regulation, including without limitation the California Public Records Act (Calif. Gov't Code sections 6250 et seq.). Each questionnaire must be signed under penalty of perjury in the manner designated at the end of the form, by an individual who has the legal authority to bind the bidder submitting the questionnaire. If any information provided by a bidder becomes inaccurate, the bidder shall immediately notify the City and provide updated accurate information in writing, under penalty of perjury.

QUESTIONNAIRE

NOTICE: **For firms that maintain other operating business units, offices, branches and/or subsidiary divisions that will not be involved with the performance of any project work if the firm is awarded the contract, references hereafter to "your firm" shall mean only those operating business units, offices, branches and/or subsidiary divisions that will be involved with the performance of any project work.**

All of the following questions regarding "your firm" refer to the firm (corporation, partnership or sole proprietor) submitting this questionnaire, as well as any firm(s) with which any of your firm's owners, officers, or partners are or have been associated as an owner, officer, partner or similar position within the last five years

The firm submitting this questionnaire shall not be considered a responsible bidder if the answer to any of these questions is "yes", or if the firm submits a questionnaire that is not fully completed or contains false information.

1. **Classification & Expiration Date(s) of California** Contractor's License Number(s) held by firm:

   758411, A

2. Has a contractor's license held by your firm and/or any owner, officer or partner of your firm been revoked at any time in the last five years?

   ☐ Yes ☒ No

3. Within the last five years, has a surety firm completed a contract on your firm's behalf, or paid for completion of a contract to which your firm was a party, because your firm was considered to be in default or was terminated for cause by the project owner?

   ☐ Yes ☒ No

4. At the time of submitting this minimum qualifications questionnaire, is your firm ineligible to bid on or be awarded a public works contract, or perform as a subcontractor on a public works contract, pursuant to either California Labor Code section 1777.1 (prevailing wage violations) or Labor Code section 1777.7 (apprenticeship violations)?

   ☐ Yes ☒ No

5. At any time during the last five years, has your firm, or any of its owners, officers or partners been convicted of a crime involving the awarding of a contract for a government construction project, or the bidding or performance of a government contract?

   ☐ Yes ☒ No

6. Answer either subsection A or B, as applicable:

A. Your firm has completed three or more government construction contracts in Sacramento County within the last five years: Within those five years, has your firm been assessed liquidated damages on three or more government construction contracts in Sacramento County for failure to complete contract work on time?

NOTE: If there is a pending administrative or court action challenging the assessment of liquidated damages on a government contract within the last five years, you need not include that contract in responding to this question.

☐ Yes ☒ No ☐ Not applicable

OR

B. Your firm has not completed at least three government construction contracts in Sacramento County within the last five years: Within the last three years, has your firm been assessed liquidated damages on three or more government construction contracts for failure to complete contract work on time?

NOTE: If there is a pending administrative or court action challenging an assessment of liquidated damages on a government contract within the last three years, you need not include that contract in responding to this question.

☐ Yes ☒ No ☐ Not applicable

7. In the last three years has your firm been debarred from bidding on, or completing, any government agency or public works construction contract for any reason?

NOTE: If there is a pending administrative or court action challenging a debarment, you need not include that debarment in responding to this question.

☐ Yes ☒ No

8. Has CAL OSHA assessed a total of three or more penalties against your firm for any "serious" or "willful" violation occurring on construction projects performed in Sacramento County at any time within the last three years?

NOTE: If there is a pending administrative or court action appealing a penalty assessment, you need not include that penalty assessment in responding to this question.

☐ Yes ☒ No

9. Answer either subsection A or B, as preferred:

A. In the last three years has your firm had a three year average Workers' Compensation experience modification rate exceeding 1.1?

☐ Yes ☒ No

OR

B. In the last three years has your firm had a three-year average incident rate for total lost workday cases exceeding 10?

NOTE: Incident rates represent the number of lost workday cases per 100 full-time workers and is to be calculated as: (N/EH) x 200,000, where

N = number of lost workday cases (as defined by the U.S. Dept. of Labor, Bureau of Labor Statistics)

EH = total hours worked by all employees during the calendar year

200,000 = base for 100 equivalent full-time working (working 40 hours per week, 50 weeks per year)

☐ Yes ☒ No

10. In the past three years, has the federal EPA, Region IX or a California Air Quality Management District or Regional Water Quality Control Board assessed penalties three or more times, either against your firm, or against the project owner for a violation resulting in whole or in part from any action or omission by your firm on a project on which your firm was a contractor in Sacramento County?

NOTE: If there is a pending administrative or court action appealing a penalty assessment, you need not include that penalty assessment in responding to this question.

☐ Yes ☒ No

11. In the past three years, has the federal EPA, Region IX or a California Air Quality Management District or Regional Water Quality Control Board assessed a single penalty of $100,000 or more, either against your firm, or against the project owner for a violation resulting in whole or in part from any action or omission by your firm on a project on which your firm was the contractor in Sacramento County?

NOTE: If there is a pending administrative or court action appealing a penalty assessment, you need not include that penalty assessment in responding to this question.

☐ Yes ☒ No

12. In the past three years, have civil penalties been assessed against your firm pursuant to California Labor Code 1777.7 for violation of California public works apprenticeship requirements, three or more times?

NOTE: If there is a pending administrative or court action appealing a penalty assessment, you need not include that penalty assessment in responding to this question.

☐ Yes ☒ No

13. In the past three years, has a public agency in California withheld contract payments or assessed penalties against your firm for violation of public works prevailing wage requirements, three or more times?

NOTE: If there is a pending administrative or court action appealing a withholding or penalty assessment, you need not include that withholding or penalty assessment in responding to this question.

☐ Yes ☒ No

14. Has your firm been assessed penalties for violation of public works prevailing wage requirements in California, in an aggregate amount for the past three years of $50,000 or more?

NOTE: If there is a pending administrative or court action appealing a penalty assessment, you need not include that penalty assessment in responding to this question.

☐ Yes ☒ No

VERIFICATION AND SIGNATURE

I, the undersigned, certify and declare that I have read all the foregoing answers to this Minimum Qualifications Questionnaire, and know their contents. The matters stated in these Questionnaire answers are true of my own knowledge and belief, except as to those matters stated on information and belief, and as to those matters I believe them to be true. I declare under penalty of perjury under the laws of the State of California that the foregoing is true and correct.

Signed at Chesterfield, MO (Location), on December 10, 2025 (Date)

Signature: Whittney Schulte

Print name: Whittney Schulte

Title: Contracting & Attesting Officer

NOTE: If two or more entities submit a bid on a contract as a Joint Venture, each entity within the Joint Venture must submit a separate Minimum Qualifications Questionnaire.

REQUIREMENTS OF THE NON-DISCRIMINATION IN EMPLOYEE BENEFITS CODE

INTRODUCTION

The Sacramento Non-Discrimination In Employee Benefits Code (the "Ordinance"), codified as Sacramento City Code Chapter 3.54, prohibits City contractors from discriminating in the provision of employee benefits between employees with spouses and employees with domestic partners, and between the spouses and domestic partners of employees.

APPLICATION

The provisions of the Ordinance apply to any contract or agreement (as defined below), between a Contractor and the City of Sacramento, in an amount exceeding $250,000.00. The Ordinance applies to that portion of a contractor's operations that occur: (i) within the City of Sacramento; (ii) on real property outside the City of Sacramento if the property is owned by the City or if the City has a right to occupy the property; or (iii) at any location where a significant amount of work related to a City contract is being performed.

The Ordinance does not apply: to subcontractors or subcontracts of any Contractor or contractors; to transactions entered into pursuant to cooperative purchasing agreements approved by the Sacramento City Council; to legal contracts of other governmental jurisdictions or public agencies without separate competitive bidding by the City; where the requirements of the ordinance will violate or are inconsistent with the terms or conditions of a grant, subvention or agreement with a public agency or the instructions of an authorized representative of any such agency with respect to any such grant, subvention or agreement; to permits for excavation or street construction; or to agreements for the use of City right-of-way where a contracting utility has the power of eminent domain.

DEFINITIONS

As set forth in the Ordinance, the following definitions apply:

"Contract" means an agreement for public works or improvements to be performed, or for goods or services to be purchased or grants to be provided, at the expense of the City or to be paid out of moneys deposited in the treasury or out of the trust money under the control or collected by the City. "Contract" also means a written agreement for the exclusive use ("exclusive use" means the right to use or occupy real property to the exclusion of others, other than the right reserved by the fee owner) or occupancy of real property for a term exceeding 29 days in any calendar year, whether by singular or cumulative instrument, (i) for the operation or use by others of real property owned or controlled by the City for the operation of a business, social, or other establishment or organization, including leases, concessions, franchises and easements, or (ii) for the City's use or occupancy of real property owned by others, including leases, concessions, franchises and easements.

"Contract" shall not include: a revocable at-will use or encroachment permit for the use of or encroachment on City property regardless of the ultimate duration of such permit; excavation, street construction or street use permits; agreements for the use of City right-of-way where a contracting utility has the power of eminent domain; or agreements governing the use of City property that constitute a public forum for activities that are primarily for the purpose of espousing or advocating causes or ideas and that are generally protected by the First Amendment to the United States Constitution or that are primarily recreational in nature.

"Contractor" means any person or persons, firm, partnership, corporation, company, or combination thereof, that enters into a Contract with the City. "Contractor" does not include a public entity.

"Domestic Partner" means any person who has a currently registered domestic partnership with a governmental entity pursuant to state or local law authorizing the registration.

"Employee Benefits" means bereavement leave; disability, life, and other types of insurance; family medical leave; health benefits; membership or membership discounts; moving expenses; pension and retirement benefits; vacation; travel benefits; and any other benefit given to employees. "Employee benefits" shall not include benefits to the extent that the application of the requirements of this chapter to such benefits may be preempted by federal or state.

CONTRACTOR'S OBLIGATION TO PROVIDE THE CITY WITH DOCUMENTATION AND INFORMATION

Contractor shall provide the City with documentation and information verifying its compliance with the requirements of the Ordinance within ten (10) days of receipt of a request from the City. Contractors shall keep accurate payroll records, showing, for each City Contract, the employee's name, address, Social Security number, work classification, straight time pay rate, overtime pay rate, overtime hours worked, status and exemptions, and benefits for each day and pay period that the employee works on the City Contract. Each request for payroll records shall be accompanied by an affidavit to be completed and returned by the Contractor, as stated, attesting that the information contained in the payroll records is true and correct, and that the Contractor has complied with the requirements of the Ordinance. A violation of the Ordinance or noncompliance with the requirements of the Ordinance shall constitute a breach of contract.

EMPLOYER NOTICE REQUIREMENTS

(a) The Contractor shall give each existing employee working directing on a City Contract, and (at the time of hire), each new employee, a copy of the notification provided as Attachment "A."

(b) Contractor shall post, in a place visible to all employees, a copy of the notice provided as Attachment "B."

Attachment A

YOUR RIGHTS UNDER THE CITY OF SACRAMENTO'S NON-DISCRIMINATION IN EMPLOYEE BENEFITS CODE

On …….. (date), your employer (the "Employer") entered into a contract with the City of Sacramento (the "City") for …….. (contract details), and as a condition of that contract, agreed to abide by the requirements of the City's Non-Discrimination In Employee Benefits Code (Sacramento City Code Section 3.54).

The Ordinance does not require the Employer to provide employee benefits. The Ordinance does require that if certain employee benefits are provided by the Employer, that those benefits be provided without discrimination between employees with spouses and employees with domestic partners, and without discrimination between the spouse or domestic partner of employees.

The Ordinance covers any employee working on the specific contract referenced above, but only for the period of time while those employees are actually working on this specific contract.

The included employee benefits are:

- Bereavement leave
- Disability, life and other types of insurance
- Family medical leave
- Vacation
- Travel benefits
- Moving expenses
- Pension and retirement benefits
- Health benefits
- Membership or membership discounts
- Any other benefits given to employees

(Employee Benefits does not include benefits that may be preempted by federal or state law.)

If you feel you have been discriminated or retaliated against by your employer in the terms and conditions of your application for employment, or in your employment, or in the application of these employee benefits, because of your status as an applicant or as an employee protected by the Ordinance, or because you reported a violation of the Ordinance, and after having exhausted all remedies with your employer,

You May . . .

- Submit a written complaint to the City of Sacramento, Contract Services Unit, containing the details of the alleged violation. The address is:

  City of Sacramento
  Procurement Services Division
  915 I Street, Second Floor
  Sacramento, CA 95814

- Bring an action in the appropriate division of the Superior Court of the State of California against the Employer and obtain the following remedies:

  - Reinstatement, injunctive relief, compensatory damages and punitive damages

  - Reasonable attorney's fees and costs

Attachment B

YOUR RIGHTS UNDER THE CITY OF SACRAMENTO'S NON-DISCRIMINATION IN EMPLOYEE BENEFITS CODE

If your employer provides employee benefits, they must be provided to those employees working on a City of Sacramento contract without discriminating between employees with spouses and employees with domestic partners.

The included employee benefits are:

- Bereavement leave
- Disability, life and other types of insurance
- Family medical leave
- Health benefits
- Membership or membership discounts
- Moving expenses
- Pension and retirement benefits
- Vacation
- Travel benefits
- Any other benefits given to Employees

If you feel you have been discriminated against by your employer . . .

You May . . .

○ Submit a written complaint to the City of Sacramento, Contract Services Unit, containing the details of the alleged violation. The address is:

City of Sacramento
Procurement Services Division
915 I Street, Second Floor
Sacramento, CA 95814

○ Bring an action in the appropriate division of the Superior Court of the State of California against the employer and obtain reinstatement, injunctive relief, compensatory damages, punitive damages and reasonable attorney's fees and costs.

Discrimination and Retaliation Prohibited.

If you feel you have been discriminated or retaliated against by your employer in the terms and conditions of your application for employment, or in your employment, because of your status as an applicant or as an employee protected by the Ordinance, or because you reported a violation of this Ordinance . . .

You May Also . . .

Submit a written complaint to the City of Sacramento, Contract Services Unit, at the same address, containing the details of the alleged violation.

Construction and Demolition (C&D) Debris Recycling Requirements

As a condition of receiving this Contract, Contractor agrees to fully comply with the requirements specified herein for all demolition projects, as well as projects with a valuation of $250,000 or more:

1. **Definitions**. For purposes of this section, the following terms, words and phrases shall have the following meanings:

"Certified C&D sorting facility" means a facility that receives C&D debris and/or processes C&D debris into its component material types for reuse, recycling, and disposal of residuals and possesses a valid certificate as a C&D sorting facility from the Sacramento Regional County Solid Waste Authority.

"Construction and demolition debris" or "C&D debris" means used or commonly discarded materials resulting from construction, repair, remodel or demolition operations on any pavement, house, building, or other structure, or from landscaping that are not hazardous as defined in California Health and Safety Code section 25100 et seq. Such materials include, but are not limited to, concrete, asphalt, wood, metal, brick, dirt, sand, rock, gravel, plaster, glass, gypsum wallboard, cardboard and other associated packaging, roofing material, ceramic tile, carpeting, masonry, plastic pipe, trees, and other vegetative matter resulting from land clearing and landscaping.

"Divert" or "diversion" means to use materials for any purpose other than disposal in a landfill or transformation facility. Methods to divert materials include on-site reuse of the materials, delivery of materials from the project site to a certified C&D sorting facility or a recycling facility, or other methods as approved in regulations promulgated by the City Department of Utilities.

"Franchised waste hauler" means a person who possesses a valid commercial solid waste collection franchise issued by the Sacramento Regional County Solid Waste Authority.

"Mixed C&D debris" means loads that include commingled recyclable and non-recyclable C&D debris generated at a project site.

"Recyclable C&D debris" means C&D debris required to be diverted from landfills as specified in the Waste Management Plan and returned to the economic mainstream in the form of raw material for new, reused or reconstituted products that meet the quality standards necessary to be used in the marketplace.

"Recycling facility" means a facility or operation that receives, processes, and transfers source-separated recyclable materials.

"Source-separated C&D debris" means recyclable C&D debris that is separately sorted and containerized at the site of generation by individual material type and segregated from mixed C&D debris prior to collection and transporting.

"Waste log" means a record detailing the management of C&D debris generated by the covered project, including the date and weight/volume of material by type that was salvaged, reused, recycled or disposed.

2. **Waste Management Plan**. A completed WMP (see **Attachment 1**) must be submitted to and approved by the City prior to commencing any work on the project. The WMP must specify the types of C&D debris that will be generated from the project; the manner in which C&D debris will be managed and/or stored on the project site; the manner in which recyclable C&D debris generated from the project will be recycled or reuse; the person who will haul, collect or transport the recyclable C&D debris from the project site; and the certified C&D sorting facility or recycling facility where recyclable C&D debris will be delivered. The WMP must be approved by the City prior to commencing any work on the project.

3. Contractor shall be solely responsible for diverting the recyclable C&D materials specified on the WMP. Mixed C&D debris shall be delivered to a SWA-certified C&D sorting facility only. Only the permit holder, the person who generates the waste, a franchised waste hauler, or the City of Sacramento can transport or haul mixed C&D debris. Source-separated C&D debris may be delivered by any person to any recycling facility that accepts such materials. (See **Attachment 2** for list of C&D Debris Haulers and Facilities).

4. During the course of the project, Contractor shall maintain a waste log (see **Attachment 3**), and keep all weight tickets or weight receipts, for all C&D debris hauled away from the project. At a minimum, the waste log shall specify the C&D debris generated by the project; the manner in which C&D debris was recycled or re-used; and the facility where the C&D debris was delivered.

5. Within 30 days after submitting the project completion report, Contractor shall submit to the City a completed waste log, along with copies of supporting weight tickets. Contractor shall maintain and keep accurate and complete records of al bills, weight receipts or weight tickets that were issued for the collection, transport or disposal of C&D debris for a period of one-year after submittal of the waste log. The records shall be made available for inspection, examination and audit by the City during the one-year retention period to validate the information provided in the WMP and in the waste log. If the City determines noncompliance by the Contractor after an audit has been conducted, Contractor shall reimburse the City for all costs incurred in performing the audit.

6. Failure by Contractor to comply with any provisions specified herein will subject Contractor to possible suspension and/or termination of this Contract for cause; repayment of any or all of the Contract amount disbursed by the City; imposition of a penalty, payable to the City ($50-$250 for first offense, $251-$500 for second offense, and $501-$1500 for subsequent offenses); and/or submission of a performance security deposit fee when submitting a permit application to the City for a project within one year of imposition of the penalty.

For questions or to obtain more information about the Recycling Requirements for C&D debris, contact the City of Sacramento, Solid Waste Services Division, 2812 Meadowview Road, Building 1, Sacramento, CA 95832, or telephone (916) 808-4833, or email C&D@cityofsacramento.org

City of SACRAMENTO
Department of Public Works

Recycling & Solid Waste
CITY OF SACRAMENTO

Construction & Demolition Waste Management Plan

C&D Debris Waste Management Plan
City of Sacramento Recycling & Solid Waste
Phone: (916) 808-0965 / Fax: (916) 808-4999
C&D@cityofsacramento.org

Building Permit Numbers	
	Please include all known permit numbers related to this project.
Form submitted by:	
	Please attach a business card or include your name with a phone number and/or an email address.

This Waste Management Plan (WMP) must be submitted and approved before your building permit(s) will be issued. Only one WMP is required if a project has multiple building permits associated to it (i.e., multiple houses in a subdivision, or multiple related permits at one address). The Administration fee is 0.04% of the job valuation (min $40, max $800). If applicable, a security deposit of 1% of the job valuation (max $10,000) will be required. **The accompanying Waste Log must be submitted within 30 days of final inspection (or permit expiration) of the project, or a fine may be imposed.** Approval may also be delayed if the Waste Log from a previous project is due.

Building Project Information:

Job Address: _____

Contractor: _____ Phone: _____

Address: _____ Email: _____

Owner: _____ Phone: _____

Address: _____ Email: _____

Briefly describe the project:

_____

_____

Materials Required to be Recycled

65% of all debris must be recycled if generated during the course of your project. Failure to meet the 65% diversion rate may result in a fine being imposed. You can either **source-separate** them, which may be hauled by anyone, or mix them in one container and send the**mixed C&D debris** load to a **Certified Mixed C&D Sorting Facility**. Mixed C&D loads can only be hauled by a franchised hauler or self-hauled. Please see the Definitions section, on the next page, for more information.

65%
of all debris must be recycled

Material Management

How the C&D debris will be stored on the project site: ☐ Mixed C&D ☐ Source-Separated

Company to haul away debris: _____

Facilities to receive debris: _____

Waste Log and tickets must be submitted within 30 days of permit being finaled.

Office Use Only: Approved by: _____ On date: _____

Fee amount: $_____

City of SACRAMENTO
Department of Public Works

Recycling & Solid Waste
CITY OF SACRAMENTO

Construction & Demolition Waste Management Plan

C&D Debris Waste Management Plan
City of Sacramento Recycling & Solid Waste
Phone: (916) 808-0965 / Fax: (916) 808-4999
C&D@cityofsacramento.org

Definitions

Please read and understand these terms. Call Recycling & Solid Waste (RSW) at (916) 808-0965 if these terms are not clear to you. More information is also available online at https://www.cityofsacramento.gov/public-works/recycling-solid-waste/Commercialwasteservices/construction---demolition-recycling.

1. **Self-haul or self-hauling**: This is when the permit holder, general contractor, or a subcontractor *who is doing work on the project* hauls their own waste materials for recycling or disposal. Note that a *jobsite cleanup crew is not doing other work on the project and is not self-hauling*. Jobsite cleanup crews **must** be franchised in order to haul mixed C&D debris and garbage away.

2. **Franchised hauler**: See a list provided at https://www.cityofsacramento.gov/public-works/recycling-solid-waste/Commercialwasteservices/commercial-collection-services. These companies are the only companies in Sacramento who can legally collect and haul mixed C&D debris and garbage.

3. **Source separation**: This is achieving compliance with the recycling requirement by keeping wood, metal, cardboard, or other recyclables in separate containers. Source-separated material may be hauled by anyone to a permitted recycling facility for diversion.

4. **Mixed C&D debris**: This is achieving compliance with the recycling requirement by putting all recyclable debris into one container. Mixed material must be sent to a certified mixed C&D sorting facility to have the recyclable material extracted and recovered. Tickets must be stamped showing the mixed material was sorted. Mixed material also must be either self-hauled, or hauled by a franchised hauler. If your jobsite is crowded, this option saves the most space.

5. **Certified Mixed C&D Sorting Facility**: See list at https://wmr.saccounty.gov/Pages/CDDebrisSortingFacilities.aspx. These facilities have been certified by the County of Sacramento to extract recyclable materials from mixed C&D debris. If you achieve compliance by mixed recovery, your debris must go to a certified mixed sorting facility.

Terms and Conditions

- Your approved Waste Management Plan and Waste Log must be kept on the job site in the permit folder for the duration of the project.
- City of Sacramento staff may enter the jobsite to inspect waste collection areas.
- Only County of Sacramento-Certified Mixed C&D Sorting Facilities may be used to recycle these materials if mixed with other materials.
- Only Haulers franchised by the City of Sacramento or self-haulers (as defined above) may collect and transport trash or mixed C&Dmaterial from the jobsite.
- Construction and Demolition Debris may not be burned or dumped illegally.
- Your Waste Log must be completed and submitted within 30 days of your permit being finaled or expired. All waste hauling and disposal or recycling activity must be entered on the Waste Log, including information from any subcontractors who self-hauled their own debris off-site. *Enter your Permit Number on your Waste Log now!*
- Your Waste Log must demonstrate that the 65% diversion rate has been met.
- You must keep all receipts or weight-tickets from your project for a period of one year from the submittal of your waste log.

Failure to comply with these terms and conditions may result in a fine and a security deposit on future projects.

C&D Debris Haulers & Facilities

C&D Debris Waste Management Plan
City of Sacramento Solid Waste Services
2812 Meadowview Road, Building 1
Sacramento, CA 95832
Phone: (916) 808-4833 / Fax: (916) 808-4999
C&D@cityofsacramento.org

Certified Mixed C&D Facilities

Allied Waste / Elder Creek Transfer and Recovery	(916) 387-8425
Florin-Perkins Public Disposal	(916) 443-5120
L&D Landfill	(916) 737-8640
Waste Management / K&M Recycle America	(916) 452-0142

Franchised Haulers

ACES Waste Services, Inc.	(866) 488-8837	Elk Grove Waste Management, LLC	(916) 689-4052
Allied Waste Services	(916) 631-0600	Mini Drops, Inc.	(916) 686-8785
All Waste Systems, Inc.	(916) 456-1555	Norcal Waste Services of Sacramento	(916) 381-5300
Atlas Disposal Industries, LLC	(916) 455-2800	North West Recyclers	(916) 686-8575
California Waste Recovery Systems	(916) 441-1985	Waste Management of Sacramento	(916) 387-1400
Central Valley Waste Services, Inc.	(209) 369-8274	Waste Removal & Recycling	(916) 453-1400
City of Sacramento Solid Waste	(916) 808-4839	Western Strategic Materials, Inc.	(916) 388-1076

Recyclers*

Bell Marine	(916) 442-9089
C & C Paper Recycling	(916) 920-2673
EBI Aggregates	(916) 372-7580
International Paper	(916) 371-4634
Modern Waste Solutions	(916) 447-6800
PRIDE Industries, Inc.	(916) 640-1300
Recycling Industries, Inc.	(916) 452-3961
Sacramento Local Conservation Corps	(916) 386-8394
Smurfit-Stone Container Corporation	(916) 381-3340
Southside Art Center	(916) 387-8080
Spencer Building Maintenance, Inc.	(916) 922-1900

Recovery Stations & Landfills

Elder Creek Recovery & Transfer Station	(916) 387-8425
Kiefer Landfill	(916) 875-5555
L & D Landfill	(916) 383-9420
North Area Recovery Station	(916) 875-5555
Sacramento Recycling & Transfer Station	(916) 379-0500
Waste Management Recycle America	(916) 452-0142

More updated information can be found online at:
http://www.cityofsacramento.org/utilities/

* Please note that any facility may receive source-separated recyclable materials as long as it is authorized to do so by the State of California. This is not meant to be a complete list.

Construction & Demolition Waste Log

C&D Debris Waste Management Plan
City of Sacramento Recycling and Solid Waste
2812 Meadowview Road, Building 1
Sacramento, CA 95832
Phone: (916) 808-0965 / Fax: (916) 808-4999
C&D@cityofsacramento.org

Building Permit _____

Please put all known permit numbers related to this project.

This waste log must be submitted to Solid Waste within 30 days of the building permit being finaled (or expired). This waste log, and the supporting weight tickets, must also be kept on file for one year after project completion.

Date	Hauler	Material	Destination	Weight*

Hauler: Indicate the Franchisee, Self-Hauler, City of Sacramento, or other hauler who removed the material offsite.
Material: Indicate appropriate category: Scrap Metal, Inert Materials, Cardboard, Wooden Pallets, or Clean Wood Waste.
Destination: Indicate the facility that received the material for disposal or recycling
*** Weight**: Indicate the weight. If weight is not known, put volume. Example: "3.2 tons" – or – "10 yards"

Office Use Only: Received by: _____ On date: _____

□ Logged □ Approved □ Scanned □ Filed

Total Diversion: _____%

REQUIREMENTS FOR THE LOCAL BUSINESS ENTERPRISE PROGRAM
(LBE Program)

INTRODUCTION

The City of Sacramento has a Local Business Enterprise (LBE) Program to provide enhanced opportunities for local businesses to participate in the City's procurement and contracting activities. The Program began with an LBE Preference for bid and proposal evaluation. The Program was then expanded to require minimum LBE Participation levels in specific contracts.

APPLICATION

As summarized in the table below, there are two components to the LBE Program:

1. LBE Preference: For certain contracts, a 5% LBE Preference is applied during the bid evaluation process.
2. LBE Participation Requirement: For certain contracts, a minimum 5% LBE participation level is required for a bidder to be considered responsive.

	Contracts Under $250,000				Contracts $250,000 or more			
	Goods	Non-Professional Services	Professional Services	Public Projects	Goods	Non-Professional Services	Professional Services	Public Projects
Apply 5% LBE Preference	YES	YES	YES	YES	NO	NO	YES	NO
Apply 5% Minimum LBE Participation Requirement	NO	NO	NO	NO	NO	YES	YES	YES

Local Business Enterprise: A Local Business Enterprise ("LBE") means a business enterprise, including but not limited to, a sole proprietorship, partnership, limited liability company, corporation, or other business entity that has a "legitimate business presence" within City limits or the unincorporated area of Sacramento County.

A "legitimate business presence" within City limits or the unincorporated area of Sacramento County means:

1. An established business entity operating within the selected areas for at least 12 consecutive months prior to submission of bid; and

2. Legally operating a location in the City or unincorporated area of Sacramento County that is either:
   a. a principal business office or workspace; or
   b. a regional, branch, or satellite office with at least one full-time employee.

To qualify as an LBE, firms must meet these two requirements prior to the deadline for submission of bids or proposals. Upon the request of the City, firms shall provide proof of legally operating a location within City limits or the unincorporated County with the following documents:

- Tax returns for the business;
- Utility bill in the name of the business;
- Business license; and/or
- Secretary of State filings.

Exceptions

The LBE Program does not apply to procurement processes for contracts funded with federal funds, goods or services purchased through cooperative purchase agreements, or contracts entered into in response to a declared emergency.

LBE PREFERENCE

For contracts under $250,000, firms that qualify as an LBE will receive a 5% preference on all City procurement opportunities. For professional service contracts only, this preference also applies to procurement opportunities of $250,000 or more.

For contracts to be awarded in response to a solicitation for bids, a bid or quotation submitted by a firm that qualifies as an LBE will receive a 5% bid evaluation preference for the purpose of determining the lowest responsible bidder. This means that, for bid evaluation purposes, the total price bid by an LBE shall be reduced by 5%. However, this reduction only applies for bid evaluation purposes, and the resulting contract or purchase order will reflect the actual amount bid by the LBE.

For contracts awarded in response to a solicitation for proposals or qualifications, a firm that qualifies as an LBE shall receive additional points during the scoring process, so the final score awarded to the LBE is increased by 5% of the total possible evaluation points.

LBE PARTICIPATION REQUIREMENT

For non-professional service, professional service, and public project contracts of $250,000 or more, a minimum 5% LBE participation level is required. To receive credit for the 5% minimum

participation requirement, bidders must either (a) be an LBE, or (b) subcontract with a qualified LBE.

Under City Code section 3.60.270, when the City establishes a minimum participation level for LBE's on a contract, no contractor shall be considered responsive unless its bid or proposal meets the minimum LBE participation level required.

City may waive or reduce the LBE Participation requirements on some procurement opportunities prior to acceptance of bids or proposals upon authorization from the City Manager or City Manager's designee.

PARTICIPATION LEVEL REQUIREMENTS

LBE Participation: The percentage of LBE participation is determined based on the dollar value of the work to be performed. LBE credit may be obtained by utilizing LBE qualified subcontractors or suppliers, as outlined below.

Participation Credit: To receive credit for LBE participation:

1. An LBE contractor or subcontractor must: (1) be responsible for the execution of a distinct element of the work; (2) possess any license or certification required for the work; and (3) actually perform, manage, or supervise the work without subcontracting or otherwise shifting any portion of the work to another subcontractor.

2. An LBE supplier must: (1) furnish materials or equipment that the supplier sells as a recurring, although not necessarily primary, part of its business; and (2) the materials or equipment must be necessary for performance of the work.

Suppliers: Credit for an LBE supplier of materials or equipment is counted as 100% of the amount paid to the supplier for the materials or equipment. To receive this credit, LBE Suppliers must be listed on a Subcontractor and LBE Participation Verification Form and submitted with a bid or proposal.

Subcontractors (including Truckers): To receive credit for an LBE subcontractor, the subcontractor must be listed on a Subcontractor and LBE Participation Verification Form and submitted with a bid or proposal.

Truckers: Credit for an LBE trucker is counted as 100% of the amount paid to the trucker for trucking/hauling services, not including any amount paid to the Trucker for the cost of any materials or equipment being transported by the Trucker.

LBE REQUIREMENTS FOR CONTRACTOR

LBE Records: The Contractor shall maintain records of all subcontracts with verified LBE subcontractors and records of materials purchased from verified LBE suppliers for one year after receiving final payment from the City. Such records shall show the name and business address of each LBE subcontractor or supplier and the total dollar amount actually paid to each LBE subcontractor or supplier.

No later than 30 days after completion of the work performed under the contract, a summary of these records shall be prepared, certified correct by the Contractor's authorized representative and furnished to the City. The Contractor shall provide such other information, records, reports, certifications or other documents as may be required by the City, to determine compliance with any provision of the LBE Program or these specifications.

Performance of LBE Subcontractors and Suppliers: The LBE subcontractors and suppliers listed by the Contractor shall perform the work and supply the materials or equipment for which they are listed on the Subcontractor and LBE Participation Verification Form, unless the Contractor has received prior written authorization from the City to perform the work with other forces or to obtain the materials or equipment from other sources. Reasons for requesting such authorization would include:

1. The listed LBE subcontractor or supplier fails to execute a written contract based upon the general terms, conditions, plans, and specifications for the project.

2. The listed LBE subcontractor or supplier becomes bankrupt or insolvent.

3. The listed LBE subcontractor or supplier fails to meet the bond requirements of the Contractor.

4. The work performed or the materials or equipment provided by the listed LBE subcontractor or supplier are unsatisfactory or are not in accordance with the plans and specifications.

5. The listed LBE subcontractor or supplier fails to perform its contractual obligations.

6. It would be in the best interest of the City.

Subcontractor Substitution: No substitution of an LBE subcontractor shall be made at any time without compliance with the Subletting and Subcontracting Fair Practices Act. If an LBE subcontractor is unable to perform successfully and is to be replaced, the Contractor shall make reasonable efforts to replace the original LBE subcontractor with another verified LBE subcontractor. The new LBE subcontractor must be verified at the time of substitution.

Reporting and Utilization Requirements and Sanctions: Failure to provide specific information, records, reports, certifications or any other documents required for compliance with these specifications, or failure to utilize one or more LBE's in substantial compliance with the LBE utilization indicated in the Contractor's bid or proposal (unless otherwise authorized by the City as provided herein, or when such failure results from changes to the work approved by the City), shall be considered a breach of the contract.

A deduction may be made from the contract amount and the deduction shall not be more than 10% of the value of the work or materials or equipment that the subject LBE(s) were listed to perform or provide in the Contractor's bid or proposal. Deduction shall be made from any payment due the Contractor. This is in addition to any deduction that may be made under any other provision of the Contract, the Sacramento City Code, or State law.

Hearing and Review of Division Manager Decision: Prior to making a deduction pursuant to the Reporting and Utilization Section above, the City shall provide written notice of the proposed deduction to the Contractor. The Contractor may, no later than 5 working days after receiving such notice, provide a written request to the City for a hearing to contest the proposed deduction. Upon receipt of a timely written request from the Contractor, the City shall schedule a hearing before the Division Manager (as defined in the City's Standard Specifications for Public Construction), and written notice of the date, time, and location of the hearing shall be provided to the Contractor not less than 5 working days prior to the date of the hearing.

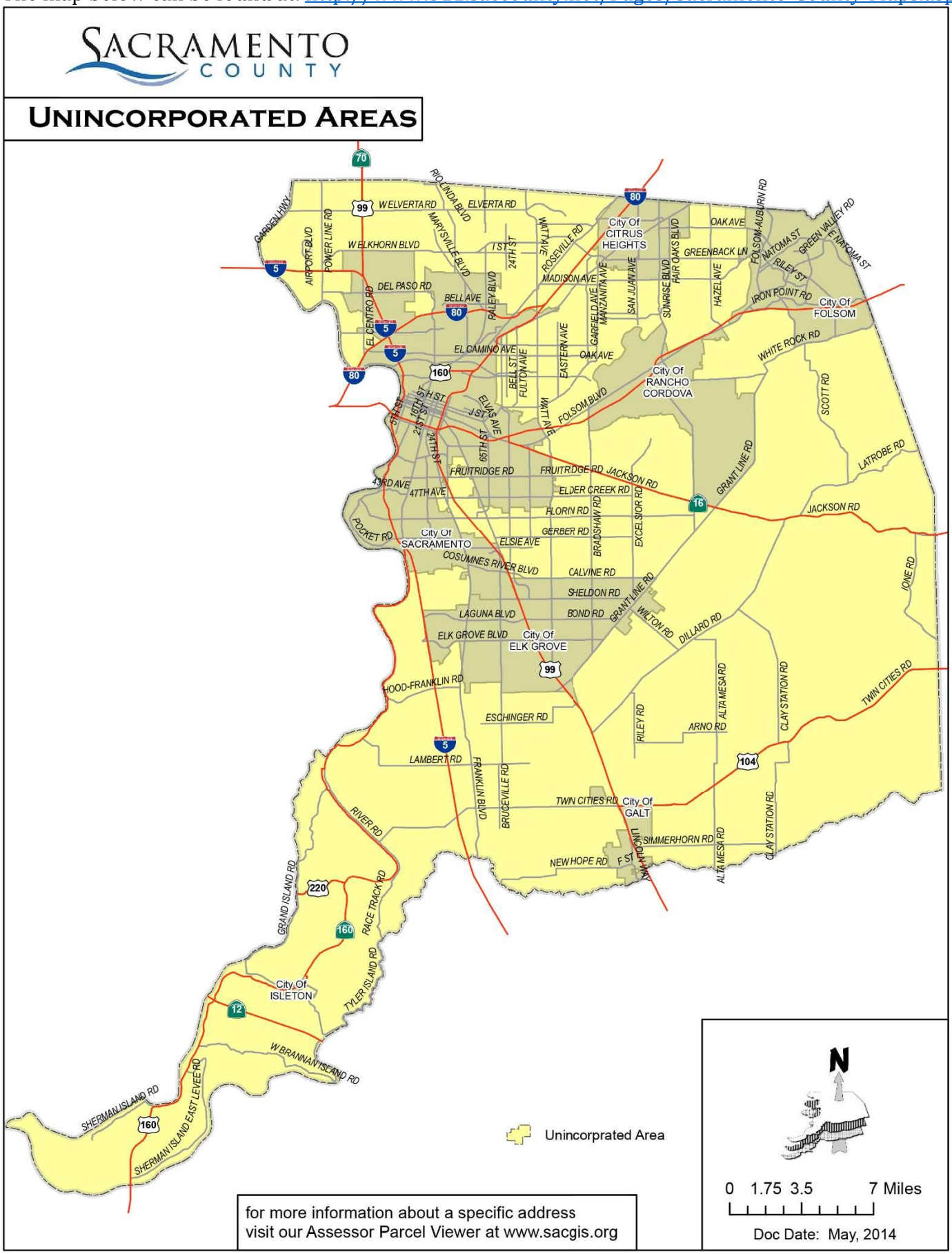
The hearing shall be conducted in the manner specified in Section 4-8 of the Standard Specifications, and the Division Manager shall prepare and forward to the Contractor a written decision as soon as practicable after the hearing. The Division Manager's decision shall be subject to review in accordance with the provisions of Section 4-9 of the Standard Specifications. Failure to request such review in compliance with the requirements set forth in Section 4-9 shall constitute acceptance of the Division Manager's decision by the Contractor.

Written Notices: The written notices and request described above shall be provided by registered or certified mail (return receipt requested), by personal delivery, or by any other method that provides reliable evidence of the date of receipt. Written notice provided by personal delivery shall be deemed received on the date of delivery.

LBE status is applicable to the following:

- Any Sacramento addresses which encompasses both the City & unincorporated Sacramento County – including neighborhoods like Rosemont, Antelope, Foothill Farms & Walerga.
- North Highlands
- Carmichael
- Fair Oaks
- Orangevale

The map below can be found at: http://www.311.saccounty.net/Pages/Sacramento-County-Maps.aspx



For an interactive map showing exact address locations within the City of Sacramento or unincorporated County of Sacramento: http://generalmap.gis.saccounty.net/JSViewer/county_portal.html

LOCAL BUSINESS ENTERPRISE (LBE) PARTICPATION PROGRAM

NOTE: Proposers must provide responses to the following items. Failure to provide a response to each of the items in this section may be grounds for rejection of the proposal.

1. LBE FIVE PERCENT (5%) PARTICIPATION

On April 3, 2012, the Sacramento City Council adopted a Local Business Enterprise (LBE) Preference Program to provide enhanced opportunities for the participation of local business enterprises (LBEs) in the City's contracting and procurement activities. On November 19, 2013, City Council increased the LBE preference and authorized City departments to require minimum LBE participation levels in individual contracts. Under City Code section 3.60.270 , when the bid specifications for a City contract establish a minimum participation level for LBEs, no bidder on the contract shall be considered responsive unless its bid meets the minimum LBE participation level required by the bid specifications.

The City has established a minimum 5% participation level for LBEs on this contract. Pursuant to City Code Section 3.60.270, no bidder on this contract shall be considered responsive unless its bid meets or exceeds this minimum participation level.

Local Business Enterprise means a business enterprise, including but not limited to, a sole proprietorship, partnership, limited liability company, corporation, or other business entity that has a legitimate business presence in the city or unincorporated county of Sacramento. Evidence of legitimate business presence in the city or unincorporated county of Sacramento shall include:

1. Having a current City of Sacramento Business Operation Tax or County of Sacramento Business License; and
2. Having either of the following types of offices or workspace operating legally within the city or unincorporated county of Sacramento:
    a. The LBE's principle business office or workspace; or
    b. The LBE's regional, branch or satellite office with at least one full time employee located in the city or unincorporated county of Sacramento.

A. LOCAL BUSINESS ENTERPRISE (LBE)

Is the firm submitting the bid qualified as a local business enterprise? Check the appropriate box below:

☐ **YES** - the firm submitting the bid is qualified as a local business enterprise.

☒ **NO** - the firm submitting the bid is not qualified as a local business enterprise.

If the response to the above is YES, provide the City of Sacramento Business Operations Tax Certificate Number and/or County of Sacramento Business License Number:

_____

If the response to the above is YES, provide a current copy of the City of Sacramento Business Operations Tax Certificate and/or County of Sacramento Business License.

If the response to the above is YES, provide business office or workspace address*:

_____

_____

_____

* Address must be a physical address for the basis of location, this excludes P.O. Box addresses.

FOLLOWING FORMS TO BE FILLED OUT AND SIGNED

ONLY

IF AWARDED CONTRACT

AGREEMENT
(Construction Contract Over $25,000)

THIS AGREEMENT, dated for identification _____, is made and entered into between the CITY OF SACRAMENTO, a municipal corporation ("City"), and
Insituform Technologies, LLC , 580 Goddard Ave, Chesterfield, MO 63005 ("Contractor").

The City and Contractor hereby mutually agree as follows:

1. CONTRACT DOCUMENTS

The Contract Documents, sometimes also referred to as the "Contract," consist of the following items, which are hereby incorporated by reference as if set forth in full in this Agreement:

Notice to Contractors
Proposal Form submitted by the Contractor
Instructions to Bidders
Subcontractor and Local Business Enterprise Participation Form
Drug-Free Workplace Policy and Affidavit
Construction and Demolition (C&D) Debris Recycling Requirements
Workers' Compensation Insurance Certification
Federal or State funding requirements (if applicable)
Local Business Enterprise (LBE) Requirements
Requirements of the Non-Discrimination in Employee Benefits Code
Ban-The-Box Requirements
Community Workforce and Training Agreement (CWTA)
Addenda, if any
This Agreement
Standard Specifications
Special Provisions
Plans and Technical Specifications
The drawings and other data and all developments thereof prepared by City pursuant to the Contract
Any modifications of any of the foregoing made or approved by City, including but not limited to duly authorized change orders

Unless specifically noted otherwise, references to the "Standard Specifications" shall mean and refer to the Standard Specifications for Public Construction of the City of Sacramento approved by the Sacramento City Council on November 10, 2020 (Resolution No. 2020-0354), and any subsequent amendments thereto approved by the Sacramento City Council or the Sacramento City Manager. Work called for in any one Contract Document and not mentioned in another is to be performed and executed as if mentioned in all Contract Documents. The table of contents, titles and headings contained in the Contract Documents are provided solely to facilitate reference to various provisions of the Contract Documents and in no way affect or limit the interpretation of the provisions to which they refer.

2. DEFINITIONS

Unless otherwise specifically provided herein, all words and phrases defined in the Standard Specifications shall have the same meaning and intent in this Agreement.

3. AGREEMENT CONTROLS

In the event of a conflict between any of the terms and conditions set forth in this Agreement and the terms and conditions set forth in other Contract Documents, the terms and conditions set forth in this Agreement shall prevail, except that the provisions of any duly authorized change order shall prevail over any conflicting provisions of this Agreement.

4. SCOPE OF CONTRACT

Contractor agrees to furnish all tools, equipment, apparatus, facilities, labor, material and transportation necessary to perform and complete in a good and workmanlike manner to the satisfaction of City, all the Work called for in the Contract Documents entitled:

DEL RIO SEWER FORCE MAIN REHABILITATION (PN: X14170114)

Including the Work called for in the following alternative bid items described in the Proposal Form:

_____

Contractor agrees to perform such Work in the manner designated in and in strict conformity with the Contract Documents.

5. CONTRACT AMOUNT AND PAYMENTS

City agrees to pay and Contractor agrees to accept, as complete payment for the above Work, in accordance with the schedule and procedures set forth in the Contract Documents and subject to deductions, withholdings and additions as specified in the Contract Documents, a total sum that shall not exceed the total bid amount set forth in Contractor's Proposal Form. In addition, subject to deductions, withholdings and additions as specified in the Contract Documents, payment for individual items of the Work shall be computed as follows:

A. For items of the Work for which a lump sum price is specified in Contractor's Proposal Form, Contractor shall be paid the lump sum price(s) specified in Contractor's Proposal Form; and

B. For items of the Work for which a unit price is specified in Contractor's Proposal Form, Contractor shall be paid the sum computed at such unit price, or computed at a different price if such different price is determined by City in accordance with the Standard Specifications, based on the actual amount of each such item performed and/or furnished and incorporated in the Work; provided that in no event shall the total sum for a unit price item exceed the total bid amount set forth for such item in the Contractor's Proposal Form, unless authorized by Change Order.

6. PROGRESS PAYMENTS

Subject to the terms and conditions of the Contract, City shall cause payments to be made upon demand of Contractor as follows:

A. On or about the first of the month, the Engineer shall present to the Contractor a statement showing the amount of labor and materials incorporated in the Work through the twentieth (20) calendar day of the preceding month. After both Contractor and Engineer approve the statement in writing, and the City's labor compliance officer provides written approval, the

City shall issue a certificate for ninety-five (95) percent of the amount it shall find to be due, subject to any deductions or withholdings authorized or required under the Contract or any applicable Laws or Regulations.

B. No inaccuracy or error in said monthly estimates shall operate to release Contractor from damages arising from such Work or from enforcement of each and every provision of the Contract Documents, and City shall have the right subsequently to correct any error made in any estimate for payment.

C. Contractor shall not be paid for any defective or improper Work.

D. The remaining five (5) percent of the value of the Work performed under the Contract, if unencumbered and subject to any deductions or withholdings authorized or required under the Contract or any applicable Laws or Regulations, shall be released not later than sixty (60) days after completion and final acceptance of the Work by City. Acceptance by Contractor of the final payment shall constitute a waiver of all claims against the City arising under the Contract Documents, except for disputed claims in stated amounts that the Contractor specifically reserves in writing, but only to the extent that the Contractor has complied with all procedures and requirements applicable to the presentation and processing of such claim(s) under the Contract Documents. Contractor shall be entitled to substitute securities for retention or to direct that payments of retention be made into escrow, as provided in Public Contract Code Section 22300, upon execution of the City's Escrow Agreement for Security Deposits in Lieu of Retention.

E. The parties agree that, for purposes of the timely progress payment requirements specified in Public Contract Code Section 20104.50, the date that the City receives a statement jointly approved by the Contractor and the Engineer as provided above shall be deemed to constitute the date that City receives an undisputed and properly submitted payment request from the Contractor. Progress payments not made within 30 days after this date may be subject to payment of interest as provided in Public Contract Code Section 20104.50.

F. This Contract is subject to compliance monitoring and enforcement by the California Department of Industrial Relations, as specified in California Labor Code section 1771.4.

7. RETENTION OF SUMS CHARGED AGAINST CONTRACTOR

When, under the provisions of this Contract or any applicable Laws or Regulations, City is authorized or required to withhold, deduct or charge any sum of money against Contractor, City may deduct and retain the amount of such charge from the amount of the next succeeding progress estimate(s), or from any other moneys due or that may become due Contractor from City. If, on completion or termination of the Contract, sums due Contractor are insufficient to pay City's charges, City shall have the right to recover the balance from Contractor or its Sureties.

8. COMMENCEMENT AND PROSECUTION OF WORK

Contractor shall commence the Work not later than fifteen (15) working days after the date of the written Notice to Proceed from City to Contractor and shall diligently prosecute the Work to final completion. The phase "commence the Work" means to engage in a continuous program on-site

including, but not limited to, site clearance, grading, dredging, land filling and the fabrications, erection, or installation of the Work. The Notice to Proceed shall be issued within fifteen (15) calendar days following execution of the Agreement by the City and the filing by Contractor of the required Bonds and proof of insurance, provided that the Engineer may delay issuance of the Notice to Proceed if the Engineer determines in the Engineer's sole discretion that conditions on the site of the Work are unsuitable for commencement of the Work. After the Notice to Proceed is issued, the continuous prosecution of Work by Contractor shall be subject only to Excusable Delays as defined in this Agreement.

9. TIME OF COMPLETION

The entire Work shall be brought to completion in the manner provided for in the Contract Documents on or before 267 working days from the date of the Notice to Proceed (hereinafter called the "Completion Date") unless extensions of time are granted in accordance with the Contract Documents.

Failure to complete the entire Work by the Completion Date and in the manner provided for in the Contract Documents shall subject Contractor to liquidated damages as provided in this Agreement. Time is and shall be of the essence in the performance of the Contract and the Work.

10. PAYMENTS DO NOT IMPLY ACCEPTANCE OF WORK

The payment of any progress payment, or the acceptance thereof by Contractor, shall not constitute acceptance of the Work or any portion thereof and shall in no way reduce the liability of Contractor to replace unsatisfactory work or material, whether or not the unsatisfactory character of such work or material was apparent or detected at the time such payment was made.

11. ACCEPTANCE NOT RELEASE

Contractor shall correct immediately any defective or imperfect work or materials that may be discovered before final acceptance of the entire Work, whether or not such defect or imperfection was previously noticed or identified by the City. The inspection of the Work, or any part thereof, shall not relieve Contractor of any of its obligations to perform satisfactory work as herein specified.

Failure or neglect on the part of City or any of its officers, employees or authorized agents to discover, identify, condemn or reject defective or imperfect work or materials shall not be construed to imply an acceptance of such work or materials, if such defect or imperfection becomes evident at any time prior to final acceptance of the entire Work, nor shall such failure or neglect be construed as barring City from enforcing Contractor's warranty(ies) or otherwise recovering damages or such a sum of money as may be required to repair or rebuild the defective or imperfect work or materials whenever City may discover the same, subject only to any statutes of limitation that may apply to any such claim.

12. CITY'S RIGHT TO TAKE POSSESSION OF THE WORK IN WHOLE OR IN PART

The City shall have the right at any time to enter upon the Work and perform work not covered by this Contract, or to occupy and use a portion of the Work, prior to the date of the final acceptance of the Work as a whole, without in any way relieving Contractor of any obligations under this Contract.

13. NO WAIVER OF REMEDIES

Neither the inspection by City, its officers, employees or agents, nor any certificate or other approval for the payment of money, nor any 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, its officers, employees or its agents shall operate as a waiver of any provision of the Contract Documents nor 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. All remedies provided in the Contract Documents shall be taken and construed as cumulative; in addition to each and every other remedy herein provided, the City shall have any and all equitable and legal remedies that it would in any case have.

14. WARRANTY

Except as otherwise expressly provided in the Contract Documents, and excepting only items of routine maintenance, ordinary wear and tear and unusual abuse or neglect by City, Contractor warrants and guarantees all Work executed and all supplies, materials and devices of whatsoever nature incorporated in or attached to the Work, or otherwise provided as a part of the Work pursuant to the Contract, to be absolutely free of all defects of workmanship and materials for a period of one year after final acceptance of the entire Work by the City. Contractor shall repair or replace all work or material, together with any other work or material that may be displaced or damaged in so doing, that may prove defective in workmanship or material within this one year warranty period without expense or charge of any nature whatsoever to City.

In the event that Contractor shall fail to comply with the conditions of the foregoing warranty within ten (10) days after being notified of the defect in writing, City shall have the right, but shall not be obligated, to repair, or obtain the repair of, the defect and Contractor shall pay to City on demand all costs and expense of such repair. Notwithstanding anything herein to the contrary, in the event that any defect in workmanship or material covered by the foregoing warranty results in a condition that constitutes an immediate hazard to public health or safety, or any property interest, or any person, City shall have the right to immediately repair, or cause to be repaired, such defect, and Contractor shall pay to City on demand all costs and expense of such repair. The foregoing statement relating to hazards to health, safety or property shall be deemed to include both temporary and permanent repairs that may be required as determined in the sole discretion and judgment of City.

In addition to the above, the Contractor shall make a written assignment of all manufacturer's and other product warranties to the City, prior to completion and final acceptance of the Work by City.

The Contractor's Performance Bond shall secure the performance of the Contractor's obligations under this Section 14, and the Contractor and its Surety shall be jointly and severally liable for these obligations.

15. LIQUIDATED DAMAGES IF WORK NOT COMPLETED ON TIME

A. The actual fact of the occurrence of damages and the actual amount of the damages that City would suffer if the entire Work, and/or any specified portion thereof, were not completed within the time(s) specified herein are dependent upon many circumstances and

conditions that could prevail in various combinations, and for this reason, it is impracticable and extremely difficult to fix the actual damages. Damages that City would suffer in the event of such delay include: loss of the use of the project; expenses of prolonged assignment to the project of an architectural and/or engineering staff; prolonged costs of administration, inspection, and supervision; increased operational expenses and/or impaired operation of other facilities dependent upon completion of the project; and the loss and inconvenience suffered by the public within the City of Sacramento by reason of the delay in the completion of the project or portion thereof. Accordingly, the parties agree, and by execution of this Agreement, Contractor acknowledges that it understands and agrees, that the amount(s) set forth herein as liquidated damages reflect the parties' best efforts at the time of entering into the Contract to estimate the damages that may be incurred by City and the public due to the Contractor's delay in completion of the Work and/or any specified portion thereof, and shall be presumed to be the amount of damages sustained by the failure of Contractor to complete the entire Work and/or any specified portion thereof within the time(s) specified herein.

B. Contractor shall pay liquidated damages to City for failure to complete the entire Work by the Completion Date (as extended in accordance with the Contract Documents, if applicable) in the amount of $13,200 for each working day after the Completion Date (as extended in accordance with the Contract Documents, if applicable), continuing to the time at which the entire Work is completed. Such amount is the actual cash value agreed upon by the City and Contractor as the loss to City and the public resulting from Contractor's default.

The parties agree, and by execution of this Agreement, Contractor acknowledges that it understands and agrees, that the foregoing provisions provide for the imposition of liquidated damages from the Completion Date (as extended in accordance with the Contract Documents, if applicable) until the date of completion of the entire Work as determined by the Engineer in accordance with Section 8-4 of the Standard Specifications, whether or not the Work or any portion thereof is claimed or determined to be substantially complete prior to such date of completion.

CONTRACTOR'S ACKNOWLEDGMENT:_____

C. In the event Contractor shall become liable for liquidated damages, City, in addition to all other remedies provided by law, shall have the right to withhold any and all payments that otherwise would be or become due Contractor until the liability of Contractor under this section is finally determined. City shall have the right to use and apply such payments, in whole or in part, to reimburse City for all liquidated damages due or to become due to City. Any remaining balance of such payments shall be paid to Contractor only after discharge in full of all liability incurred by Contractor under this section or otherwise under any provision of the Contract Documents or any applicable Law or Regulation. If the sum so retained by City is not sufficient to discharge all such liabilities of Contractor, Contractor shall continue to remain liable to City until all such liabilities are satisfied in full. No failure by City to withhold any payment as specified above shall in any manner be construed to constitute a release of any such liabilities nor a waiver of the City's right to withhold payment for such liabilities.

16. INDEMNITY AND HOLD HARMLESS

A. Contractor shall defend, hold harmless and indemnify the City, its officers, employees, and agents, and each and every one of them, from and against any and all actions, damages, costs, liabilities, claims, demands, losses, judgments, penalties, costs and expenses of every type and description, whether arising on or off the site of the Work, including, but not limited to, any fees and/or costs reasonably incurred by City's staff attorneys or outside attorneys and any fees and expenses incurred in enforcing this provision (hereafter collectively referred to as "Liabilities"), including but not limited to Liabilities arising from personal injury or death, damage to personal, real or intellectual property or the environment, contractual or other economic damages, or regulatory penalties, arising out of or in any way connected with performance of or failure to perform the Work by the Contractor, any subcontractor or agent, anyone directly or indirectly employed by any of them or anyone for whose acts any of them may be liable, whether or not (i) such Liabilities are caused in part by a party indemnified hereunder, or (ii) such Liabilities are litigated, settled or reduced to judgment; provided that the foregoing indemnity does not apply to liability for damages for death or bodily injury to persons, injury to property, or other loss, damage or expense to the extent arising from (i) the sole negligence or willful misconduct of, or defects in design furnished by, City, its agents, servants, or independent contractors who are directly responsible to City, or (ii) the active negligence of City.

B. The existence or acceptance by City of any of the insurance policies or coverages described in this Agreement shall not affect or limit any of City's rights under this Section 16, nor shall the limits of such insurance limit the liability of Contractor hereunder. The provisions of this Section 16 shall survive any expiration or termination of the Contract.

17. CONTRACTOR SHALL ASSUME RISKS

Until the completion and final acceptance by City of all Work under this Contract, the Work shall be under Contractor's responsible care and charge, and Contractor, at no cost to City, shall rebuild, repair, restore and make good all injuries, damages, re-erections, and repairs occasioned or rendered necessary by accidental causes of any nature, to all or any portions of the Work.

18. GENERAL LIABILITY OF CONTRACTOR

Except as otherwise herein expressly stipulated, Contractor shall perform all the Work and furnish all the labor, materials, tools, equipment, apparatus, facilities, transportation, power and light, and appliances, necessary or proper for performing and completing the Work herein required in the manner and 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 solely for the purpose of explanation.

19. INSURANCE

During the entire term of the Contract, Contractor shall maintain the insurance coverage described in this Section 19.

Full compensation for all premiums that Contractor is required to pay for the insurance coverage described herein shall be included in the compensation specified for the Work performed by Contractor under this Contract. No additional compensation will be provided for Contractor's insurance premiums. Any available insurance proceeds in excess of the specified minimum limits and coverages shall be available to the City.

It is understood and agreed by the Contractor that its liability to the City shall not in any way be limited to or affected by the amount of insurance coverage required or carried by the Contractor in connection with this Contract.

A. Minimum Scope & Limits of Insurance Coverage

(1) Commercial General Liability Insurance providing coverage at least as broad as ISO CGL Form 00 01 on an occurrence basis for bodily injury, including death, of one or more persons, property damage, and personal injury, arising out of activities performed by or on behalf of Contractor and its subcontractors, products and completed operations of Contractor and its subcontractors, and premises owned, leased, or used by Contractor and its subcontractors, with limits of not less than one million dollars ($1,000,000) per occurrence. The policy shall provide contractual liability and products and completed operations coverage for the term of the policy.

(2) Automobile Liability Insurance providing coverage at least as broad as ISO Form CA 00 01 for bodily injury, including death, of one or more persons, property damage, and personal injury, with limits of not less than one million dollars ($1,000,000) per accident. The policy shall provide coverage for owned, non-owned, and/or hired autos as appropriate to the operations of the Contractor.

No automobile liability insurance shall be required if Contractor completes the following certification:

"I certify that a motor vehicle will not be used in the performance of any work or services under this agreement." _____ (Contractor initials)

(3) Excess Insurance: The minimum limits of insurance required above may be satisfied by a combination of primary and umbrella or excess insurance coverage; provided that any umbrella or excess insurance shall contain, or be endorsed to contain, a provision that it shall apply on a primary basis for the benefit of the CITY, and any insurance or self-insurance maintained by CITY, its officials, employees, or volunteers shall be in excess of such umbrella or excess coverage and shall not contribute with it.

(4) Workers' Compensation Insurance with statutory limits, and Employers' Liability Insurance with limits of not less than one million dollars ($1,000,000). The

Workers' Compensation policy shall include a waiver of subrogation in favor of the City.

No Workers' Compensation insurance shall be required if Contractor completes the following certification:

> "I certify that my business has no employees, and that I do not employ anyone. I am exempt from the legal requirements to provide Workers' Compensation insurance." _____ (Contractor initials)

B. Additional Insured Coverage

(1) Commercial General Liability Insurance: The City, its officials, employees, and volunteers shall be covered by policy terms or endorsement as additional insureds as respects general liability arising out of: activities performed by or on behalf of Contractor and its subcontractors; products and completed operations of Contractor and its subcontractors; and premises owned, leased, or used by Contractor and its subcontractors.

(2) Automobile Liability Insurance: The City, its officials, employees, and volunteers shall be covered by policy terms or endorsement as additional insureds as respects auto liability.

C. Other Insurance Provisions

The policies are to contain, or be endorsed to contain, the following provisions:

(1) Contractor's insurance coverage, including excess insurance, shall be primary insurance as respects City, its officials, employees, and volunteers. Any insurance or self-insurance maintained by City, its officials, employees, or volunteers shall be in excess of Contractor's insurance and shall not contribute with it.

(2) Any failure to comply with reporting provisions of the policies shall not affect coverage provided to City, its officials, employees, or volunteers.

(3) Coverage shall state that Contractor's insurance shall apply separately to each insured against whom claim is made or suit is brought, except with respect to the limits of the insurer's liability.

(4) City will be provided with thirty (30) days written notice of cancellation or material change in the policy language or terms.

D. Acceptability of Insurance

Insurance shall be placed with insurers with a Bests' rating of not less than A:VI. Self-insured retentions, policy terms or other variations that do not comply with the requirements of this Section 3 must be declared to and approved by the City in writing

prior to execution of this Contract.

E. Verification of Coverage

(1) Contractor shall furnish City with certificates and required endorsements evidencing the insurance required. Copies of policies shall be delivered to the City on demand. Certificates of insurance shall be signed by an authorized representative of the insurance carrier.

(2) For all insurance policy renewals during the term of this Contract, Contractor shall send insurance certificates reflecting the policy renewals directly to:

City of Sacramento
c/o EXIGIS LLC
P.O. Box 947
Murrieta, CA 92564

Insurance certificates also may be faxed to (888) 355-3599, or e-mailed to: certificates-sacramento@riskworks.com

(3) The City may withdraw its offer of contract or cancel this Contract if the certificates of insurance and endorsements required have not been provided prior to execution of this Contract. The City may withhold payments to Contractor or cancel the Contract if the insurance is canceled or Contractor otherwise ceases to be insured as required herein.

F. Subcontractors

Contractor shall require and verify that all subcontractors maintain insurance coverage that meets the minimum scope and limits of insurance coverage specified in subsection A, above.

20. FAILURE TO MAINTAIN BONDS OR INSURANCE

If, at any time during the performance of this Contract, Contractor fails to maintain any item of the bonds and/or insurance required under the Contract in full force and effect, Contractor shall immediately suspend all work under the Contract and notify City in writing of such failure. After such notice is provided, or if City discovers such failure and notifies Contractor, the City thereafter may withhold all Contract payments due or that become due until notice is received by City that such bonds and/or insurance have been restored in full force and effect and that the premiums therefor have been paid for a period satisfactory to the Division of Risk Management. Contractor shall not resume work until notified by City to do so, and the City shall have no responsibility or liability for any costs incurred by Contractor as a result of such suspension of Work.

In addition to the foregoing, any failure to maintain any item of the required bonds and/or insurance at any time during the performance of this Contract will be sufficient cause for termination of the Contract by City.

The Contractor shall be solely responsible for, and shall defend, indemnify and hold harmless the City, its officers, employees and agents against and from, any and all damages, claims, losses, actions, costs or other expenses of any kind incurred by any party as a direct or indirect result of any suspension of Work or termination of the Contract under the provisions of this Section.

21. EXCUSABLE DELAYS

For the purpose of these Contract Documents, the term "Excusable Delay" shall mean, and is limited to, delay caused directly by: acts of God; acts of a public enemy; fires; inclement weather as determined by the Engineer; riots; insurrections; epidemics; quarantine restrictions; strikes; lockouts; sitdowns; acts of a governmental agency; priorities or privileges established for the manufacture, assemble, or allotment of materials necessary in the Work by order, decree or otherwise of the United States or by any department, bureau, commission, committee, agent, or administrator of any legally constituted public authority; changes in the Work ordered by City insofar as they necessarily require additional time in which to complete the Work; the prevention of Contractor from commencing or prosecuting the Work because of the acts of others, excepting Contractor's subcontractors or suppliers; or the prevention of Contractor from commencing or prosecuting the Work because of a Citywide failure of public utility service.

The term "Excusable Delay" shall specifically <u>not</u> include: (i) any delay that could have been avoided by the exercise of care, prudence, foresight and diligence on the part of Contractor; (ii) any delay in the prosecution of any part of the Work that does not constitute a Controlling Operation, whether or not such delay is unavoidable; (iii) any reasonable delay resulting from time required by City for review of any Contractor submittals and for the making of surveys, measurements and inspection; and, (iv) any delay arising from an interruption in the prosecution of the Work on account of reasonable interference by other Contractors employed by City that does not necessarily prevent the completion of the entire Work within the time specified. Excusable Delays, if any, shall operate only to extend the Completion Date (not in excess of the period of such delay as determined by City) and shall not under any circumstances increase the amount City is required to pay Contractor except as otherwise provided in these Contract Documents.

22. CONTRACTOR TO SERVE NOTICE OF DELAYS

Whenever Contractor foresees any delay in the prosecution of the Work, and in any event as soon as possible (not to exceed a period of ten (10) calendar days) after the initial occurrence of any delay that Contractor regards as or may later claim to be an Excusable Delay, the Contractor shall notify the Engineer in writing of such delay and its cause, in order that the Engineer: (i) may take immediate steps to prevent if possible the occurrence or continuance of the delay; or (ii) if this cannot be done, may determine whether the delay is to be considered excusable, how long it continues, and to what extent the prosecution and completion of the Work are delayed thereby. Said written notice shall constitute an application for an extension of time only if the notice requests such an extension and sets forth the Contractor's estimate of the additional time required together with a full description of the cause of the delay relied upon.

After the completion of any part or whole of the Work, the Engineer, in estimating the amount due Contractor, will assume that any and all delays that may have occurred in its prosecution and completion were not Excusable Delays, except for such delays for which the Contractor has provided timely written notice as required herein, and that the Engineer has found to be excusable.

Contractor shall not be entitled to claim Excusable Delay for any delay for which the Contractor failed to provide such timely written notice.

23. EXTENSION OF TIME

If the Contractor complies with Section 22, above, and the Engineer finds a delay claimed by the Contractor to be an Excusable Delay, the Contractor shall be allowed an extension of time to complete the Work that is proportional to the period of Excusable Delay determined by the Engineer, subject to the approval by City of a change order granting such time extension. During a duly authorized extension for an Excusable Delay, City shall not charge liquidated damages against the Contractor for such delay.

If the City extends the time to complete the Work as provided herein, such extension shall in no way release any warranty or guarantee given by Contractor pursuant to the provisions of the Contract Documents, nor shall such extension of time relieve or release the sureties of the Bonds provided pursuant to the Contract Documents. By executing such Bonds, the Sureties shall be deemed to have expressly agreed to any such extension of time. The granting of any extension of time as provided herein shall in no way operate as a waiver on the part of City of its rights under this Contract, excepting only extension of the Completion Date for such period of Excusable Delay as may be determined by the Engineer and approved by a duly authorized change order.

24. NO PAYMENT FOR DELAYS

No damages or compensation of any kind shall be paid to Contractor or any subcontractor because of delays in the progress of the Work whether or not such delays qualify for extension of time under this Agreement; except that this provision shall not preclude the recovery of damages for a delay caused by the City that is unreasonable under the circumstances and that is not within the contemplation of the parties, provided that the Contractor timely submits all such written notice(s) and fully complies with such other procedures as may be specified in the Contract Documents or any Laws or Regulations for Contractor to claim damages for such delay.

25. CHANGES IN THE WORK

Changes in the Work authorized or directed in accordance with the Contract Documents and extensions of time of completion made necessary by reason thereof shall not in any way release any warranty or guarantee given by Contractor pursuant to the provisions of the Contract Documents, nor shall such changes in the Work relieve or release the Sureties on Bonds provided pursuant to the Contract Documents. By executing such Bonds, the Sureties shall be deemed to have expressly agreed to any such change in Work and to any extension of time made by reason thereof.

26. TERMINATION AFTER COMPLETION DATE

In addition to any other rights City may have, if any services or work required under the Contract (including but not limited to punch list items) are not completed as of the Completion Date (as adjusted by any extensions of time for Excusable Delays granted pursuant to the Contract Documents), City may terminate the Contract at any time after the Completion Date (as adjusted by any extensions of time for Excusable Delays granted pursuant to the Contract Documents), by providing a written notice to Contractor specifying the date of termination. Such notice also may specify conditions or requirements that Contractor must meet to avoid termination of the Contract

on such date. If Contractor fails to fulfill all such conditions and requirements by such termination date, or, if no such conditions or requirements are specified, Contractor shall cease rendering services and performing work on such termination date, and shall not be entitled to receive any compensation for services rendered or work performed after such termination date. In the event of such termination, Contractor shall remain liable to City for liquidated damages incurred for any period of time prior to the termination date.

In addition to any other charges, withholdings or deductions authorized under the Contract or any Laws or Regulations, if City terminates the Contract pursuant to this section, City may withhold and deduct from any payment and/or retention funds otherwise due Contractor any sum necessary to pay the City's cost of completing or correcting, or contracting for the completion or correction of, any services or work under the Contract that are not completed to the satisfaction of the City or that otherwise are deficient or require correction as of such termination date, including but not limited to incomplete punch list items. Such costs shall include all of the City's direct and indirect costs incurred to complete or correct such services or work, including the City's administrative and overhead costs. If the amount of payment(s) and/or retention funds otherwise due the Contractor are insufficient to pay such costs, City shall have the right to recover the balance of such costs from the Contractor and/or its Surety(ies).

27. TERMINATION FOR CONVENIENCE

Upon written notice to the Contractor, the City may at any time, without cause and without prejudice to any other right or remedy of the City, elect to terminate the Contract for the convenience of City. In such case, the Contractor shall be paid (without duplication of any items, and after deduction and/or withholding of any amounts authorized to be deducted or withheld by the Contract Documents or any Laws or Regulations):

A. For Work executed in accordance with the Contract Documents prior to the effective date of termination and determined to be acceptable by the Engineer, including fair and reasonable sums for overhead and profit on such Work;

B. For reasonable claims, costs, losses, and damages incurred in settlement of terminated contracts with subcontractors, suppliers, and others; and

C. For reasonable expenses directly attributable to termination.

Contractor shall not be paid for any loss of anticipated profits or revenue for any Work not performed prior to termination, nor for any economic loss arising out of or resulting from such termination, except for the payments listed in this section. Contractor's warranty under Section 14 of this Agreement shall apply, and Contractor shall remain responsible for all obligations related to such warranty, with respect to all portions of the Work performed prior to the effective date of the termination for convenience pursuant to this section. The City shall be entitled to have any or all remaining Work performed by other contractors or by any other means at any time after the effective date of a termination for convenience pursuant to this section.

28. TERMINATION FOR BREACH OF CONTRACT

If Contractor abandons the Work under this Contract, or if the Contract or any portion of the Contract is sublet or assigned without the consent of the City, or if the Engineer determines in the

Engineer's sole discretion that the conditions of the Contract in respect to the rate of progress of the Work are not being fulfilled or any part thereof is unnecessarily delayed, or if Contractor violates or breaches, or fails to execute in good faith, any of the terms or conditions of the Contract, or if Contractor refuses or fails to supply enough properly skilled labor or materials or refuses or fails to make prompt payment to subcontractors for material or labor, or if Contractor disregards any Laws or Regulations or proper instruction or orders of the Engineer, then, notwithstanding any provision to the contrary herein, the City may give Contractor and its Sureties written notification to immediately correct the situation or the Contract shall be terminated.

In the event that such notice is given, and, in the event such situation is not corrected, or arrangements for correction satisfactory to the City are not made, within ten (10) calendar days from the date of such notice or within such other period of time as may be specified by the City in the notice, the Contract shall upon the expiration of said period cease and terminate. In the event of any such termination, City may take over the Work and prosecute the Work to completion, or otherwise, and the Contractor and its Sureties shall be liable to City for any cost occasioned City thereby, as hereinafter set forth.

In the event City completes the Work, or causes the Work to be completed, no payment of any kind shall be made to Contractor until the Work is complete. The cost of completing the Work, including but not limited to, extra costs of project administration and management incurred by City, both direct or indirect, shall be deducted from any sum then due, or that becomes due, to Contractor from City. If sums due to Contractor from City are less than the cost of completing the Work, Contractor and its Sureties shall pay City a sum equal to this difference on demand. In the event City completes the Work, and there is a sum remaining due to Contractor after City deducts the costs of completing the Work, then City shall pay such sum to Contractor. The Contractor and Contractor's Sureties shall be jointly and severally liable for all obligations imposed on Contractor hereunder.

No act by City before the Work is finally accepted, including, but not limited to, exercise of other rights under the Contract, actions at law or in equity, extensions of time, payments, assessments of liquidated damages, occupation or acceptance of any part of the Work, waiver of any prior breach of the Contract or failure to take action pursuant to this section upon the happening of any prior default or breach of Contractor, shall be construed to be a waiver or estoppel of the City's right to act pursuant to this Section upon any subsequent event, occurrence or failure by Contractor to fulfill the terms and conditions of the Contract. The rights of City to terminate the Contract pursuant to this Section and pursuant to Sections 26 and 27 are cumulative and are in addition to all other rights of City pursuant to the Contract and at law or in equity.

29. CONTRACTOR BANKRUPT

If Contractor should commence any bankruptcy proceeding, or if Contractor is adjudged a bankrupt, or if Contractor makes any assignment for the benefit of creditors, or if a receiver is appointed on account of Contractor's insolvency, then the City may, without prejudice to any other right or remedy, terminate the Contract and complete the work by giving notice as provided in Section 28 above.

30. SURETIES' OBLIGATIONS UPON TERMINATION

If the City terminates the Contract pursuant to Section 28 or Section 29 above:

A. The Surety under Contractor's performance bond shall be fully responsible for all of the Contractor's remaining obligations of performance under the Contract as if the Surety were a party to the Contract, including without limitation Contractor's obligations, as provided in the Contract Documents, to complete and provide a one-year warranty of the entire Work, pay liquidated damages and indemnify, defend and hold harmless City, up to the full amount of the performance bond.

B. The Surety under Contractor's payment bond shall be fully responsible for the performance of all of the Contractor's remaining payment obligations for work, services, equipment or materials performed or provided in connection with the Work or any portion thereof, up to the full amount of the payment bond.

31. ACCOUNTING RECORDS OF CONTRACTOR

During performance of the Contract and for a period of three (3) years after completing the entire Work, Contractor shall maintain all accounting and financial records related to the Contract and performance of the Work in accordance with generally accepted accounting practices, and shall keep and make such records available for inspection and audit by representatives of the City upon reasonable written notice.

32. USE TAX REQUIREMENTS

During the performance of this Agreement, CONTRACTOR, for itself, its assignees and successors in interest, agrees as follows:

A. Use Tax Direct Payment Permit: For all leases and purchases of materials, equipment, supplies, or other tangible personal property used to perform the Agreement and shipped from outside California, the Contractor and any subcontractors leasing or purchasing such materials, equipment, supplies or other tangible personal property shall obtain a Use Tax Direct Payment Permit from the California State Board of Equalization ("SBE") in accordance with the applicable SBE criteria and requirements.

B. Sellers Permit: For any construction contract and any construction subcontract in the amount of $5,000,000 or more, Contractor and the subcontractor(s) shall obtain sellers permits from the SBE and shall register the jobsite as the place of business for the purpose of allocating local sales and use tax to the City. Contractor and its subcontractors shall remit the self-accrued use tax to the SBE, and shall provide a copy of each remittance to the City.

C. The above provisions shall apply in all instances unless prohibited by the funding source for the Agreement.

33. NON-DISCRIMINATION IN EMPLOYEE BENEFITS

This Agreement may be subject to the requirements of Sacramento City Code Chapter 3.54, Non-Discrimination in Employee Benefits by City Contractors. The Contract Documents include a summary of the requirements of Sacramento City Code Chapter 3.54, entitled "Requirements of the Non-Discrimination in Employee Benefits Code." By signing this Agreement, Contractor

acknowledges and represents that Contractor has read and understands these requirements and agrees to fully comply with all applicable requirements of Sacramento City Code Chapter 3.54. If requested by City, Contractor agrees to promptly provide such documents and information as may be required by City to verify Contractor's compliance. Any violation by Contractor of Sacramento City Code Chapter 3.54 constitutes a material breach of this Agreement, for which the City may terminate the Agreement and pursue all available legal and equitable remedies.

34. CONSIDERING CRIMINAL CONVICTION INFORMATION IN THE EMPLOYMENT APPLICATION PROCESS

This Agreement may be subject to the requirements of Sacramento City Code Chapter 3.62, Procedures for Considering Criminal Conviction Information in the Employment Application Process. The Contract Documents include a summary of the requirements of Sacramento City Code Chapter 3.62, entitled "Ban-The-Box Requirements." By signing this Agreement, Contractor acknowledges and represents that Contractor has read and understands these requirements and agrees to fully comply with all applicable requirements of Sacramento City Code Chapter 3.62. If requested by City, Contractor agrees to promptly provide such documents and information as may be required by City to verify Contractor's compliance. Any violation by Contractor of Sacramento City Code Chapter 3.62 constitutes a material breach of this Agreement, for which the City may terminate the Agreement and pursue all available legal and equitable remedies. Contractor agrees to require its subcontractors to fully comply with all applicable requirements of Sacramento City Code Chapter 3.62, and include these requirements in all subcontracts covered by Sacramento City Code Chapter 3.62.

IN WITNESS WHEREOF, the parties hereto have signed this Agreement on the date set for opposite their names.

CONTRACTOR

Under penalty of perjury, I certify that the taxpayer identification number and all other information provided here are correct.

DATE 12.18.25

BY _____
Whittney Schulte
Print Name
Contracting & Attesting Officer
Title

BY _____
Christlanda Adkins
Print Name
Contracting & Attesting Officer
Title

1000009689
DIR Registration #

13-3032158
Federal ID#

_____
State ID#

758411
City of Sacramento Business Operation Tax Certificate No. (City will not award contract until Certificate Number is obtained)

Type of Business Entity *(check one)*:

_____ Individual/Sole Proprietor
_____ Partnership
_____ Corporation
__X__ Limited Liability Company
_____ Other (*please specify:*_____)

CITY OF SACRAMENTO
a municipal corporation

DATE Jan 22, 2026

BY _____
For: City Manager

Original Approved As To Form:

Michael Voss
_____
City Attorney

Attest:

_____
City Clerk

Form approved by City Attorney 1-11-17

Approval Recommended By:

Angelo Vasquez
Angelo Vasquez (Jan 15, 2026 13:20:56 PST)

Jan 15, 2026

Project Manager

Approved By:

Whittney Schulte

Jan 15, 2026

Contractor

Approved By:

Christlanda Adkins
Christlanda Adkins (Jan 16, 2026 08:29:30 CST)

Jan 16, 2026

Contractor

CALIFORNIA LABOR CODE RELATING TO APPRENTICES ON PUBLIC WORKS PROJECTS

See following links: www.dir.ca.gov and/or www.leginfo.ca.gov

http://www.dir.ca.gov/dlse/dlsePublicWorks.html

CITY OF SACRAMENTO
PERFORMANCE BOND
Department of Utilities

Bond No.: 108396337
Premium: _____

WHEREAS, the City of Sacramento, State of California, hereinafter called City, has conditionally awarded to

Insituform Technologies, LLC
580 Goddard Ave
Chesterfield, MO 63005

as principal, hereinafter called Contractor, a contract for construction of:

Del Rio Sewer Force Main Rehabilitation
(PN: X14170114) (B25141311013)

which contract is by reference incorporated herein and made a part hereof as if the Surety named below were a party to the contract, and is hereinafter referred to as the Contract; and

WHEREAS, under the terms of the Contract, Contractor is required to furnish a bond for the faithful performance of the Contract.

NOW, THEREFORE, we the Contractor and *(here insert full name and address of Surety)* : Travelers Casualty and Surety Company of America, One Tower Square, Hartford, CT 06183, a corporation duly authorized and admitted to transact business and issue surety bonds in the State of California, hereinafter called Surety, are held and firmly bound unto the City, as oblige, in the sum of: **Sixteen million nine hundred sixty six thousand two hundred three dollars ($16,966,203)** for the payment of which sum well and truly to be made, we the Contractor and Surety bind ourselves, our heirs, executors, administrators, successors and assigns, jointly and severally. The condition of this obligation is such that, if the Contractor, Contractor's heirs, executors, administrators, successors or assigns, shall in all things stand to and abide by, and well and truly keep and fully perform all covenants, conditions and agreements required to be kept and performed by Contractor in the Contract and any changes, additions or alterations made thereto, to be kept and performed at the time and in the manner therein specified, and in all respects according to their true intent and meanings, and shall indemnify and save harmless the City, its officers, employees and agents, as therein provided, then the Surety's obligations under the Contract and this bond shall be null and void; otherwise they shall be and remain in full force and effect. This obligation shall remain in full force and effect through the end of the Contract warranty period, which will expire one year after the completion of work date specified in the Notice of Completion filed for the above-named project.

As part of the obligations secured hereby and in addition to the sum specified above, there shall be included all costs, expenses and fees, including attorney's fees, reasonably incurred by City in successfully enforcing such obligations, all to be taxed as costs and included in any judgment rendered.

The Surety, for value received, hereby stipulates and agrees that no change, extension of time, alteration or addition to the terms of the Contract or to the work to be performed thereunder or to the specifications accompanying the same shall in any way affect its obligations on this bond, and it does hereby waive notice of any such change, extension, alteration or addition.

IN WITNESS WHEREOF, this instrument has been duly executed by authorized representatives of the Contractor and Surety. SIGNED AND SEALED on _____, 2025.

Insituform Technologies, LLC
(Contractor) (Seal)
By: Whittney Schulte
Title: Whittney Schulte, Contracting & Attesting Officer

ORIGINAL APPROVED AS TO FORM:
City Attorney

Travelers Casualty and Surety Company of America
(Surety) (Seal)
By: A. T.
Title Andrew P. Thome, Attorney-in-Fact
Agent Name and Address: Marsh McLennan Agency
825 Maryville Centre Drive, Suite 200, St. Louis, MO 63017
Agent Phone #: (314) 594-2700
Surety Phone #: (860) 277-0111
California License # 0G99003
Surety Email: Andy.Thome@MarshMMA.com

TRAVELERS CASUALTY AND SURETY COMPANY OF AMERICA
SEAL

CITY OF SACRAMENTO
PAYMENT BOND
Department of Utilities

Bond No.: 108396337
Premium: _____

WHEREAS, the City of Sacramento, in the State of California, hereinafter called City, has conditionally awarded to:

Insituform Technologies, LLC
580 Goddard Ave
Chesterfield, MO 63005

hereinafter called Contractor, a contract for construction of:

Del Rio Sewer Force Main Rehabilitation
(PN: X14170114) (B25141311013)

Which contract is by reference incorporated herein and made a part hereof, and is hereinafter referred to as the Contract; and

WHEREAS, under the terms of the Contract and pursuant to Chapter 5 of Title 3 of Part 6 of Division 4 of the California Civil Code (commencing with Civil Code Section 9550), Contractor is required to furnish a good and sufficient payment bond to secure payment of the claims to which reference is made in Civil Code Section 9554.

NOW, THEREFORE, we the Contractor and (*here insert full name and address of Surety*):
Travelers Casualty and Surety Company of America, One Tower Square, Hartford, CT 06183, a corporation duly authorized and admitted to transact business and issue surety bonds in the State of California, hereinafter called Surety, are held and firmly bound unto the City, and unto all persons or entities entitled to assert a claim against a payment bond under any of the aforesaid Civil Code provisions in the sum **Sixteen million nine hundred sixty six thousand two hundred three dollars ($16,966,203)** on the condition that if Contractor shall fail to pay for any materials or equipment furnished or used in performance of the Contract, or for any work or labor thereon of any kind, or for amounts due under the Unemployment Insurance Act with respect to such work or labor, or for any amounts required to be deducted, withheld, and paid over to the Franchise Tax Board or the Employment Development Department from the wages of employees of the Contractor and all subcontractors with respect to such work or labor, then the Surety shall pay the same in an amount not exceeding the sum specified above. If suit is brought upon this bond, Surety shall pay, in addition to the above sum, all costs, expenses and fees, including attorney's fees, reasonably incurred by any party in successfully enforcing the obligation secured hereby, all to be taxed as costs and included in any judgment rendered. Should the condition of this bond be fully performed, then this obligation shall become null and void, otherwise it shall be and remain in full force and effect, and shall bind Contractor, Surety, their heirs, executors, administrators, successors and assigns, jointly and severally.

It is hereby stipulated and agreed that this bond shall inure to the benefit of all persons, companies, corporations, political subdivisions, State agencies and other entities entitled to assert a claim against a payment bond under any of the aforesaid Civil Code provisions, so as to give a right of action to them or their assigns in any suit brought upon this bond. The Surety, for value received, hereby stipulates and agrees that no change, extension of time, alteration or addition to the terms of the Contract or to the work to be performed thereunder or to the specifications accompanying the same shall in any way affect its obligations on this bond, and it does hereby waive notice of any such change, extension, alteration or addition.

IN WITNESS WHEREOF, this instrument has been duly executed by authorized representatives of the Contractor and Surety. SIGNED AND SEALED on _____, 2025.

Insituform Technologies, LLC
(Contractor)
By: Whittney Schulte (Seal)
Title: Whittney Schulte, Contracting & Attesting Officer

ORIGINAL APPROVED AS TO FORM:

City Attorney

_____

Travelers Casualty and Surety Company of America
(Surety)
By _____ (Se
Title Andrew P. Thome, Attorney-in-Fact
Agent Name and Address: Marsh McLennan Agency
825 Maryville Centre Drive, Suite 200, St. Louis, MO 63017
Agent Phone #: (314) 594-2700
Surety Phone #: (860) 277-0111
California License # 0G99003
Surety Email: Andy.Thome@MarshMMA.com

TRAVELERS CASUALTY AND SURETY COMPANY OF AMERICA ★ SEAL

ACKNOWLEDGMENT

A notary public or other officer completing this certificate verifies only the identity of the individual who signed the document to which this certificate is attached, and not the truthfulness, accuracy, or validity of that document.

State of ~~California~~ Missouri
County of St. Louis)

On 12/16/2025 before me, Christina A. Culotta, Notary Public
(insert name and title of the officer)

personally appeared Andrew P. Thome, Attorney-in-Fact,
who proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

CHRISTINA A. CULOTTA
Notary Public - Notary Seal
STATE OF MISSOURI
St. Louis County
My Commission Expires: Aug. 5, 2027
Commission # 19313442

Signature _____ **(Seal)**
Christina A. Culotta, Notary Public

TRAVELERS

Travelers Casualty and Surety Company of America
Travelers Casualty and Surety Company
St. Paul Fire and Marine Insurance Company

POWER OF ATTORNEY

KNOW ALL MEN BY THESE PRESENTS: That Travelers Casualty and Surety Company of America, Travelers Casualty and Surety Company, and St. Paul Fire and Marine Insurance Company are corporations duly organized under the laws of the State of Connecticut (herein collectively called the "Companies"), and that the Companies do hereby make, constitute and appoint **ANDREW P THOME** of **CHESTERFIELD**, **Missouri**, their true and lawful Attorney(s)-in-Fact to sign, execute, seal and acknowledge any and all bonds, recognizances, conditional undertakings and other writings obligatory in the nature thereof on behalf of the Companies in their business of guaranteeing the fidelity of persons, guaranteeing the performance of contracts and executing or *guaranteeing bonds and undertakings required or permitted in any actions or proceedings allowed by law.*

IN WITNESS WHEREOF, the Companies have caused this instrument to be signed, and their corporate seals to be hereto affixed, this **21st** day of **April**, **2021**.

State of Connecticut

City of Hartford ss.

By: _____
Robert L. Raney, Senior Vice President

On this the **21st** day of **April**, **2021**, before me personally appeared **Robert L. Raney**, who acknowledged himself to be the Senior Vice President of each of the Companies, and that he, as such, being authorized so to do, executed the foregoing instrument for the purposes therein contained by signing on behalf of said Companies by himself as a duly authorized officer.

IN WITNESS WHEREOF, I hereunto set my hand and official seal.

My Commission expires the **30th** day of **June**, **2026**

_____
Anna P. Nowik, Notary Public

This Power of Attorney is granted under and by the authority of the following resolutions adopted by the Boards of Directors of each of the Companies, which resolutions are now in full force and effect, reading as follows:

RESOLVED, that the Chairman, the President, any Vice Chairman, any Executive Vice President, any Senior Vice President, any Vice President, any Second Vice President, the Treasurer, any Assistant Treasurer, the Corporate Secretary or any Assistant Secretary may appoint Attorneys-in-Fact and Agents to act for and on behalf of the Company and may give such appointee such authority as his or her certificate of authority may prescribe to sign with the Company's name and seal with the Company's seal bonds, recognizances, contracts of indemnity, and other writings obligatory in the nature of a bond, recognizance, or conditional undertaking, and any of said officers or the Board of Directors at any time may remove any such appointee and revoke the power given him or her; and it is

FURTHER RESOLVED, that the Chairman, the President, any Vice Chairman, any Executive Vice President, any Senior Vice President or any Vice President may delegate all or any part of the foregoing authority to one or more officers or employees of this Company, *provided* that each such delegation is in writing and a copy thereof is filed in the office of the Secretary; and it is

FURTHER RESOLVED, that any bond, recognizance, contract of indemnity, or writing obligatory in the nature of a bond, recognizance, or conditional undertaking shall be valid and binding upon the Company when (a) signed by the President, any Vice Chairman, any Executive Vice President, any Senior Vice President or any Vice President, any Second Vice President, the Treasurer, any Assistant Treasurer, the Corporate Secretary or any Assistant Secretary and duly attested and sealed with the Company's seal by a Secretary or Assistant Secretary; or (b) duly executed (under seal, if required) by one or more Attorneys-in-Fact and Agents pursuant to the power prescribed in his or her certificate or their certificates of authority or by one or more Company officers pursuant to a written delegation of authority; and it is

FURTHER RESOLVED, that the signature of each of the following officers: President, any Executive Vice President, any Senior Vice President, any Vice President, any Assistant Vice President, any Secretary, any Assistant Secretary, and the seal of the Company may be affixed by facsimile to any Power of Attorney or to any certificate relating thereto appointing Resident Vice Presidents, Resident Assistant Secretaries or Attorneys-in-Fact for purposes only of executing and attesting bonds and undertakings and other writings obligatory in the nature thereof, and any such Power of Attorney or certificate bearing such facsimile signature or facsimile seal shall be valid and binding upon the Company and any such power so executed and certified by such facsimile signature and facsimile seal shall be valid and binding on the Company in the future with respect to any bond or understanding to which it is attached.

I, **Kevin E. Hughes**, the undersigned, Assistant Secretary of each of the Companies, do hereby certify that the above and foregoing is a true and correct copy of the Power of Attorney executed by said Companies, which remains in full force and effect.

Dated this 16th day of December, 2025.

_____
Kevin E. Hughes, Assistant Secretary

To verify the authenticity of this Power of Attorney, please call us at 1-800-421-3880.
Please refer to the above-named Attorney(s)-in-Fact and the details of the bond to which this Power of Attorney is attached.

CERTIFICATE OF LIABILITY INSURANCE

7/1/2026

DATE (MM/DD/YYYY) 12/16/2025

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

IMPORTANT: If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must have ADDITIONAL INSURED provisions or be endorsed. If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

PRODUCER Lockton Companies, LLC DBA Lockton Insurance Brokers, LLC in CA CA license #0F15767 Three City Place Dr., Ste. 900 St. Louis MO 63141-7081 (314) 432-0500 midwestcertificates@lockton.com	CONTACT NAME: PHONE (A/C, No, Ext): FAX (A/C, No): E-MAIL ADDRESS:
INSURED 1347996 Insituform Technologies, LLC 580 Goddard Avenue Chesterfield MO 63005	INSURER(S) AFFORDING COVERAGE — NAIC # INSURER A : XL Insurance America, Inc. — 24554 INSURER B : ACE American Insurance Company — 22667 INSURER C : Starr Indemnity & Liability Company — 38318 INSURER D : ACE Fire Underwriters Insurance Company — 20702 INSURER E : — INSURER F : —

COVERAGES **CERTIFICATE NUMBER:** 22778009 **REVISION NUMBER:** XXXXXXX

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

INSR LTR	TYPE OF INSURANCE	ADDL INSD	SUBR WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS	
A	X COMMERCIAL GENERAL LIABILITY	Y	Y	CGD300084910	7/1/2025	7/1/2026	EACH OCCURRENCE	$ 2,000,000
A	[ ] CLAIMS-MADE [X] OCCUR			BROAD FORM PD/CONTRACTUAL			DAMAGE TO RENTED PREMISES (Ea occurrence)	$ 1,000,000
	X Independt Contractor						MED EXP (Any one person)	$ 10,000
	X XCU						PERSONAL & ADV INJURY	$ 2,000,000
	GEN'L AGGREGATE LIMIT APPLIES PER:						GENERAL AGGREGATE	$ 4,000,000
	[ ] POLICY [X] PRO-JECT [X] LOC						PRODUCTS - COMP/OP AGG	$ 4,000,000
	OTHER:							$
B	AUTOMOBILE LIABILITY	Y	Y	ISAH11428551	7/1/2025	7/1/2026	COMBINED SINGLE LIMIT (Ea accident)	$ 5,000,000
	X ANY AUTO						BODILY INJURY (Per person)	$ XXXXXXX
	[ ] OWNED AUTOS ONLY [ ] SCHEDULED AUTOS						BODILY INJURY (Per accident)	$ XXXXXXX
	[ ] HIRED AUTOS ONLY [ ] NON-OWNED AUTOS ONLY						PROPERTY DAMAGE (Per accident)	$ XXXXXXX
								$ XXXXXXX
C	[ ] UMBRELLA LIAB [X] OCCUR	Y	Y	1000095154251	7/1/2025	7/1/2026	EACH OCCURRENCE	$ 10,000,000
	X EXCESS LIAB [ ] CLAIMS-MADE						AGGREGATE	$ 10,000,000
	[ ] DED [ ] RETENTION $							$ XXXXXXX
B D D	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? (Mandatory in NH) Y/N [N] If yes, describe under DESCRIPTION OF OPERATIONS below	N/A	Y	WLRC7309740A (AOS) SCFC73097447 (WI) (EXCLUDING MONOPOLISTIC)	7/1/2025 7/1/2025	7/1/2026 7/1/2026	X PER STATUTE [ ] OTH-ER	
							E.L. EACH ACCIDENT	$ 1,000,000
							E.L. DISEASE - EA EMPLOYEE	$ 1,000,000
							E.L. DISEASE - POLICY LIMIT	$ 1,000,000

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (ACORD 101, Additional Remarks Schedule, may be attached if more space is required)

RE: Insituform Project No. 190889: Del Rio Sewer Force Main Rehabilitation PN: X14170114

City of Sacramento, its officials, employees, and volunteers are additional insureds under General Liability, Automobile Liability, and Excess Liability on a primary and non-contributory basis where required by written contract executed prior to loss, but only with respect to liability arising out of the Named Insured's operations. Waiver of Subrogation applies under General Liability, Automobile Liability, Excess Liability, and Workers' Compensation if required by written contract, executed prior to loss, and where permissible by law.

CERTIFICATE HOLDER

22778009
City of Sacramento
1395 35th Avenue
Sacramento CA 95822-2911

CANCELLATION See Attachments

SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS.

AUTHORIZED REPRESENTATIVE

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Attachment Code: D592023 Master ID: 1347996, Certificate ID: 22778009

City of Sacramento
1395 35th Avenue
Sacramento CA 95822-2911

IMPORTANT NOTICE

To whom it may concern:

In our continued effort to provide timely certificate delivery, Lockton Companies is transitioning to paperless delivery of Certificates of Insurance going forward.

To ensure future renewals of this certificate, we need your email address. Please contact us via one of the methods below, referencing **Certificate ID 22778009**

- Email: *stl-edelivery@lockton.com*
- Phone: *(866) 728-5657 (toll-free)*

If we do not receive your email address via one of the above methods prior to the client's next renewal, we will assume you no longer need the certificate.

If you received this certificate through an internet link where the current certificate is viewable, we have your email and no further action is needed.

The above inbox is for collecting email addresses for renewal electronic certificate delivery ONLY. You will not receive a response from this inbox.

Thank you for your cooperation.

Lockton Companies

POLICY NUMBER: CGD300084910

COMMERCIAL GENERAL LIABILITY
CG 20 10 12 19

THIS ENDORSEMENT CHANGES THE POLICY. PLEASE READ IT CAREFULLY.

ADDITIONAL INSURED – OWNERS, LESSEES OR CONTRACTORS – SCHEDULED PERSON OR ORGANIZATION

This endorsement modifies insurance provided under the following:

COMMERCIAL GENERAL LIABILITY COVERAGE PART

SCHEDULE

Name Of Additional Insured Person(s) Or Organization(s)	Location(s) Of Covered Operations
ANY PERSON OR ORGANIZATION THAT YOU ARE REQUIRED IN A WRITTEN CONTRACT OR WRITTEN AGREEMENT TO INCLUDE AS AN ADDITIONAL INSURED PROVIDED THE "BODILY INJURY" OR "PROPERTY DAMAGE" OCCURS SUBSEQUENT TO THE EXECUTION OF THE WRITTEN CONTRACT OR WRITTEN AGREEMENT, INCLUDING INDEMNIFICATION AGREEMENTS.	VARIOUS AS REQUIRED PER WRITTEN CONTRACT
Information required to complete this Schedule, if not shown above, will be shown in the	

A. Section II – Who Is An Insured is amended to include as an additional insured the person(s) or organization(s) shown in the Schedule, but only with respect to liability for "bodily injury", "property damage" or "personal and advertising injury" caused, in whole or in part, by:

1. Your acts or omissions; or
2. The acts or omissions of those acting on your behalf;

in the performance of your ongoing operations for the additional insured(s) at the location(s) designated above.

However:

1. The insurance afforded to such additional insured only applies to the extent permitted by law; and
2. If coverage provided to the additional insured is required by a contract or agreement, the insurance afforded to such additional insured will not be broader than that which you are required by the contract or agreement to provide for such additional insured.

B. With respect to the insurance afforded to these additional insureds, the following additional exclusions apply:

This Insurance does not apply to "bodily injury" or "property damage" occurring after:

1. All work, including materials, parts or equipment furnished in connection with such work, on the project (other than service, maintenance or repairs) to be performed by or on behalf of the additional insured(s) at the location of the covered operations has been completed; or
2. That portion of "your work" out of which the injury or damage arises has been put to its intended use by any person or organization other than another contractor or subcontractor engaged in performing operations for a principal as a part of the same project.

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C. With respect to the insurance afforded to these additional insureds, the following is added to **Section III – Limits Of Insurance:**

If coverage provided to the additional insured is required by a contract or agreement, the most we will pay on behalf of the additional insured is the amount of insurance:

1. Required by the contract or agreement; or

2. Available under the applicable limits of insurance;

whichever is less.

This endorsement shall not increase the applicable limits of insurance.

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POLICY NUMBER: CGD300084910

COMMERCIAL GENERAL LIABILITY
CG 20 37 12 19

THIS ENDORSEMENT CHANGES THE POLICY. PLEASE READ IT CAREFULLY.

ADDITIONAL INSURED – OWNERS, LESSEES OR CONTRACTORS – COMPLETED OPERATIONS

This endorsement modifies insurance provided under the following:

COMMERCIAL GENERAL LIABILITY COVERAGE PART
PRODUCTS/COMPLETED OPERATIONS LIABILITY COVERAGE PART

SCHEDULE

Name Of Additional Insured Person(s) Or Organization(s)	Location And Description Of Completed Operations
ANY PERSON OR ORGANIZATION THAT YOU ARE REQUIRED IN A WRITTEN CONTRACT OR WRITTEN AGREEMENT TO INCLUDE AS AN ADDITIONAL INSURED PROVIDED THE "BODILY INJURY" OR "PROPERTY DAMAGE" OCCURS SUBSEQUENT TO THE EXECUTION OF THE WRITTEN CONTRACT OR WRITTEN AGREEMENT, INCLUDING INDEMNIFICATION AGREEMENTS.	VARIOUS AS REQUIRED PER THE WRITTEN CONTRACT.
Information required to complete this Schedule, if not shown above, will be shown in the	

A. Section II – Who Is An Insured is amended to include as an additional insured the person(s) or organization(s) shown in the Schedule, but only with respect to liability for "bodily injury" or "property damage" caused, in whole or in part, by "your work" at the location designated and described in the Schedule of this endorsement performed for that additional insured and included in the "products-completed operations hazard".

However:

1. The insurance afforded to such additional insured only applies to the extent permitted by law; and
2. If coverage provided to the additional insured is required by a contract or agreement, the insurance afforded to such additional insured will not be broader than that which you are required by the contract or agreement to provide for such additional insured.

B. With respect to the insurance afforded to these additional insureds, the following is added to **Section III – Limits Of Insurance:**

If coverage provided to the additional insured is required by a contract or agreement, the most we will pay on behalf of the additional insured is the amount of insurance:

1. Required by the contract or agreement; or
2. Available under the applicable limits of insurance;

whichever is less.

This endorsement shall not increase the applicable limits of insurance.

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ENDORSEMENT #

This endorsement, effective 12:01 a.m., 7/1/2025, forms a part of

Policy No. CGD300084910 issued to AZURIA WATER SOLUTIONS, INC.

By XL Insurance America, Inc.

THIS ENDORSEMENT CHANGES THE POLICY. PLEASE READ IT CAREFULLY.

PRIMARY INSURANCE CLAUSE ENDORSEMENT

This endorsement modifies insurance provided under the following:

COMMERCIAL GENERAL LIABILITY COVERAGE PART
PRODUCTS/COMPLETED OPERATIONS COVERAGE
PART

It is agreed that to the extent that insurance is afforded to any Additional Insured under this policy, this insurance shall apply as primary and not contributing with any insurance carried by such Additional Insured, as required by written contract.

All other terms and conditions of this policy remain unchanged.

XIL 424 0605
©, 2005, XL America,
Inc.

Attachment Code: D544797 Certificate ID: 22778009

AUTOMATIC ADDITIONAL INSURED ENDORSEMENT

Named Insured Azuria Water Solutions, Inc.			
Policy Symbol ISA	Policy Number ISAH11428551	Policy Period 7/1/2025 TO 7/1/2026	Effective Date of Endorsement 7/1/2025
Issued By (Name of Insurance Company) ACE American Insurance Company			

Insert the policy number. The remainder of the information is to be completed only when this endorsement is issued subsequent to the preparation of the policy.

THIS ENDORSEMENT CHANGES THE POLICY. PLEASE READ IT CAREFULLY.

This endorsement modifies insurance provided under the following:

BUSINESS AUTO COVERAGE FORM
MOTOR CARRIER COVERAGE FORM

SECTION II - LIABILITY COVERAGE, WHO IS AN INSURED is amended to include as an "insured' any person or organization you are required in a written contract or agreement to name as an Additional Insured on your policy but only for "bodily injury" or "property damage" to which this insurance applies if the "accident" is caused by:

1. You, while using a covered "auto" or
2. Any other person, while using a covered "auto" with your permission.

The insurance provided by this endorsement shall be subject to the following additional condition:

1. The Limit of Insurance provided for the Additional insured shall not be greater than those required by contract and, In no event, shall the policy Limits of Insurance be increased by the contract.

2, All insuring agreements, exclusions, terms and conditions of the policy shall apply to the coverage (s) provided to the Additional Insured, and such coverage shall not be enlarged or expanded by reason of the contract.

3. Coverage provided by this endorsement shall be excess over any other valid and collectible insurance available to the Additional Insured (s) whether primary, excess, contingent or on any other basis unless the contract specifically requires that this insurance be primary or you request that it apply on a primary basis prior to loss.

NON-CONTRIBUTORY ENDORSEMENT FOR ADDITIONAL INSUREDS

Named Insured Azuria Water Solutions, Inc.			Endorsement Number
Policy Symbol ISA	Policy Number ISAH114285 51	Policy Period 7/1/2025 TO 7/1/2026	Effective Date of Endorsement 7/1/2025
issued By (Name of Insurance Company) ACE American Insurance Company			

Insert the policy number. The remainder of the information is to be completed only when this endorsement is issued subsequent to the preparation of the policy.

THIS ENDORSEMENT CHANGES THE POLICY. PLEASE READ IT CAREFULLY.

BUSINESS AUTO COVERAGE FORM

MOTOR CARRIER COVERAGE FORM

AUTO DEALERS COVERAGE FORM

Schedule

Organization	Additional Insured Endorsement
Any additional insured with whom you have agreed to provide such non-contributory insurance, pursuant to and as required under a written contract executed prior to the date of loss.	

(if no information is filled in, the schedule shall read: "All persons or entities added as additional insureds through an endorsement with the term "Additional Insured" in the title)

For organizations that are listed in the Schedule above that are also an Additional Insured under an endorsement attached to this policy, the following is added to the Other Insurance Condition under General Conditions:

If other insurance is available to an insured we cover under any of the endorsements listed or described above (the "Additional Insured") for a loss we cover under this policy, this insurance will apply to such loss on a primary basis and we will not seek contribution from the other insurance available to the Additional Insured.

Attachment Code: D544807 Certificate ID: 22778009

Starr Indemnity & Liability Company

Dallas, TX 1-866-519-2522

THIS ENDORSEMENT CHANGES THE POLICY. PLEASE READ IT CAREFULLY.

Other Insurance – Primary and Noncontributory for Additional Insured

Policy Number: 1000095154251 **Effective Date:** 7/1/2025 at 12:01 A.M.
Named Insured: Azuria Water Solutions, Inc.

This endorsement modifies insurance provided under the following:

EXCESS LIABILITY POLICY FORM

A. Sub-paragraph 3. of item I. Other Insurance under SECTION IV. CONDITIONS is replaced with the following:

3. Insurance held by a person(s) or organizations(s) qualifying as an additional insured in "Underlying Insurance", but only when the written contract or agreement between you and the additional insured:
   a. Requires a specific limit of insurance than is in excess of the Underlying Limits of Insurance;
   b. Requires that your insurance be primary and not contribute with that of the additional insured; and
   c. Executed prior to the loss.

In such case as described in sub-paragraph 3. above, we shall not seek contribution from the additional insured's primary or excess insurance for which they are a named insured for amounts payable under this insurance.

All other terms, definitions, conditions and exclusions of this policy remain unchanged.

NOTICE: THESE POLICY FORMS AND THE APPLICABLE RATES ARE EXEMPT FROM THE FILING REQUIREMENTS OF THE NEW YORK INSURANCE LAW AND REGULATIONS. HOWEVER, THE FORMS AND RATES MUST MEET THE MINIMUM STANDARDS OF THE NEW YORK INSURANCE LAW AND REGULATIONS.

Class

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Starr Indemnity & Liability Company

Dallas, TX 1-866-519-2522

Signed for the Company as of the Effective Date above:

Steve Blakey

Steve Blakey, President

Nehemiah E. Ginsburg

Nehemiah E. Ginsburg, General Counsel

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POLICY NUMBER:CGD300084910

COMMERCIAL GENERAL LIABILITY

CG 24 04 12 19

THIS ENDORSEMENT CHANGES THE POLICY. PLEASE READ IT CAREFULLY.

WAIVER OF TRANSFER OF RIGHTS OF RECOVERY AGAINST OTHERS TO US (WAIVER OF SUBROGATION)

This endorsement modifies insurance provided under the following:

COMMERCIAL GENERAL LIABILITY COVERAGE PART
ELECTRONIC DATA LIABILITY COVERAGE PART
LIQUOR LIABILITY COVERAGE PART
POLLUTION LIABILITY COVERAGE PART DESIGNATED SITES
POLLUTION LIABILITY LIMITED COVERAGE PART DESIGNATED SITES
PRODUCTS/COMPLETED OPERATIONS LIABILITY COVERAGE PART
RAILROAD PROTECTIVE LIABILITY COVERAGE PART
UNDERGROUND STORAGE TANK POLICY DESIGNATED TANKS

SCHEDULE

Name Of Person(s) Or Organization(s):
Where required by written contract or agreement executed prior to loss (except where not permitted by law).
Information required to complete this Schedule, if not shown above, will be shown in the Declarations.

The following is added to Paragraph **8. Transfer Of Rights Of Recovery Against Others To Us** of **Section IV – Conditions:**

We waive any right of recovery against the person(s) or organization(s) shown in the Schedule above because of payments we make under this Coverage Part. Such waiver by us applies only to the extent that the insured has waived its right of recovery against such person(s) or organization(s) prior to loss. This endorsement applies only to the person(s) or organization(s) shown in the Schedule above.

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WAIVER OF TRANSFER OF RIGHTS OF RECOVERY AGAINST OTHERS

Named Insured Azuria Water Solutions, Inc.			
Policy Symbol ISA	Policy Number ISAH11428 551	Policy Period 7/1/2025TO 7/1/2026	Effective Date of Endorsement 7/1/2025
Issued By (Name of Insurance Company) ACE American Insurance Company			

Insert the policy number. The remainder of the information is to be completed only when this endorsement is issued subsequent to the preparation of the policy.

THIS ENDORSEMENT CHANGES THE POLICY. PLEASE READ IT CAREFULLY.

This Endorsement modifies insurance provided under the following:

BUSINESS AUTO COVERAGE FORM
MOTOR CARRIERS COVERAGE FORM
AUTO DEALERS COVERAGE FORM

We waive any right of recovery we may have against the person or organization shown in the Schedule below because of payments we make for injury or damage arising out of the use of a covered auto. The waiver applies only to the person or organization shown in the SCHEDULE.

SCHEDULE

Any person or organization against whom you have agreed to waive your right of recovery in a written contract, provided such contract was executed prior to the date of loss.

Authorized Representative

Starr Indemnity & Liability Company

EXCESS LIABILITY
XS 233 (0221)

THIS ENDORSEMENT CHANGES THE POLICY. PLEASE READ IT CAREFULLY.

Waiver of Subrogation Endorsement

Policy Number: 1000095154251

Effective Date: 7/1/2025 at 12:01 A.M.

Named Insured: Azuria Water Solutions, Inc.

This endorsement modifies the insurance coverage form(s) listed below that have been purchased by you and evidenced as such on the declarations page. Please read the endorsement and respective policy(ies) carefully.

EXCESS LIABILITY POLICY

It is hereby agreed that SECTION IV. CONDITIONS, K. Transfer of Rights of Recovery Against Others to Us is amended to include the following:

SCHEDULE

Name Of Person(s) Or Organization(s):
Where required by written contract.
Information required to complete this Schedule, if not shown above, will be shown in the Declarations.

We waive any right of recovery against the person(s) or organization(s) shown in the Schedule above because of payments we make under this Policy. Such waiver by us applies only to the extent that the insured has waived its right of recovery against such person(s) or organization(s) prior to loss. This endorsement applies only to the person(s) or organization(s) shown in the Schedule above.

All other terms and conditions of this Policy remain unchanged.

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Attachment Code: D545188 Certificate ID: 22778009

Workers' Compensation and Employers' Liability Policy

Named Insured Azuria Water Solutions, Inc. 580 Goddard Ave CHESTERFIELD MO 63005	Endorsement Number Policy Number Symbol: WLR Number.WLRC7309740A
Polley Period 7/1/2025TO 7/1/2026	Effective Date of Endorsement 7/1/2025
Issued By (Name of Insurance Company) ACE AMERICAN INSURANCE COMPANY	

Insert the policy number. The remainder of the information is to be completed only *when* this endorsement is issued subsequent to the preparation of the policy.

CALIFORNIA WAIVER OF OUR RIGHT TO RECOVER FROM OTHERS ENDORSEMENT

This endorsement applies only to the insurance provided by the policy because California is shown in Item 3.A. of the Information Page.

We have the right to recover our payments from anyone liable for an Injury covered by this policy. We will not enforce our right against the person or organization named in the Schedule, but this waiver applies only with respect to bodily injury arising out of the operations described in the Schedule, where you are required by a written contract to obtain this waiver from us.

You must maintain payroll records accurately segregating the remuneration of your employees while engaged in the work described in the Schedule.

Schedule

1. ( ) Specific Waiver
   Name of person or organization:

   (X) Blanket Waiver
   Any person or organization for whom the Named Insured has agreed by written contract to furnish this waiver.

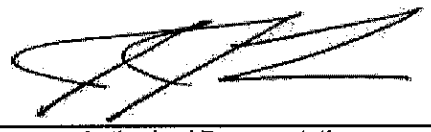
2. Operations:

   ALL OPERATIONS CONDUCTED BY AN INSURED PURSUANT TO SUCH WRITTEN CONTRACT

3. Premium:

   The premium charge for this endorsement shall be 1.0 percent of the California premium developed on payroll in connection with work performed for the above person(s) or organization(s) arising out of the operations described.

4. Minimum Premium: $0



Authorized Representative

Attachment Code: D544456 Certificate ID: 22778009

ENDORSEMENT #

This endorsement, effective 12:01 a.m., 7/1/2025, forms a part of

Policy No. CGD300084910 issued to AZURIA WATER SOLUTIONS, INC.

By XL Insurance America, Inc.

THIS ENDORSEMENT CHANGES THE POLICY. PLEASE READ IT CAREFULLY.

CANCELLATION NOTIFICATION TO OTHERS ENDORSEMENT

In the event coverage is cancelled for any statutorily permitted reason, other than nonpayment of premium,
advanced written notice will be mailed or delivered to person(s) or entity(ies) according to the notification

Name of Person(s) or Entity(ies)	Mailing Address:	Number of Days Advanced Notice of Cancellation:
AS PER SCHEDULE ON FILE WITH THE COMPANY.		30

All other terms and conditions of the Policy remain unchanged.

IXI 405 0910

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Attachment Code: D543763 Certificate ID: 22778009

NOTICE TO OTHERS ENDORSEMENT – SCHEDULE
NOTICE BY INSURED'S REPRESENTATIVE

Named Insured Azuria Water Solutions, Inc.			Endorsement Number 38
Policy Symbol ISA	Policy Number ISAH11428551	Policy Period 7/1/2025 TO 7/1/2026	Effective Date of Endorsement
Issued By (Name of Insurance Company) ACE American Insurance Company			

Insert the policy number. The remainder of the information is to be completed only when this endorsement is issued subsequent to the preparation of the policy.

THIS ENDORSEMENT CHANGES THE POLICY. PLEASE READ IT CAREFULLY.

A. If we cancel this Policy prior to its expiration date by notice to you or the first Named Insured for any reason other than nonpayment of premium, we will endeavor, as set out in this endorsement, to send written notice of cancellation, to the persons or organizations listed in the schedule that you or your representative create or maintain (the "Schedule") by allowing your representative to send such notice to such persons or organizations. This notice will be ***in addition to*** our notice to you or the first Named Insured, and any other party whom we are required to notify by statute and in accordance with the cancellation provisions of the Policy.

B. The notice referenced in this endorsement as provided by your representative is intended only to be a courtesy notification to the person(s) or organization(s) named in the Schedule in the event of a pending cancellation of coverage.
We have no legal obligation of any kind to any such person(s) or organization(s). The failure to provide advance notification of cancellation to the person(s) or organization(s) shown in the Schedule will impose no obligation or liability of any kind upon us, our agents or representatives, will not extend any Policy cancellation date and will not negate any cancellation of the Policy.

C. We are not responsible for verifying any information in any Schedule, nor are we responsible for any incorrect information that you or your representative may use.

D. We will only be responsible for sending such notice to your representative, and your representative will in turn send the notice to the persons or organizations listed in the Schedule at least 30 days prior to the cancellation date applicable to the Policy. You will cooperate with us in providing the Schedule, or in causing your representative to provide the Schedule.

E. This endorsement does not apply in the event that you cancel the Policy.

All other terms and conditions of this Policy remain unchanged.

Natalie E. Pansabene

Authorized Representative

Starr Indemnity & Liability Company

Dallas, TX 1-866-519-2522

THIS ENDORSEMENT CHANGES THE POLICY.PLEASE READ IT CAREFULLY.

Notice of Cancellation or Nonrenewal to Designated Additional Insured

Policy Number: 1000095154251 Effective Date: 7/1/2025 at 12:01 A.M.

Named Insured: Azuria Water Solutions, Inc.

This endorsement modifies insurance provided under the following:

EXCESS LIABILITY POLICY FORM

ADDITIONAL ENTITY RECEIVING NOTICE OF CANCELLATION OR NONRENEWAL

NAME:	Where Required By Written Contract
ADDRESS:	Where Required By Written Contract
CANCELLATION:	Number of Days Notice: 30
WHEN WE DO NOT RENEW (Nonrenewal):	Number of Days Notice: 30

The following is added to the Cancellation Condition, When We Do Not Renew Condition or as amended by an applicable state cancellation/nonrenewal endorsement:

If we cancel or do not renew the Named Insured's policy for any statutorily permitted reason, other than nonpayment of premium, we will mail written notice of such cancellation or nonrenewal to the additional person or organization designated in the Schedule above. The Number of Days Notice indicated in the Schedule above is the minimum number of days we will mail notice to the person or organization designated above before the effective date of such cancellation or nonrenewal

All other terms and conditions of this Policy remain unchanged.

Signed for the Company as of the Effective Date above:

Steve Blakey, President

Nehemiah E. Ginsburg, General Counsel

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COMMUNITY WORKFORCE AND TRAINING AGREEMENT
CITY OF SACRAMENTO

INTRODUCTION/FINDINGS

The purpose of this Community Workforce and Training Agreement is to promote efficiency of construction operations in the construction of major projects set forth in the City of Sacramento's Capital Improvement Plan and other public works projects that are subject to this Agreement, thereby promoting the public interest in assuring the timely and cost-effective completion of such projects, and supporting the efforts of the City to increase employment opportunities for workers who are local area residents, and to provide construction career training and employment opportunities for the City's at-risk youth, military veterans, women and other disadvantaged residents through local apprenticeship and pre-apprentice programs.

A. The City adopts a five-year Capital Improvement Plan that identifies the public projects necessary to maintain and improve the physical properties of the City, including construction or repair of City buildings and facilities, such as streets, roads, storm drains, traffic signals, parks, and community centers.

B. The City undertakes and anticipates undertaking projects identified in the Capital Improvement Plan and other City public works projects that involve significant construction costs in excess of the threshold set forth in this Agreement.

C. The City Council has determined that the successful and cost-effective completion of these Capital Improvement Plan projects and other major City public works projects is of the utmost importance to the City and its taxpayers and the residents it serves.

D. The City has determined that applying a uniform workforce agreement to the Capital Improvement Plan and other public works construction projects that exceed the threshold set forth in this Agreement during the term of this Agreement will provide efficiencies for the City and its contractors.

E. Community workforce and training agreements and similar workforce agreements have been used successfully to achieve the goals and objectives set forth in this Agreement by other public agencies and private entities on major construction projects in the region, including on the Golden 1 Center project.

F. Large numbers of workers of various skills will be required in the performance of the construction work, including those workers represented by the Local Unions signatory to this Agreement and employed by contractors and subcontractors who are signatory to this Agreement.

G. The use of skilled labor on construction work increases the safety of construction operations and the quality of completed work.

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H. Major projects subject to this Agreement will require multiple contractors and bargaining units to be on the job site at the same time over an extended period of time, increasing the potential for work disruption in the absence of an overriding commitment to maintain continuity of work.

I. The interests of the general public and taxpayers, the City, the Contractor(s) and the Unions would be best served if the construction work proceeded in an orderly manner without disruption and delay.

J. The Contractor(s) and the Unions desire to mutually establish and stabilize wages, hours and working conditions for the workers employed on the construction projects subject to this Agreement in order to promote a satisfactory, continuous and harmonious relationship among the parties to this Agreement.

K. This Agreement is not intended to replace, interfere with, abrogate, diminish or modify existing local or national collective bargaining agreements in effect during the duration of the Project, insofar as a legally binding agreement exists between the Contractor(s) and the affected Union(s), except to the extent that the provisions of this Agreement are inconsistent with said collective bargaining agreements, in which event, the provisions of this Agreement shall prevail.

L. The contracts for the construction of the Project will be awarded in accordance with the applicable provisions of the Sacramento City Code, the California State Public Contract Code and other applicable state, local and federal laws.

M. The City has the right and is legally obligated, subject to certain exceptions, to select the lowest responsive and responsible bidder for the award of construction contracts on the Project or to reject all bids.

N. The City places high priority upon the development of comprehensive programs for the recruitment, training and employment of local area residents and military veterans, and also recognizes the ability of local apprenticeship programs to provide meaningful and sustainable careers in the building and construction industry.

O. The parties signatory to this Agreement pledge their full good faith and trust to work towards mutually satisfactory completion of the Capital Improvement Plan projects and other major City public works projects subject to this Agreement.

NOW, THEREFORE, IT IS AGREED BETWEEN AND AMONG THE PARTIES HERETO, AS FOLLOWS:

ARTICLE I
DEFINITIONS

1.1 "Agreement" means this Community Workforce and Training Agreement.

1.2 "Agreement to be Bound" means the agreement (attached hereto and incorporated herein as Addendum A) required to be executed by any Contractor(s) working on the Project as a precondition to performing Covered Work on the Project.

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1.3 "City" means the City of Sacramento.

1.4 "Completion" means the point at which there is Final Acceptance by the City, which occurs when the City determines that the entire project is complete in accordance with the City's Standard Specifications. The date of completion of the entire Project shall be specified in any Notice of Completion filed pursuant to Civil Code Section 3093.

1.5 "Construction Contract" means all public works contracts approved by the City for a Project, including design-bid, design-build, lease-leaseback, or other contracts under which Covered Work is performed.

1.6 "Contractor "or "Contractor(s)" means any person, firm, corporation, or other entity, or any combination thereof, including joint ventures, and any successor or assigns of such persons or entities, that has entered into a contract with the City, or with any other person or entity contracting for work on the Project on behalf of the City (whether by design-bid, design-build, lease-leaseback or other means), with respect to the construction of any part of the Project under contract terms and conditions approved by the City, and any of its contractors or subcontractors of any tier.

1.7 "Master Agreement" or "Schedule A" means the Master Collective Bargaining Agreement of each craft union signatory hereto, copies of which shall be provided to the City.

1.8 "Project" means any City public works project where either the engineer's estimate of the total construction cost of the project or the actual cumulative bid amounts submitted by the contractor or contractors awarded the Construction Contracts for the Project exceeds One Million Dollars ($1,000,000). All Construction Contracts required to complete an integrated City construction project shall be considered in determining the threshold value of the Project.

1.9 "Project Manager" means the person or business entity designated by, or under contract with, the City to oversee all phases of construction on the Project.

1.10 "Trades Council" means the Sacramento-Sierra Building and Construction Trades Council, AFL-CIO.

1.11 "Union" or "Unions" means the labor organizations that are signatory to this Agreement, acting on their own behalf and on behalf of their respective affiliates and member organizations whose names are subscribed hereto and who have through their officers executed this Agreement ("Local Unions"). The Trades Council and the Unions are collectively referred to herein as the "Unions." Unions that are listed in the signature lines to this Agreement but do not execute the Agreement are not parties to this Agreement and are not included under the definition of "Union" or "Local Union." The failure of a Local Union listed in the signature lines to this Agreement to execute this Agreement shall not invalidate or in any way affect the enforceability of the agreement as to, and between, the signatory parties to this Agreement.

ARTICLE II
SCOPE OF AGREEMENT

2.1 Parties. This Agreement applies and is limited to all Contractor(s), performing Construction Contracts on the Project, the City, the Trades Council, and the Local Unions that are signatory to this Agreement.

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2.2 Applicability. This Agreement governs all Construction Contracts awarded on the City Projects subject to this Agreement. For purposes of this Agreement, a Construction Contract is considered completed as described in Section 1.4, except when the City's authorized representative directs a Contractor to engage in repairs, warranty work, or modifications as required under the original Construction Contract with the City.

2.2.1 Covered Work. This Agreement covers, without limitation, all on-site site preparation, surveying, construction, alteration, demolition, installation, improvement, painting or repair of buildings, structures and other works, and related activities for the Project that is within the craft jurisdiction of one of the Unions and which is directly or indirectly part of the Project, including, without limitation to the following examples, geotechnical and exploratory drilling, temporary HVAC, landscaping and temporary fencing, pipelines (including those in linear corridors built to serve the Project), pumps, pump stations, and modular furniture installation. On-site work includes work done solely for the Project in temporary yards, dedicated sites, or areas adjacent to the Project, and at any on-site or off-site batch plant constructed solely to supply materials to the Project. This scope of work includes all soils and materials testing and inspection where such testing and inspection is a classification in which a prevailing wage determination has been published.

2.2.2 This Agreement applies to any start-up, calibration, commissioning, performance testing, repair, maintenance, or operational revisions to systems and/or subsystems for the Project that are part of the original Construction Contract, including when performed after Completion, unless it is performed by City employees.

2.2.3 This Agreement covers all on-site fabrication work over which the City, Contractor(s) or their subcontractors possess the right of control (including work done for the Project in any temporary yard or area established for the Project). Additionally, this Agreement covers any off-site fabrication work necessary for the Project that is traditionally performed by any of the Unions and that is covered by a Master Agreement or local addenda to a National Agreement of the applicable Union(s) in effect as of the execution date of this Agreement.

2.2.4 The furnishing of supplies, equipment or materials that are stockpiled for later use are not covered by this Agreement. However, construction trucking work, such as the delivery of ready-mix, asphalt, aggregate, sand, or other fill or material that is incorporated into the construction process as well as the off-hauling of debris and excess fill, material and/or mud, shall be covered by the terms and conditions of this Agreement to the fullest extent allowed by law. Contractor(s), including brokers, of persons providing construction trucking work shall provide certified payroll records to the City within ten (10) calendar days of written request or as required by the Construction Contract.

2.2.5 Work covered by this Agreement within the following craft jurisdictions shall be performed under the terms of their National Agreements as follows: the National Transient Lodge (NTL) Articles of Agreement, the National Stack/Chimney Agreement, the National Cooling Tower Agreement, and the National Agreement of Elevator Constructors, and any instrument calibration work and loop checking shall be performed under the terms of the UA/IBEW Joint National Agreement for Instrument and Control Technicians, with the exception that Articles IV, XIV and XV of this Agreement shall apply to such work.

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2.3 Exclusions from Covered Work

2.3.1 The Agreement is limited to construction work on a Project and is not intended to and shall not affect or govern the award of construction contracts by the City which are not a part of a Project.

2.3.2 The Agreement does not apply to a Contractor(s)' non-construction craft employees, including but not limited to executives, managerial employees, contract and/or construction managers, engineering employees and supervisors above the level of General Foreman (except those covered by existing Master Agreements), staff engineers or other professional engineers, administrative, management, office, professional, and clerical employees.

2.3.3 The Agreement does not apply to work by employees of the City.

2.3.4 The Agreement does not apply to off-site maintenance of leased equipment and on-site supervision of such work.

2.3.5 The Agreement does not apply to work performed by employees of an Original Equipment Manufacturer ("OEM") or vendor on the OEM's or vendor's equipment if required by the warranty agreement between the OEM or vendor and the City in order to maintain the warranty or guarantee on such equipment, and provided that the warranty agreement is the OEM's or vendor's usual and customary warranty agreement for such equipment.

2.3.6 The Agreement does not apply to specialized or technical work requiring specialized training, unique skills, and/or a level of specific technical experience that the Unions do not possess, including the use of specialty equipment and tools. Before any Contractor subcontracts any work subject to this exception, such Contractor shall give the Trades Council at least five (5) days advance notice. Any specialized or technical work subject to this Section anticipated by the Project Manager or any Contractor shall be discussed at the Pre-Job Conference held pursuant to Article V. Any disputes regarding the application of this Section shall be resolved by the parties through the expedited arbitration process in Section 4.2 to determine whether any violation of this section has occurred.

2.3.7 The Agreement does not apply to laboratory work for specialty testing or inspections and all testing or inspections not covered by the Master Agreement of one of the signatory Unions.

2.3.8 The Agreement does not apply to any work performed on, near, or leading to the Project and undertaken by state, county, or other governmental bodies or their contractors, or public utilities or their contractors.

2.3.9 The Agreement does not apply to any work related to the creation or installation of any Art Work by an individual Artist as part of the City's Art in Public Places requirement. For purposes of this Agreement, "Art Work" is a unique, one-of-a-kind decorative element to be incorporated into the building or site, the design, illustration, and detailing of which can only be fully completed in the field and can only be performed by the individual Artist. An "Artist" is an individual that is engaged by the City or the Primary Employer to create and install Art Work. The Artist shall perform all final adjustments, finishing touches, and final painting of any Art Work.

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2.3.10 This Agreement does not apply to the following City projects: (1) Westshore Park; and (2) Renfree Field at Del Paso Park.

2.3.11 This Agreement does not apply to any street seal work, including slurry seal, chip seal, or cape seal work, or any street seal component of a Project that is otherwise covered by the Agreement that is put out to bid before July 1, 2026.

2.4 Award and Enforcement of Construction Contracts. Notwithstanding any other provision of this Agreement, the City has the absolute right to select any qualified bidder for the award of Construction Contracts and to enforce all provisions of its Construction Contracts. The bidder need only be willing, ready and able to execute the Addendum A Agreement to be Bound and comply with this Agreement. This Agreement shall be included in all invitations to bid or solicitations for proposals from contractors or subcontractors for work on the Project that are issued on and after the effective date of this Agreement.

ARTICLE III
EFFECT OF AGREEMENT

3.1 By executing the Agreement, the Unions and the City agree to be bound by the terms and conditions of the Agreement.

3.2 By accepting the award of a Construction Contract for the Project, whether as contractor or subcontractor, the Contractor(s) agrees to be bound by each and every provision of the Agreement, and agrees that it will evidence its acceptance prior to the commencement of work by executing the Agreement to be Bound in the form attached hereto as Addendum A.

3.3 At the time that any Contractor(s) enters into a subcontract with any subcontractor providing for the performance of a Construction Contract, the Contractor(s) shall provide a copy of this Agreement to such subcontractor, and shall require their subcontractor, as a condition to accepting an award of a construction subcontract, to agree in writing to be bound by each and every provision of this Agreement prior to the commencement of work by executing the Agreement to be Bound in the form attached hereto as Addendum A.

3.4 This Agreement is only binding on the signatories and their successors and assigns, and does not apply to the parents, affiliates, subsidiaries, or other ventures of any such party. Each Contractor and subcontractor is alone liable and responsible for its own individual acts and conduct and for any breach or alleged breach of this Agreement, except as otherwise provided by law or the applicable Schedule A. Any dispute between the Union(s) and the Contractor(s) respecting compliance with the terms of the Agreement, shall not affect the rights, liabilities, obligations, and duties between the signatory Union(s) and other Contractor(s) party to this Agreement. Any liability by a signatory Union to this Agreement shall be several and not joint. Any alleged breach of this Agreement by a signatory Union does not affect the rights, liabilities, obligations, and duties between the signatory Contractor(s) and the other Union(s) party to this Agreement.

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3.5 Where a subject covered by the provisions of this Agreement is also covered by a Master Agreement, the provisions of this Agreement shall prevail. Where a subject is covered by the provisions of a Master Agreement and is not covered by this Agreement, the provisions of the Master Agreement shall prevail.

ARTICLE IV
WORK STOPPAGES, STRIKES, SYMPATHY STRIKES AND LOCKOUTS

4.1 The Unions, City and Contractor(s) covered by the Agreement agree that for the duration of the Project:

4.1.1 There shall be no strikes, sympathy strikes, work stoppages, picketing, handbilling or otherwise advising the public that a labor dispute exists, or slowdowns of any kind, for any reason, by the Unions or employees employed on the Project, at the job site of the Project or at any other facility of the City because of a dispute on the Project. Disputes arising between the Unions and Contractor(s) on other City projects are not governed by the terms of the Agreement or this Article.

4.1.2 There shall be no lockout of any kind by a Contractor of workers employed on the Project.

4.1.3 If a Master Agreement expires before the Contractor completes the performance of work under the Construction Contract and the Union or Contractor gives notice of demands for a new or modified Master Agreement, the Union agrees that it will not strike on work covered under this Agreement and the Union and the Contractor agree that the expired Master Agreement shall continue in full force and effect for work covered under this Agreement until a new or modified Master Agreement is reached.

4.1.4 In the case of nonpayment of wages or trust fund contributions on the Project, the Union shall give the City and the Contractor(s) three (3) business days' notice when nonpayment of trust fund contributions has occurred and one (1) business days' notice when nonpayment of wages has occurred or when paychecks being tendered to a financial institution normally recognized to honor such paychecks will not honor such paycheck as a result of insufficient funds, of the intent to withhold labor from the Contractor(s) or their subcontractor's workforce, during which time the Contractor shall have the opportunity to correct the default. In this instance, a Union's withholding of labor (but not picketing) from a Contractor who has failed to pay its fringe benefit contributions or failed to meet its weekly payroll shall not be considered a violation of this Article.

4.1.5 If the City contends that any Union has violated this Article, it will notify in writing (including email) the Senior Executive of the Trades Council and the Senior Executive of the Union, setting forth the facts alleged to violate the Article, prior to instituting the expedited arbitration procedure set forth below. The Senior Executive of the Trades Council will immediately use his/her best efforts to cause the cessation of any violation of this Article. The leadership of the Union will immediately inform the membership of their obligations under this Article. A Union complying with this obligation shall not be held responsible for unauthorized acts of employees it represents.

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4.2 Expedited Arbitration. Any party to this Agreement shall institute the following procedure, prior to initiating any other action at law or equity, when a breach of this Article is alleged to have occurred:

4.2.1 A party invoking this procedure shall notify Barry Winograd, as the permanent arbitrator, or John Kagel, as the alternate arbitrator under this procedure. In the event that the permanent arbitrator is unavailable at any time, the alternate will be contacted. If neither is available, then a selection shall be made from the list of arbitrators as set forth in Section 14.2. Notice to the arbitrator shall be by the most expeditious means available, with notices by facsimile, email or telephone to the City and the party alleged to be in violation, and to the Trades Council and involved Local Union if a Union is alleged to be in violation.

4.2.2 Upon receipt of said notice, the City will contact the designated arbitrator named above or his alternate who will attempt to convene a hearing within twenty-four (24) hours if it is contended that the violation still exists.

4.2.3 The arbitrator shall notify the parties by facsimile, email or telephone of the place and time for the hearing. The hearing shall be completed in one session, which, with appropriate recesses at the arbitrator's discretion, shall not exceed twenty-four (24) hours unless otherwise agreed upon by all parties. A failure of any party to attend such hearings shall not delay the hearing of evidence or the issuance of an award by the arbitrator.

4.2.4 The sole issue at the hearing shall be whether or not a violation of Article IV, Section 4.1 of the Agreement has occurred. The arbitrator shall have no authority to consider any matter of justification, explanation, or mitigation of such violation or to award damages, which issue is reserved for court proceedings, if any. The award shall be issued in writing within three (3) hours after the close of the hearing, and may be issued without a written opinion. If any party desires a written opinion, one shall be issued within fifteen (15) calendar days, but its issuance shall not delay compliance with or enforcement of the award. The arbitrator may order cessation of the violation of this Article and other appropriate relief and such award shall be served on all parties by hand or registered mail upon issuance.

4.2.5 Such award may be enforced by any Court of competent jurisdiction upon the filing of this Agreement and all other relevant documents referred to above. Written notice of the filing of such enforcement proceedings shall be given to the other party. In the proceeding to obtain a temporary order enforcing the arbitrator's award as issued under Section 4.2.4 of this Article, all parties waive the right to a hearing and agree that such proceedings may be ex parte. Such agreement does not waive any party's right to participate in a hearing for a final order or enforcement. The Court's order or orders enforcing the arbitrator's award shall be served on all parties by hand or delivered by certified mail.

4.2.6 Any rights created by statute or law governing arbitration proceedings inconsistent with the above procedure, or which interfere with compliance, are waived by the parties.

4.2.7 The fees and expenses of the arbitrator shall be divided equally between the party instituting the arbitration proceedings and the party alleged to be in breach of its obligation under this Article.

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ARTICLE V
JOINT LABOR/MANAGEMENT MEETINGS AND PRE-JOB CONFERENCES

5.1 Joint Labor/Management Meetings. During the period of any work performed under this Agreement, joint Labor/Management meetings between the City, the Project Manager, the Contractor(s) and the Unions shall be held on a periodic basis to be determined by the parties. The purpose of these meetings is to promote harmonious labor/management relations, ensure adequate communications and advance the proficiency and efficiency of the craft workers and contractors performing work at the Project. These meetings will include a discussion of safety, craft resource requirements, scheduling and productivity of work performed at the Project.

5.2 Pre-Job Conferences. The Project Manager shall convene and conduct a Pre-Job Conference with representatives of all involved Contractor(s) and the Unions at least twenty-one (21) calendar days prior to the commencement of any Covered Work on the Project and prior to the commencement of any Covered Work on each subsequently awarded Construction Contract or phase of the Project. The conference shall be attended by a representative of each participating Contractor and each affected Union. The Trades Council and City may attend at their discretion. The Project Manager and the Contractor(s) shall be prepared to discuss in detail: (i) the scope of work for each Contractor; (ii) craft assignments; (iii) estimated number of craft workers required to perform the work; (iv) transportation arrangements; (v) estimated start and completion dates of the work; and (vi) planned use of pre-fabricated materials. The meeting shall be held at a location mutually agreeable to the parties.

ARTICLE VI
NO DISCRIMINATION

6.1 The Contractor(s) and Unions agree to comply with all anti-discrimination provisions of federal, state and local law, to protect employees and applicants for employment, on the Project.

ARTICLE VII
UNION REPRESENTATION

7.1 The Contractor(s) recognize the Union(s) as the sole bargaining representative of all craft employees working within the scope of this Agreement.

7.2 Employees are not required to become or remain union members as a condition of performing Covered Work under this Agreement. Employers shall make and transmit all deductions for union dues, fees, and assessments that have been authorized by employees in writing in accordance with the applicable Master Agreement. Nothing in this Section 7.2 is intended to supersede the requirements of applicable Master Agreements as to those Employers otherwise signatory to such Master Agreements and as to the employees of those Employers who are performing Covered Work.

7.3 Authorized representatives of the Unions shall have reasonable access to the Project whenever work covered by this Agreement is being, has been, or will be performed on the Project. All authorized representatives of the Union(s) must comply with the required

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check-in procedure prior to visiting the work area.

ARTICLE VIII
REFERRAL

8.1 Contractor(s) performing construction work on the Project described in the Agreement shall, in filling craft job requirements, utilize and be bound by the registration facilities and referral systems established or authorized by the Local Unions ("Job Referral System"). Such Job Referral System shall be operated in a non-discriminatory manner and in full compliance with all federal, state, and local laws and regulations, including those which require equal employment opportunities and non-discrimination. The Contractor(s) shall have the right to reject any applicant referred by the Union(s) in accordance with this Article VIII.

8.2 The Contractor(s) shall have the unqualified right to select and hire directly all supervisors above general foreman it considers necessary and desirable, without such persons being referred by the Union(s) consistent with Section 2.3.2 of this Agreement.

8.3 In the event that referral facilities maintained by the Union(s) are unable to fill the requisition of a Contractor(s) for employees within a forty-eight (48) hour period (Saturdays, Sundays and Holidays excluded) after such requisition is made by the Contractor(s), the Contractor(s) shall be free to obtain work persons from any source. A Contractor who hires any personnel to perform covered work on the Project pursuant to this Section shall immediately provide the appropriate Union with the name and address of such employee(s) and shall immediately refer such employee(s) to the appropriate Union to satisfy the requirements of Article VII of this Agreement.

ARTICLE IX
LOCAL HIRE, APPRENTICESHIP AND WORKFORCE DEVELOPMENT

9.1 Local Hire. It is in the interest of the parties to this Agreement to facilitate employment of City of Sacramento and Sacramento County residents and to develop increased numbers of local skilled construction workers to meet the requirements of the regional construction economy. The "Local Area" is defined as the City of Sacramento, Sacramento County, and the additional nine counties in section 9.1.3 below. It is the objective of the parties that not less than fifty percent (50%) of the combined journey-level and apprentice hours worked on the Project be worked by residents of the Local Area. The Unions agree that residents of the Local Area shall be first referred for Project Work, including journey-level workers and apprentices covered by this Agreement, in the following order of priority:

9.1.1 Priority 1: Residents of the City of Sacramento.

9.1.2 Priority 2: Residents of Sacramento County outside of the City of Sacramento.

9.1.3 Priority 3: Residents of the Counties of Yolo, Placer, El Dorado, Amador, Sutter, Yuba, Nevada, Sierra, and San Joaquin.

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9.2 The Unions will exert their utmost efforts to recruit sufficient numbers of skilled craft persons and apprentices to fulfill the requirements of the contractor and to meet the Local Area resident hiring objectives of this Agreement, and will provide, at the time of referral, information to the City and its representatives regarding the zip code where each skilled craft persons and apprentices referred for Project Work resides. The Local Area residents referred by the Unions must possess the requisite skills and qualifications required for the position to be filled and such referrals shall be in accordance with law and consistent with the Local Union's hiring hall rules and procedures.

9.3 The parties also recognize and support the City's commitment to provide opportunities for participation of City of Sacramento businesses on Projects covered by this Agreement. In furtherance of this commitment and the local hire objectives of this Agreement, the parties agree that such City of Sacramento contractors and subcontractors awarded work on the Project may request by name, and the Local Union will honor, referral of such Contractor's "core" employees who have applied to the Local Union for Project work, and who demonstrate the following qualifications:

(1) possess any license required by state or federal law for the Project work to be performed;

(2) have worked a total of at least two thousand (2,000) hours in the construction craft during the prior two (2) years;

(3) were on the Contractor's active payroll for at least ninety (90) out of the one hundred and twenty (120) calendar days prior to the contract award;

(4) have the ability to perform safely the basic functions of the applicable trade; and

(5) are City of Sacramento residents.

For purposes of this Section 9.3, a City of Sacramento contractor or subcontractor is any construction contractor that maintains its principal place of business in the City of Sacramento. A City of Sacramento resident is any individual who six (6) months prior to the award of the Construction Contract to the Contractor can certify through a utility bill or other similar means acceptable to the parties that the individual resides within the municipal boundaries of the City of Sacramento.

9.4 The Union will refer to such Contractor one journeyman employee from the hiring hall out-of-work list for the affected trade or craft, and will then refer one of such Contractor's "core" employees as a journeyman and shall repeat the process, one and one, until such Contractor's crew requirements are met or until such Contractor has hired four (4) "core" employees, whichever occurs first. Thereafter, all additional employees in the affected trade or craft shall be hired exclusively from the hiring hall out-of-work list(s). For the duration of the Contractor's work, the ratio shall be maintained and when the Contractor's workforce is reduced, employees shall be reduced in the same ratio of core employees to hiring hall referrals as was applied in the initial hiring.

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9.5 The work hours performed by any out-of-state residents shall not be included in the total work hours on the Project in calculating the percentage of total work hours worked by Local Area residents.

9.6 Apprenticeship and Workforce Development.

9.6.1 Recognizing the need to develop adequate numbers of competent workers in the construction industry, the Contractor(s) shall employ apprentices of a California State- approved Joint Apprenticeship Training Program in the respective crafts to perform such work as is within their capabilities and which is customarily performed by the craft in which they are indentured. The apprentice ratios will comply with the applicable provisions of the California Labor Code and Prevailing Wage Rate Determination. Consistent with the Master Agreements and state law, there shall be no restriction on the utilization of apprentices in performing the work of their craft provided they are properly supervised.

9.6.2 It is an objective of the parties that not less than twenty percent (20%) of all apprentice hours worked on the Project, on a craft by craft basis, shall be worked by "Priority Apprentices." Priority Apprentices shall reside in one of the economically disadvantaged zip codes listed in section 9.6.2.1 and meet one additional Priority Apprentice criteria in section 9.6.2.2 below. Contractors shall reach this goal through utilization of the normal hiring hall procedures. The Unions are committed to working with the Contractors to achieve these goals. All apprentices referred to Contractors under this Agreement shall be enrolled in State of California approved Joint Apprentice Training Programs.

9.6.2.1 To qualify as a Priority Apprentice, an apprentice must reside in one of the following economically disadvantaged zip codes: 95652, 95660, 95811, 95814, 95815, 95817, 95820, 95821, 95822, 95823, 95824, 95828, 95832, 95833, 95834, 95838.

9.6.2.2 In addition to residing in one of the economically disadvantaged zip codes, to qualify as a Priority Apprentice, an apprentice must satisfy one of the eligibility criteria maintained and enforced by the Sacramento Employment and Training Agency ("SETA"), including criteria for: veterans; prior offenders; public assistance recipients; foster youth; homeless; and/or women interested in joining the trades. Determination of an individual's satisfaction of the Priority Apprentice criteria shall be made in a manner consistent with historic eligibility determination policies and practices. The individual must also meet eligibility criteria and application requirements for applicable Union apprenticeship programs.

9.6.2.3 In the event that an insufficient number of apprentices have been identified to meet the Priority Apprentice work hour objectives of this Agreement from the economically disadvantaged zip code specified in Section 9.6.2.1 after a good faith effort to identify eligible residents, the Priority Apprentice goals may be satisfied by identifying apprentices that satisfy one of the SETA criteria described in Section 9.6.2.2 and who also are residents of the Local Area in the order of priority set forth in Section 9.1.

9.6.3 The Trades Council and Unions will determine the admission and training of Priority Apprentices placed into applicable apprenticeship programs. Upon request from a Contractor, the Unions shall timely dispatch available apprentices who satisfy specified Priority Apprentice criteria, the requirements of a specific job and such other applicable bona fide qualifications.

9.7 The Contractor and Unions shall make good faith efforts to reach the local hire, and Priority Apprentice goals set forth in Section 9 through the utilization of normal hiring hall and apprentice procedures and, when appropriate, the identification of potentially qualified apprentices through community-based organizations working in collaboration with the apprenticeship programs. The Unions are committed to working with the Contractor(s) and community-based organizations to achieve these goals. At least annually, the Unions and the City will conduct a Community Career Fair to provide at-risk youth, veterans, and others an opportunity to learn about each craft and the process for entering their apprenticeship programs.

9.7.1 To assess compliance with the local hire and Priority Apprentice goals of the CWTA, Contractor shall provide monthly workforce reports at the regular Joint Labor/Management meetings required by the CWTA. The workforce reports shall include information regarding the number of: (i) journey-level workers that are Local Area Residents; (ii) Apprentices that are Local Area Residents and satisfy the other Priority Apprentice criteria, including a breakdown of apprentices that reside within the targeted zip codes. The Contractor(s) and the Unions agree to furnish all information required to prepare these reports.

9.7.2 In the event that the workforce reports indicate that the local hire and apprenticeship goals of the CWTA are not being met, the Project Manager or his or her designee shall explore with the Contractors and subcontractors and the Unions additional actions and measures that may be taken to ensure compliance with such goals.

9.7.3 The Contractor(s) will describe the requirements, performance and enforcement mechanisms of this CWTA including this Apprenticeship Program in each subcontract. Any Contractor or subcontractor who fails to employ without just cause Apprentice(s) dispatched by an Apprenticeship Program thereby jeopardizing its opportunity to achieve the apprenticeship goals described above shall, upon receipt of written notice from the Project Manager or his or her designee, be given thirty (30) days to promptly employ such number of dispatched Apprentices as may be required to meet the stated apprentice goals available under that certain Subcontractor's subcontract. In the event of a second written notice of failure to employ without just cause dispatched Apprentices from the Unions to a Contractor or subcontractor, the Project Manager or his or her designee shall take such actions as it deems appropriate to the circumstances and necessary to achieve the purposes of the CWTA, bid documents, and the subcontractor's subcontract.

9.8 Student Internship Opportunities. All Contractors awarded Construction Contracts to perform Covered Work on the Project shall make a good faith effort to provide paid internship opportunities to eligible students. Such opportunities may include engineering, design, and/or construction management work associated with the implementation and administration of the Project.

9.9 Good Faith Efforts. A Contractor must take the following good faith steps to demonstrate that it has made every effort to reach the Local Hire, Priority Apprentice, and Student Internship goals of this Agreement. The Contractor shall attend scheduled Pre-Job meetings held under this Agreement and shall submit written workforce projections and projected work hours on a craft-by-craft basis.

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9.9.1 Within seven (7) calendar days after Notice to Proceed, the Contractor shall meet with the Unions and the City to present its plan for reaching the Local Hire, Priority Apprentice and Student Internship goals.

9.9.2 The Contractor or subcontractor shall notify the Project Manager by U.S. Mail or electronic mail if a Union hiring hall cannot, upon request by the Contractor or subcontractor, dispatch Local Area residents and/or Priority Apprentices to the Project. It shall be the responsibility of the Contractor to retain all evidence of such good faith efforts.

9.10 Enforcement, Compliance and Reporting.

9.10.1 Contractors will be required to submit Certified Weekly Payrolls to the City along with monthly workforce utilization reports, described in section 9.7.1 above, documenting the Contractor's compliance with the requirements described in this Article. At a minimum, the monthly reports must include: 1) data on Local Area residents, Priority Apprentice, and Student Internship work hour utilization on the Project; and 2) documentation showing any requests made to the Union dispatchers for Local Area residents and Priority Apprentices and the Union's response to the request.

9.10.2 The City staff shall monitor the operation of the Local Hire, Priority Apprentice and Student Internship programs and shall consider allegations of non-compliance with the goals stated in this Article. If there is a determination by the City that a Contractor has not complied with the goals or demonstrated good faith efforts to do so, the City and the Contractor shall meet and confer in order to identify necessary actions to resolve the issue and ensure a good faith effort to achieve the objectives of this Article.

ARTICLE X
HELMETS TO HARDHATS

10.1 The Contractor(s) and the Unions recognize a desire to facilitate the entry into the building and construction trades of veterans and members of the National Guard and Reserves who are interested in careers in the building and construction industry. The Contractor(s) and Unions agree to utilize the services of the Center for Military Recruitment, Assessment and Veterans Employment (hereinafter "Center), a joint Labor- Management Cooperation Trust Fund, established under the authority of Section 6(b) of the Labor-Management Cooperation Act of 1978, 29 U.S.C. Section 175(a), and Section 302(c)(9) of the Labor-Management Relations Act, 29 U.S.C. Section 186(c)(9), and a charitable tax exempt organization under Section 501(c)(3) of the Internal Revenue Code, and the Center's "Helmets to Hardhats" program to serve as a resource for preliminary orientation, assessment of construction aptitude, referral to apprenticeship programs or hiring halls, counseling and mentoring, support network, employment opportunities and other needs as identified by the parties.

10.2 The Unions and Contractor(s) agree to coordinate with the Center to participate in an integrated database of veterans and members of the National Guard and Reserves interested in working on the Project and of apprenticeship and employment opportunities for this Project. To the extent permitted by law, the Unions will give credit to such veterans for bona fide, provable past experience.

ARTICLE XI

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WAGES AND BENEFITS

11.1 All Contractor(s) agree to pay contributions to the established vacation, pension and other form of deferred compensation plan, apprenticeship, worker protection and assistance, and health benefit funds established by the applicable Master Agreement for each hour worked on the Project in the amounts designated in the Master Agreements of the appropriate Local Unions.

11.2 By signing this Agreement, the Contractor(s) adopts and agrees to be bound by the written terms of the legally established Trust Agreements, as described in Section 11.1, which may from time to time be amended, specifying the detailed basis on which payments are to be made into, and benefits paid out of, such Trust Funds. The Contractor(s) authorize the parties to such local trust agreements to appoint trustees and successor trustees to administer the trust funds and hereby ratify and accept the trustees so appointed as if made by the Contractor(s). The Contractor(s) agrees to execute a separate Subscription Agreement(s) for a Trust Fund(s) when required by such Trust Fund(s).

11.3 Wages, Hours, Terms and Conditions of Employment. The wages, hours and other terms and conditions of employment on the Project shall be governed by the Master Agreement of the respective crafts to the extent such Master Agreement is not inconsistent with this Agreement. All employees covered by this Agreement shall be classified and paid in accordance with the classification and wage scales contained in the appropriate local agreements which have been negotiated by the historically recognized bargaining entity and in compliance with the applicable general prevailing wage determination made by the Director of Industrial Relations pursuant to the California Labor Code.

11.4 During the period of construction on this Project, the Contractor(s) agrees to recognize and put into effect such increases in wages and recognized fringe benefits as shall be negotiated between the various Unions and the historically recognized local bargaining entity on the effective date as set forth in the applicable agreement. The Unions shall notify the Contractor(s) in writing of the specific increases in wages and recognized fringe benefits and the date on which they become effective.

11.5 Holidays. Holidays shall be in compliance with the applicable Schedule A agreement.

ARTICLE XII
COMPLIANCE

12.1 It shall be the responsibility of the Contractor(s) and Unions to investigate and monitor compliance with the provisions of the Agreement contained in Article XI. Nothing in this Agreement shall be construed to interfere with or supersede the usual and customary legal remedies available to the Unions and/or employee benefit Trust Funds to collect delinquent Trust Fund contributions from Employers on the Project. The City shall monitor and enforce the Contractor(s)' compliance with this Agreement and with the prevailing wage requirements of the State to the extent required by law.

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ARTICLE XIII
EMPLOYEE GRIEVANCE PROCEDURE

13.1 All disputes involving discipline and/or discharge of employees working on the Project shall be resolved through the grievance and arbitration provision contained in the Master Agreement for the craft of the affected employee. No employee working on the Project shall be disciplined or dismissed without just cause.

ARTICLE XIV
GENERAL GRIEVANCE PROCEDURE

14.1 Project Labor Disputes. All disputes involving the application or interpretation of the Master Agreement to which a signatory Contractor and a signatory Union are parties shall be resolved pursuant to the resolution procedures of that Master Agreement. All disputes relating to the interpretation or application of this Agreement, excluding work stoppages, strikes, sympathy strikes, and lockouts subject to Article IV, shall be subject to resolution by the grievance arbitration procedures set forth in this Article XIV.

14.2 No grievance shall be recognized unless the grieving party (Local Union or District Council on its own behalf, or on behalf of an employee whom it represents, or a Contractor on its own behalf) provides notice in writing to the party with whom it has a dispute within five (5) business days after becoming aware of the dispute but in no event more than thirty (30) business days after it reasonably should have become aware of the event giving rise to the dispute. Time limits may be extended by mutual written agreement of the parties.

Step 1: Within five (5) business days after the receipt of the written notice of the grievance, the Business Representative of the involved Local Union or District Council, or his/her designee, or the representative of the employee, and the representative of the involved Contractor shall confer and attempt to resolve the grievance.

Step 2: In the event that the representatives are unable to resolve the dispute within the five (5) business days of the Step 1 meeting, within five (5) business days thereafter, the alleged grievance may be referred in writing by either involved party to the Business Manager(s) of the affected Union(s) involved and the Manager of Labor Relations of the Contractor(s) or the Manager's designated representative, for discussion and resolution. Regardless of which party has initiated the grievance proceeding, prior to a Step 2 meeting, the Union(s) shall notify its International Union representative(s), which shall advise both parties if it intends on participating in a Step 2 meeting. The Project Manager and the Trades Council shall have the right to participate in any efforts to resolve the dispute at Step 2.

Step 3: If the grievance is not settled in Step 2 within five (5) business days, within five (5) business days thereafter, either party may request the dispute be submitted to an Arbitrator for final and binding arbitration. The request for arbitration must be in writing with a copy to the Project Manager. Should the parties be unable to mutually agree on the selection of an Arbitrator, selection for that given arbitration shall be made by seeking a list of seven (7) labor arbitrators with construction experience from the Federal Mediation and Conciliation Service and alternately striking names from the list of names on the list until the parties agree on an Arbitrator or until one name remains. The first party to strike a name from the list shall alternate between the party bringing forth the grievance and the party defending the grievance. The Project Manager shall keep a record of the sequence and shall notify the

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parties to the grievance as to which party has the right to strike a name first. The decision of the Arbitrator shall be final and binding on all parties. The Arbitrator shall have no authority to change, amend, add to, or detract from any of the provisions of the Agreement. The expense of the Arbitrator shall be borne equally by both parties. The Arbitrator shall arrange for a hearing on the earliest available date from the date of his/her selection. A decision shall be given to the parties within five (5) calendar days after completion of the hearing unless such time is extended by mutual agreement. A written opinion may be requested by a party from the presiding arbitrator.

The time limits specified in any step of the Grievance Procedure set forth in Section 14.2 may be extended by mutual agreement of the parties. However, failure to process a grievance, or failure to respond in writing within the time limits provided above, without an agreed upon extension of time, shall be deemed a waiver of such grievance without prejudice, or without precedent to the processing of and/or resolution of like or similar grievances or disputes.

In order to encourage the resolution of disputes and grievances at Steps 1 and 2 of this Grievance Procedure, the parties agree that such settlements shall not be precedent setting.

14.3 Retention. At the time a grievance is submitted under this Agreement or any Master Agreement, the Union(s) may request that the City withhold and retain an amount from what is due and owing to the Contractor(s) against whom the grievance is filed sufficient to cover the damages alleged in the grievance should the Union(s) prevail. The amount shall be retained by the City until such time as the underlying grievance giving rise to the retention is withdrawn, settled, or otherwise resolved, and the retained amount shall be paid to whomever the parties to the grievance shall decide, or to whomever an Arbitrator shall so order.

ARTICLE XV
WORK ASSIGNMENTS AND JURISDICTIONAL DISPUTES

15.1 The assignment of Covered Work will be solely the responsibility of the Contractor(s) performing the work involved; and such work assignments will be in accordance with the Plan for the Settlement of the Jurisdictional Disputes in the Construction Industry (the "Plan") or any successor Plan.

15.2 All jurisdictional disputes on this Project between or among the building and construction trades Unions and the Contractor(s) subject to this Agreement, shall be settled and adjusted according to the present Plan established by the Building and Construction Trades Department or any other plan or method of procedure that may be adopted in the future by the Building and Construction Trades Department. Decisions rendered shall be final, binding, and conclusive on the Employers and Contractor(s) subject to this Agreement.

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15.3 If a dispute arising under this Article involves the Northern California Carpenters Regional Council or any of its subordinate bodies, an Arbitrator shall be chosen by the procedures specified in Article V, Section 5, of the Plan from a list composed of John Kagel, Thomas Angelo, Robert Hirsch, and Thomas Pagan, and the Arbitrator's hearing on the dispute shall be held at the offices of the California State Building and Construction Trades Council in Sacramento, California within fourteen (14) days of the selection of the Arbitrator. All other procedures shall be as specified in the Plan.

15.4 All jurisdictional disputes shall be resolved without the occurrence of any strike, work stoppage, or slow-down of any nature and the Contractor(s)' assignment shall be adhered to until the dispute is resolved. Individual employees violating this section shall be subject to immediate discharge. Each Contractor will conduct a pre-job conference with the Unions in accordance with Section 5.2 of this Agreement.

ARTICLE XVI
MANAGEMENT RIGHTS

16.1 The City and Contractor(s) shall retain full and exclusive authority for the management of their operations, including the right to direct their workforce in their sole discretion. Except as provided by Section 2.2.3 and by the lawful manning provisions in the applicable Master Agreement, no rules, customs, or practices shall be permitted or observed which limit or restrict production, or limit or restrict the working efforts of employees.

ARTICLE XVII
DRUG & ALCOHOL TESTING

17.1 The use, sale, transfer, purchase and/or possession of a controlled substance, alcohol and/or firearms at any time during the work day is prohibited.

17.2 The parties agree to recognize and use the Substance Abuse Program contained in each applicable Local Union's Master Agreement, except as it may conflict with the City's Drug-Free Workplace Policy. In the event of a conflict, the City's policy shall prevail.

ARTICLE XVIII
SAVINGS CLAUSE

18.1 The parties agree that in the event any article, provision, clause, sentence, or word of the Agreement is determined to be illegal or void as being in contravention of any applicable law, by a court of competent jurisdiction, the remainder of the Agreement shall remain in full force and effect. The parties further agree that if any article, provision, clause, sentence or word of the Agreement is determined to be illegal or void by a court of competent jurisdiction, the parties shall substitute, by mutual agreement, in its place and stead, an article, provision, clause, sentence or word which will meet the objections to its validity and which will be in accordance with the intent and purpose of the article, provision, clause, sentence or word in question.

18.2 If a court of competent jurisdiction determines that all or part of the Agreement is invalid and/or enjoins the City from complying with all or part of its provisions and the City accordingly determines that the Agreement will not be required as part of an award to a Contractor(s), the Unions will no longer be bound by the provisions of Article IV.

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18.3 The parties agree that should any Project subject to this Agreement receive a non-de minimis allocation of federal funds for construction of the Project, and such federal funding allocation, whether or not allocated through the state, includes a condition to receipt of the federal funds that prohibits the City from applying any local hiring preference in any contracts for construction of the Project, or that prohibits application of any other provision or provisions of this Agreement, the local resident hiring provisions contained in Article IX , or any other provision or provisions of this Agreement prohibited by such condition to receipt of federal funds for Project construction, shall not be applied to the Project, but all other terms and conditions of this Agreement shall remain in full force and effect.

ARTICLE XIX
AMENDMENT/COUNTERPARTS/AUTHORITY

19.1 Any substantive modification of any provision or addendum to this Agreement must be reduced to writing and signed by the City, Trades Council and Unions to be effective.

19.2 This Agreement may be executed in counterparts, such that original signatures may appear on separate pages, and when bound together all necessary signatures shall constitute an original. Facsimile or scanned signature pages transmitted to other parties to this Agreement shall be deemed equivalent to original signatures.

19.3 Each of the persons signing this Agreement represents and warrants that such person has been duly authorized to sign this Agreement on behalf of the party indicated and each of the parties by signing this Agreement warrants and represents that such party is legally authorized and entitled to enter into this Agreement.

ARTICLE XX
TERM

20.1 This Agreement shall remain in full force and effect for a period of five (5) years from the date it becomes effective. Prior to the expiration of this Agreement, the City and the Trades Council agree to meet and confer regarding the status of and experience with Projects covered by the Agreement. The parties may agree to extend the term of this Agreement, or enter into a new agreement incorporating any substantive changes based on the status of and experience with Projects covered by the Agreement.

IN WITNESS WHEREOF, the Parties have caused this Agreement to be executed and effective as of _____, 2023.

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CITY OF SACRAMENTO

Date: Nov 17, 2023

Name:
Ryan Moore

Title: Assistant City Manager

Approved as to form:

Date: Nov 17, 2023

City Attorney
Jennifer Gore

Attested to by:

Kamille Southward (Jan 30, 2024 13:22 PST)

Date: Jan 30, 2024

City Clerk

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SACRAMENTO-SIERRA BUILDING AND CONSTRUCTION TRADES COUNCIL, AFL-CIO COUNCIL

Name: Kevin Ferreira Date: 11/08/2023

Executive Director
Title:

Name: Date: 11/8/2023

PRESIDENT SSBCTC
Title:

Name: Date: 11-8-2023

VICE-PRESIDENT SSBCTC
Title:

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UNIONS

Asbestos Workers Local #16

Iron Workers Local #118

Bricklayers Local #3

Laborers Local #185

Boilermakers Local #549

Operating Engineers Local #3

Cement Masons Local #400

Plasterers & Cement Masons Local #300

Northern California Carpenters Regional Council on behalf of itself and its affiliated Local Unions

UA of Journeymen & Apprentices of the Plumbing & Pipe Fitting Ind. Local #355

District Council #16 International Union of Painters & Allied Trades

Plumbers & Pipefitters Local #447

Elevator Constructors Local #8

Roofers Local #81

International Brotherhood of Electricians Local #340

Sheet Metal Workers Local #104

Sprinkler Fitters Local #669

Teamsters Local #150

Asbestos, Lead and Mold Laborers Local #67

UNIONS

Asbestos Workers Local #16

Bricklayers Local #3

Boilermakers Local #549

Cement Masons Local #400

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Elevator Constructors Local #8

International Brotherhood of Electricians Local #340

Sprinkler Fitters Local #669

Asbestos, Lead and Mold Laborers Local #67

Iron Workers Local #118

Laborers Local #185

Operating Engineers Local #3

Plasterers & Cement Masons Local #300

UA of Journeymen & Apprentices of the Plumbing & Pipe Fitting Ind. Local #355

Plumbers & Pipefitters Local #447

Roofers Local #81

Sheet Metal Workers Local #104

Teamsters Local #150

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Iron Workers Local #118

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International Brotherhood of Electricians Local #340

Sheet Metal Workers Local #104

Sprinkler Fitters Local #669

Teamsters Local #150

Asbestos, Lead and Mold Laborers Local #67

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Plumbers & Pipefitters Local #447

Elevator Constructors Local #8

Roofers Local #81

International Brotherhood of Electricians Local #340

Sheet Metal Workers Local #104

On Behalf of BM Robb or Copper

Sprinkler Fitters Local #669

Teamsters Local #150

Asbestos, Lead and Mold Laborers Local #67

UNIONS

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Iron Workers Local #118

Bricklayers Local #3

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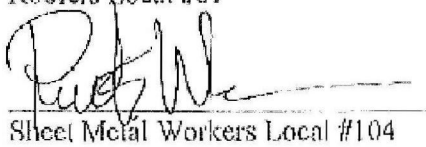
Plasterers & Cement Masons Local #300

UA of Journeymen & Apprentices of the Plumbing & Pipe Fitting Ind. Local #355

Plumbers & Pipefitters Local #447

Roofers Local #81



Sheet Metal Workers Local #104

Teamsters Local #150

UNIONS

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Asbestos, Lead and Mold Laborers Local #67

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Addendum A

COMMUNITY WORKFORCE AND TRAINING AGREEMENT
CITY OF SACRAMENTO

AGREEMENT TO BE BOUND

The undersigned, as a Contractor or Subcontractor, including construction material trucking company/entity, (CONTRACTOR) on the City of Sacramento Project, (hereinafter PROJECT), for and in consideration of the award to it of a contract to perform work on said PROJECT, and in further consideration of the mutual promises made in this Community Workforce and Training Agreement (hereinafter AGREEMENT), a copy of which was received and is acknowledged, hereby:

(1) Accepts and agrees to be bound by the terms and conditions of the AGREEMENT for this Project, together with any and all amendments and supplements now existing or which are later made thereto.

(2) The CONTRACTOR agrees to be bound by the legally established local trust agreements designated in the applicable Master Agreement as described in Article XI of this AGREEMENT.

(3) The CONTRACTOR authorizes the parties to such local trust agreements to appoint trustees and successor trustees to administer the trust funds and hereby ratifies and accepts the trustees so appointed as if made by the CONTRACTOR.

(4) Certifies that it has no commitments or agreements which would preclude its full and complete compliance with the terms and conditions of said AGREEMENT.

(5) Agrees to secure from any CONTRACTOR(S) (as defined in said AGREEMENT) which is or becomes a subcontractor (of any tier) to it, a duly executed Agreement to be Bound in form identical to this document.

(6) This Agreement to be Bound constitutes a subscription agreement to the extent of its terms. However, the undersigned agrees to execute a separate Subscription Agreement(s) or contributing employer agreement for Trust Funds when such Trust Fund(s) requires such document(s).

Date: 1/7/2026

Insituform Technologies, LLC
Name of Contractor

Whittney Schulte
(Name of Contractor Representative)

Whittney Schulte, Contracting & Attesting Officer
(Authorized Officer & Title)

758411
CSLB # or Motor Carrier Permit

PROPOSED TRADE ASSIGNMENTS

NAME OF CONTRACTOR: _____

The following jurisdictional trade assignments are proposed and any Union in disagreement with any of these assignments may follow the EchoWater Community Workforce Agreement procedures.

If any trade assignment is contested by any Local Union signatory to the CWA, the Contractor or Sub-Contractor will review all submitted supporting documentation regarding the proposed trade assignment by competing Local Unions and submit to the Administrator and the Local Unions a 'Final Trade Assignment' letter prior to commencing work.

Asbestos Workers: _____

_____

_____

Boilermakers: _____

_____

_____

Bricklayers: _____

_____

_____

Carpenters:

Cement Masons:

Electrical Workers (Inside Wiremen):

Electrical Workers (Outside Line):

Elevator Constructors:

Glaziers:

Insulators:

Iron Workers (Structural):

Iron Workers (Rebar):

Laborers:

Millwrights:

Operating Engineers:

Painters:

Pile Drivers:

Plumbers/Pipefitters:

Plasterers:

Roofers:

Sheet Metal Workers:

Teamsters:

In the space below, please describe any work that you believe not to be covered by the Community Workforce Agreement.

UTILIZATION OF EQUIPMENT

NAME OF CONTRACTOR: _____

List of equipment and the proposed assignment of craft for full-time use or operation of each piece: (If additional space is needed, copy this page and attach it to the document)

EQUIPMENT:	**CRAFT:**
1. _____	_____
2. _____	_____
3. _____	_____
4. _____	_____
5. _____	_____
6. _____	_____
7. _____	_____
8. _____	_____
9. _____	_____
10. _____	_____

TOOLS-OF-THE-TRADE: (Part-time use – no listing of craft is necessary)

EQUIPMENT:	**EQUIPMENT:**
1. _____	4. _____
2. _____	5. _____
3. _____	6. _____

SUB-CONTRACTORS

The following is a list of Sub-Contractors that will be used by the Contractor submitting this Proposed Trade Assignment document. Each Sub-Contractor listed must also submit a completed Proposed Trade Assignment document and go through a Proposed Trade Assignment Pre-Job Conference prior to commencing work.

A copy of a signed Agreement To Be Bound (Attachment A) specific to this contract from each Sub-contractor identified below is to be attached to the end of this document. If additional space is needed, copy this page and attach it to the document.

Name of Sub-Contractor:	**Summary of Scope of Work:**
1. _____	_____
2._____	_____
3._____	_____
4._____	_____
5._____	_____
6._____	_____
7._____	_____
8._____	_____
9._____	_____
10._____	_____

Form **W-9**
(Rev. March 2024)
Department of the Treasury
Internal Revenue Service

Request for Taxpayer Identification Number and Certification

Go to *www.irs.gov/FormW9* for instructions and the latest information.

Give form to the requester. Do not send to the IRS.

Before you begin. For guidance related to the purpose of Form W-9, see *Purpose of Form*, below.

Print or type. See ***Specific Instructions*** on page 3.

1 Name of entity/individual. An entry is required. (For a sole proprietor or disregarded entity, enter the owner's name on line 1, and enter the business/disregarded entity's name on line 2.)

Azuria Water Solutions

2 Business name/disregarded entity name, if different from above.

Insituform Technologies, LLC (EIN: 13-3032158)

3a Check the appropriate box for federal tax classification of the entity/individual whose name is entered on line 1. Check only **one** of the following seven boxes.

☐ Individual/sole proprietor ☑ C corporation ☐ S corporation ☐ Partnership ☐ Trust/estate

☐ LLC. Enter the tax classification (C = C corporation, S = S corporation, P = Partnership) . . . . .

Note: Check the "LLC" box above and, in the entry space, enter the appropriate code (C, S, or P) for the tax classification of the LLC, unless it is a disregarded entity. A disregarded entity should instead check the appropriate box for the tax classification of its owner.

☐ Other (see instructions)

3b If on line 3a you checked "Partnership" or "Trust/estate," or checked "LLC" and entered "P" as its tax classification, and you are providing this form to a partnership, trust, or estate in which you have an ownership interest, check this box if you have any foreign partners, owners, or beneficiaries. See instructions . . . . . ☐

4 Exemptions (codes apply only to certain entities, not individuals; see instructions on page 3):

Exempt payee code (if any)

Exemption from Foreign Account Tax Compliance Act (FATCA) reporting code (if any)

(Applies to accounts maintained outside the United States.)

5 Address (number, street, and apt. or suite no.). See instructions.

580 Goddard Avenue

6 City, state, and ZIP code

Chesterfield, MO 63005

Requester's name and address (optional)

7 List account number(s) here (optional)

Part I Taxpayer Identification Number (TIN)

Enter your TIN in the appropriate box. The TIN provided must match the name given on line 1 to avoid backup withholding. For individuals, this is generally your social security number (SSN). However, for a resident alien, sole proprietor, or disregarded entity, see the instructions for Part I, later. For other entities, it is your employer identification number (EIN). If you do not have a number, see *How to get a TIN*, later.

Note: If the account is in more than one name, see the instructions for line 1. See also *What Name and Number To Give the Requester* for guidelines on whose number to enter.

Social security number

			–		–				

or

Employer identification number

4	5	–	3	1	1	7	9	0	0

Part II Certification

Under penalties of perjury, I certify that:

1. The number shown on this form is my correct taxpayer identification number (or I am waiting for a number to be issued to me); and
2. I am not subject to backup withholding because (a) I am exempt from backup withholding, or (b) I have not been notified by the Internal Revenue Service (IRS) that I am subject to backup withholding as a result of a failure to report all interest or dividends, or (c) the IRS has notified me that I am no longer subject to backup withholding; and
3. I am a U.S. citizen or other U.S. person (defined below); and
4. The FATCA code(s) entered on this form (if any) indicating that I am exempt from FATCA reporting is correct.

Certification instructions. You must cross out item 2 above if you have been notified by the IRS that you are currently subject to backup withholding because you have failed to report all interest and dividends on your tax return. For real estate transactions, item 2 does not apply. For mortgage interest paid, acquisition or abandonment of secured property, cancellation of debt, contributions to an individual retirement arrangement (IRA), and, generally, payments other than interest and dividends, you are not required to sign the certification, but you must provide your correct TIN. See the instructions for Part II, later.

Sign Here **Signature of U.S. person** Whittney Schulte **Date** June 3, 2025

General Instructions

Section references are to the Internal Revenue Code unless otherwise noted.

Future developments. For the latest information about developments related to Form W-9 and its instructions, such as legislation enacted after they were published, go to *www.irs.gov/FormW9*.

What's New

Line 3a has been modified to clarify how a disregarded entity completes this line. An LLC that is a disregarded entity should check the appropriate box for the tax classification of its owner. Otherwise, it should check the "LLC" box and enter its appropriate tax classification.

New line 3b has been added to this form. A flow-through entity is required to complete this line to indicate that it has direct or indirect foreign partners, owners, or beneficiaries when it provides the Form W-9 to another flow-through entity in which it has an ownership interest. This change is intended to provide a flow-through entity with information regarding the status of its indirect foreign partners, owners, or beneficiaries, so that it can satisfy any applicable reporting requirements. For example, a partnership that has any indirect foreign partners may be required to complete Schedules K-2 and K-3. See the Partnership Instructions for Schedules K-2 and K-3 (Form 1065).

Purpose of Form

An individual or entity (Form W-9 requester) who is required to file an information return with the IRS is giving you this form because they

must obtain your correct taxpayer identification number (TIN), which may be your social security number (SSN), individual taxpayer identification number (ITIN), adoption taxpayer identification number (ATIN), or employer identification number (EIN), to report on an information return the amount paid to you, or other amount reportable on an information return. Examples of information returns include, but are not limited to, the following.

- Form 1099-INT (interest earned or paid).
- Form 1099-DIV (dividends, including those from stocks or mutual funds).
- Form 1099-MISC (various types of income, prizes, awards, or gross proceeds).
- Form 1099-NEC (nonemployee compensation).
- Form 1099-B (stock or mutual fund sales and certain other transactions by brokers).
- Form 1099-S (proceeds from real estate transactions).
- Form 1099-K (merchant card and third-party network transactions).
- Form 1098 (home mortgage interest), 1098-E (student loan interest), and 1098-T (tuition).
- Form 1099-C (canceled debt).
- Form 1099-A (acquisition or abandonment of secured property).

Use Form W-9 only if you are a U.S. person (including a resident alien), to provide your correct TIN.

Caution: If you don't return Form W-9 to the requester with a TIN, you might be subject to backup withholding. See *What is backup withholding*, later.

By signing the filled-out form, you:

1. Certify that the TIN you are giving is correct (or you are waiting for a number to be issued);

2. Certify that you are not subject to backup withholding; or

3. Claim exemption from backup withholding if you are a U.S. exempt payee; and

4. Certify to your non-foreign status for purposes of withholding under chapter 3 or 4 of the Code (if applicable); and

5. Certify that FATCA code(s) entered on this form (if any) indicating that you are exempt from the FATCA reporting is correct. See *What Is FATCA Reporting*, later, for further information.

Note: If you are a U.S. person and a requester gives you a form other than Form W-9 to request your TIN, you must use the requester's form if it is substantially similar to this Form W-9.

Definition of a U.S. person. For federal tax purposes, you are considered a U.S. person if you are:

- An individual who is a U.S. citizen or U.S. resident alien;
- A partnership, corporation, company, or association created or organized in the United States or under the laws of the United States;
- An estate (other than a foreign estate); or
- A domestic trust (as defined in Regulations section 301.7701-7).

Establishing U.S. status for purposes of chapter 3 and chapter 4 withholding. Payments made to foreign persons, including certain distributions, allocations of income, or transfers of sales proceeds, may be subject to withholding under chapter 3 or chapter 4 of the Code (sections 1441–1474). Under those rules, if a Form W-9 or other certification of non-foreign status has not been received, a withholding agent, transferee, or partnership (payor) generally applies presumption rules that may require the payor to withhold applicable tax from the recipient, owner, transferor, or partner (payee). See Pub. 515, Withholding of Tax on Nonresident Aliens and Foreign Entities.

The following persons must provide Form W-9 to the payor for purposes of establishing its non-foreign status.

- In the case of a disregarded entity with a U.S. owner, the U.S. owner of the disregarded entity and not the disregarded entity.
- In the case of a grantor trust with a U.S. grantor or other U.S. owner, generally, the U.S. grantor or other U.S. owner of the grantor trust and not the grantor trust.
- In the case of a U.S. trust (other than a grantor trust), the U.S. trust and not the beneficiaries of the trust.

See Pub. 515 for more information on providing a Form W-9 or a certification of non-foreign status to avoid withholding.

Foreign person. If you are a foreign person or the U.S. branch of a foreign bank that has elected to be treated as a U.S. person (under Regulations section 1.1441-1(b)(2)(iv) or other applicable section for chapter 3 or 4 purposes), do not use Form W-9. Instead, use the appropriate Form W-8 or Form 8233 (see Pub. 515). If you are a qualified foreign pension fund under Regulations section 1.897(l)-1(d), or a partnership that is wholly owned by qualified foreign pension funds, that is treated as a non-foreign person for purposes of section 1445 withholding, do not use Form W-9. Instead, use Form W-8EXP (or other certification of non-foreign status).

Nonresident alien who becomes a resident alien. Generally, only a nonresident alien individual may use the terms of a tax treaty to reduce or eliminate U.S. tax on certain types of income. However, most tax treaties contain a provision known as a saving clause. Exceptions specified in the saving clause may permit an exemption from tax to continue for certain types of income even after the payee has otherwise become a U.S. resident alien for tax purposes.

If you are a U.S. resident alien who is relying on an exception contained in the saving clause of a tax treaty to claim an exemption from U.S. tax on certain types of income, you must attach a statement to Form W-9 that specifies the following five items.

1. The treaty country. Generally, this must be the same treaty under which you claimed exemption from tax as a nonresident alien.

2. The treaty article addressing the income.

3. The article number (or location) in the tax treaty that contains the saving clause and its exceptions.

4. The type and amount of income that qualifies for the exemption from tax.

5. Sufficient facts to justify the exemption from tax under the terms of the treaty article.

Example. Article 20 of the U.S.-China income tax treaty allows an exemption from tax for scholarship income received by a Chinese student temporarily present in the United States. Under U.S. law, this student will become a resident alien for tax purposes if their stay in the United States exceeds 5 calendar years. However, paragraph 2 of the first Protocol to the U.S.-China treaty (dated April 30, 1984) allows the provisions of Article 20 to continue to apply even after the Chinese student becomes a resident alien of the United States. A Chinese student who qualifies for this exception (under paragraph 2 of the first Protocol) and is relying on this exception to claim an exemption from tax on their scholarship or fellowship income would attach to Form W-9 a statement that includes the information described above to support that exemption.

If you are a nonresident alien or a foreign entity, give the requester the appropriate completed Form W-8 or Form 8233.

Backup Withholding

What is backup withholding? Persons making certain payments to you must under certain conditions withhold and pay to the IRS 24% of such payments. This is called "backup withholding." Payments that may be subject to backup withholding include, but are not limited to, interest, tax-exempt interest, dividends, broker and barter exchange transactions, rents, royalties, nonemployee pay, payments made in settlement of payment card and third-party network transactions, and certain payments from fishing boat operators. Real estate transactions are not subject to backup withholding.

You will not be subject to backup withholding on payments you receive if you give the requester your correct TIN, make the proper certifications, and report all your taxable interest and dividends on your tax return.

Payments you receive will be subject to backup withholding if:

1. You do not furnish your TIN to the requester;

2. You do not certify your TIN when required (see the instructions for Part II for details);

3. The IRS tells the requester that you furnished an incorrect TIN;

4. The IRS tells you that you are subject to backup withholding because you did not report all your interest and dividends on your tax return (for reportable interest and dividends only); or

5. You do not certify to the requester that you are not subject to backup withholding, as described in item 4 under "*By signing the filled-out form*" above (for reportable interest and dividend accounts opened after 1983 only).

Certain payees and payments are exempt from backup withholding. See *Exempt payee code*, later, and the separate Instructions for the Requester of Form W-9 for more information.

See also *Establishing U.S. status for purposes of chapter 3 and chapter 4 withholding*, earlier.

What Is FATCA Reporting?

The Foreign Account Tax Compliance Act (FATCA) requires a participating foreign financial institution to report all U.S. account holders that are specified U.S. persons. Certain payees are exempt from FATCA reporting. See *Exemption from FATCA reporting code*, later, and the Instructions for the Requester of Form W-9 for more information.

Updating Your Information

You must provide updated information to any person to whom you claimed to be an exempt payee if you are no longer an exempt payee and anticipate receiving reportable payments in the future from this person. For example, you may need to provide updated information if you are a C corporation that elects to be an S corporation, or if you are no longer tax exempt. In addition, you must furnish a new Form W-9 if the name or TIN changes for the account, for example, if the grantor of a grantor trust dies.

Penalties

Failure to furnish TIN. If you fail to furnish your correct TIN to a requester, you are subject to a penalty of $50 for each such failure unless your failure is due to reasonable cause and not to willful neglect.

Civil penalty for false information with respect to withholding. If you make a false statement with no reasonable basis that results in no backup withholding, you are subject to a $500 penalty.

Criminal penalty for falsifying information. Willfully falsifying certifications or affirmations may subject you to criminal penalties including fines and/or imprisonment.

Misuse of TINs. If the requester discloses or uses TINs in violation of federal law, the requester may be subject to civil and criminal penalties.

Specific Instructions

Line 1

You must enter one of the following on this line; **do not** leave this line blank. The name should match the name on your tax return.

If this Form W-9 is for a joint account (other than an account maintained by a foreign financial institution (FFI)), list first, and then circle, the name of the person or entity whose number you entered in Part I of Form W-9. If you are providing Form W-9 to an FFI to document a joint account, each holder of the account that is a U.S. person must provide a Form W-9.

• **Individual.** Generally, enter the name shown on your tax return. If you have changed your last name without informing the Social Security Administration (SSA) of the name change, enter your first name, the last name as shown on your social security card, and your new last name.

Note for ITIN applicant: Enter your individual name as it was entered on your Form W-7 application, line 1a. This should also be the same as the name you entered on the Form 1040 you filed with your application.

• **Sole proprietor.** Enter your individual name as shown on your Form 1040 on line 1. Enter your business, trade, or "doing business as" (DBA) name on line 2.

• **Partnership, C corporation, S corporation, or LLC, other than a disregarded entity.** Enter the entity's name as shown on the entity's tax return on line 1 and any business, trade, or DBA name on line 2.

• **Other entities.** Enter your name as shown on required U.S. federal tax documents on line 1. This name should match the name shown on the charter or other legal document creating the entity. Enter any business, trade, or DBA name on line 2.

• **Disregarded entity.** In general, a business entity that has a single owner, including an LLC, and is not a corporation, is disregarded as an entity separate from its owner (a disregarded entity). See Regulations section 301.7701-2(c)(2). A disregarded entity should check the appropriate box for the tax classification of its owner. Enter the owner's name on line 1. The name of the owner entered on line 1 should never be a disregarded entity. The name on line 1 should be the name shown on the income tax return on which the income should be reported. For example, if a foreign LLC that is treated as a disregarded entity for U.S. federal tax purposes has a single owner that is a U.S. person, the U.S. owner's name is required to be provided on line 1. If the direct owner of the entity is also a disregarded entity, enter the first owner that is not disregarded for federal tax purposes. Enter the disregarded entity's name on line 2. If the owner of the disregarded entity is a foreign person, the owner must complete an appropriate Form W-8 instead of a Form W-9. This is the case even if the foreign person has a U.S. TIN.

Line 2

If you have a business name, trade name, DBA name, or disregarded entity name, enter it on line 2.

Line 3a

Check the appropriate box on line 3a for the U.S. federal tax classification of the person whose name is entered on line 1. Check only one box on line 3a.

IF the entity/individual on line 1 is a(n) . . .	THEN check the box for . . .
• Corporation	Corporation.
• Individual or • Sole proprietorship	Individual/sole proprietor.
• LLC classified as a partnership for U.S. federal tax purposes or • LLC that has filed Form 8832 or 2553 electing to be taxed as a corporation	Limited liability company and enter the appropriate tax classification: P = Partnership, C = C corporation, or S = S corporation.
• Partnership	Partnership.
• Trust/estate	Trust/estate.

Line 3b

Check this box if you are a partnership (including an LLC classified as a partnership for U.S. federal tax purposes), trust, or estate that has any foreign partners, owners, or beneficiaries, and you are providing this form to a partnership, trust, or estate, in which you have an ownership interest. You must check the box on line 3b if you receive a Form W-8 (or documentary evidence) from any partner, owner, or beneficiary establishing foreign status or if you receive a Form W-9 from any partner, owner, or beneficiary that has checked the box on line 3b.

Note: A partnership that provides a Form W-9 and checks box 3b may be required to complete Schedules K-2 and K-3 (Form 1065). For more information, see the Partnership Instructions for Schedules K-2 and K-3 (Form 1065).

If you are required to complete line 3b but fail to do so, you may not receive the information necessary to file a correct information return with the IRS or furnish a correct payee statement to your partners or beneficiaries. See, for example, sections 6698, 6722, and 6724 for penalties that may apply.

Line 4 Exemptions

If you are exempt from backup withholding and/or FATCA reporting, enter in the appropriate space on line 4 any code(s) that may apply to you.

Exempt payee code.

• Generally, individuals (including sole proprietors) are not exempt from backup withholding.

• Except as provided below, corporations are exempt from backup withholding for certain payments, including interest and dividends.

• Corporations are not exempt from backup withholding for payments made in settlement of payment card or third-party network transactions.

• Corporations are not exempt from backup withholding with respect to attorneys' fees or gross proceeds paid to attorneys, and corporations that provide medical or health care services are not exempt with respect to payments reportable on Form 1099-MISC.

The following codes identify payees that are exempt from backup withholding. Enter the appropriate code in the space on line 4.

1—An organization exempt from tax under section 501(a), any IRA, or a custodial account under section 403(b)(7) if the account satisfies the requirements of section 401(f)(2).

2—The United States or any of its agencies or instrumentalities.

3—A state, the District of Columbia, a U.S. commonwealth or territory, or any of their political subdivisions or instrumentalities.

4—A foreign government or any of its political subdivisions, agencies, or instrumentalities.

5—A corporation.

6—A dealer in securities or commodities required to register in the United States, the District of Columbia, or a U.S. commonwealth or territory.

7—A futures commission merchant registered with the Commodity Futures Trading Commission.

8—A real estate investment trust.

9—An entity registered at all times during the tax year under the Investment Company Act of 1940.

10—A common trust fund operated by a bank under section 584(a).

11—A financial institution as defined under section 581.

12—A middleman known in the investment community as a nominee or custodian.

13—A trust exempt from tax under section 664 or described in section 4947.

The following chart shows types of payments that may be exempt from backup withholding. The chart applies to the exempt payees listed above, 1 through 13.

IF the payment is for . . .	THEN the payment is exempt for . . .
• Interest and dividend payments	All exempt payees except for 7.
• Broker transactions	Exempt payees 1 through 4 and 6 through 11 and all C corporations. S corporations must not enter an exempt payee code because they are exempt only for sales of noncovered securities acquired prior to 2012.
• Barter exchange transactions and patronage dividends	Exempt payees 1 through 4.
• Payments over $600 required to be reported and direct sales over $5,000[1]	Generally, exempt payees 1 through 5.[2]
• Payments made in settlement of payment card or third-party network transactions	Exempt payees 1 through 4.

[1] See Form 1099-MISC, Miscellaneous Information, and its instructions.

[2] However, the following payments made to a corporation and reportable on Form 1099-MISC are not exempt from backup withholding: medical and health care payments, attorneys' fees, gross proceeds paid to an attorney reportable under section 6045(f), and payments for services paid by a federal executive agency.

Exemption from FATCA reporting code. The following codes identify payees that are exempt from reporting under FATCA. These codes apply to persons submitting this form for accounts maintained outside of the United States by certain foreign financial institutions. Therefore, if you are only submitting this form for an account you hold in the United States, you may leave this field blank. Consult with the person requesting this form if you are uncertain if the financial institution is subject to these requirements. A requester may indicate that a code is not required by providing you with a Form W-9 with "Not Applicable" (or any similar indication) entered on the line for a FATCA exemption code.

A—An organization exempt from tax under section 501(a) or any individual retirement plan as defined in section 7701(a)(37).

B—The United States or any of its agencies or instrumentalities.

C—A state, the District of Columbia, a U.S. commonwealth or territory, or any of their political subdivisions or instrumentalities.

D—A corporation the stock of which is regularly traded on one or more established securities markets, as described in Regulations section 1.1472-1(c)(1)(i).

E—A corporation that is a member of the same expanded affiliated group as a corporation described in Regulations section 1.1472-1(c)(1)(i).

F—A dealer in securities, commodities, or derivative financial instruments (including notional principal contracts, futures, forwards, and options) that is registered as such under the laws of the United States or any state.

G—A real estate investment trust.

H—A regulated investment company as defined in section 851 or an entity registered at all times during the tax year under the Investment Company Act of 1940.

I—A common trust fund as defined in section 584(a).

J—A bank as defined in section 581.

K—A broker.

L—A trust exempt from tax under section 664 or described in section 4947(a)(1).

M—A tax-exempt trust under a section 403(b) plan or section 457(g) plan.

Note: You may wish to consult with the financial institution requesting this form to determine whether the FATCA code and/or exempt payee code should be completed.

Line 5

Enter your address (number, street, and apartment or suite number). This is where the requester of this Form W-9 will mail your information returns. If this address differs from the one the requester already has on file, enter "NEW" at the top. If a new address is provided, there is still a chance the old address will be used until the payor changes your address in their records.

Line 6

Enter your city, state, and ZIP code.

Part I. Taxpayer Identification Number (TIN)

Enter your TIN in the appropriate box. If you are a resident alien and you do not have, and are not eligible to get, an SSN, your TIN is your IRS ITIN. Enter it in the entry space for the Social security number. If you do not have an ITIN, see *How to get a TIN* below.

If you are a sole proprietor and you have an EIN, you may enter either your SSN or EIN.

If you are a single-member LLC that is disregarded as an entity separate from its owner, enter the owner's SSN (or EIN, if the owner has one). If the LLC is classified as a corporation or partnership, enter the entity's EIN.

Note: See *What Name and Number To Give the Requester*, later, for further clarification of name and TIN combinations.

How to get a TIN. If you do not have a TIN, apply for one immediately. To apply for an SSN, get Form SS-5, Application for a Social Security Card, from your local SSA office or get this form online at *www.SSA.gov*. You may also get this form by calling 800-772-1213. Use Form W-7, Application for IRS Individual Taxpayer Identification Number, to apply for an ITIN, or Form SS-4, Application for Employer Identification Number, to apply for an EIN. You can apply for an EIN online by accessing the IRS website at *www.irs.gov/EIN*. Go to *www.irs.gov/Forms* to view, download, or print Form W-7 and/or Form SS-4. Or, you can go to *www.irs.gov/OrderForms* to place an order and have Form W-7 and/or Form SS-4 mailed to you within 15 business days.

If you are asked to complete Form W-9 but do not have a TIN, apply for a TIN and enter "Applied For" in the space for the TIN, sign and date the form, and give it to the requester. For interest and dividend payments, and certain payments made with respect to readily tradable instruments, you will generally have 60 days to get a TIN and give it to the requester before you are subject to backup withholding on payments. The 60-day rule does not apply to other types of payments. You will be subject to backup withholding on all such payments until you provide your TIN to the requester.

Note: Entering "Applied For" means that you have already applied for a TIN or that you intend to apply for one soon. See also *Establishing U.S. status for purposes of chapter 3 and chapter 4 withholding*, earlier, for when you may instead be subject to withholding under chapter 3 or 4 of the Code.

Caution: A disregarded U.S. entity that has a foreign owner must use the appropriate Form W-8.

Part II. Certification

To establish to the withholding agent that you are a U.S. person, or resident alien, sign Form W-9. You may be requested to sign by the withholding agent even if item 1, 4, or 5 below indicates otherwise.

For a joint account, only the person whose TIN is shown in Part I should sign (when required). In the case of a disregarded entity, the person identified on line 1 must sign. Exempt payees, see *Exempt payee code*, earlier.

Signature requirements. Complete the certification as indicated in items 1 through 5 below.

1. Interest, dividend, and barter exchange accounts opened before 1984 and broker accounts considered active during 1983. You must give your correct TIN, but you do not have to sign the certification.

2. Interest, dividend, broker, and barter exchange accounts opened after 1983 and broker accounts considered inactive during 1983. You must sign the certification or backup withholding will apply. If you are subject to backup withholding and you are merely providing your correct TIN to the requester, you must cross out item 2 in the certification before signing the form.

3. Real estate transactions. You must sign the certification. You may cross out item 2 of the certification.

4. Other payments. You must give your correct TIN, but you do not have to sign the certification unless you have been notified that you have previously given an incorrect TIN. "Other payments" include payments made in the course of the requester's trade or business for rents, royalties, goods (other than bills for merchandise), medical and health care services (including payments to corporations), payments to a nonemployee for services, payments made in settlement of payment card and third-party network transactions, payments to certain fishing boat crew members and fishermen, and gross proceeds paid to attorneys (including payments to corporations).

5. Mortgage interest paid by you, acquisition or abandonment of secured property, cancellation of debt, qualified tuition program payments (under section 529), ABLE accounts (under section 529A), IRA, Coverdell ESA, Archer MSA or HSA contributions or distributions, and pension distributions. You must give your correct TIN, but you do not have to sign the certification.

What Name and Number To Give the Requester

For this type of account:	Give name and SSN of:
1. Individual	The individual
2. Two or more individuals (joint account) other than an account maintained by an FFI	The actual owner of the account or, if combined funds, the first individual on the account[1]
3. Two or more U.S. persons (joint account maintained by an FFI)	Each holder of the account
4. Custodial account of a minor (Uniform Gift to Minors Act)	The minor[2]
5. a. The usual revocable savings trust (grantor is also trustee)	The grantor-trustee[1]
b. So-called trust account that is not a legal or valid trust under state law	The actual owner[1]
6. Sole proprietorship or disregarded entity owned by an individual	The owner[3]
7. Grantor trust filing under Optional Filing Method 1 (see Regulations section 1.671-4(b)(2)(i)(A))**	The grantor*
8. Disregarded entity not owned by an individual	The owner
9. A valid trust, estate, or pension trust	Legal entity[4]
10. Corporation or LLC electing corporate status on Form 8832 or Form 2553	The corporation
11. Association, club, religious, charitable, educational, or other tax-exempt organization	The organization
12. Partnership or multi-member LLC	The partnership
13. A broker or registered nominee	The broker or nominee
14. Account with the Department of Agriculture in the name of a public entity (such as a state or local government, school district, or prison) that receives agricultural program payments	The public entity
15. Grantor trust filing Form 1041 or under the Optional Filing Method 2, requiring Form 1099 (see Regulations section 1.671-4(b)(2)(i)(B))**	The trust

[1] List first and circle the name of the person whose number you furnish. If only one person on a joint account has an SSN, that person's number must be furnished.

[2] Circle the minor's name and furnish the minor's SSN.

[3] You must show your individual name on line 1, and enter your business or DBA name, if any, on line 2. You may use either your SSN or EIN (if you have one), but the IRS encourages you to use your SSN.

[4] List first and circle the name of the trust, estate, or pension trust. (Do not furnish the TIN of the personal representative or trustee unless the legal entity itself is not designated in the account title.)

* **Note:** The grantor must also provide a Form W-9 to the trustee of the trust.

** For more information on optional filing methods for grantor trusts, see the Instructions for Form 1041.

Note: If no name is circled when more than one name is listed, the number will be considered to be that of the first name listed.

Secure Your Tax Records From Identity Theft

Identity theft occurs when someone uses your personal information, such as your name, SSN, or other identifying information, without your permission to commit fraud or other crimes. An identity thief may use your SSN to get a job or may file a tax return using your SSN to receive a refund.

To reduce your risk:

- Protect your SSN,
- Ensure your employer is protecting your SSN, and
- Be careful when choosing a tax return preparer.

If your tax records are affected by identity theft and you receive a notice from the IRS, respond right away to the name and phone number printed on the IRS notice or letter.

If your tax records are not currently affected by identity theft but you think you are at risk due to a lost or stolen purse or wallet, questionable credit card activity, or a questionable credit report, contact the IRS Identity Theft Hotline at 800-908-4490 or submit Form 14039.

For more information, see Pub. 5027, Identity Theft Information for Taxpayers.

Victims of identity theft who are experiencing economic harm or a systemic problem, or are seeking help in resolving tax problems that have not been resolved through normal channels, may be eligible for Taxpayer Advocate Service (TAS) assistance. You can reach TAS by calling the TAS toll-free case intake line at 877-777-4778 or TTY/TDD 800-829-4059.

Protect yourself from suspicious emails or phishing schemes. Phishing is the creation and use of email and websites designed to mimic legitimate business emails and websites. The most common act is sending an email to a user falsely claiming to be an established legitimate enterprise in an attempt to scam the user into surrendering private information that will be used for identity theft.

The IRS does not initiate contacts with taxpayers via emails. Also, the IRS does not request personal detailed information through email or ask taxpayers for the PIN numbers, passwords, or similar secret access information for their credit card, bank, or other financial accounts.

If you receive an unsolicited email claiming to be from the IRS, forward this message to *phishing@irs.gov*. You may also report misuse of the IRS name, logo, or other IRS property to the Treasury Inspector General for Tax Administration (TIGTA) at 800-366-4484. You can forward suspicious emails to the Federal Trade Commission at *spam@uce.gov* or report them at *www.ftc.gov/complaint*. You can contact the FTC at *www.ftc.gov/idtheft* or 877-IDTHEFT (877-438-4338). If you have been the victim of identity theft, see *www.IdentityTheft.gov* and Pub. 5027.

Go to *www.irs.gov/IdentityTheft* to learn more about identity theft and how to reduce your risk.

Privacy Act Notice

Section 6109 of the Internal Revenue Code requires you to provide your correct TIN to persons (including federal agencies) who are required to file information returns with the IRS to report interest, dividends, or certain other income paid to you; mortgage interest you paid; the acquisition or abandonment of secured property; the cancellation of debt; or contributions you made to an IRA, Archer MSA, or HSA. The person collecting this form uses the information on the form to file information returns with the IRS, reporting the above information. Routine uses of this information include giving it to the Department of Justice for civil and criminal litigation and to cities, states, the District of Columbia, and U.S. commonwealths and territories for use in administering their laws. The information may also be disclosed to other countries under a treaty, to federal and state agencies to enforce civil and criminal laws, or to federal law enforcement and intelligence agencies to combat terrorism. You must provide your TIN whether or not you are required to file a tax return. Under section 3406, payors must generally withhold a percentage of taxable interest, dividends, and certain other payments to a payee who does not give a TIN to the payor. Certain penalties may also apply for providing false or fraudulent information.

TAX FORMS AS APPLICABLE

Refer to the links below:

W-9 ..... https://www.irs.gov/pub/irs-pdf/fw9.pdf

CA Form 590 https://www.ftb.ca.gov/forms/2022/2022-590.pdf

CA Form 587 ... https://www.ftb.ca.gov/forms/2021/2021-587.pdf

TAXABLE YEAR

CALIFORNIA FORM

2025 Withholding Exemption Certificate

590

The payee completes this form and submits it to the withholding agent. The withholding agent keeps this form with their records.

Withholding Agent Information

Name

City of Sacramento, Department of Utilities

Payee Information

Name

Insituform Technologies, LLC

☐ SSN or ITIN ☐ FEIN ☐ CA Corp no. ☑ CA SOS file no.

201214510254

Address (apt./ste., room)

580 Goddard Avenue

City (if you have a foreign address, see instructions.)

Chesterfield

State: MO

ZIP code: 63005

Exemption Reason

Check only one box.

By checking the appropriate box below, the payee certifies the reason for the exemption from the California income tax withholding requirements on payment(s) made to the entity or individual.

☐ **Individuals — Certification of Residency:**
I am a resident of California and I reside at the address shown above. If I become a nonresident at any time, I will promptly notify the withholding agent. See instructions for General Information D, Definitions.

☐ **Corporations:**
The corporation has a permanent place of business in California at the address shown above or is qualified through the California Secretary of State (SOS) to do business in California. The corporation will file a California tax return. If this corporation ceases to have a permanent place of business in California or ceases to do any of the above, I will promptly notify the withholding agent. See instructions for General Information D, Definitions.

☑ **Partnerships or Limited Liability Companies (LLCs):**
The partnership or LLC has a permanent place of business in California at the address shown above or is registered with the California SOS, and is subject to the laws of California. The partnership or LLC will file a California tax return. If the partnership or LLC ceases to do any of the above, I will promptly inform the withholding agent. For withholding purposes, a limited liability partnership (LLP) is treated like any other partnership.

☐ **Tax-Exempt Entities:**
The entity is exempt from tax under California Revenue and Taxation Code (R&TC) Section 23701 _____ (insert letter) or Internal Revenue Code Section 501(c) _____ (insert number). If this entity ceases to be exempt from tax, I will promptly notify the withholding agent. Individuals cannot be tax-exempt entities.

☐ **Insurance Companies, Individual Retirement Arrangements (IRAs), or Qualified Pension/Profit-Sharing Plans:**
The entity is an insurance company, IRA, or a federally qualified pension or profit-sharing plan.

☐ **California Trusts:**
At least one trustee and one noncontingent beneficiary of the above-named trust is a California resident. The trust will file a California fiduciary tax return. If the trustee or noncontingent beneficiary becomes a nonresident at any time, I will promptly notify the withholding agent.

☐ **Estates — Certification of Residency of Deceased Person:**
I am the executor of the above-named person's estate or trust. The decedent was a California resident at the time of death. The estate will file a California fiduciary tax return.

☐ **Nonmilitary Spouse of a Military Servicemember:**
I am a nonmilitary spouse of a military servicemember and I meet the Military Spouse Residency Relief Act (MSRRA) requirements. See instructions for General Information E, MSRRA.

CERTIFICATE OF PAYEE: Payee must complete and sign below.

Our privacy notice can be found in annual tax booklets or online. Go to **ftb.ca.gov/privacy** to learn about our privacy policy statement, or go to **ftb.ca.gov/forms** and search for **1131** to locate FTB 1131 EN-SP, Franchise Tax Board Privacy Notice on Collection. To request this notice by mail, call 800.338.0505 and enter form code **948** when instructed.

Under penalties of perjury, I declare that I have examined the information on this form, including accompanying schedules and statements, and to the best of my knowledge and belief, it is true, correct, and complete. I further declare under penalties of perjury that if the facts upon which this form are based change, I will promptly notify the withholding agent.

Type or print payee's name and title: Sarah Torrence, Sr. Tax Manager

Telephone: (636) 530-8000

Payee's signature ▶ Sarah Torrence

Date: 01/09/2026

City of SACRAMENTO
Finance Department

BUSINESS OPERATIONS TAX CERTIFICATE

Business Name	**INSITUFORM TECHNOLOGIES, LLC**
Business Address	**12607 HIDDENCREEK WAY # E**
Owner	**INSITUFORM TECHNOLOGIES, LLC**
Type of Business	**Contractors - General**
Tax Classification	**Gross Receipts**
Expires	**09/30/2026**
Mailing Address	**INSITUFORM TECHNOLOGIES, LLC** **580 GODDARD AVE** **CHESTERFIELD, MO 63005-1120**

1120727

CITY OF SACRAMENTO
DEPARTMENT OF FINANCE
MARK OF AUTHENTICATION

1120727

TOTAL PAID:
$34.00

THIS STUB MAY BE FOLDED/DETACHED BEFORE POSTING

MUST BE POSTED IN CONSPICUOUS PLACE

This certificate is not to be construed as a business license or imply that the City of Sacramento has investigated, or approves or recommends, the holder of this certificate. Any representation to the contrary is fraudulent. This certificate must be renewed within 30 days of expiration.

Starting January 1, 2021, Assembly Bill 1607 requires the prevention of gender-based discrimination of business establishments. A full notice is available in English or other languages by going to: https://www.dca.ca.gov/publications/

SPECIAL PROVISIONS

CITY OF SACRAMENTO
SPECIAL PROVISIONS

DEL RIO TRAIL
72-INCH FORCE MAIN REHABILITATION PROJECT
N29 MH7A TO CWTP
X14170114

ISSUE FOR BID
OCTOBER 2025

Prepared for:

City of Sacramento
Department of Utilities
1395 35th Avenue
Sacramento, CA 95822

Prepared by:

Woodard & Curran
801 T Street
Sacramento, CA 95811

October 1, 2025
(All Special Provision Sections excluding 3.16 through 3.20)

October 1, 2025
(Special Provision Sections 3.16 through 3.20)

CITY OF SACRAMENTO
SPECIAL PROVISIONS
FOR

DEL RIO TRAIL
72-INCH FORCE MAIN REHABILITATION PROJECT
N29 MH7A TO CWTP
X14170114

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SPECIAL PROVISIONS
FOR

DEL RIO TRAIL
72-INCH FORCE MAIN REHABILITATION PROJECT
N29 MH7A TO CWTP
X14170114

SECTION 1 – GENERAL CONSTRUCTION REQUIREMENTS

1.01 Location, Scope of Work

These Special Provisions cover, in general, the rehabilitation of approximately 5,900 linear feet of the existing N29 72-inch diameter combined sewer force main with cured-in-place-pipe lining (CIPP) and replacement of an existing blowoff. The Project is located in the following approximate locations:

1. N29 72-inch Force Main: Between MH7A (south of intersection of Sutterville Road and the Del Rio Trail) and the N11 valve structure at the Combined Wastewater Treatment Plant (CWTP) (Fruitridge Road, at the eastern side of Partner Park Dog Park).

2. Blowoff: 11th Avenue west of Riverside Boulevard, south of Sump 2.

Work also includes:

1. Installing four (4) new manholes on the existing 72-inch Force Main: MH A, MH B, MH C, and MH D.

2. Rehabilitating four (4) manholes on the existing 72-inch Force Main: MH4A, MH5A, MH6A, and MH7A with either calcium aluminate or epoxy coating.

3. Abandoning two (2) force main access points: MH2A and MH3A.

4. Bypass of cure water as needed to complete rehabilitation work.

5. Removing abandoned piping and enclosure for odor control at MH6A.

6. Cleaning and inspecting the parallel 84-inch force main after its use as a bypass to the 72-inch force main.

7. Installing a new vehicle gate at Partner Park Dog Park.

8. Traffic control as needed to complete the rehabilitation and replacement work.

9. Acquisition of tree removal and pruning permit and dewatering discharge permit.

10. Private property owner and other stakeholder notification and coordination.

11. Surface restoration.

12. Other related/associated work necessary for construction and not otherwise mentioned above.

The Contractor shall provide all labor, materials, tools and equipment, and shall perform all work necessary to complete the subject Project in place and make all required connections to the existing sewer system as shown on the Contract Drawings and as specified herein.

1.02 Specifications

The work to be performed under this contract shall be done in accordance with the Special Provisions contained herein. In these Special Provisions, reference is made to the City of Sacramento Standard Specifications (CSSS) most current version and all its addenda referred to herein as "Standard Specifications". The general requirements of this contract shall be governed by these Special Provisions first, followed by Sections 1 through 8 of the Standard Specifications. Other standards or specifications specified in these Special Provisions govern only the applicable technical specifications.

Definitions are per the Standard Specifications unless otherwise noted herein.

1.03 Time of Award

Time of Award for this contract shall be made within sixty (60) calendar days after opening of the proposals to the lowest responsive bidder, per Section 3-2 of the Standard Specifications.

1.04 Providing Bonds and Surety

The Contractor shall provide signed agreement and surety bonds within ten (10) calendar days after receipt of notice to award by the City and prior to award by the City Council. The Contractor shall be reimbursed for surety bond costs should the City Council not award a contract. Interpretation of Contract Documents

1.05 Interpretation of Contract Documents

Questions from bidders concerning the interpretation of any portion of the contract documents should be submitted in writing by E-mail (with E-mail delivery receipt request) to the City's Representative at the following address:

Mr. Angelo Vasquez
arvasquez@cityofsacramento.org
https://vendors.planetbids.com/portal/15300/portal-home

Subject: Contractor Name and questions.

Interpretation, where necessary, will be made by the City in the form of an addendum to the contract documents and, when issued, will be sent as promptly as is practicable to all parties to whom the bid documents have been issued. All such addenda shall become part of the contract.

It shall also be the bidder's responsibility to call to the attention of the Engineer any missing pages or drawings in the contract documents including the addenda. These items shall be brought to the attention of the Engineer at least seven (7) calendar days prior to the bid opening date. Questions shall also be sent to the Engineer at least seven (7) calendar days prior to the bid opening date.

1.06 Proof of Compliance with Contract

In order that the Engineer may determine whether the Contractor has complied with the requirements of the contract documents not readily determined through inspection and tests of plant, equipment, work, or materials, the Contractor shall at any time when requested, at the Contractor's expense, submit to the Engineer properly authenticated documents or other satisfactory proofs as to his compliance with such requirements.

1.07 Order of Work

The Contractor shall be responsible to coordinate utilities relocations within the Project area, as needed. Coordination of utilities within the Project limits, including relocations and maintenance of existing facilities and additions thereto, shall be confirmed in writing by utility representatives and the Contractor within five (5) working days thereafter.

Work which requires flow diversion to the 84-inch force main must be completed between April 30 and October 15 unless otherwise allowed in writing from the City.

Work which may be completed prior to April 30th includes the following:

1. Obtain the City of Sacramento tree permit prior to the start of work.

2. Obtain an approved Traffic Control Plan from the City of Sacramento prior to start of work.

3. Private/commercial property notification 7 calendar days prior to start of work.

4. Pothole to locate vertical and horizontal pipe bends and assess the condition of the existing 72-inch force main prior to ordering lining materials and pipe closure (i.e., spool) materials.

5. Locate the manholes and pipe bends along the 72-inch force main prior to ordering lining materials.

6. Measure the internal diameter of the host pipe per **Section 3.25 Cured-in-Place Pipe**.

Work after April 30, 2026 shall be completed as follows:

1. As a first order of business, Contractor shall coordinate with the City for a maximum 48-hour 72-inch FM system shutdown prior to installing the watertight temporary bulkhead at N11.

2. Following the 48-hour system shutdown and watertight temporary bulkhead installation, the City shall divert flows to the 84-inch force main to establish system bypass for the remainder of the construction dry season.

3. Remove remaining water in the 72-inch force main.

4. Clean the 72-inch Force Main

5. Prelining CCTV inspection

6. 72-inch Force Main lining shall begin upstream and proceed in the downstream direction.

7. 72-inch force main lining shall be completed prior to manhole rehabilitation work.

8. Replace the blowoff as outlined in these Contract Documents after flows have been diverted to the 84-inch force main. Remove any remaining water from the 72-inch force main in the vicinity of the new blowoff prior to blowoff replacement.

Other sequencing constraints for this Project include:

1. A maximum of four (4) excavations may be open at one time.

2. Fence restoration at MH7A shall be completed as soon as lining operations are completed surrounding the MH7A location.

Contractor shall submit a construction schedule prior to beginning the work and an updated schedule and two (2) week look ahead schedule at each construction progress meeting. Prior to the beginning of work, Contractor shall submit a proposed Order of Work. Occasionally, the Contractor may submit a proposed modification of the specified order of work that will be more satisfactory for the work's operation. Contractor shall submit a revised progress schedule if modifications are made to the sequencing of the work.

1.08 Shop Drawings & Submittals

In accordance with Section 5-7 of the Standard Specifications, Contractor shall prepare and submit for review the shop drawings and submittals as required throughout these Special Provisions.

Submittals shall be reviewed and approved prior to starting work unless otherwise approved by the Engineer.

Contractor shall keep one copy of the approved Traffic Control Plan and the Water Quality Control Plan at the construction site at all times.

1.09 Project Signs

Prior to beginning any onsite work, the Contractor shall install a total of two (2) Project signs. The signs shall be supplied by the City and are approximately 30-inches by 54-inches. Location and height of sign installation shall be as directed by the Engineer. In general, the signs shall be installed a minimum of seven (7) feet and maximum of ten (10) feet above surrounding grade. If acceptable to the Engineer an existing signpost may be used, otherwise, the Contractor shall be required to install a new post. Each sign and post installed by the Contractor shall be removed at the end of the Project and the sign returned to the City.

Barricade signs used along the Del Rio Trail at Sutterville Road, S. Land Park Drive, Del Rio Road, Fruitridge Road, and elsewhere, shall be clearly visible by the public and not obstructed by construction equipment. In addition, the Contractor shall supply and utilize up to four (4) changeable message signs throughout the Project to notify the public of detours, lane and street closures as directed by the Engineer. Portable changeable message signs shall be placed at both end points wherever there is a temporary trail closure in place.

1.10 Manufacturer's Instructions

Contractor shall comply with manufacturer's installation instructions and procedures in accordance with Section 5-16 of the City Standard Specifications.

1.11 Project Scheduling

The Contractor shall submit a detailed Critical Path Method (CPM) Schedule showing all items of work at least twenty (20) days prior to initiating onsite construction. The schedule shall include the proposed sequencing of construction activities. The schedule shall be submitted, reviewed, and updated in accordance with Section 7-2 of the Standard Specifications. No progress payments will be made for work completed prior to acceptance of the schedule. The Contractor shall submit a revised progress schedule within five (5) working days of the Engineers written request.

Contractor shall plan to attend regular weekly construction coordination meetings throughout the duration of the construction work and shall anticipate 1 to 1-1/2 hours each meeting. Contractor shall provide two (2) week look ahead schedule at each weekly construction coordination meeting. Sunday and night work, where approved by the City, will be performed in accordance with Section 7-4 of the Standard Specifications and shall comply with the noise ordinance in Chapter 8.68 of the Sacramento City Code.

When change orders are initiated, delays are experienced, or the Contractor desires to revise the schedule logic, the Contractor shall submit to the Construction Manager a written Time Impact Analysis (TIA) illustrating the influence of each change, delay, or Contractor request on the current contract schedule completion date. Each TIA shall

demonstrate how the Contractor proposes to incorporate the change order, delay, or Contractor request into the Schedule. The analysis shall demonstrate the time impact based on the date of occurrence of the change, delay or revision; the status of construction at that point in time, and the impact of all affected activities. The event times used in the analysis shall be those included in the latest updated copy of the CPM Schedule or as adjusted by mutual agreement between the Construction Manager and Contractor.

The TIA must:

1. Illustrate the impacts of each change or delay on the current scheduled completion date or internal milestone.
2. Use the accepted schedule that has a data date closest to and before the event. If the Engineer determines that the accepted schedule used does not appropriately represent the conditions before the event, the accepted schedule must be updated to the day before the event being analyzed.
3. Include an impact schedule developed from incorporating the event into the accepted schedule by adding or deleting activities or by changing durations or logic of existing activities. If the impact schedule shows that incorporating the event modifies the critical path and scheduled completion date of the accepted schedule, the difference between scheduled completion dates of the two (2) schedules must be equal to the adjustment of Contract time.

1.12 Record Drawings

The Contractor shall maintain a neat and accurate marked set of record drawings showing the final locations and layout of piping and conduit, structures, and other facilities. Drawings shall be kept current weekly, with all work instructions, change orders, and construction adjustments. Drawings shall be subject to the inspection of the Engineer at all times. Progress payments, or portions thereof, may be withheld if drawings are not accurate and current. Pipe and lining material shall be added to drawing, if not denoted on Contract Drawings. Prior to acceptance of the work, the Contractor shall deliver to the Engineer one (1) set of neatly marked record drawings accurately showing the information required above.

Record drawings shall be submitted and approved by the Engineer in accordance with **Section 1.08 Shop Drawings and Submittals** of these Special Provisions.

Record drawings shall clearly show the thickness of the CIPP liner and resulting new invert elevations of the force main at access points. Record drawings shall also clearly show the invert elevations of new spool pieces and final inside diameter of the pipeline.

Record drawings shall include photos of new manhole structures prior to backfilling.

1.13 Materials and Equipment

The Contractor is responsible for the care and protection of all materials and equipment

until the completion and final acceptance of the work, in accordance with Sections 5-15, 5-16, 5-17, 5-18, 5-21, and 5-22 of the Standard Specifications and these Special Provisions.

1.14 Control of Materials Testing

Comply with the provisions of **Section 1.15 Quality Control**.

Contractor's attention is directed to the Standard Specifications Sections 5-22 through 5-24. City will retain an independent testing firm to perform initial soil/aggregate/asphalt compaction tests; cast- in-place concrete slump and strength tests; grout strength tests; and any other additional test required by the City with the exception of CIPP materials testing as outlined in **Section 3.25 Cured in Place Pipe.** CIPP materials testing shall be paid for by the Contractor and completed by an independent testing firm as recommended by the manufacturer and approved by the City. Contractor shall also perform all other required testing and submit written test results to the Engineer.

In addition to the requirements of Section 5 of the Standard Specifications and Section 6-3.01 of the State Specifications, the Contractor shall follow material testing for this Project as set forth in Section 6 of the State Specifications and the most current City of Sacramento Quality Assurance Program. The Contractor shall perform all testing to verify compliance with the Standard Specifications and State Specifications of any and all materials furnished by the Contractor. The Contractor shall submit and receive the Engineer's approval of all compliance test results prior to incorporating materials into the Project.

Engineer shall be given two (2) working days-notice prior to each test performed by Contractor.

Any system material or workmanship found defective on the basis of acceptance tests shall be reported to the Engineer. Contractor shall replace the defective material or equipment and have testing repeated without additional cost to the City, until test results are satisfactory to the Engineer. The City will only pay for initial testing services for concrete strength and slump, soil compaction, and grout strength.

When initial tests indicate non-compliance with the Contract Documents, the costs of any additional tests required for determining compliance will be deducted by the City from the Contract Sum due to the Contractor.

1.15 Quality Control

A. Definition

Specific quality control requirements for the Work are indicated throughout the Contract Documents. The requirements of this Section are primarily related to performance of the Work beyond furnishing of manufactured products. The term "Quality Control" includes inspection, sampling and testing, and associated requirements.

1. Quality Control: All those planned and specified actions or operations necessary to produce a product or service that will meet requirements for quality as specified. Quality Control is the responsibility of the Contractor. The Contractor will monitor quality control over subcontractors, suppliers, manufacturers, products, services, site conditions, and workmanship, to produce Work of specified quality.

2. Quality Assurance: Those planned and systematic operations conducted to ensure that the operations and/or products incorporated into the Project meet the Standard Specifications and Special Provisions. Quality Assurance encompasses oversight of the Contractor's Quality Control; verifying the results of Contractor testing; review of sampler, tester and laboratory qualifications; independent assurance sampling and testing, and inspection for conformance with the Contract Drawings, Special Provisions, and Standard Specifications. Quality Assurance is the responsibility of the Contractor and Engineer.

3. Special Tests and Inspections: Tests and inspections required by the California Building Code and performed by certified inspectors. These tests will be performed and paid for by the City.

B. Quality Control Program

1. Contractor shall develop a detailed written Quality Control (QC) Program for all Work required in the Contract Documents. The Contractor must submit for the Engineer's acceptance the Contractor's Quality Control Program (QC Program) for the entire Project before beginning any of the Work other than mobilization tasks to install temporary facilities. Except for mobilization, no other work will begin until the Engineer has accepted the Contractor's overall QC Program for the Project. This QC Program must meet the objectives and requirements as defined herein. The QC Program must be specific to this Project and the Contract Documents.

2. In addition, the Contractor must submit for the Engineer's acceptance the Contractor's individual QC Plans before starting each area or division of the Work and/or new specialty trade to complete any portion of the Work. Work will be permitted to start only after the Engineer reviews and accepts Contractor's individual QC Plans. The individual QC Plans must identify all QC personnel, procedures, inspections, laboratories, testing equipment calibrations and certifications, tests, inspection/test hold points, instructions, sampling and testing records organized by date and type of material, reports, records, schedules, etc. specific for each area or division of the Work and/or new specialty trade to complete any portion of the Work.

3. Contractor shall appoint a full-time Quality Control Officer who will have the sole responsibility for the full-time oversight, implementation, and monitoring of the QC Program on this one Project. Contractor shall maintain

a log of required testing indicating the tests or sampling and test method required, location, frequency and responsibility.

4. Contractor shall provide written procedures defining methods of construction, control measures, and the performance of inspections and testing for the different types of Work.

5. Procedures shall detail "Hold Points," where Work shall not proceed until the required Quality Control functions are performed and documentation shows the Work meets the requirements of the Contract.

6. Procedures shall detail problem resolution steps and corrective actions in the event the Work does not meet the Standard Specifications or Special Provisions.

7. Procedures shall be provided for all major activities of Work.

8. Contractor shall maintain evidence of activities affecting quality. This includes operating logs, records of inspections and tests, audit reports, material analyses, personnel qualification and certification records, procedures, and document review records.

9. Quality records shall be maintained in a manner that provides for timely retrieval, and traceability. Quality records shall be protected from deterioration, damage, or destruction.

10. Within 24 hours, notify the Engineer of any noncompliance identified by your QC program. The Contractor shall provide the City access to all QC records.

11. Submit QC test data and QC test results within two (2) business days of test completion.

C. Sampling and Testing

1. Unless otherwise indicated, all products, materials, and equipment shall be subject to inspection by the Engineer at the place of manufacture as specified in the Standard Specifications.

2. The City or an independent firm retained by the City will perform inspections, testing, and other services as required by the Engineer.

   a. The Contractor shall cooperate with the Engineer or independent firm and furnish samples of materials, design mix, equipment, tools, storage, and assistance as requested.

   b. The Contractor shall notify Engineer three (3) working days prior to the expected time for operations requiring inspection and laboratory testing services.

c. Retesting required because of non-conformance to requirements shall be performed by the same independent firm on instructions by the Engineer. The Contractor shall be responsible for all costs including administrative, material testing, design, and engineering activities directly related to such retesting.

D. Installation

1. Inspection: The Contractor shall inspect materials or equipment upon arrival on the job site and immediately prior to installation and reject damaged and defective items.

2. Measurements: The Contractor shall verify measurements and dimensions of the Work, as an integral step of starting each installation.

3. Manufacturer's Instructions: Where installations include manufactured products, the Contractor shall comply with manufacturer's applicable instructions and recommendations for installation, to whatever extent these are more explicit or more stringent than applicable requirements indicated in Contract Documents.

a. When manufacturers' instructions conflict with Contract Documents, request clarification from Engineer before proceeding.

1.16 Contractor's Safety Program

Contractor shall provide a written Injury and Illness Prevention (IIP) Program conforming to Cal/OSHA requirements. The IIP Program shall be customized to prevent workplace injuries and illnesses specific to the work on this contract. A written copy of the IIP Program shall be maintained at the job site. As a minimum the IIP Program shall contain the following elements: responsibility, compliance, communication, hazard assessment, accident/exposure investigation, hazard correction, training & instruction, and recordkeeping. Refer to "Cal/OSHA Pocket Guide for the Construction Industry" dated June 2015 and website: http://www.dir.ca.gov/dosh/puborder.asp for further information.

1.17 Not Used

1.18 Inspection

In addition to Section 5-20 Inspection of the Standard Specifications, the following shall apply:

All work is subject to inspection and approval by the Engineer. The Contractor shall notify the Engineer, along with all affected utility companies, two (2) working days in advance of the start of work to coordinate and schedule inspection staff.

The City will provide inspection cost Monday – Saturday 12 AM to 12AM (i.e., 24-hours) during the Cured-in-Place Pipe Lining inversion, curing, and cooling operations. The City

will provide inspection cost Monday - Saturday basis only, 7 AM to 6 PM, excluding designated City, State, or Federal holidays for all other work. The Contractor shall reimburse the City in the amount of $205.00 per hour for the actual cost of all inspection cost for work requested outside of the contract working hours, Sunday work, or inspection performed during designated City, State, or Federal holidays. Designated City holidays are listed in the Standard Specifications.

1.19 Cooperation with City and Other Contractors

The Contractor shall cooperate with other forces constructing, relocating, and/or modifying facilities within the Project limits. The Contractor shall coordinate their work with that of others, including private developers and utility companies, to prevent delays with the 72-Inch Force Main Rehabilitation Project.

It is understood and agreed that the Contractor has considered this in the bid: all of the permanent and temporary utility appurtenances in their present and/or relocated positions as shown on the Contract Drawings or as described in the Standard Specifications and Special Provisions, and that no additional compensation will be allowed for any delays, inconvenience, or damages sustained due to any interference from said appurtenances or the operation of moving them. In addition, the Contractor shall not be allowed any additional compensation for delays of inconvenience sustained by the Contractor due to the City not having City-supplied equipment ready for pick-up. In such a case, the City may increase the number of working days for the contract.

In addition to Section 6-17 Contractor's Legal Address of the Standard Specifications, five (5) days prior to beginning work, the Contractor shall provide to the Engineer, in writing, the name and telephone number of a representative who is directly involved with this Project, and under the supervision of the Contractor. The Contractor's representative may be contacted by City staff during non-working hours including nights, weekends and holidays in the case of any public inconvenience and/or emergency relating to the Contractor's operations. The contact representative shall not be replaced by another company employee for the duration of the Project without a written explanation from the Contractor which has been approved by the Engineer. Should a new representative be used, he/she shall be knowledgeable of the Project, the events, and/or revisions that may be occurring.

1.20 Public Outreach

Successful completion of the Project will require a significant amount of public outreach to mitigate the potential negative impacts associated with working in a major urban transportation corridor. The Contractor shall complete all tasks as requested by the City to distribute information and provide a representative to participate in public or closed meetings associated with the City's effort to inform stakeholders regarding the current or future activities associated with execution of the Project.

1.21 Permits

A. The Contractor shall obtain a permit from the State of California Division of

Occupational Safety and Health (Cal/OSHA) prior to any trenching excavation five (5) feet or more in depth. A copy of this permit shall be available at the construction site at all times.

B. Groundwater Discharge: Groundwater dewatering discharge shall comply with Section 16-1 of the Standard Specifications and the following:

1. Contractor shall comply with the temporary discharge instructions in **Appendix M**. Contractor is responsible for applying for the necessary temporary discharge permits required to complete the Work. The City of Sacramento's contact for temporary discharge requirements is Sonia Lopez, slopez@cityofsacramento.org, (916) 808–1456.

2. Discharge Permit from Sacramento Area Sewer District (SacSewer): The Contractor is required to obtain a Wastewater Discharge Permit from SacSewer for any temporary groundwater dewatering required for this Project. Contractor shall comply with the provisions set forth in the permit and is responsible for costs associated with the permit. Approximate costs include a $635 permit fee and disposal cost of $888.58 per million gallons of groundwater discharged. Contractor shall contact the Wastewater Source Control Section of SacSewer at (916) 875-6470. The following are several possible scenarios regarding the temporary discharge of groundwater:

   a. GAC Filtration and LEL Monitoring: If the groundwater is treated via granular activated carbon (GAC) filtration and monitored using a Lower Explosive Limit (LEL) monitor, sampling would be required to show that treatment was successful, but discharge would be allowed without waiting for lab results.

      Without treatment, the following would apply:

      i. Unknown Pollutant Concentration: The Contractor shall take a sample, submit the lab results to SacSewer, and wait for authorization by SacSewer before discharging.

      ii. Known/Expected Pollutant Concentration

         1. If pollutant concentrations are below SacSewer limits, discharge would be allowed without treatment. Sampling would be required upon startup, but discharge would be allowed without waiting for lab results.

         2. If concentrations are higher than SacSewer limits, the groundwater would need to be treated via GAC filtration and monitored using LEL monitor. Sampling would be required to show that treatment was successful, but discharge allowed without waiting for lab results.

3. Pollutant concentration information can be found by obtaining specific monitoring well data and depths. Refer to geotracker.waterboards.ca.gov for monitoring well data.

4. Potential SacSewer permit limits include the following constituents in Table 1:

TABLE 1: POTENTIAL PERMIT LIMITS
SACRAMENTO AREA SEWER DISTRICT

PARAMETER	DAILY MAXIMUM (mg/L)
1,1,1-Trichloroethane	1.55
1,1,2-Trichloroethane	0.50
1,1-Dichloroethane (1,1-DCA)	0.5
1,1-Dichloroethylene (1,1-DCE)	0.6
Acenaphthene	0.416
Anthracene	7.68
Benzene	0.13
Benzo(a)pyrene	0.02
Carbon tetrachloride	0.03
Chloroform	0.41
cis-1,2-Dichloroethylene	0.6
Ethylbenzene	1.59
Fluoranthene	0.24
Fluorene	1.04
Methyl tert-butyl ether (MTBE)	0.5
Methylene chloride (dichloromethane)	0.5
Naphthalene	0.136
Pyrene	0.768
Tetrachloroethylene (PCE)	0.53
Toluene (1.36)	1.36

PARAMETER	DAILY MAXIMUM (mg/L)
Total Petroleum Hydrocarbon—Diesel	100
trans-1,2-Dichloroethylene	0.28
Trichloroethylene (TCE)	0.5
Vinyl chloride	0.004

5. Contractor is hereby notified that Sabina Rynas is the Wastewater Source Control Section (WSCS) representative for the WSCS Temporary Discharge Permit program; her contact info is rynasS@sacsewer.com or (916) 876-6522.

C. Trees: Pruning, removal, or encroachment into the dripline of City trees and/or private protected trees requires a permit from Urban Forestry per Sacramento City Code 12.56.

1. The Contractor shall obtain a tree permit from the City of Sacramento Division of Urban Forestry prior to tree pruning and removal activities for City trees and/or private protected trees. The Contractor is required to obtain a City Tree Pruning or Removal Permit from the City of Sacramento for pruning or tree removal activities required for this Project.

   a. Contractor shall comply with the provisions set forth in the permit and is responsible for costs associated with the permit. Applications will be charged a fee of $50 to cover arborist costs.

   b. Pruning or removing City trees and/or private protected trees requires that the work is performed by a licensed tree care provider under the direct supervision of an ISA Certified Arborist and work shall conform to ANSI A300 standards for tree pruning. The Contractor's arborist who will be supervising the work must meet with a City arborist on the Project site prior to the permit being issued to discuss the scope of work. A copy of this permit shall be available at the construction site at all times.

   c. More information can be found at this City of Sacramento website: https://www.cityofsacramento.gov/public-works/maintenance-services/urban-forestry/urban-forestry-tree-permits

   d. See **Section 3.12 Tree Removal, Pruning, Preservation and Protection Requirements** for additional requirements regarding City trees and/or protected private trees.

1.22 Permanent Survey Monuments

The Contractor is responsible for verifying that arrangements have been made for preserving and/or perpetuating all permanent survey monuments affected by the work, in accordance with Section 5-6 of the Standard Specifications.

Preservation and protection of survey monuments and markers encountered along the line of the work shall conform to the following:

The Contractor shall notify the Engineer in writing of monuments that will be encountered and shall not remove or damage said monuments. If a monument is determined by the Engineer to have been damaged during the course of work by the Contractor, notification is not made as provided above, or markers are removed which are not in conflict with construction, the Contractor shall be responsible for the cost of referencing, resurvey, and replacement of the monument or marker.

Replacement of survey monuments and boxes shall be as set forth under Section 8771

of the California Business and Professions Code.

Prior to the start of work, the Contractor shall notify the Engineer of monuments encountered within the limits of the excavation(s) identified in the field and as shown on the Contract Drawings. If monuments need to be replaced as a result of the Contractor's activities to complete contract work, the replacement of the monument will be paid for within the original items of contract work and no additional compensation will be allowed therefor.

1.23 Administrative Penalty Ordinance

The Contractor shall become familiar with Chapter 12.20 of the City Code which contains minimum requirements and restrictions relating to construction activities within the City right-of-way and establishes administrative penalties for non-compliance of these requirements. The Contractor may be assessed the administrative penalty for each violation of any provision addressed by the ordinance, unless modified herein, and amounts can be deducted from the Contract. The ordinance includes the following general categories:

- Working hours for the City's "Primary Streets"
- Traffic control plan requirements
- Access to private property
- Maintenance of construction areas
- Maintenance of traffic, public safety and convenience
- Repair of traffic control systems
- Care of existing known facilities
- Protection of existing improvements
- Public notification
- Noise level

Copies of the ordinance are available from the City Clerk's Office, 915 I Street, Sacramento, CA. 95814, and at https://www.cityofsacramento.gov/.

1.24 Water Quality Control

A. General

1. The Contractor shall procure, implement, monitor, and maintain the Storm Water Pollution Prevention Plan (SWPPP) for the purpose of preventing the discharge of pollutants from the Project site into receiving waters. This includes the elimination of pollution discharges such as improper dumping, spills, or leakage from storage takes or transfer areas.

2. The Contractor shall comply with local, state, and federal regulations, with the following as minimum requirements:

    i. California Stormwater Quality Association (CASQA) Best

Management Practice Handbook for Construction Activity (BMP Handbook), latest edition.

ii. Construction General Permit, Order 2022-0057-DWQ, which is available online at https://www.waterboards.ca.gov/.

iii. Project specific SWPPP.

3. The Contractor shall certify the Project has met all conditions of the Construction General Permit (CGP).

B. Materials

1. Provide the Quality, grade, and type of materials as specified in the BMP Handbook and the Project specific SWPPP.

C. Storm Water Pollution Prevention Plan

1. The draft SWPPP is included in **Appendix J** for bidding purposes only.

2. The City will assign a Legally Responsible Person (LRP).

3. The Contractor shall designate a Qualified SWPPP Developer (QSD) to finalize a Project specific SWPPP. The Contractor and their QSD shall implement, manage, and maintain the SWPPP and ensure compliance with the CGP.

4. The QSD shall have a full understanding of the latest CGP and Project specific SWPPP, to modify and implement the changes, inspections, and reporting as required by the CGP. The QSD may serve as the Qualified SWPPP Practitioner (QSP).

5. The Contractor shall complete the application form and upload the Notice of Intent (NOI) to the California Storm Water Multiple Application and Report Tracking System (SMARTS) for City review prior to the LRP's submission to the Regional Water Quality Control Board (RWQCB). The Contractor is responsible for payment of permit fees.

6. The Contractor shall install perimeter erosion control measures prior to starting work at the Project site. The Contractor shall also install erosion control measures on disturbed areas after 14 days of inactivity or sooner if rain is imminent. The installed BMPs shall match the SWPPP Site Maps at all times.

7. The QSD shall amend the SWPPP to reflect current site conditions or when significant changes to BMPs are made.

8. Upon Substantial Completion, the Contractor shall:

i. Leave storm water pollution prevention controls in place when required for post-construction storm water management and remove those that are not needed as determined by the City.

ii. Prepare and upload Notice of Termination (NOT), complete reporting requirements, and pay any outstanding permit fees.

D. Monitoring

1. At a minimum, the QSP shall conduct monthly visual BMP inspections. The Contractor shall ensure that the site BMPs comply with the SWPPP requirements at all times.

2. The Contractor shall conduct site inspections for a Qualifying Precipitation Event prior to, during, and after such storm events, as required by the CGP.

3. The Contractor shall designate a QSD to preform semi-annual SWPPP inspections, as required by the CGP.

4. The QSP is responsible for uploading the monitoring information to SMARTS, as required.

5. In accordance with the CGP, the Contractor shall collect samples at the discharge locations and analyze the samples, as required, for the Risk Level indicated in the SWPPP.

6. In accordance with the CGP, the QSP and QSD shall perform an on-site visual inspection within 14 calendar days after a Numeric Action Level (NAL) exceedance.

7. Annual Reports: The City LRP will submit Annual Reports to the RWQCB by September 1 of each year. The Annual Reports shall cover each construction period between July 1 and June 30. The Contractor shall develop and upload completed Annual Reports to SMARTS by July 24. The City shall review the Annual Reports, provide comments, and upon Contractor resolution of the comments, the LRP will submit the final Annual Reports to the RWQCB via SMARTS.

8. Ad-Hoc Reports: The City LRP will submit Ad-Hoc Reports to the RWQCB within 10 days of NAL exceedances or within 30 days of the conclusions of Qualifying Precipitation Events if there were no NAL exceedances. The Contractor shall develop and upload the completed Ad-Hoc Reports to SMARTS within 5 days of NAL exceedances or within 14 days of conclusions of Qualifying Precipitation Events if there were no NAL exceedances. The City shall review Ad-Hoc Reports, provide comments, and upon Contractor resolution of the comments, the LRP will submit final Ad-Hoc Reports to the RWQCB via SMARTS. If requested by the Regional Water Board, the Contractor shall develop and submit to the City LRP a

NAL Exceedance Report within 14 days of notice from the RWQCB. The City shall review the NAL Exceedance Report, provide comments, and upon Contractor resolution of the comments, the LRP will submit the NAL Exceedance Report to the RWQCB via SMARTS.

E. Liabilities and Penalties

1. Review of the SWPPP and inspection log by the City shall not relieve the Contractor from liabilities arising from non-compliance of stormwater pollution regulations.

2. Payment of penalties for non-compliance by Contractor shall be the sole responsibility of the Contractor.

3. Compliance with the CGP is the sole responsibility of the Contractor. Any fine levied against the City due to non-compliance by the Contractor shall entitle the City to recover all costs of the fine by appropriate assessment.

F. Change of Information

1. The Contractor shall be responsible for monitoring the changes to the SWPPP including, but not limited to, the changing of site conditions and the project start and completion dates. Such changes shall be documented in a Change of Information (COI), prepared by the Contractor. The QSD shall review the COI prior to certification by the LRP.

G. Miscellaneous

1. The Contractor shall:

   i. Be responsible for water pollution control work.

   ii. Be the QSP's primary contact for water pollution control work.

   iii. Have the authority to mobilize resources (i.e., crews, supplies, and equipment) to make immediate repairs of water pollution control measures or to supplement water pollution control measures to maintain compliance with all federal, state, and local laws, ordinances, and regulations related to the protection of water quality, including General Permit for Stormwater Discharges Associated with Construction and Land Disturbance Activities.

2. Unless otherwise directed by the City, the Contractor's responsibility for SWPPP implementation shall continue throughout any temporary suspension of work.

3. The City may withhold progress payments or order the suspension of construction operations without an extension of the contract time if the

Contractor fails to comply with the requirements of the CGP as determined by the City.

4. All BMP repairs shall be implemented by the Contractor within 72 hours of identification of failures or other shortcomings by the QSD, QSP, or the City. All BMP repairs shall also be implemented by the Contractor as soon as possible prior to the next forecasted precipitation event, as defined in the CGP.

5. This work includes street sweeping. The SWPPP shall describe and include the use of street sweeping as a water pollution control practice for sediment control and tracking control. Street sweeping shall also conform to all applicable Sacramento Metropolitan Air Quality Management District requirements. No dirt shall be allowed to be tracked on project roadways, or roadways adjacent to the project.

6. At project closeout, Contractor shall submit SWPPP binder to the City.

1.25 Project Closeout

When the Project is completed in accordance with the Contract Drawings, Special Provisions, and Standard Specifications, the Contractor shall notify the Engineer of the completion of the Project at which time the City will prepare a list of deficient work items, or punch list, and after all punch list items have been completed to the satisfaction of the Engineer, and as-built drawings are completed and submitted, a completion report will be prepared, as detailed and in accordance with Section 8-4 of the Standard Specifications.

1.26 Payment

Full compensation for furnishing all labor, materials, tools, equipment and incidentals and for doing all work involved in performing and complying with these General Requirement items shall be considered as included in the prices paid for in the various contract bid items the Contractor deems appropriate, and no additional compensation will be allowed.

****END OF SECTION****

SECTION 2– PUBLIC CONVENIENCE & PROTECTION OF EXISTING CONDITIONS

2.01 Public Right-of-Way and Easements

Water, sewer and drainage pipe and appurtenances constructed as part of this Project are to be placed within public street rights-of-way and easements. The Contractor shall confine his or her operations within the limits of existing street right-of-way or easements as much as practicable, utilizing defined work areas for the Project as needed for construction.

MH6A and MH7A are located within parcels owned, operated, and maintained by the California State Department of Parks and Recreation. The City has obtained a right-of-entry permit for the work associated with this project. Contractor shall comply with all requirements of the right-of-entry permit at no additional cost to the City. The right-of-entry permit can be found in **Appendix I**.

In all cases, the Contractor is responsible for repairing damage to existing structures and improvements, private properties, and permanent improvements caused by construction work conducted by the Contractor. Existing structures and improvements, private properties, and permanent improvements which are damaged by the Contractor shall be restored to existing or better conditions by the Contractor with no additional cost to the City.

In the event the Contract requirements necessitate the Contractor to encroach onto adjoining private property that is not defined in the Contract Documents, the Contractor shall coordinate with the City to make necessary legal arrangements with the owner of the property for such encroachment. A copy of any written agreements entered into between the Contractor and the property owner concerning encroachment onto private property shall be provided to the Engineer prior to beginning any work on the property described in the agreement. The Contractor is solely responsible for all actions, conduct, materials, equipment, and safety measures associated with such encroachment.

When the Contractor is performing work that cuts into sidewalk, curb, and gutter, Contractor shall replace entire sidewalk panel to nearest control or expansion joint on both sides of trench wall or excavation.

2.02 Existing Facilities

Protection and maintenance of existing utilities shall meet the applicable requirements of Sections 13 of the Standard Specifications and these Special Provisions.

The location, alignment, and depth of existing underground utilities as shown on the Contract Drawings are taken from public records and no responsibility is assumed for the accuracy thereof. For the most part, underground utility services are not shown on the Contract Drawings. Attention is directed to the provisions in Section 6-19 of the Standard Specifications.

The Contractor will ensure that utility services to customers in the Project area are

maintained.

Prior to cutting pavement, Contractor shall notify Underground Service Alert (USA) (800-227-2600) per Section 6-19 of these Standard Specifications and shall bring to the Engineer's attention any possible conflicts. The Contractor is expected to "pothole" existing underground utilities a minimum of ten (10) working days in advance at any location where an existing utility may be in conflict with the proposed work.

The cost of relocating existing overhead and/or underground utilities not specified on the Contract Drawings to be relocated but are relocated or cut and reconnected at the Contractor's choice, shall be borne by the Contractor.

The Contractor is responsible for locating the existing manholes, including buried manholes MH 2A and MH 3A, and horizontal and vertical angle points along the 72-inch force main alignment prior to ordering lining materials. Refer to existing facilities drawings located in **Appendices: A, B, C, D, E, F, G, and H** for more information.

2.03 Coordination of Work

The Contractor shall cooperate and coordinate regularly with City staff, consultants under contract with the City, the residents and business owners along the trail, alley ways, and streets during construction and shall minimize impacts to the residents and business owners, and other affected stakeholders.

See **Section 1.19 Cooperation with City and Other Contractors** for requirements.

2.04 Maintaining Water, Sewer & Drainage Flows

The Contractor shall be responsible for maintaining water, sewer, and drainage flows including emergency repairs and temporary bypasses in accordance with Section 13-2 of the Standard Specifications and these Special Provisions.

The Contractor is notified that the existing pipeline to be rehabilitated is a combined sewer (CS) force main that conveys both storm drainage and sanitary sewer flows, and as such is subject to rapid fluctuations in flows during wet weather. The Contractor, in coordination with the City, shall be responsible for maintaining existing sewer flows until new sewer improvements are complete and functioning.

No additional compensation will be paid to the Contractor for maintenance of existing facilities. The cost of this work shall be included in the various contract items of work.

2.05 Temporary Diversion of Sewer and Drainage Flows

The 72-inch force main begins at Sump 2 on 11th Avenue and ends at the Combined Wastewater Treatment Plant (CWTP) at Fruitridge Road. An 84-inch force main runs parallel to the 72-inch force main and typically conveys wet weather flow in conjunction with the 72-inch force main. The Contractor shall be responsible for coordinating the schedule of work with the City such that flows can be diverted by City crews from the 72-

inch force main into the 84-inch force main at Sump 2. Flow diversion into the 84-inch force main may not occur before April 30, 2026 without prior written permission from the City. Flow diversion shall occur prior to installation of the watertight temporary bulkhead at the N11 valve structure, rehabilitation work, and blowoff replacement. See **Section 1.07 Order of Work.**

Work shall be coordinated with the City a minimum of 2 weeks in advance of the anticipated system shutdown and diversion. The City shall be responsible for the system shutdown and diverting flows from the 72-inch force main, which would otherwise enter the pipeline at Sump 2. The Contractor shall be responsible for maintaining existing drainage flow for any influent downstream of Sump 2, including leakage from the 72-inch gate valve at the N11 valve structure, until final completion of the Project. Contractor shall also be responsible for removal of water remaining in the 72-inch force main after diversion, disposal of cure water, and removal of ponded water from any temporary low points in the 72-inch force main created during construction.

Drone footage of the inside of the 84-inch force main was collected by the City in May 2025. Digital copies of this footage can be requested by the Contractor from the City. This data is being provided for informational purposes only.

Though the City will be responsible for diversion of the peak dry weather flow from the 72-inch force main to the 84-inch force main, Contractor will still be required to handle ancillary flows as described above and in compliance with Section 13-2 of the Standard Specifications and the following. In addition, should it become necessary for Contractor to temporarily divert or convey flows carried by existing combined sewer and drainage systems (which include, but are not necessarily limited to, pipelines, channels and pump stations), Contractor shall also be required to comply with Section 13-2 of the Standard Specifications and the following:

H. Flow Control

1. Flow control is a method or set of methods used to adjust the flow in a combined sewer or drainage system to allow for replacement, placement, repair, inspection, and maintenance of the system. Flow control is accomplished by either blocking or plugging the incoming pipelines to restrict flow and/or through the use of pumps to bypass flow around the work area until the work is complete.

2. It is not anticipated that the 72-inch force main collects flows from laterals or other connecting pipelines. Contractor shall confirm this prior to construction.

3. The existing average dry weather flow within the 72-inch force main is approximately 17 million gallons per day (mgd). It is possible that at the time of construction flows could vary from those described herein. Flows to the 72-inch force main will be diverted by the City at Sump 2 prior to rehabilitation work as described in this section and **Section 1.07 Order of**

Work.

4. The N11 valve structure houses an existing 72-inch gate valve which leaks when fully seated. The Contractor shall furnish all materials, labor, equipment, power, maintenance, etc. to build a watertight temporary bulkhead to prevent leaking flow from the 72-inch gate valve from entering the 72-inch force main. The design and installation of the watertight temporary bulkhead shall be the Contractor's responsibility. The watertight temporary bulkhead shall be constructed during a 48-hour system shut down period provided by the City as described in **Section 1.07 Order of Work**. Contractor shall be prepared to work 24 hours per day during the 48-hour system shutdown in order to complete the bulkhead installation. It is also the Contractor's responsibility to remove the temporary bulkhead while flows are diverted to the 84-inch force main as part of the Project.

5. After construction of the watertight temporary bulkhead and diversion of flows to the 84-inch force main, the Contractor shall construct a temporary bypass system which shall suction any water generated as part of the rehabilitation work (i.e., cure water, cleaning water, etc.) as well as any other ancillary water in the 72-inch force main from just upstream of the N11 structure and shall discharge those flows into the submarine hatches within the existing Fall Structure at the Combined Wastewater Treatment Plant as shown on the Contract Drawings. The Contractor shall furnish all material, labor, equipment, power, maintenance, etc. to build and maintain the bypass system. Contractor is responsible for the design, construction, testing, operation and maintenance, and dismantling of the temporary bypass system. The Contractor shall notify the Construction Manager 24 hours prior to commencing the bypass operation.

6. At the beginning of the Project and prior to replacing the blowoff on 11th Avenue, the City will perform a shutdown at Sump 2 to prevent flows from entering the 72-inch force main. However, after the shut down the 72-inch force main is still expected to have approximately 2 feet of standing water within the general vicinity of the blowoff that shall be removed by the Contractor prior to the blowoff replacement. The Contractor shall furnish all material, labor, equipment, power, maintenance, etc. to dewater the 72-inch force main between Sump 2 and the 72-inch force main manhole located at the intersection of 12th Avenue and Riverside Boulevard (MH462 which is approximately 750 feet from Sump 2). Dewatering water can be disposed of into manhole MH510 on the 114-inch Combined Sewer (CS) on 11th Avenue as shown on the Contract Drawings.

7. The Contractor shall use due diligence to complete the work on time and within schedule (outside of the wet weather period that is defined as October 15 to April 29). If the Contractor's work goes beyond the October 15 deadline, then Contractor shall be liable for additional costs (regulatory fines and legal fees) associated with emergency discharges originating from

Sump 2.

I. Submittals

1. The Contractor shall submit a N11 Bypass Plan for handling cure water, cooling water, cleaning water, and other incidental flows that enter the 72-inch pipeline during the Project. The N11 Bypass Plan shall be submitted to the Engineer for approval a minimum of 21 calendar days prior to bypassing flows and work shall not begin until an approved plan is on file with the Engineer. At a minimum, the N11 Bypass Plan shall include the following:

   a. Piping

      i. Pumped sewage or combined sewage shall be in an enclosed pipe that is adequately protected from traffic and shall be redirected into the combined sewer system. Dumping or free flow of sewage on private or public property, gutters, streets, sidewalks, or into the separated storm drainage system is prohibited.

      ii. Bypass pipes shall be sized according to the approved Flow Control Plan and in accordance with the manufacturer's specifications and recommendations. Bypass pipes must be high-density polyethylene (HDPE) (ASTM F714); high density solid wall; homogenous throughout; free of visible cracks, discoloration, pitting, varying wall thicknesses, holes, foreign materials, blisters, or other deleterious faults. Dimension ratio (DR) rating of the pipe shall be sufficient to withstand the external and internal loads anticipated including pressure tests. HDPE fittings shall be pressure rated to match the main pipe barrel DR pressure rating.

      iii. Flexible hoses, couplings, and connectors, shall be abrasion resistant and rated for the external and internal loads anticipated, including pressure tests.

      iv. Bypass piping shall be laid above ground. Contractor shall provide ramps as necessary to protect bypass pipelines and allow for safe passage of traffic.

      v. Air release valves shall have discharge piping plumbed to a container to contain sewage discharged through the air valve and other leaks.

   b. Power

      i. The Contractor shall be responsible for furnishing the necessary equipment, power, labor, and supervision to set up and operate the pumping and bypassing system to maintain existing flows and services. Equipment shall be operated in a manner to keep noise to

a minimum and in accordance with the City noise ordinance in Chapter 8.68 of the Sacramento City Code unless otherwise approved in writing by the City. Electric pumps or diesel silent pack pumps shall be used. No other type of pump will be acceptable without prior approval of the Engineer.

ii. Engines and generators shall include automatic transfer switches and be equipped to minimize noise (sound attenuated).

iii. Electric Power Generators: Minimum of one if temporary flow control system contains electric motor driven pump. Generator must be able to simultaneously start and run electric powered pumps required for flow to be controlled.

iv. A minimum of one spare generator is required to ensure 100 percent redundancy. The spare equipment shall be set up integral to the bypass system, ready to operate, if needed.

c. Pumps

i. Pumps shall be fully automatic, self-priming units that do not require use of foot valves or vacuum pumps in priming system.

ii. Contractor shall provide necessary start/stop controls for each pump. System shall be able to run dry for long periods of time to accommodate cyclical nature of flows.

iii. A minimum of one stand-by pump for each size is required. The spare equipment shall be plumbed to bypass, ready to operate, if needed. Back-up pumps shall be isolated from the primary system by a valve.

iv. Maximum Velocity: The bypass system velocities may not exceed 12 feet per second.

d. Laterals

i. Service laterals are not anticipated along the 72-inch force main for this Project. Contractor shall confirm this prior to the start of construction.

2. The Contractor shall submit a Blowoff Replacement Dewatering Plan to the Engineer for approval a minimum of 21 calendar days prior to controlling flows and shall not begin work until an approved plan is on file with the Engineer. At a minimum, the Dewatering Plan shall include the following:

a. Diagram of the suction and discharge locations including equipment staging and footprint.

b. Equipment: Vactor truck specifications (e.g., capacity, suction power, and discharge capabilities); pump and hose specifications; backflow prevention mechanisms; and temporary piping or fittings for discharge.

c. Power: Primary and stand-by power sources, including data sheets for generator equipment.

d. Spill Plan: The Contractor shall submit a Sewer Spill Prevention Plan. See Item No. 4 below.

3. The Contractor shall submit a Sewer Spill Prevention Plan to the Engineer for approval a minimum of 21 calendar days prior to control of any flows and shall not begin work until an approved plan is on file with the Engineer. The Sewer Spill Prevention Plan shall include, but is not limited to, flushing, cleaning, disassembling, handling, and removal of any materials and equipment associated with the Bulkhead Installation Flow Control system, the Cure Water Bypass system, and the Blowoff Replacement Dewatering system. The Sewer Spill Prevention Plan shall include the emergency response plan to be followed in the event of a system failure for any of the aforementioned flow control systems. The Sewer Spill Prevention Plan shall include standby pumps. Devices and materials proposed for spill containment shall be submitted for acceptance.

J. Monitoring and Safety

1. The Contractor shall take necessary precautions, including constant system monitoring (required 24 hours per day, 7 days per week continuous monitoring by on-site Contractor personnel while sewer bypass system is in place), to ensure that there are no sewage spills and no private properties are subjected to a sewage backup.

2. The Contractor shall be responsible for providing the appropriate and required amount of personnel for bypass/dewatering system monitoring. Monitoring personnel shall be qualified with at least 3 years of experience in the specified bypass/dewatering pumping operations. The person responsible for monitoring shall have no other job responsibility except for the monitoring and maintenance of the bypass/dewatering system.

3. Monitoring of the flow levels and pump operation shall be provided to ensure continued operation of the bypass/dewatering system. An audible alarm system shall be installed to notify the Contractor when the pumps fail to operate. In the event of pump failure, the Contractor shall immediately evacuate excavations until the bypass/dewatering system is operational. In the event that a wastewater spill occurs as a result of the Contractor's operations, the Contractor shall pay any fines imposed on the City.

4. The Contractor shall immediately notify the Engineer should a sanitary sewer spill occur.

5. The Contractor shall provide onsite portable lights.

K. Quality Assurance

1. Testing: Upon complete installation of the bypass/dewatering system(s), Contractor shall perform a pressure check of the completed system(s). System pressures shall not exceed those approved in the submitted calculations.

2. Spill Containment: Pumps and air release valves shall be set into or surrounded by spill containment devices. Existing drainage shall be protected by sandbags to prevent flow from entering the storm drain.

3. Existing Structures: The Contractor shall be responsible for modifications that may be required to existing structures (including pipes) where its pumps are suctioning or discharging to accommodate its proposed bypass/dewatering equipment, at no additional cost to the City. Contractor is also responsible for restoring existing structures (including pipes) to existing or better condition after bypass pumping/dewatering has stopped and equipment has been moved off site. Restoration shall be at no additional cost to the City.

L. Permits

1. The Contractor shall coordinate with the City to obtain access to the CWTP to lay bypass piping.

2. The Contractor shall coordinate with the City to discharge blowoff replacement dewatering water into the 114-inch combined sewer at MH510.

3. Access: The Contractor shall not block access to driveways, streets, sidewalks, or other facilities with flow control activities and equipment. Bypass piping must not block access to driveways, roads, and intersections. Provide a minimum of 12 feet for driveway access for each property in the vicinity of the bypass system.

M. Restoration

1. Upon completion of the bypass pumping/dewatering operation(s), disturbed areas shall be cleaned and restored to a condition which is at least equal to or better than the condition which existed prior to the start of work.

N. Precaution and Performance Requirements

1. Precautions shall be taken to ensure that flow control operations do not cause flooding or damage to public or private property being served by the combined sewers involved. The Contractor shall be responsible for damages to private or public property that may result from the flow control

operations. The Contractor shall be responsible for any violations of laws, regulations or permits and shall indemnify and hold the City harmless from any and all damages, including but not limited to fines, penalties and lawsuits which arise from such violations.

2.06 Work Performed by City Crews

The Contractor is advised that City crews will operate Sump 2 in order to perform the system shut down and to provide flow control to remove flows from the 72-inch force main and divert such flows to the 84-inch force main prior to the Contractor's Work for which bypass is required (See **Section 2.05 Temporary Diversion of Sewer and Drainage Flows**). City crews will also operate Sump 2 to return flows to the 72-inch force main once lining has been completed. The Contractor is responsible for preparing a Sump 2 Flow Control Communication Plan and submitting the Plan to the City a minimum of 2 weeks prior to lining the 72-inch force main. Within the Sump 2 Flow Control Communication Plan, the Contractor must include diversion operations necessary for the cleaning and CCTV of the 84-inch force main after the work on the 72-inch force main has been completed.

The Contractor is advised that the City retains the option of performing with City crews all or a portion of any work involved in relocating, repairing, or otherwise restoring existing sewer, water, and drainage systems and services to developed properties within the limits of the project that may be in conflict with the proposed project improvements. Any such work performed by City forces will be at the discretion and convenience of the City. All work performed and materials provided by the City will be paid for by the Contractor or removed from this contract at no additional cost to the City.

2.07 Existing Site Conditions

Bidders are directed to Section 2-4 of the Standard Specifications which require Bidders to examine the Project site.

The Contractor shall photograph areas scheduled for excavation, ensuring comprehensive coverage of surface features, utilities, and adjacent structures. Photographs must be taken no more than 48 hours prior to the start of excavation and submitted to the Engineer before work begins. Photographs shall be high-resolution color images submitted digitally to the Engineer.

2.08 Handling and Removal of Hazardous or Contaminated Materials

In the event hazardous or contaminated materials are encountered at the site for which separate handling or removal provisions have not been made in these Special Provisions, the Contractor shall stop work on that item, notify the Engineer and move his operations to work elsewhere on the site, if possible. The Contractor shall monitor the excavated soils and debris for contaminants using a photo ionizing detector (PID) or other devices acceptable to the Engineer. The Contractor shall notify the Engineer within 24 hours of visual observation or detected levels of contaminants reach actionable levels. The City will be responsible for handling and removal of hazardous material or may request that

the Contractor be made available, through the revocable bid item or contract change order, to provide additional services as needed for the completion of the work. Additional services may consist of retaining a subcontractor who possesses a California license for hazardous substance removal and remedial actions.

A. Hazardous or contaminated materials may only be removed and disposed of from the Project site in accordance with the following provisions:

   1. All work is to be completed in accordance with the following regulations and requirements:

      a. Chapter 6.5, Division 20, California Health and Safety Code.

      b. California Administration Code, Title 22, relating to Handling, Storage, and Treatment of Hazardous Materials.

      c. City of Sacramento Building Code and the Uniform Building Code, 1994 edition.

   2. Coordination shall be made with the County of Sacramento Environmental Management Department, Hazardous Materials Division, and the necessary applications shall be filed.

   3. All hazardous materials shall be disposed of at an approved disposal site and shall only be hauled by a current California registered hazardous waste hauler using correct manifesting procedures and vehicles displaying a current Certificate of Compliance. The Contractor shall identify by name and address the site where toxic substances shall be disposed of. No payment for removal and disposal services shall be made without a valid certificate from the approved disposal site where the material was delivered.

B. None of these provisions shall be construed to relieve the Contractor from the Contractor's responsibility for the health and safety of all persons (including employees) and from the protection of property during the performance of the work. This requirement shall be applied continuously and not be limited to normal working hours.

2.09 Health and Safety

The Contractor is warned that existing sewers and appurtenances have been exposed to sewage and industrial wastes. These facilities shall therefore be considered contaminated with disease-causing organisms. Personnel in contact with contaminated facilities, debris, wastewater, or similar items shall be advised by the Contractor of the necessary precautions that must be taken to avoid becoming diseased. It is the Contractor's responsibility to urge his personnel to observe a strict regime of proper hygienic precautions, including any inoculations recommended by the local public health officer.

Because of the danger of solvents, gasoline, and other hazardous material in the existing

sewers, these areas shall be considered hazardous to open flame, sparks, or unventilated occupancy. The Contractor shall be aware of these dangers and shall take the necessary measures to assure his personnel observe proper safety precautions when working in these areas.

The Contractor shall not allow any wastewater to discharge from sewage collection systems onto adjacent lands or waters. In case of accidental discharge, the Contractor shall be responsible for containment, immediate cleanup and disposal at his own expense to the full satisfaction of the Engineer. Where containment is not possible, adequate disinfection shall be provided by the Contractor at his expense as directed by the Engineer or agency with jurisdiction. If, in the opinion of the Engineer, the Contractor fails to adequately follow the above guidelines, he will make arrangements to have the work done by others, and have the cost charged to the Contractor.

2.10 Public Notification of Work

The Contractor shall notify property owners and/or tenants adjacent to the Project limits in writing seven (7) calendar days in advance of beginning work. The notice shall be approved by the Engineer and shall describe the work to be performed, the anticipated duration of construction and the name and telephone number of the Contractor's representative that can be reached 24 hours a day, seven (7) days a week.

Affected property owners are defined as:

1. Residential and commercial properties within a 250-foot radius of planned work.

2. Residential and commercial properties fronting detour routes plus a block beyond any detour route(s).

Contractor shall notify homeowners in the form of door hangers a minimum of seven (7) calendar days in advance of the start of construction. Contractor shall notify the City 24 hours in advance of posting property owner notifications. City shall provide door hangers for the Contractor's use.

2.11 Maintenance of Traffic, Public Safety and Convenience

A. Standards and References

Traffic control shall be performed in accordance with the following documents. In case of conflicts, the order of precedence shall be in the order listed below and the Contract Documents shall take precedence over all reference documents.

1. City of Sacramento Ordinance No. 2002-004 Related to Construction Work in City streets.

2. City of Sacramento Standard Specifications, latest edition, and supplements. The Contractor's attention is directed to Sections 6-6 through

6-11, 7-4 and 16-3 of the Standard Specifications.

3. State of California Department of Transportation: California Manual on Uniform Traffic Control Devices for Streets and Highways (CA MUTCD) 2014, Part 6, Temporary Traffic Control.

B. Submittals

As described in Section 5-7 of the Standard Specifications and **Section 1.08 Shop Drawings & Submittals of these Special Provisions**, the Contractor shall submit the following:

1. Proposed traffic control phasing in the CPM construction schedule that is submitted to the Engineer.

2. Traffic Control Plan, which includes rerouting/detour plan for vehicles, bicycles, and pedestrians, to the City of Sacramento Public Works Department for review and approval.

3. Administrative Submittals: Copies of permits and approvals for construction as required by laws and regulations and governing agencies.

4. Equipment and Vehicle Operators Safety Training Sign-off Sheets: Develop and submit as required herein.

5. Qualifications of proposed Traffic Engineer

6. In the event the Contractor deems it necessary to stage equipment, trench plate, and other construction materials within the construction site or on City right-of-way during the non-working hours, a staging plan shall be submitted to the City for approval prior to such staging. The Contractor shall submit calculations for size and thickness of proposed trench plates.

C. Traffic Control Plan Requirements

Traffic Control Plans for vehicles, pedestrians, and bicycles shall be prepared and presented by a traffic engineer with registration as a Civil or Traffic Engineer in the State of California or by a California licensed Contractor with a valid C31 Contractor License with expertise in traffic control. A traffic engineer or California licensed C31 Contractor shall be assigned to the Project for the duration of the Work. The C31 Contractor shall not provide or implement any traffic control plans or portions thereof that require the modification of traffic signals. The traffic engineer or C31 Contractor shall develop and update Traffic Control Plans, oversee field implementation of Traffic Control Plans, provide quality assurance for compliance with traffic control procedures, and shall meet onsite with the Engineer:

1. Prior to the start of work

2. Prior to changes in traffic control procedure

3. As requested by the Engineer

The Contractor shall be required to establish traffic scheduling and control measures acceptable to the City prior to starting work. The Contractor shall submit to the City for review and approval a Traffic Control Plan showing proposed traffic control measures and/or detours for vehicles and pedestrians affected by the construction work, which includes, but is not limited to, Del Rio Trail access, Partner Park Dog Park access, and Temple B'nai Israel on 11th Ave access and parking. This Traffic Control Plan shall be submitted a minimum of ten (10) working days prior to the scheduled commencement of work by the Contractor. The Contractor will not be allowed to begin work until an approved plan is on file with the Engineer.

The Contractor's Traffic Control Plan shall include location of proposed work areas, locations of areas where the public right-of-way will be closed or obstructed, proposed phases of traffic control and time period of when traffic control will be in effect. The Traffic Control Plan shall also include name and business address of Contractor and a statement that the Contractor will comply with City's noise ordinance.

In addition, the approved Traffic Control Plan shall be kept on hand at the project site at all times while construction is in progress. Changes to the approved Traffic Control Plan shall be made only by written approval of the Engineer. The Contractor shall secure approvals for necessary changes so as not to delay the progress of the work. Proposed changes shall be described and shown on revised text and drawings signed and sealed by the Contractor's traffic engineer.

D. Traffic Control Devices

Traffic Control Devices shall be placed and maintained at all times during and after working hours of every day until the next phase of construction traffic control is being placed. At the end of construction, signing and striping shall be restored to the existing conditions. The roadway is defined as "the area of the road or Del Rio Trail used for vehicular, pedestrian, or bicycle travel".

Traffic control devices shall comply with the following:

1. Sand filled crash cushions shall be used at the approach end of temporary railing (Type K).

2. Protective devices used to separate pedestrians and the construction area(s) will be subject to the Engineer's approval.

3. Construction area traffic control devices shall meet the requirements in Section 12 of the Standard Specifications and shall conform to the CA MUTCD.

4. Advance warning and traffic delineation shall conform to the provisions of Section 6-10 of the Standard Specifications.

5. Flaggers shall be specifically trained by Contractor to be knowledgeable about the site, surrounding area, access, delays, detours, and alternative routes. Flaggers not meeting these criteria shall be immediately removed from the jobsite and replaced at the Engineer's discretion.

E. Traffic Control Requirements

The Contractor shall be solely and completely responsible for furnishing, installing, and maintaining warning signs and devices necessary to safeguard the general public and the work, and to provide for the safe and proper routing of vehicular, bicycle, and pedestrian traffic during the performance of the work. The requirement shall apply continuously and shall not be limited to normal working hours.

The Contractor shall perform the following requirements included in the City ordinance Chapter 12.20, with this contract:

1. The Contractor shall not cause public rights-of-way, public property or public easement to be covered with construction related trash, debris, garbage, waste material or soil. Areas affected by the construction, must be cleaned to the satisfaction of the Engineer prior to re-opening to the public.

2. Trench plates shall not be utilized for more than three (3) calendar days in one location and temporary surfacing shall not be utilized for more than five (5) calendar days in one location without prior written approval of the Engineer.

3. The Contractor shall provide access to existing driveways at all times except when excavation is in progress, when forms are in place, when concrete or asphalt is being placed or unless other arrangements are made with the property owner. The Contractor shall take precautions so as not to entrap vehicles on private property during the progress of the work. Driveways may be closed only during normal working hours and only after giving property owners a minimum of seventy-two (72) hours' notice in advance of the closure. Access for emergency vehicles shall be available on all streets within the construction area at all times.

4. Rear access to buildings and existing parking areas behind buildings shall be maintained. If arrangements have been made with property owners, the Contractor may close such access for a limited time. The Contractor shall give property owners seventy-two (72) hours' notice in advance of the closure.

5. Provide for pedestrian and bicycle traffic at all times except where closures are approved in advance by the Engineer.

6. At least one (1) 10-foot-wide lane of traffic shall be maintained at all times in the street. All work within public streets and/or roadway right-of-way shall be done in an expeditious manner to cause as little inconvenience to the traveling public as possible. Skid-resistant steel plates or other approved methods shall be used to cover all open excavations in the roadway during non-working hours for the entire project.

7. City working hours are defined to be between 7:00AM and 6:00PM, Monday through Friday, excluding legal holidays unless otherwise defined in these Special Provisions.

8. For work done before 7:00AM or after 6:00PM, or during all daylight hours between 6:00PM Friday to 7:00AM Monday, the street or alley may be closed provided proper detours are provided and only if arrangements have been made with the property owners in advance and approved by the Engineer. A minimum of five (5) working days' notice shall be given to property owners in advance of closure.

9. At night and at other times when work is not in progress, the entire roadway and alley shall be open to the public for pedestrian and vehicular traffic.

10. At the request of the Engineer, the Contractor shall install temporary railing (Type K) or water-filled barrier between any lane carrying public traffic and any excavation, obstacle, or storage area when the following conditions exist:

    a. Excavation: Any excavation, the edge of which is 12-feet or less from the edge of the lane, except:

        i. Excavations covered with sheet steel or concrete covers of adequate thickness to prevent accidental entry by traffic or the public.

        ii. Excavations less than 1-foot deep

        iii. Trenches less than 1-foot in diameter

        iv. Excavations in side slopes, where the slope is flatter than 4:1

        v. Excavations protected by existing barrier or railing

    b. Obstacles: Whenever the work includes the installation of a fixed obstacle together with a protective system, such as a sign structure together with protective railing, and the Contractor elects to install the obstacle prior to installing the protective system; or whenever the Contractor, for their convenience and with permission of the Engineer, removes a portion of an existing protective railing at an obstacle and does not replace such railing complete in place during the same day.

c. Storage Areas: Whenever material or equipment is stored within 12 feet of the lane and such storage is not otherwise prohibited by the Standard Specifications.

11. Spillage resulting from hauling operations along or across any public traveled way shall be removed immediately by the Contractor at their expense. Water or dust palliative shall be applied if ordered by the Engineer for the alleviation or prevention of dust nuisance.

12. The Contractor shall ensure that utility services to customers in the Project are maintained.

F. Partner Park Safety Measures

1. During the partial closure of Partner Park Dog Park, Contractor shall implement and maintain appropriate safety measures to protect park users, pets, and workers. This includes clearly marked barriers, signage indicating restricted areas, and safe detour routes, if applicable. The Contractor shall coordinate with the City to ensure the partial Dog Park closure is communicated in advance and that access to open areas remain safe and unobstructed to park users and pets. All safety protocols must comply with local regulations and be adjusted as needed to reflect changing site conditions.

2. Temporary fencing shall be a minimum of 6-feet high with the bottom 2-feet reinforced with temporary fencing materials with openings no larger than ½ inch to secure small animals on the open side of the Dog Park. Acceptable materials for the ½ inch opening portion include rigid welded wire panels or other secure fencing approved by the City. Temporary barriers must be securely anchored to prevent displacement and maintained in good condition for the duration of the partial Dog Park closure. The Contractor is responsible for ensuring that all fencing is both functional and safe for public interaction, with no sharp edges or protrusions that could pose a hazard to park visitors.

G. Repair of Damage

1. All persons performing work shall repair or replace, to previous condition or better, all existing traffic control system markers or devices that are damaged or destroyed during work within three (3) calendar days of the completion of work in the immediate area unless written direction extending the time period or relieving the persons performing work of this obligation is provided by the Engineer.

2. All signs and street marking damage caused by or related to the construction of this project shall be replaced in kind by the Contractor. In the case of partial damage to lane stripes and traffic lettering the whole stripe or marking in its entirety shall be replaced. Temporary markings and

striping shall be installed within 72 hours (three working days) of damage.

H. Coordination Requirements

1. Police Communication Center one (1) working day prior to closure by calling 916-808-5471, option 2 (City of Sacramento 311).

2. Fire Department Communications Center one (1) working day prior to closure by calling 916-228-3035 or fax at 228-3082.

3. City Traffic Engineering Services five (5) working days prior to closure by calling 916-808-5307, option 5.

4. City Solid Waste Division five (5) working days prior to closure by calling 916-808-4952 or fax at 808-4999. The Contractor shall also coordinate with the property owners all relocations of trash receptacles necessary to maintain garbage collection.

5. Street Parking five (5) working days prior to closure by calling 916-808-5579 or fax 808-7501.

6. Regional Transit five (5) working days prior to closure by calling Lynn Cain at 321-5375 or fax 557-4541.

7. At a minimum, the Contractor-provided information shall include:

   a. Project name and number

   b. Contractor's name and a 24-hour phone number

   c. City of Sacramento's project manager's name

   d. City Inspector Name and phone number

   e. Limits of street closure, with street names

   f. Duration of street closure

2.12 Removal of Street Parking

In locations where the Contractor's operations require removal of on-street parking, such removal shall be in accordance with Section 6-18 of the Standard Specifications.

Failure to comply with this section will prevent the City from towing vehicles parked in the proposed work area.

2.13 Payment

Full compensation for furnishing all labor, materials, tools, equipment and incidentals and

for doing all work involved in performing and complying with these General Requirement items shall be considered as included in the prices paid for in the various contract bid items the Contractor deems appropriate, and no additional compensation will be allowed.

****END OF SECTION****

SECTION 3 – GENERAL SEWER CONSTRUCTION REQUIREMENTS

3.01 Utility Potholing

A. Prior to construction, the Contractor shall contact Underground Service Alert (U.S.A.) to field locate and mark at the surface, existing utilities and utilities structures within the project area.

B. The Contractor shall prepare and submit to the Engineer a Potholing Plan prior to excavating potholes. The Potholing Plan shall include the plan to locate existing horizontal and vertical angle points in the 72-inch force main pipeline.

C. Three (3) weeks prior to excavation for pipeline rehabilitation, the Contractor shall pothole and survey utilities within the vicinity of the proposed excavations.

D. The Contractor shall clearly mark the depths and horizontal positions of potholed utilities on the record drawing markup set, regardless of whether the pothole data agrees or disagrees with the Contract Drawings. The Contractor shall report potential utility conflicts to the Construction Manager immediately after they are discovered. No delay claims will be accepted if the apparent conflict is resolved by the Construction Manager within 30 days after it is reported.

E. The Contractor shall notify the Construction Manager a minimum of three (3) working days before beginning pothole work. A representative from the City shall be onsite during the pothole operations. The Contractor shall submit pothole and survey information to the Engineer a minimum of ten (10) days prior to beginning construction.

F. The following information shall be collected for each pothole: 1) brief description of location, stationing, and alignment (e.g., parallel or perpendicular to pipeline) 2) asphalt thickness (if applicable), 3) size, material, and type of utility, and 4) depth of utility infrastructure measured from finished grade to the top of utility. Where duct banks or concrete encased utilities are encountered, the top and bottom depths from finished grade shall be collected and included with the above information. For potholes of the existing 72-inch diameter force main, Contractor shall provide information on location and size of vertical or horizontal angle point in the force main.

G. Surface restoration for potholes within a paved area within the proposed pipeline rehabilitation excavation areas shall be temporary paving per the Contract Drawings, these Special Provisions, and the Standard Specifications. If pothole excavation falls outside of proposed pipeline rehabilitation excavations and is located within a paved area, permanent paving shall be performed per **Section 3.05 Pavement Cutting and Surface Restoration** of these Special Provisions.

3.02 Sheeting, Shoring, and Bracing

A. Shoring refers to providing all components of the excavation support system,

including, but not limited to, bracing, steel soldier piles or sheet piles, struts, or any other support including internal bracing, where applicable. The Contractor shall use other methods of support only when approved by the Engineer. Shoring shall be designed, provided, maintained, and where applicable, removed by the Contractor, in accordance with these Special Provisions and the Contract Documents.

B. As required by Section 6705 of the California Labor Code and in addition thereto, whenever work under the contract involves the excavation of any trench or trenches five (5) feet or more in depth, including temporary construction pits and manhole excavations, the Contractor shall submit to the Engineer a detailed plan showing the design of shoring, bracing, sloping, or other provisions to be made for worker protection from the hazard of caving ground during the excavation of such trench or trenches. If such plans vary from the shoring system standards established by the Construction Safety Orders of the Division of Industrial Safety, in Title 8, Subchapter 4, Article 6, California Code of Regulations, the plans shall be prepared and signed by a registered civil or structural engineer employed by the Contractor. Shoring system plans for excavations in excess of five (5) feet or more in depth shall be prepared and signed by a civil or structural engineer, registered in California and employed by the Contractor. Costs therefore shall be included in the bid price named in the contract for completion of the work as set forth in the Contract Documents. Nothing in this Section shall be deemed to allow the use of a shoring, sloping or other protective system less effective than that required by the Construction Safety Orders. Nothing in this Section shall be construed to impose tort liability on the City, Engineer, Design Consultant, or any of their officers, agents, representatives, or employees.

C. The sheeting, shoring, and bracing system shall be designed to assure worker safety and optimal conditions for pipe rehabilitation and new pipe spool piece installation, and to minimize damage to adjacent pavement, structures, fences, walls, pipelines, and utilities. Horizontal strutting below the barrel of a pipe and the use of pipe as support are not acceptable.

D. The sheeting, shoring, and bracing system shall be designed and constructed to meet the following minimum requirements:

1. Protect personnel that enter excavations.

2. Comply with all governing regulations pertaining to excavation safety (e.g., the most current edition of Cal/OSHA Construction Safety Orders, Article 6).

3. Be compatible with the surface and subsurface soil and groundwater conditions encountered in the Project areas, and resist lateral earth pressures, and hydrostatic pressures in and where applicable.

4. Protect adjacent existing utilities, pipelines, pavements, structures, fences,

and walls.

5. Excavation and installation of shoring shall occur in a manner and sequence that does not damage existing utilities, pipelines, pavements, structures, fences, and walls including through settlement, heave, or vibrations.

6. Prevent raveling, running, flowing, caving, sloughing, or lateral movement of excavation walls and associated loss of adjacent ground and adjacent ground surface settlement, even when subjected to construction vibrations.

7. Allow for removal or abandonment of shoring in a manner and sequence that: 1) is in step with the backfilling sequence (i.e., shoring should not be removed ahead of backfilling); 2) does not cause disturbance (i.e., loosing) of pipe bedding and pipe embedment material; and 3) does not damage existing pipelines or structures, pavements, utilities, fences, and walls including through settlement, heave, or vibrations (contractor to address removal/abandonment concerns specific to the type of shoring proposed in the shoring submittal). Any void space created by shoring removal should be completely filled with CLSM or approved equivalent.

8. Resist lateral earth pressures including those from hydrostatic pressures and lateral loads from vehicular, construction equipment and spoils, and nearby existing structures, even when subject to construction vibrations.

9. Provide stable excavation walls and bottom (e.g., prevent bottom heave and/or piping/boiling).

10. It is the Contractor's responsibility to review the existing underground utilities, to make its own interpretation regarding the ground conditions, and to conduct surveys and/or borings it believes are necessary to determine the types and extent of bracing and shoring systems required to accomplish the Work. The foregoing costs shall be included in the Contractor's total price for performing the Work.

E. The Contractor shall design and construct the shoring system in accordance with all applicable codes, and in accordance with the specific requirements described herein. The Contractor shall at all times furnish, install, and maintain sufficient shoring and bracing in trenches and pits to ensure safety of the workmen and to protect and facilitate the work.

F. The Contractor shall:

1. Design each member or support element to support the maximum loads that can occur during construction with appropriate safety factors. A temporary shoring system shall be designed to provide a minimum factor of safety of 2.0 against sliding and 1.5 against bottom heave.

2. Design the support system to prevent raveling, running, and flowing of

excavation walls and associated loss of adjacent ground and adjacent ground surface settlement or existing trench material at utility crossings.

3. Design the support system to retain non-cohesive granular soils subject to raveling, flowing, and/or running upon vibration from construction equipment including compaction of backfill.

4. Design excavation support systems in accordance with all Cal/OSHA, and OSHA, requirements.

5. Design the support system to support the loads for the full vertical depth of the excavation including up to 2 feet of over-excavation.

6. Obtain all appropriate permits and obtain all necessary written approvals of the proposed shoring system/designs from Cal/OSHA prior to submitting to the Engineer for review and approval.

7. Assume that groundwater is ten feet below ground surface.

G. The Contractor shall take into consideration all surcharge loadings. Surcharge loadings can be due to such things as material or soil stockpiles, sloping ground adjacent to shoring, and adjacent building foundations, Contractor shall assure that his assumed conditions and loadings are not exceeded in the field during construction. The Contractor shall design shoring to withstand any construction loading. The design of shoring shall conform to accepted engineering practice in this field. The City's approval of the Contractor's plans and methods of construction does not relieve the Contractor of his responsibility for the adequacy of this support.

H. The Contractor shall be solely responsible for, and bear the sole burden of cost for, any and all damages resulting from improper shoring or failure to shore. The safety of workmen, the protection of adjacent structures, property and utilities, and the installation of adequate supports for excavations shall be the sole responsibility of the Contractor.

I. The design, planning, installation, and removal (if required) of shoring shall be accomplished in such a manner as to maintain stability of the required excavation and to prevent movement of soil and rock that may cause damage to adjacent shoring systems, structures and utilities, damage or delay the work, or endanger life and health.

J. The Contractor shall submit plans for shoring to the Engineer for review at least thirty (30) days prior to commencement of work. No excavations shall be started until the Engineer has received the Contractor's shoring design. The shoring and bracing system plans shall allow the Engineer to review the overall completeness and effectiveness of the proposed system. Receipt of the shoring and bracing plans by the Engineer in no way relieves the Contractor of complete responsibility for providing effective and safe shoring and bracing of the construction area

and/or pipeline under construction. Shoring and bracing submittals shall demonstrate coordination with the dewatering method and submittal.

K. Sheeting and shoring plan submittal shall include the following:

1. Design assumptions, analyses, calculations, and information on Contractor's proposed method of installation and removal (if required) of shoring. The design and calculations shall be performed by, sealed and signed by a professional civil or structural engineer registered in the State of California and experienced in the design of earth retaining structures.

2. The maximum design load to be carried by the various members of the support system.

3. Detailed excavation support drawings, showing pertinent dimensions, spacings, and relationships among the components of the shoring, as well as construction sequence and scheduling.

4. The method of bracing.

5. The full excavation depth and depth(s) below the main excavation to which the support system will be installed.

6. Detailed sequence of construction and bracing removal.

7. Detailed drawings and descriptions of the method to be used by the Contractor to monitor shoring and adjacent ground/structure movements.

8. Demonstrate coordination with interior (sump pumps) and exterior (dewatering wells) dewatering methods and dewatering submittal.

9. Calculations demonstrating that shoring has been designed for hydrostatic pressures if external dewatering wells are not planned to fully draw down the groundwater level behind the shoring to below the excavation bottom.

L. Contractor shall submit proof of experience and qualifications required as follows: work shall be performed by an individual or firm of established reputation (or, if newly organized, whose personnel have previously established a reputation in the same field) for at least five (5) years, which is regularly engaged in, and which maintains a regular force of workmen skilled in design, installation and maintenance of shoring.

M. Welding shall be done by skilled welders, welding operators, and tackers who have had adequate experience in the type of materials to be used. Welders shall be qualified under the provisions of ANSI/AWS D1.1 by an independent local approved testing agency not more than six months prior to commencing work; unless having been continuously employed in similar welding jobs since last certification. Machines and electrodes similar to those used in the work shall be

used in qualification tests. The Contractor shall furnish material and bear the expense of qualifying welders.

N. Prior to installation of sheeting/shoring system, Contractor shall perform the following:

1. Verify surface conditions and utility locations. Protect utilities and improvements, as called for in the Contract Documents, or required by the utility company(ies).

2. Verify field measurements indicated on Contract Drawings.

3. Verify layout of work before beginning installation.

4. Examine the available boring data (if any) before beginning design and installation of the shoring system.

5. Ensure that a Competent Person, as defined by Cal/OSHA, evaluates trench soil conditions, identifies potential hazards, and confirms the suitability of the proposed system prior to installation. The Competent Person shall conduct ongoing inspections and adjustments as required by changing site conditions.

O. The Contractor shall protect existing utilities or repair utilities damaged by operations and shall protect adjacent structures and property from damage and disfiguration. The Contractor shall also provide any necessary groundwater control and/or drainage in accordance with these Special Provisions and the Standard Specifications.

P. The methods of constructing the temporary shoring are at the option of the Contractor and subject to review and approval by the Engineer. Excavations shall be made to the lines, grade, and dimensions shown on the Contractor's shop drawings. If the excavation is found to be deviating from the true lines and grade, the Contractor shall immediately make the necessary changes in operation to bring the operation back to the correct position. Any excess deviation beyond that specified herein shall be remedied by the Contractor at own expense.

Q. Materials encountered shall be regarded as unclassified and shall be excavated, regardless of the nature thereof, and excavated material must be removed and disposed of by the Contractor. Excavation shall be done in such manner as to provide adequate support at all times to adjacent conduits, structures, trails, or roads and so as to offer no hazard to train, truck or automobile operations. Bracing and shoring shall be substantial and safe, and work shall be done in full conformity and subject to the inspection of affected parties. If and when required and to the degree necessary, the Contractor shall provide additional support as may be necessary at no additional cost.

R. Every precaution shall be taken to prevent the entry of water, mud and foreign

matter into the excavation at all times. It is the intention of these Special Provisions that construction work described herein shall be carried out under dry conditions. The Contractor shall promptly and continuously control water inflow and dispose of water from any source that may accumulate in the excavation. This shall include necessary pumping, bailing, draining and sedimentation prior to discharge.

S. Excess excavation or over-excavation performed by the Contractor for any purpose or reason, except as may be ordered in writing by the Engineer, shall be at the expense of the Contractor. Any damage done to the work by the Contractor's operations shall be repaired by and at the expense of the Contractor and in a manner approved by the Engineer. Excavate only as much as can safely stand unsupported prior to installing shoring, but in no case more than four (4) feet shall be left unsupported at any time. Install lagging immediately after excavation.

T. Steel Sheet Piling

1. Sheet piling shall be of an internally braced continuous interlocking type forming a continuous wall. Sheet piling and accessories shall conform to the requirements of ASTM A328.

2. The Contractor shall drive sheet piling in plumb position with each pile interlocked with adjoining piles for its entire length including corners so as to form a continuous diaphragm throughout the length of each run of wall and at each wall corner, bearing tightly against original ground.

3. The sheet piling shall be driven to the depth indicated on the Contractor's shop drawings, with a minimum depth of 5 feet below the bottom of the trench or excavation.

4. The Contractor shall exercise care in driving piles to avoid damage to existing utilities so that interlocking members can be subsequently extracted without injury to adjacent fills or existing utilities.

5. The Engineer reserves the right to order the sheeting driven to the full depth of the trench or to such additional depths as may be required for the protection of the Work. Where the soil in the lower limits of a trench has the necessary stability, the Contractor may submit a request to modify the shoring design and submit supporting calculations to stop the driving of sheeting at some designated elevation above the trench bottom. However, the Contractor retains full responsibility for excavation support under the Contract.

U. Internal Bracing Support System

1. Timber and structural steel used for the supporting system, whether new or used, shall be sound and free from defects that may impair their strength.

2. Structural steel members shall be designed in accordance with the Manual of Steel Construction. Timber members shall be designed in accordance with the latest edition of the Uniform Building Code.

3. Sheeting, shoring, and/or bracing of excavations shall be provided, inclusive of construction conforming to applicable safety orders, including necessary subsurface investigations, preparing and submitting shoring designs, labor, tools, materials, equipment, power, and fuel for doing the required work including, but not limited to, that as required by Sections 6700-6708 of the Labor Code.

4. When close sheeting (sheet piling) is required, it shall be driven so as to prevent adjacent soil from entering the trench either below or through such sheeting. Where sheeting, shoring, and bracing are used, the trench width shall be increased accordingly.

5. The Contractor shall provide an internal bracing support system including lagging and sheeting, sheet piles, wales, struts, and/or shores.

6. The Contractor shall install and maintain bracing support members in tight contact with each other and with the surface being supported. Support system monitoring provisions shall be installed as indicated on the Contractor's shop drawings.

7. The Contractor shall control shoring movement. To do so, the Contractor may preload bracing members by jacking struts to 50 percent of the design load. Preloaded bracing members shall be loaded in accordance with methods, procedures, and sequence as described on the approved shop drawings. Excavation work shall be coordinated with the installation of bracing and preloading. Steel shims and steel wedges welded or bolted in place to maintain the preloading force shall be used in the bracing after release of the jacking equipment pressure.

8. Excavation shall proceed to no more than 2 feet below point of the support about to be placed. The support shall be installed and preloaded immediately after installation and prior to continuing excavation.

9. Where sheeting, shoring, and/or bracing are used, the trench width shall be increased accordingly for the installation of utilities.

V. Removal of Supporting System

1. The Contractor shall remove shoring, including sheet piles, wales, struts, lagging and shores from the excavation, unless shown otherwise or otherwise directed by the Engineer. Shoring system removal shall be performed in a manner that will avoid: damage to new or adjacent construction or facilities; settlement or heave of new or existing installations; loosening of compacted pipe embedment materials, either by displacement

or vibration; ground surface settlement or heave; or produce vibrations that could damage new or adjacent utilities or structures. Voids created by the removal of the supporting system shall be immediately filled with CLSM, well-graded cohesionless sand, lean concrete, or sand cement grout.

2. Sheeting and bracing which have been ordered left in place must be removed for a distance of 5 feet below the established adjacent grade.

3. Trench bracing, except those that must be left in place, may be removed when the backfill has reached the respective levels of such bracing.

4. Sheeting, except that which has been left in place, may be removed after the backfilling has been completed or has been brought up to such an elevation as to permit its safe removal.

3.03 Trench Excavation and Backfill

Trench excavation and backfill shall meet the applicable requirements of Sections 10, 14 and 26 of the Standard Specifications and these Special Provisions. If specified in the Contract Drawings or these Special Provisions, pipe zone shall be backfilled using Controlled Low Strength Material (CLSM) in accordance with Section 10-16 of the Standard Specifications, and as directed by the Engineer. Slurry cement backfill will not be allowed. No additional compensation will be paid to the Contractor for hauling, stockpiling, drying, wetting or any processing of the native soil or AB required to achieve the minimum stability and relative compaction criteria.

A. Suitable Materials: Materials not defined as unsuitable below are defined as suitable materials and may be used in fills, backfilling, and embankment construction subject to the indicated limitations. In addition, when acceptable to the City, some of the material listed as unsuitable may be used when thoroughly mixed with suitable material to form a stable composite.

1. Suitable materials may be obtained from on-site excavations, may be processed on-site materials, or may be imported. If imported materials are required by this Section, or to meet the quantity requirements of the Project, the Contractor shall provide the imported materials at no additional expense to the City, unless a unit price item is included for imported materials in the bidding schedule.

2. Under this contract, proposed import soil, dirt, earth, etc., shall be defined as having an Environmental Screening Levels (ESLs) equal to or below the Residential Land Use defined by the current Sacramento Regional Water Quality Control Board Table “A” with exception to Arsenic and Vanadium at levels up to 5.5mg/kg and 70mg/kg respectively (background levels) free of deleterious substances, foreign matter, organic materials, and which does not contain material having a dimension greater than 4-inches.

3. Coarse Drain Rock: Drainage material shall conform to the gradation

requirements specified in ASTM C33 for Size No. 67 (3/4 inch to No. 4) coarse aggregate. A minimum of 50 percent by weight of the coarse drain rock material retained on a No. 4 sieve shall consist of particles having two or more freshly fractured faces. No more than 30 percent by weight of the drainage material retained by a No. 4 sieve shall be flat or elongated. A flat particle is one having a ratio of width to thickness greater than 3 and an elongated particle is one having a ratio of length to width greater than 3. Drainage material shall not contain corrosive agents, organic matter, or soft, friable thin or elongated particles in quantities considered deleterious by the Construction Manager.

4. Pipe Bedding and Pipe Embedment in the Pipe Zone: Unless specified otherwise in the Contract Documents, the pipe bedding and backfill material in the Pipe Zone shall be Controlled Low Strength Material (CLSM), meeting the requirements of the State Standard.

5. Backfill Material in the Trench Zone: Unless specified otherwise elsewhere in the Contract Documents, the trench backfill material in the Trench Zone shall be 3/4-inch maximum gradation, Class 2 Aggregate Base (compacted to 95 percent, within 3 percent of optimum moisture content) meeting the requirements of the State Standard.

6. Relative compaction is the ratio of the in-place dry density of constructed fill to the maximum dry density determined by ASTM D1556. As an alternative method, the relative compaction shall be determined in accordance with California Test 216 on the dry-in-place density to dry test maximum density basis. Field density and moisture content tests of the fill material shall be performed in accordance with ASTM D2922 and ASTM D3017, respectively. Alternative methods for the latter test methods shall be California Test 231. The City shall determine the locations and number of field density tests. The results of these tests and compliance with the Standard Specifications shall be the basis upon which satisfactory completion of work is judged by the City.

3.04 Unsuitable Material

During excavation whenever the bottom of the trench is exposed and if unsuitable material is encountered, the Contractor shall notify the Engineer for concurrence that the material is unsuitable. If the Engineer does not approve that the material is unsuitable prior to any additional excavation and backfill at this location, the Contractor will be responsible for the cost of excavation and backfill.

The foundation shall be treated in accordance with Section 26 of the Standard Specifications. Unsuitable material is generally defined as material the Engineer determines to be:

1. Of such unstable nature as to be incapable of being compacted to specified

density using ordinary methods at or near optimum moisture content; or

2. Too wet to be properly compacted and circumstances prevent processing or in place drying prior to incorporation into the work.

3. Containing visible or excessive deleterious material.

4. Otherwise unsuitable for planned use.

Unsuitable materials include the materials listed below:

1. Soils which, when classified under ASTM D2487, fall in the classifications of Pt, OH, CH, MH, or OL.

2. Soils which cannot be compacted sufficiently to achieve the density specified for the intended use. Note that soils shall not be termed unsuitable simply because they are over optimum moisture content. The Contractor shall at its cost blend, blade, aerate and dry these materials until optimum moisture is achieved.

3. Materials that contain hazardous or designated waste materials including petroleum hydrocarbons, pesticides, heavy metals, and material which may be classified as hazardous or toxic according to applicable regulations.

4. Soils that contain greater concentrations of chloride or sulfate ions or have a soil resistivity or pH less than the existing on-site soils.

5. Top soil, except for the top 12 inches of the trench where excavation takes place in an unpaved area.

6. Relative compaction of trench backfill materials shall conform to the requirements shown in the Contract Drawings and shall be done concurrently with pipe installation and placement of backfill materials.

Trench backfill in pipe zone shall consist of Controlled Low Strength Material (CLSM) as shown on the Contract Drawings. In the trench zone, material shall be Class 2 Aggregate Base (AB) or job excavated, native soil meeting the requirements of Section 26-5 of the Standard Specifications. The use of the job excavated, native soil shall be at the Contractors risk. No additional compensation will be paid to the Contractor for hauling, stockpiling, drying, wetting or any processing of the native soil or AB required to achieve the minimum stability and relative compaction criteria.

Excavated surplus and unsuitable material shall be the property of the Contractor and shall be disposed of away from the project site. For offsite disposal, the Contractor shall have written permission from the owner upon whose property the disposal is to be made before any material is deposited thereon.

3.05 Pavement Cutting and Surface Restoration

Pavement cutting and surface restoration shall conform to the applicable provisions of Section 26-11 of the Standard Specifications and these Special Provisions. The Contractor shall restore surfaces in kind (using the same surface material as existing) unless otherwise noted on the Contract Drawings or within these Special Provisions. Payment for restoring the surface in kind within any excavation shall be included in the associated item of work unless otherwise stated in these Special Provisions.

If trench crosses sidewalk, curb, and gutter, Contractor shall replace entire sidewalk panel to nearest control or expansion joint on both sides of the trench wall. The extent of curb and gutter replacement shall coincide with the sidewalk panel(s) being replaced. Pavement cutting shall be perpendicular and parallel to the centerline of the road when practicable.

Accessible curb ramps damaged as a result of construction shall be completely replaced to current City standards at no additional cost to the City.

The Contractor shall submit a Surface Restoration Plan for restoration of existing surfaces including, but not limited to, backyards, fences, the Del Rio Trail, Partner Park Dog Park, etc.

3.06 Temporary Paving

Temporary paving shall be in accordance with Section 14-4 of the Standard Specifications.

3.07 Groundwater Dewatering

A. Contractor shall be responsible for controlling groundwater encountered during construction per Sections 26-2 and 16-1 of the Standard Specifications, and these Special Provisions.

B. Groundwater shall be collected in temporary storage tanks for settling, filtration, and testing prior to discharge. The Contractor shall develop an Excavation Dewatering Plan as specified herein and submit it to the City for review and approval.

C. The Contractor shall assume sole responsibility for:

1. Planning, design, installation and operation of temporary groundwater dewatering systems and temporary surface water control systems. Water control systems designed and installed by the Contractor shall adequately protect existing property, foundations, and permanent structures.

2. Loss or damage resulting from partial or complete failure of operation of dewatering systems.

3. Repairing damage to adjacent properties, buildings, structures, utilities, and other work due to installation, settlement or resultant damage caused by the

groundwater control operations.

4. Determining means and methods for disposing of water removed by dewatering systems. The Contractor shall abide by all discharge requirements as determined by Sacramento Area Sewer District and/or the Regional Water Quality Control Board. If permit requirements specify water quality requirements that must be met before water can be disposed, provide the necessary treatment facilities to achieve the specified water quality limits. Contractor shall not dewater to sewer or storm drain system without an approved permit. See **Section 1.21 Permits.** The Contractor shall provide the necessary conveyance facilities to meet the required discharge volume within the permit requirements.

5. Modifying groundwater control systems or operations if they cause or threaten to cause damage to new construction, existing site improvements, adjacent property, or adjacent water wells, or affect potentially contaminated areas.

D. Groundwater control systems may include single-stage or multiple-stage well point systems, sump pumps within excavations, shallow or deep wells, or combinations of these types of dewatering systems. Locate groundwater control and drainage systems so as not to interfere with utilities, construction operations, vehicular traffic, pedestrian traffic, adjacent properties, or adjacent water wells. Modify dewatering procedures which cause, or threaten to cause, damage to new or existing facilities, so as to prevent further damage. Install settlement gauges, as necessary, to monitor settlement of critical structures or facilities adjacent to areas of dewatering. Control the rate of dewatering to avoid objectionable settlement and subsidence. Remove or abandon dewatering system when it is no longer needed in accordance with regulatory stipulations indicated in this Section.

E. If dewatering is required, Contractor shall design dewatering systems of sufficient scope, size, and capacity to accomplish the following results:

1. Control the flow of surface water into trench and structure excavations by grading, dikes, or other means.

2. Unless otherwise approved by the Engineer, lower groundwater levels a minimum of 36-inches below trench excavation and minimize infiltration of groundwater into trench and structure excavations. Piezometers (i.e., monitoring wells) should be installed adjacent to the excavation to monitor the groundwater levels while the excavation is open. The purpose of the piezometers is to confirm that the groundwater level is adequately lowered prior to and during excavation and shoring installation.

3. Lower and maintain groundwater to a level of at least 36-inches below the lowest point of structure excavations.

4. Lower groundwater levels further when necessary to obtain the specified degree of compaction. Develop substantially dry and stable subgrade for subsequent earthwork compaction and construction operations.

5. Prevent the loss of fines, seepage, boils, quick conditions, or softening of the foundation soils. Maintain stability of sides and bottoms of excavations.

6. Prevent hydrostatic uplift pressure during construction.

7. Prevent heave and/or piping (boiling) of the excavation bottom.

8. Prevent caving or lateral movement of excavation walls and associated loss of adjacent ground and adjacent ground surface settlement, even when subjected to construction vibrations.

9. Support system installation should not cause ground surface settlement or heave nor produce construction vibrations that could damage adjacent utilities or structures.

10. Resist lateral earth pressures, hydrostatic pressures, lateral loads from traffic, construction equipment, and spoils.

11. Preserve the undisturbed bearing capacity of subgrade soils at the bottom of the excavation.

12. Allow for the removal of shoring in a manner that does not: damage structures (new and existing); damage adjacent utilities or the pipeline; cause settlement or heave of the structures (new and existing), adjacent utilities or the pipeline; cause ground surface settlement or heave; or produce construction vibrations that could damage structures (new and existing), adjacent utilities, or the pipeline.

13. Prevent migration of contaminated plumes, if any.

F. The Contractor shall maintain dewatering operations to control and minimize erosion, to create stable sides and bottoms of excavations, to stabilize constructed slopes and to prevent settlement and damage to structures and utilities. Dewatering systems utilized shall collect and dispose of removed water. Water removed by dewatering systems cannot be discharged into the storm water collection system which consists of pipes, catch basins, manholes and roadside drainage ditches, and channels. The Contractor shall comply with requirements of agencies having jurisdiction and with laws and regulations for development, drilling, and abandonment of wells used in dewatering systems.

G. A minimum of three (3) weeks prior to beginning work requiring dewatering operations, the Contractor shall submit a Groundwater Control Plan that will:

1. Illustrate the arrangement, locations, and details of the dewatering system,

including wells and well points; dewatering pumps and piezometers; locations of headers, treatment systems and discharge lines; standby equipment and power supply; silt removal, pollution control and treatment facilities; and the means of conveyance, discharge and disposal of water.

2. Include a narrative report outlining the dewatering procedures and controls.

3. Include completed applications from applicable regulatory agencies with authority to oversee the discharges to the combined sewer system or separated drainage system. Permits shall be approved before discharge is allowed.

H. After approval of the Contractor's Groundwater Control Plan submittal and within two (2) weeks of starting excavation activities, the Contractor shall install and run the dewatering system to achieve the required draw down level below the bottom of the excavation(s). The Contractor shall verify the groundwater depth prior to starting excavation and provide confirmation to the Engineer that the groundwater level is at the level required below the bottom of excavation. Upon verification of the groundwater to the specified limits, the excavation work may proceed as directed by the Engineer. The Contractor shall provide additional measures for draw down of groundwater if the required level is not met within the two (2) week dewatering draw down period. Dewatering systems shall maintain the required groundwater levels throughout the prosecution of the Work until the time that final backfill has been placed to a point higher than the static groundwater level.

I. The Contractor shall maintain sufficient standby equipment, staff, and materials available at the site to ensure continuous operation, where required.

J. Perform dewatering in accordance with approved shop drawings. Keep the Engineer advised of any changes made to accommodate field conditions and, on completion of the dewatering system installation, revise and resubmit shop drawings as necessary to indicate the installed configuration.

K. Organize dewatering operations to lower the groundwater level in excavations as required for prosecution of the Work, and to provide a stable, dry subgrade for the prosecution of construction operations. Maintain water level at lower elevations so that no danger to structures can occur because of buildup of excessive hydrostatic pressure and provide for maintaining the water level below the subgrade, unless otherwise permitted by the Engineer. Maintain groundwater level a minimum of five feet below the prevailing level of backfill being placed.

L. Dispose of water in such a manner as to cause no injury or nuisance to public or private property or be a menace to the public health. Dispose of the water in accordance with applicable regulatory agency requirements.

M. If dewatering of open-cut pipe trenches is required, do not drain trench water through the pipeline under construction.

N. Maintain continuous dewatering operations so that the excavated areas are kept free from water during construction, while concrete is setting and achieves full strength, and until backfill has been placed to a sufficient height to anchor the work against possible flotation.

O. Prevent disposal of sediment to adjacent lands or waterways by employing necessary methods, including settling basins. Locate settling basins away from watercourses to prevent silt-bearing water from reaching the watercourse.

P. Intercept surface water and divert it away from excavations through use of dikes, ditches, curb walls, pipes, sumps, or other means. This requirement extends to temporary works required to protect adjoining properties from surface drainage caused by construction operations.

Q. Implement the appropriate level of surface water control to protect water quality throughout the construction period.

R. Provide labor, material, equipment, techniques, and methods to lower, control and handle groundwater in a manner compatible with construction methods and site conditions. Monitor effectiveness of the installed system and its effect on adjacent property. Intercept water flowing into excavations and divert it to sumps or ditches to allow pumping of collected water out of the excavation. Provide settling basins, geotextile containment devices or other sediment removal and water treatment devices for water quality control and compliance with regulatory and permit requirements. Install geotextile containment devices in accordance with the manufacturer's instructions and requirements. Operate and maintain groundwater control systems in accordance with the Groundwater Control Plan. Notify Construction Manager in writing of any changes made to accommodate field conditions and changes to the Work. Provide for continuous system operation, including nights, weekends, and holidays. When deemed appropriate, provide backup power source for electrical service. Monitor operations to verify that the system lowers groundwater levels at a rate required to maintain a dry excavation resulting in a stable subgrade for prosecution of subsequent operations. Remove groundwater control systems upon completion of construction or when dewatering and control of surface or groundwater is no longer required. Remove and grout piezometers when groundwater control operations are complete.

3.08 Clearing and Grubbing

Clearing shall include the removal and disposal of snags, shrubs, limbs, and other vegetative growth within the project work areas as necessary for construction. Grubbing shall include the removal and disposal of wood or root matter including stumps, trunks, roots, or root systems greater than 1-inch in diameter to a minimum depth of 12-inches below the existing ground surface or as required to remove roots greater than 1-inch in diameter.

Existing vegetation may not be shown on the Contract Drawings. The Contractor shall be responsible for inspecting the Project site to determine the nature, location, size, and extent of vegetation to be removed as specified herein. Contractor shall preserve in place all trees unless specifically identified for removal in the Contract Drawings. See **Section 3.12 Tree Removal, Pruning, Preservation and Protection Requirements** for tree preservation requirements.

The Contractor shall protect vegetative growth that is beyond the limits of the work area from damage that may result from Contractor's operations. Filling, excavating, and stockpiling of materials shall not be allowed within the dripline of trees, shrubs, or other vegetative growth. A dripline is defined as the circle that would be drawn by vertically extending a line from the outermost branches of a plant to the ground surface.

The Contractor shall strip existing topsoil from areas to be excavated before the commencement of the work and shall stockpile topsoil in a location approved by the Engineer.

The Contractor shall dispose of material removed as part of clearing and grubbing in accordance with local laws, codes, and ordinances. Contractor shall implement erosion and sediment control in accordance with the Stormwater Pollution Prevention Plan. See **Appendix J**.

Earthwork operations shall not commence until clearing has been completed. The Contractor shall restore the surface to existing elevations and is responsible for filling depressions made by the removal of stumps or roots with backfill material.

3.09 Closed Circuit Television Inspection of Pipes

The existing 72-inch and 84-inch force mains and the newly rehabilitated 72-inch force main pipes shall be inspected by the Contractor utilizing a remote closed circuit in-line television (CCTV) camera. The CCTV inspections shall be conducted before lining and after CIPP lining has been installed.

Cleaning: Contractor shall clean the pipe(s) to remove standing water and to remove solids, debris, grease, or grit from the entire circumference of the pipe between manholes or access points within the project limits. See **Section 3.14 Pipe Cleaning** for pipe cleaning requirements.

The Contractor shall notify the Engineer ten (10) working days in advance of the anticipated date of the CCTV inspection so that the Engineer may be present for cleaning and CCTV inspection operations. It shall be the Contractor's responsibility to coordinate the CCTV inspection with the Engineer.

Perform CCTV inspections in accordance with NASSCO's Pipeline Assessment Certification Program (PACP), Version 7. Construction features, observations, and defects shall be identified, coded, and scored per PACP guidelines and documented on the inspection video and report. CCTV inspections shall be conducted entirely in digital format and shall be recorded in MPG or AVI format written to flash drive and shall be

compatible with the GraniteNet 3.5.2 and NASSCO PACP Version 7 (City's current version). Inspection shall be completed with a 360-degree radial view color camera operative under 100% humidity conditions. The camera shall have a minimum capability of 350 lines of resolution and shall be an articulating head type to allow defects to be viewed directly. CCTV inspection reports shall be within +/- 2- feet of the measured linear footage along the existing pipe centerline from the center of manhole to the center of manhole or access point. If the camera gets stuck in the pipeline, the Contractor shall be responsible for the costs involved in extracting it and shall extract it in a timely manner to avoid interruption of service.

A. CCTV inspection of the 72-inch force main is required to:

   1. Verify pipe diameter, length, grade, and the locations of vertical and horizontal bends and manholes MH2A and MH3A.

   2. Determine locations of point repairs in host pipe prior to CIPP lining.

   3. Determine if the pipe and/or joints are leaking and identify locations for repair.

   4. Determine that repaired locations are not leaking.

   5. Document that infiltration has been eliminated.

   6. Ensure that the pipeline is properly cleaned, after required spot repairs and immediately prior to installing the liner.

   7. Ensure proper liner installation.

   8. Determine if repairs to the lined pipe are required.

   9. Document that any liner repairs have been completed (as necessary).

B. CCTV inspection of the 84-inch force main is required to:

   1. Verify pipe diameter, length, grade, and bends.

   2. Verify the Contractor has performed cleaning to the satisfaction of the City.

   3. Determine if the pipe and/or joints are leaking and identify locations for future repair.

   4. Determine if repairs to pipe are required in the future.

C. The Contractor shall inspect the 72-inch pipeline utilizing a remote closed circuit in-line television (CCTV) camera at the following intervals. CCTV inspection may be supplemented by man-entry inspection at the Contractor's expense.

   1. After flow control is operational and the force main has been cleaned. After

the force main has been cleaned to the written satisfaction of the Engineer, the Contractor shall provide experienced personnel trained in locating infiltration, breaks, obstacles and service connections to inspect the pipes via closed circuit color television or man-entry inspection. The interior of the pipeline shall be carefully inspected to determine the location of any condition which may prevent the proper installation of the CIPP liner into the pipeline. Existing conditions shall be documented in writing to the City so that these conditions can be corrected. A flash drive and a suitable legible log shall be kept for later reference by the City.

2. After point repairs have been completed (including filling of voids at MH 2A and MH 3A) and prior to the start of lining operations, perform television inspection to document elimination of infiltration, satisfactory completion of point repairs, and satisfactory completion of pipe cleaning.

3. When the force main rehabilitation has been completed, to document the condition of the liner and to provide quality assurance of the liner installation. The video shall also rotate up to show the manholes that have been rehabilitated.

D. The Contractor shall inspect the 84-inch pipeline utilizing a remote closed circuit in-line television (CCTV) camera after the 72-inch force main has been rehabilitated and flow returned to the 72-inch pipeline and after the 84-inch pipeline has been cleaned.

E. The Contractor shall submit the following:

1. Description of CCTV inspection equipment and sample CCTV logs.

2. The pre-lining 72-inch force main inspection after flow diversion has been established and the pipe has been cleaned and point repairs have been completed (as needed), the post-lining 72-inch force main inspection video recordings, the post cleaning 84-inch force main inspection video recordings, and a suitable log for each pipeline. Unedited video recordings (flash drive) and a NASSCO Pipeline Assessment Certification Program (PACP) (Version 7) coded inspection log shall be provided to the Engineer within three (3) working days after inspection work has been completed.

3. Inspection log: A PACP inspection log shall be submitted with each video recording. The log shall identify the force main by manhole numbers (as called out on the Contract Drawings), physical location, and Contract Drawing sheet number. The log shall also include:

a. Cleaning (as applicable) and inspection dates.

b. Interior diameter of the pipe.

c. Location and alignment length.

d. Pipeline sags: length and depth.

4. Documentation and detailed description of defects, infiltration, and repairs necessary prior to lining including distance from nearest manhole and conformance to cleaning requirements.

5. Location and description of debris in the force mains, if any.

6. Defects in the liner including, but not limited to, gouges, cracks, lifts, bumps, wrinkles, or bulges in the lined sewer.

7. Locations and inspection of connection to manholes/access points in the lined force main.

F. Documentation of the Work

1. The documentation of the work shall consist of a flash drive, PACP CCTV Reports, and the unmodified PACP database. The database shall contain PACP scoring for each inspection observation or defect. The documentation shall note important features encountered during the inspection. The speed of travel shall be slow enough to detect reverse slope or low spots in pipe grades and to inspect and identify each pipe joint, service connection, etc., but should not, at any time, be faster than 30 feet per minute. The CCTV camera shall be centered in the pipe to provide accurate distance measurements to provide exact locations of important features in the pipe and these footage measurements shall be displayed and documented on the video. The completed flash drive shall become the property of the City. The City is permitted ten (10) days to review the CCTV Inspection Video after submission.

2. Every section of the pipe (manhole to manhole or access point to access point) shall be identified on the video display and shall include the following: project name, location, City manhole numbers as called out in the Contract Drawings, inspector's name, pipe diameter and length, and date of inspection. In addition to inspecting the pipe, manholes shall be panned with the CCTV camera.

3. Progress of the camera should be slowed and stopped for a minimum of 15 seconds or as needed so that the observation can be panned with the camera, data recorded, narration made, and a still picture captured. If directed by the Engineer, this procedure should be followed to document the pipe conditions every 100 feet.

G. Line Obstruction: It shall be the responsibility of the Contractor to clear the line of obstructions or collapsed pipe that will prevent the insertion of the liner or closed-circuit television camera. If inspection reveals an obstruction that cannot be removed by conventional sewer cleaning equipment or by remotely performed point repair methods acceptable to the Engineer, then the Contractor shall make

a point repair by man-entry methods to uncover and remove or repair the obstruction. Before point repair via man-entry is pursued, the Contractor shall give the Engineer three (3) working days-notice. Protruding laterals, if any, shall be removed either internally with a hydro jet cutter or by internal point repair as identified in the Contract Documents. The City may direct additional point repair and obstruction removal based on the pre-lining television inspection described above.

H. Existing Voids: It shall be the responsibility of the Contractor to fill voids in the pipe wall that would impact the proper installation of the CIPP liner prior to lining, including voids that would remain between the CIPP liner and the pressure lid blind flanges at MH 2A and MH3A. Contractor shall fill voids with controlled low strength material prior to lining. See **Section 3.15 Controlled Low Strength Material**. Should man-entry be required to complete this work, Contractor shall give Engineer three (3) working days-notice prior to performing man-entry.

I. Infiltration and Inflow: It is the responsibility of the Contractor to plug or otherwise stop existing active inflow and/or infiltration in the existing pipeline prior to lining. The Contractor shall demonstrate that inflow and/or infiltration has been arrested by providing CCTV footage of a clean and dry host pipe prior to beginning lining. Work associated with plugging or otherwise stopping existing active inflow and/or infiltration in the existing pipe prior to lining shall be considered as part of the price for CIPP lining.

J. Existing CCTV

1. Previous CCTV video recordings of portions of the force main to be lined are available for viewing. The City makes no express or implied guarantee as to the accuracy or the completeness of the information contained on the video recordings. The Contractor must make their own judgment as to the condition of the pipelines and quantity of cleaning necessary and must not rely on the description provided in the video recording.

2. In 2021 and 2022, SacSewer hired V&A Consulting Engineers to conduct inspections of portions of the existing N29 72-inch force main and infrastructure components and prepare condition assessment reports for the findings. The 2021 inspections were conducted at MH 4A and MH 7A.

3. In 2022 and 2023, CCTV inspections were performed between MH 4A and the CWTP. The inspections identified areas of the pipe in which biogenic corrosion has caused moderate to severe corrosion in the crown of the 72-inch force main. In some sections, widespread exposed and/or severely corroded reinforcement was observed.

4. Inspections at MH 4A revealed areas of exposed reinforcement within the pipe and severe corrosion in the riser. Inspections at MH 7A revealed areas of exposed reinforcing steel and spalled concrete within the pipe.

5. In May 2025, the City collected drone footage of the inside of the 84-inch force main.

6. The previous inspection video recordings are for information only and the City does not guarantee the accuracy of the information provided. The following inspection videos and condition assessment report will be made available by the City upon request.

    a. Regional San N29 Force Main CCTV dated November 2022

    b. Regional San N29 Force Main CCTV dated July 2023

    c. Regional San N12 Bypass Vaults and N29 Forcemain Condition Assessment Technical Memorandum

    d. City drone footage of 84-inch force main

K. Work not following these Special Provisions may be rejected for payment and the Contractor may be required to re-do the work. CCTV re-inspection necessary to document the satisfactory performance of required repair Work shall be at the Contractor's expense.

3.10 Manhole Construction

Manholes shall be constructed as shown on the Contract Drawings or as directed by the Engineer in conformance with Section 25 and Section 38 of the Standard Specifications.

A. Submittals

1. The Contractor shall furnish complete shop drawings for precast manholes; flat top slabs, cast iron frames, grates and covers; appurtenances; and other materials required herein.

2. The Contractor shall furnish a certified affidavit of compliance guaranteeing that the manholes and other products or materials furnished hereunder are in compliance with the requirements of these Special Provisions, the Standard Specifications, and the reference standards.

3. Written procedure indicating the type of testing to be performed, identifying the equipment to be used, and describing the testing procedures. The testing schedule shall be submitted a minimum of seventy-two (72) hours before testing is to begin.

4. Test results indicating whether the results represent a successful or unsuccessful test, within twenty-four (24) hours of completion of each test.

B. Manhole Materials, Construction and Installation

1. The concrete for base construction shall be placed in a continuous pour, with care being taken that segregation of materials does not occur. Consolidation shall be by tamping and working to achieve a dense watertight mass.

2. An approved metal impression ring shall be used to produce a level keyed slot to receive the barrel section. The concrete shall be worked under and around the impression ring to create a continuous smooth impression.

3. Precast reinforced concrete manhole sections shall conform to the requirements of ASTM C478, except that manhole steps and ladders shall not be provided.

4. Joints between precast reinforced concrete sections and between the base and the first precast section shall be sealed with a joint sealer, such as "Ram Nek" or approved equal, installed according to the manufacturer's recommendations, to ensure a watertight joint.

5. External joint of each barrel section and of the barrel/cone connection shall be sealed with an external rubber sealing sleeve as manufactured by Wrapidseal or equal. The seal shall be made of neoprene and EPDM rubber and have a minimum thickness of 60 mils. Material shall conform to specifications of ASTM C923, ASTM C443, and ASTM F477. Rubber seal shall be attached to manhole using non hardening butyl rubber mastic applied to the top and bottom of sleeve in accordance with manufacturer's instructions. Seal shall overlap joint a minimum of 3-inches and shall be continuous around the perimeter of the barrel section and overlapped 6-inches minimum.

6. Holes, cracks, and seams shall be grouted flush using non-shrink grout with the manhole interior. Non-shrink grout shall be "Embecco" by Master Builders or approved equal. Internal surfaces shall have a smooth finish.

7. Grade rings from the top of the last precast section to the surface shall be installed on a continuous bed of mortar.

8. Coatings and liners shall be used as specified and as shown on the Contract Drawings.

9. Particular care must be taken to protect the manhole from damage and to keep rock, dirt, or debris from getting into the pipe system. A steel cover of adequate strength (traffic safe), close fitting and well secured, shall be kept over the manhole opening until the frame and cover are permanently installed. A wooden cover shaped to completely cover the bottom of the manhole shall be installed and left in place until the frame and cover are installed.

10. The manhole frame and cover shall be permanently set when so authorized

by the Engineer. The frame shall be centered on the grade rings and set on a layer of mortar to final grade. The mortar shall be neatly struck to make a smooth interior face in the manhole. A concrete collar, to securely anchor the frame to the manhole neck, shall be formed and poured around the outside of the manhole neck in accordance with the **Appendix K**, City Standard Details.

C. Final Inspection: After installation, the Contractor shall demonstrate that manholes have been properly installed, level, with tight joints, at the correct elevations and orientations and that the backfilling has been carried out in accordance with the Contract Documents.

3.11 Protection and Restoration of Existing Infrastructure

Contractor is required to protect the public and private property adjacent to the Work and Contractor shall exercise due caution to avoid damage to such property.

The Contractor is advised that public art displays have been installed along the Del Rio Trail. Locations of art installations at the time of preparation of the Contract Documents have been added to the Contract Drawings. It is the Contractor's responsibility to protect the art installations in place. Any damage to the art installations caused by the Contractor's personnel, equipment, or operations shall be repaired or replaced by the Contractor to the City's satisfaction and at no additional cost to the City.

The Contractor shall repair or replace existing surface, including improvements and street pavements which are not designated for removal (e.g., street sections, curbs, gutters, driveways, fences, walls, structures, underground structures, landscaping, etc.), which are damaged or removed as a result of its operations. Repairs and replacements shall be at least equal to existing improvements and shall match them in finish and dimensions.

Prior to initiating work in the public right of way and in the easements, the Contractor shall make an audio/video recording of the affected areas showing existing improvements, and their conditions. The recordings shall be turned over to the Engineer in media flash drive or submitted through the City construction management website and shall serve as historical documentation of the preconstruction conditions.

Damages within the public and/or private right of way including street pavement shall be restored by the Contractor to the satisfaction of the Engineer after work on that particular pipe segment is completed.

Damages to private properties shall be restored to the satisfaction of the property owner and the Engineer within seven (7) days of the damage(s), and prior to mobilizing pipe rehabilitation in another project area, unless otherwise allowed in writing by the Engineer. Non-conformance and delays by the Contractor in restoration of private property can cause highly publicized complaints from the property owners.

The Engineer shall have the authority to stop or curtail pipe construction/rehabilitation work in another location or vicinity of the project in order to complete the required

restoration work.

For repairs to existing concrete in manholes, see **Section 3.22 Manhole Repair**.

The following are additional protection/restoration requirements for the Project:

A. Straw Wattle Installation at MH5A

After completing rehabilitation work at MH5A, Contractor shall repair and restore the slope adjacent to MH5A to previous condition. Contractor shall install straw wattles along the slope to reduce erosion and control sediment runoff. Straw wattles shall be biodegradable, 8-inch to 12-inch diameter, and filled with certified weed-free straw. Netting shall be photodegradable or biodegradable jute or similar.

Wattles shall be placed perpendicular to the slope at 4-foot vertical intervals for a distance of 20-feet in each direction, centered at MH5A. Secure wattles with wooden stakes or biodegradable anchors every 4-feet, with ends overlapping at least 1-foot.

B. Partner Park Dog Park Protection and Improvements

Double Swing Gate Installation

In addition to restoration of fencing (see **Appendix L** for existing fence detail) at Partner Park Dog Park, which is impacted by Contractor's work, improvement of existing facilities at this location includes installation of a new tubular steel double-swing gate.

This Section covers the furnishing and installation of the new tubular steel vehicle gate per the Contract Drawings. Contractor shall refer to the Contract Drawings for additional details. Payment for restoration of fencing and installation of the new gate shall be included in the Site Restoration bid item. The gate shall provide secure and functional access control to the Partner Park Dog Park and shall be installed in accordance with the Contract Drawings, these Special Provisions, and the Standard Specifications.

A. Submittals

1. Manufacturer's product data for the gate and hardware
2. Shop drawings showing gate dimensions, layout, post embedment, and hardware
3. Coating and finish details
4. Installation procedures
5. Warranty documentation

B. Materials

1. Gate Frame: Tubular steel construction, 2-inch square steel tubing, welded frame, double-swing configuration

2. Posts: Steel posts sized and embedded per Contract Drawings; galvanized and/or powder coated

3. Hinges: Heavy-duty, tamper-resistant, adjustable hinges suitable for vehicle gates

4. Latch: Lockable latch mechanism with provision for padlock

C. Quality Control

1. Verify alignment, level, and plumb of posts and gate panels

D. Protection and Cleanup

1. Except where it shall be removed for pipe rehabilitation operations, protect existing fencing and posts in place from damage during construction.

2. After installation of new vehicle gate and associated fencing, clean surfaces and remove debris. Restore disturbed surfaces to original or improved conditions.

E. Warranty

1. Provide a minimum of 2-year warranty covering materials and workmanship, including gate operation and finish.

3.12 Tree Removal, Pruning, Preservation and Protection Requirements

The objective of this Section is to reduce the negative impacts of construction on trees. Tree protection measures are intended to guide a construction project to ensure that appropriate Best Management Practices (BMPs) will be implemented in the field to eliminate or mitigate undesirable consequences that may result from construction-related activities. Negative impacts include, but are not limited to, physical injury to trunk and branches, soil compaction, damage to roots, and exposure to harmful or toxic substances.

The Contractor shall protect existing trees identified in the Contract Drawings for preservation or not specifically identified for removal as well as trees within the work areas that may not be identified on the plans but are identified by the City's Urban Forester to be preserved in place. The Contractor shall be responsible for damages to trees associated with the project that were caused by the actions or neglect of the Contractor.

It is the intent of this Section that the requirements stated in this Section apply to all sections of the Project specification such that any subcontractor must comply with the restrictions on work within designated Tree Protection Zones (TPZ) and shall be

responsible for damages to trees associated with the project that were caused by their actions or neglect. The TPZ of each tree in the project work area shall be designated in the field by the City's Urban Forester or authorized representative prior to demolition, clearing and grubbing, pipeline rehabilitation, or any construction work. TPZs are not shown on the Contract Drawings and shall be established in the field by the City's Urban Forester or authorized representative based on tree species, size, and condition and may vary depending on site constraints. TPZ boundaries will be marked or otherwise communicated by the City's Urban Forester or authorized representative prior to the start of work.

Work shall be performed in accordance with ANSI A300 standards, applicable Best Management Practices established by the International Society of Arboriculture (ISA) and Project specific direction given by the City's Urban Forester.

If City trees require pruning, removing, planting, or other activities encroaching into the tree protected zone, then a permit will be required. See **Section 1.21 Permits** for permit requirements.

The Contractor shall furnish all labor, materials and equipment required to perform the scope of work described in the Standard Specifications and these Special Provisions, and subject to the terms and conditions of this contract. The Contractor shall acquire all licenses, insurance, etc., necessary to assume the legal responsibility for the scope of work. Full compensation for furnishing all labor, materials, tools, equipment and incidentals and for doing all work involved in this section shall be considered as included in the prices paid for various contract items of work and no additional compensation will be allowed.

A. The Contractor shall comply with the following:

   1. The Contractor shall hire an International Society of Arboriculture (ISA) certified arborist to do any required pruning for equipment clearance.

   2. The Contractor shall hire an ISA certified arborist for a root inspection(s) for trenching or other excavation activities within the dripline(s) of the trees.

   3. The Contractor shall contact the City's Urban Forester, Kevin A. Hocker, (916) 808-4996 for root inspections during trenching or excavation activities within the dripline of the trees. Payment shall be included in other items.

B. Pre-Construction Meeting: Demolition, grading, and general contractors are required to meet with the City's Urban Forester or Authorized Representative prior to any phase of site work, clearing, or grading to review tree protection measures, enforcement of tree protection zones, review Contractor responsibilities, field quality control, sequence of work and other items including, but not limited to: construction parking, construction trailers, materials storage, fuel and chemical storage, masonry staging, concrete wash-out, equipment access, haul routes, staging areas, soil and mulch stockpiles, demolition access, and dumpsters.

C. Verification of Tree Protection: Site preparation work shall not begin until tree protection measures have been installed as approved by the City's Urban Forester or Authorized Representative.

D. Installation of Protective Fencing and Signage

1. Tree protection fencing and signage shall be erected around the TPZ of each tree where indicated by the City's Urban Forester or authorized representative prior to demolition, site clearing, grading or construction work, and shall be maintained throughout the duration of the Project. Tree protection fencing or signage shall not be removed or relocated before the end of the Project without the authorization of the City's Urban Forester or Authorized Representative.

2. Orange vinyl construction fencing, snow fencing, or other similar fencing should be at least 4 feet high and supported at a maximum of 10-foot intervals by metal T-posts or approved methods sufficient enough to keep the fence upright and in place. T-posts shall be a minimum of 2 feet in the ground.

3. Chain link fence shall be 6 feet tall with 2-inch mesh chain link fabric set in metal frame panels on movable core drilled concrete blocks or similar bases of sufficient size to hold the fence erect.

4. TPZ signs provided by the City shall be affixed to the fencing every 50 feet with no less than one sign per protection area.

<u>Tree Protection Zones (TPZ)</u>

A. Activities Prohibited within Protection Zones

1. Storage of construction materials, debris, or excavated material

2. Parking vehicles or equipment

3. Foot traffic

4. Erection of sheds or structures

5. Drainage changes or impoundment of water

6. Cutting tree roots by utility trenching, foundation digging, placement of curbs, trenches and other miscellaneous excavation or other digging

7. Soil disturbance, soil compaction or grade change

8. Washout activities

9. Attachment of signs to or wrapping materials around trees or plants

B. Activities Permitted or Required within Protection Zones

1. Mulching should be used during construction to protect the soil from compaction, conserve soil moisture, and moderate soil temperature. Spread wood chips or similar material to a depth of 4 inches, leaving the trunk clear of mulch.

2. Wood chip mulch covered with 3/4-inch-thick plywood panels or steel plates can be used for temporary road access and to reduce compaction in and near tree protection areas. When used for this purpose, at least 12 and up to 18 inches of chips should be applied where vehicles will travel or park.

3. Irrigation, fertilizing, or other beneficial practices that have been specifically approved for use within the TPZ by the City's Urban Forester or Authorized Representative

C. Erosion Control: If a tree is adjacent to or in immediate proximity to a grade slope of 8% (23 degrees) or more, then approved erosion control or silt barriers shall be installed outside the TPZ to prevent siltation and/or erosion with the TPZ.

D. Excavation and Root Pruning

1. If during excavation for the Project, tree roots greater than two inches in diameter are encountered, work shall stop immediately until the City's Urban Forester or Authorized Representative can perform an on-site inspection. Roots shall be cut clean and the tree affected may require supplemental irrigation/fertilization and pruning as a result of the root cutting. The Contractor shall be responsible for costs incurred. Depending upon the amount of roots encountered and the time of year, wet burlap may be required along the sides of the trench.

2. If excavation, trenching, or pipe installation has been approved within the TPZ, then the trench shall be either cut by the use of hand tool, pneumatic excavation technology, or hydro excavation technology.

3. If an excavation necessitates the removal of roots 2 inches in diameter or greater, the Contractor shall arrange for the Project Arborist to evaluate the impact of such root removal. The removal of roots 2 inches in diameter or greater shall be directly supervised and documented by the Project Arborist. If the Project Arborist determines that an excavation will either remove 25% or more of the roots of a tree or have a substantial impact on the structure or vitality of a tree, the Contractor must obtain approval from the City's Urban Forester or Authorized Representative before proceeding further with the excavation.

4. Cut roots cleanly to minimize damage to remaining roots and reduce the risk of causing disease, decay, and instability. Backfill excavations containing live roots as soon as possible to prevent roots from drying out

and dying. Roots exposed for more than a day shall be covered in wet burlap or similar fabric which shall be kept damp until the excavation is backfilled with soil.

E. Pruning/Removal

1. Trees identified by the Project plan to be pruned or removed shall be done so in accordance with the following specifications and as directed by the Project Arborist in conjunction with the City's Urban Forester or Authorized Representative.

2. This work is to be performed by a Tree Service Contractor with a valid contractor's license and shall be directly supervised by an ISA Certified Arborist. Work shall be done by qualified persons who are familiar with tree work in general and have been trained to work with trees of any size.

3. Pruning and removal work shall include disposal of generated material, including wood chips, stumps, logs, limbs, and leaf debris. Upon completion of a specific area, the site shall be left in a clean and orderly condition. No trimmings or debris shall be left overnight on any of the work sites.

4. Pruning and removal work shall conform to current ANSI A300 Standards for Tree Care Operations – Tree, Shrub, and Other Woody Plant Management – Standard Practices (Pruning).

5. The aerial work shall be done primarily from truck mounted aerial platforms except where trees are inaccessible to trucks.

6. Equipment shall be maintained in a satisfactory condition at all times. Workers shall comply with State Compensation Safety Rules and must wear appropriate personal protective equipment at all times while on the job site.

7. The Contractor shall provide traffic control and warning devices such as barricades, guards, cones, signs, or flags to give adequate protection to workers, pedestrians, and vehicular traffic within the job site.

8. Tree work requiring climbing of trees shall be suspended during inclement weather.

9. To prevent the spread of communicable tree diseases tools used in Elms, Palms, or any other species of tree identified by the City's Urban Forester shall be sterilized with an alcohol solution such as Lysol before pruning any tree and after each tree has been pruned.

10. The Contractor shall notify the City's Urban Forester at least 3 days prior to beginning any pruning work and prior to 8:00AM on each day the Contractor will be pruning trees.

F. Damage to Trees

1. Monitoring and Enforcement: The City's Urban Forester or Authorized Representative shall have the discretion to monitor and inspect work sites containing protected trees. Accidental or negligent actions that damage trees may result in a penalty.

2. Reporting: The Project Arborist shall monitor the overall condition of protected trees associated with the project and shall document activities that occur within the TPZ of a protected tree. The Project Arborist shall provide a written report to the City's Urban Forester or Authorized Representative at least once a month for the duration of the Project.

3. Appraised Value: The Contractor shall be held liable for damage to existing trees, i.e., trunk wounds, broken limbs, pouring of deleterious materials, or concrete washout under the dripline of the trees. Damages will be assessed using the "A Guide to Plant Appraisal" eighth edition, published by the International Society of Arboriculture. An appraisal report shall be submitted by Project Arborist for review by the City's Urban Forester or Authorized Representative.

    a. Damage to a City Tree and/or private protected tree: If a City tree and/or private protected tree is damaged by the Contractor during construction, the City's Urban Forester or Authorized Representative will appraise the value of the damages. The value of the damages shall be expressed as a monetary equivalent of labor and materials required to bring the tree in question to a state of comparable utility with regard to its condition and function prior to the beginning of the project. The value of the damages shall not exceed the total value of the entire tree and the cost of removal.

    b. Removal or Destruction of a City Tree

        i. If City trees or private protected trees need to be removed for the Project, then Sacramento City codes 12.56.030 or 12.56.040 would apply which require City Council approval. Prior to City Council approval, a written letter of justification shall be issued to the City's Urban Forester or authorized representative, who will issue a letter of approval in response. The City's Urban Forester or authorized representative will need to put a notice on the trees themselves or in clear public view on Project site notifying the public that the City Council will hear an item involving tree removal. The notice shall be posted on the trees or Project site a minimum of 15 days before the Council meeting and must include the exact Council date. Removed trees shall be replaced at the discretion of the City's Urban Forester or authorized representative.

ii. If a City tree or private protected tree is removed or destroyed by the Contractor during construction without prior authorization the City's Urban Forester or Authorized Representative will appraise the value of the damage. The appraised value of a City tree shall be no less than $100 per linear foot of clear trunk for palm trees and $325 per inch of trunk diameter measured at 4.5 feet above ground for all other trees. The value of the damage may also include the cost of removal, and stump grinding, if applicable.

c. Damage to Private Property: If a privately owned tree or other private property is damaged or destroyed by the Contractor during construction the City will not appraise the value of private property.

G. Mitigation

1. Root Injury: During the excavation process, tree roots greater than 2 inches in diameter that have not been root pruned, shall be cut back to a sound wood lateral root with a hand saw or sharp axe and not ripped with earth moving equipment. The Contractor shall arrange for the City's Urban Forester or Authorized Representative and/or appropriate Consultant to review roots over 2 inches that are encountered to determine structural stability of the tree and give final approval for root cutting. Root cuts must be monitored, photographed, and documented by the City's Urban Forester or Authorized Representative and/or appropriate Consultant. The end of the root shall be covered and kept damp. Exposed root areas within the TPZ shall be backfilled or covered within 1 hour. Exposed roots may be kept from drying out by temporarily covering the roots and draping layered burlap over the upper 3 feet of trench or other excavation walls. The material must be kept wet until backfilled to reduce evaporation from the trench/excavation walls.

2. Bark or Trunk Wounding: Bark or trunk wounding that occurs during construction shall be reported to the City's Urban Forester or Authorized Representative and/or appropriate Consultant. Treatment methods shall be performed by an arborist or qualified tree care specialist.

3. Scaffold Branch or Leaf Canopy Injury: Remove broken or torn branches back to an appropriate branch capable of resuming terminal growth within 5 (five) days. If leaves are heat scorched from equipment exhaust pipes, consult the City's Urban Forester or Authorized Representative and/or appropriate Consultant within 6 hours.

H. Inspection Schedule

1. The City's Urban Forester or Authorized Representative and/or appropriate Consultant shall frequently monitor construction sites containing protected

trees and conduct the required inspections as outlined in Part I below. Inspections shall verify that the type of tree protection is consistent with the standards outlined within this specification. For each required inspection, a monthly inspection report of changes in tree conditions and actions taken shall be provided to the City. Inspection reports shall be emailed to the Urban Forester, Kevin Hocker, at khocker@cityofsacramento.org.

I. Required Inspections

1. Pre-Construction Meeting: Prior to commencement of construction, Contractor shall attend a pre-construction meeting to discuss tree protection with the job site superintendent, grading equipment operators, City's Urban Forester or Authorized Representative and/or other Consultants.

2. Inspection of Protective Tree Fencing/Preventative Root Pruning: The Contractor shall call for an inspection of protective tree fencing when it has been erected and proposed preventative root cuts.

3. Inspection of Rough Grading: The Contractor shall call for an inspection of the site when rough grading has been completed.

4. Monthly Inspections: The City's Urban Forester or Authorized Representative and/or other Consultants may perform inspections of the work site on a monthly basis.

5. Special Activity within Tree Protective Zone: The Contractor shall call the project manager when activity not covered herein will occur in the TPZ to schedule a meeting with the City's Urban Forester or Authorized Representative and/or other Consultants before proceeding with the work.

3.13 Archaeological Resources Discovery

Discovery of cultural resources. In the event that prehistoric subsurface archaeological features or deposits, including locally darkened soil ("midden"), that could conceal cultural deposits, animal bone, obsidian and/or mortars are discovered during construction-related earth-moving activities, all work within 150 feet of the resources shall be halted, and the Contractor and City shall consult with a qualified archaeologist who are certified by the Society of Professional Archeologists (SOPA) and/or meet the federal standards as stated in the Code of Federal Regulations (36 CFR 61) to assess the significance of the find. Archaeological test excavations shall be conducted by a qualified archaeologist to aid in determining the nature and integrity of the find. If the find is determined to be significant by the qualified archaeologist, representatives of the City and the qualified archaeologist shall coordinate to determine the appropriate course of action. Significant cultural materials recovered shall be subject to scientific analysis and professional museum curation. In addition, a report shall be prepared by the qualified archaeologist according to current professional standards. Work shall be re-started only upon a notice to proceed from the City's Project Manager.

Discovery of Native American site. If a Native American site is discovered during project construction, the Contractor shall give immediate notice to the City's Project Manager, and the evaluation process shall include consultation with the appropriate Native American representatives. If Native American archaeological, ethnographic, or spiritual resources are involved, identification and treatment shall be conducted by qualified archaeologists, who are certified by the Society of Professional Archeologists (SOPA) and/or meet the federal standards as stated in the Code of Federal Regulations (36 CFR 61), and Native American representatives, who are approved by the local Native American community as scholars of the cultural traditions.

In the event that no such Native American is available, persons who represent tribal governments and/or organizations in the locale in which resources could be affected shall be consulted. If historic archeological sites are involved, identified treatment is to be carried out by qualified historical archaeologists.

Discovery of human remains. If a human bone or bone of unknown origin is found during construction, the Contractor shall give immediate notice to the City's Project Manager, work shall stop in the vicinity of the find, and the County Coroner shall be contacted immediately. If the remains are determined to be Native American, the Coroner shall notify the Native American Heritage Commission, who shall notify the person most likely believed to be a descendant. The most likely descendant shall work with the City's Project Manager and Contractor to develop a program for re-internment of the human remains and any associated artifacts. No additional work is to take place within the immediate vicinity of the find until the identified appropriate actions have taken place.

3.14 Pipe Cleaning

Pipe cleaning scope of work includes the following:

1. The N29 72-inch force main between MH7A and the N11 valve structure prior to conducting closed circuit television inspection after the flow diversion has been set up by the City.

2. The 84-inch force main between Sump 2 and the CWTP after the 72-inch force main has been rehabilitated and flow has been put back into the 72-inch force main.

The Contractor shall clean pipe as necessary to remove standing water and to remove solids, debris, grease, or grit from the entire circumference of the pipe between manholes or access points within the Project limits.

The word "clean" in these Special Provisions is defined as the removal of accumulations including debris, sludge, silt, dirt, sand, rocks, asphalt, concrete, grease, roots, hanging pipe gaskets and material deposited on them, and other solid or semisolid materials in the pipe down to the parent material with 100 percent debris removal.

If roots are present, root cutters or mechanical brushes shall be attached to the jet nozzle and sent through the line to remove root intrusions, or they shall be removed by hand

during man-entry.

It will be the Contractor's responsibility to make as many cleaning passes as necessary to meet the above definition of "clean" and meet the lining manufacturer's approval at no additional cost to the City.

Acceptance of the cleaning, as determined by the Engineer, shall be based upon CCTV inspection of the line.

Debris removed from the sewer during cleaning shall be transported in watertight containers to the appropriate landfill. Disposal of debris removed from the sewer during cleaning shall be the Contractor's responsibility.

See Section **3.25 Cured-in-Place Pipe**, for further cleaning requirements. See **Sections 2.05 Temporary Diversion of Sewer and Drainage Flows and 3.09 Closed Circuit Television Inspection of Pipes** for the availability of existing inspection data.

3.15 Controlled Low Strength Material

PART 1 – GENERAL

Provide controlled low strength material (CLSM) to produce cementitious hand-excavatable mixture of aggregate, cement, pozzolan, water, and admixtures used as structure backfill, pipe zone backfill, excavation backfill, or pipe abandonment fill in accordance with this section and the Contract Drawings and applicable reference standards listed below.

Flotation or displacement of pipe may occur during installation of CLSM. Make necessary provisions to ensure pipe is installed in accordance with alignment and grade shown on Contract Drawings. Remove and replace floated pipe at no additional cost to the City.

A. Reference Standards

1. American Concrete Institute (ACI)

   a. ACI 229R Report on Controlled Low-Strength Materials

   b. ACI 304R Guide for Measuring, Mixing, Transporting, and Placing Concrete

   c. ACI 304.6R Guide for Use of Volumetric-Measuring and Continuous-Mixing Concrete Equipment

2. ASTM International (ASTM)

   a. ASTM C33 Standard Specification for Lightweight Aggregates for Insulating Concrete

   b. ASTM C94 Standard Specification for Ready-Mixed Concrete

c. ASTM C143 Standard Test Method for Determination of Uranium, Oxygen to Uranium (O/U), and Oxygen to Metal (O/M) in Sintered Uranium Dioxide and Gadolinia-Uranium Dioxide Pellets by Atmospheric Equilibration

d. ASTM C150 Standard Test Method for Color Stability of Building Construction Sealants as Determined by Laboratory Accelerated Weathering Procedures

e. ASTM C260 Standard Specification for Air-Entraining Admixtures for Concrete

f. ASTM C403 Standard Test Method for Time of Setting of Concrete Mixtures by Penetration Resistance

g. ASTM C494 Standard Specification for Chemical Admixtures for Concrete

h. ASTM C595 Standard Specification for Blended Hydraulic Cements

i. ASTM C618 Standard Specification for Coal Ash and Raw or Calcined Natural Pozzolan for Use in Concrete

j. ASTM D4832 Standard Test Method for Preparation and Testing of Controlled Low Strength Material (CLSM) Test Cylinders

k. ASTM D5971 Standard Practice for Sampling Freshly Mixed Controlled Low-Strength Material

l. ASTM D6024 Standard Test Method for Ball Drop on Controlled Low Strength Material (CLSM) to Determine Suitability for Load Application

m. ASTM D6103 Standard Test Method for Flow Consistency of Controlled Low Strength Material (CLSM)

B. Submittals

1. Submit in accordance with **Section 1.08 Shop Drawings & Submittals**.

2. Mix Design

a. Prior to beginning the Work, submit CLSM mix designs to the City for review. Show proportions and gradations of materials proposed for each class and type of CLSM specified.

b. Mix design: tested by an independent testing laboratory for properties specified and at Contractor's expense.

c. Submit test results with CLSM mix design. Include results of minimum

five separate tests within previous 12 months by independent testing laboratory.

C. Quality Assurance

1. Provide in accordance with the Standard Specifications and Special Provisions.

2. Sample: per ASTM D5971. Test CLSM cylinder: per ASTM D4832.

a. Field sampling and testing during the Work: performed by testing laboratory of the City's choice at the City's expense, unless otherwise indicated.

b. If CLSM tests show non-compliance with specifications, perform such remedy as may be required to ensure compliance. Perform subsequent testing to show compliance at no additional cost to the City.

3. Compressive strength: determined per ASTM D4832.

D. Delivery, Storage and Handling

1. Provide in accordance with the Standard Specifications and Special Provisions.

PART 2 – PRODUCTS

A. Design Requirements

1. Controlled low strength material (CLSM): mixture of cement, pozzolan, coarse and fine aggregate, admixtures, and water batched by a ready-mix concrete plant and delivered to the site by means of standard transit mixing trucks.

2. Non-calcium chemical accelerating admixture: minimum 2 percent to decrease curing time.

a. Actual mix proportion, slump, and water reducing agent: determined by Contractor to meet uses specified.

3. Entrained air content: minimum of 8 percent and maximum of 20 percent as required by Contractor to meet specified uses.

4. Minimum 28-day compressive strength: 50-psi; maximum 28-day compressive strength: 125-psi.

5. Flowability measurement shall be an 8 inch +/- 1 inch spread diameter using three (3) inch diameter by six (6) inch long cylinder and shall meet the

requirements of ASTM D 6103 – Standard Test Method for Flow Consistency of Controlled Low Strength Material (CLSM). A standard concrete cone should not be used to measure flowability of a CLSM mix.

B. Controlled Low Strength Material (CLSM)

1. CLSM: per ACI 229R and have 28-day unconfined compressive strength of 50 to 125 psi.

a. Cement: Type II or Type V Portland cement per ASTM C150. Blended hydraulic cements conforming to ASTM C595 may be used with the SacSewer's written approval after submitting test results.

b. Fly ash: per ASTM C618. Air entraining admixtures and foaming agents permitted.

2. Material supplied: Pozzolanic International Controlled Density Fill, RMC Lonestar Flowable Compacting Fill, or approved equal.

C. Use of Controlled Low Strength Material

1. CLSM: of a non-segregating consistency that readily flows when used for pipe abandonment and structure cavity fill.

2. CLSM for trench or excavation backfill and/or trench plugs (trench dams): readily flow type and per specified strength requirements.

D. Cement: Type II or Type V per ASTM C150.

E. Pozzolan: added to improve flowability; Type F per ASTM C618.

F. Aggregate: per ASTM C33; sand with no more than 10 percent passing a #200 sieve. If fly ash not used in mix design, amount passing #200 sieve may be increased to 20 percent. Do not use soils with clay fines. Submit a mix design and test results, if requested, to the City for approval before starting excavation.

G. Admixtures

1. Air entraining agent: added to improve workability, per ASTM C260.

2. Water reducing agent: added to improve workability, per ASTM C494.

H. Water

1. Water: clean and free from objectionable quantities of silty organic matter, alkali, salts, and other impurities.

2. Water quality: per ASTM C94.

I. Source Quality Control

1. Provide in accordance with the Standard Specifications and Special Provisions. Comply with applicable reference standards listed above.

PART 3 – EXECUTION

A. Preparation

1. Subgrade and compacted fill and/or trench to receive CLSM: complete and acceptable in accordance with **Section 3.03 Trench Excavation and Backfill**.

2. Before placing CLSM:

a. Trench or excavation must be free of loose soil.

b. Trench or excavation bottom must be stable and non-yielding.

c. There must be no excess moisture present.

d. Support pipe bells so there is at least 3 inches of separation from bedding material.

e. Remove all bedding material from pipe haunches.

B. Mixing and Delivering CLSM

1. CLSM: batched by ready-mix batch plant acceptable to the City.

2. Deliver CLSM to site in standard transit mix trucks.

3. Mix and transport CLSM in accordance with methods and procedures per ACI 304R and ACI 304.6R.

C. Placing CLSM

1. Deliver CLSM in place by means of tailgate discharge, conveyor belts, concrete pump, or other means acceptable to the City.

2. Direct CLSM in place by means of a vibrator, shovel, or rod to ensure that voids, crevices, pockets and under pipe haunches are filled with CLSM. Take care to avoid over-consolidation of material and separation of coarse and fine aggregate.

3. Place CLSM along full width and length of trench and cover top of pipe bell. Place CLSM on both sides of pipe simultaneously to minimize potential for lateral displacement of pipeline.

4. Continuously place CLSM against undisturbed in-situ earth material unless otherwise approved by the City. Where new CLSM must be placed against existing CLSM, clean surface of loose and foreign material.

    a. Surface of existing CLSM: soaked a minimum of 1 hour before placement of fresh CLSM. No standing water allowed before starting placement of fresh CLSM.

5. When placing CLSM for trench cutoff walls (trench plugs), ensure no voids exist around pipe barrel and CLSM completely fills trench width, including keyways, for full depth required, as shown on the Contract Drawings.

6. Pipe sections may need to be secured against floating during CLSM placement. CLSM may be placed in lifts to reduce potential for floatation to occur.

D. Finishing CLSM

1. Finish surface of CLSM: smooth and to grade shown on the Contract Drawings or directed by the City. Finishing by wood float, steel trowel or other similar methods not required.

E. Trench or Excavation Backfill

1. No equipment, traffic, or backfill allowed on CLSM until CLSM installation passes penetration test per ASTM C403.

2. If necessary, provide steel trench plates that span trench until CLSM has reached required strength.

F. Field Quality Control

1. Provide in accordance with the Standard Specifications and Special Provisions. Comply with applicable reference standards listed above.

G. Protection

1. Protect area where CLSM has been placed. Liquid CLSM has characteristics similar to quicksand until solidification occurs.

2. Protect CLSM from running water, rain, freezing, or other conditions that could damage material until material has been accepted and final fill complete.

3.16 Concrete Forming

PART 1 – SUMMARY

A. The Work of this section comprises the materials, tools, equipment, and labor

required for the design, preparation and cleaning, construction, and removal of concrete formwork, and the installation of concrete embedments furnished under other sections, necessary for the proper completion of the Work in accordance with this Section and applicable reference standards.

B. Submittals

1. Product Data

a. Form Liners

b. Form Ties

c. Form Release Agent

d. Waterstops, including details at corners and intersections, which shall be factory formed

2. Samples: Form Liners

3. Manufacturer's Instructions

a. Form Liners

b. Form Ties

c. Form Release Agent

d. Waterstops

4. Closeout and Maintenance Material Submittals

C. Quality Assurance

1. Provide in accordance with the Standard Specifications and Special Provisions.

D. Delivery, Storage and Handling

1. Provide in accordance with the Standard Specifications and Special Provisions.

PART 2 – PRODUCTS

A. Formwork shall conform dimensionally to the concrete Work as shown on the Contract Drawings. To minimize the number of panel joints, formwork panels shall be of the largest practicable sizes. Cylindrical walls shall be formed with circular formwork, not straight-segmented forms. Formwork shall be sufficiently tight to prevent leakage.

B. Undamaged smooth form facing materials such as plywood, hardboard, metal, and plastic, which will produce a smooth form finish, shall be used. Formwork shall not result in fins or offsets exceeding 1/8 inch. If used, aluminum forms with un-oxidized surfaces shall be pretreated with a paste made of calcium hydroxide and water, followed by water rinsing, repeated until hydrogen bubbles do not form.

C. Form Release Agent

1. Form release agent shall be non-grain raising, non-staining, and shall not leave a residue on the concrete nor adversely affect bonding of materials to be applied.

2. Forms shall be coated with the approved form release agent before placement of reinforcing steel. Do not apply form release agent at locations of monolithic construction joints, which are construction joints with the reinforcement continuous through the joint. Excess agent applied to the forms, and on the reinforcing steel and other surfaces requiring a concrete bond, shall be removed.

3. Forms for unexposed surfaces may be thoroughly wetted in lieu of the approved form release agent immediately before concrete is placed. However, form release agent shall be used in freezing weather.

D. Form Ties

1. Form ties shall be adjustable length, sized to withstand construction loads, and upon removal shall prevent concrete spalling. Ties shall have break back indentation.

2. Plastic Cones: Form tie assembly with cone-shaped depressions at the concrete surfaces with break back ties. The portion of the tie remaining embedded in the concrete upon removal shall be equal to the depth of the cone specified.

3. Neoprene Washers: Flat washer sized to fit tightly on tie wire and positioned at the center of the tie wire.

4. Tie Systems that include plug style waterstops inserted into tie holes after removal of forms are not permitted.

5. Plastic Cones: 1-inch diameter x 1-inch deep (Standard).

6. Neoprene Washers: Not required, unless noted otherwise on Contract Drawings.

E. Hydrophilic Waterstops

1. Hydrophilic waterstops, where noted on the Contract Drawings, shall be non-bentonite, expansive rubber strip: CJ-1020-2K by Sika Hydrotite, Swellseal Joint as manufactured by DeNeef Construction Chemicals, Inc., ConSeal CS-231 by Concrete Sealants, Inc., or approved equal.

2. Hydrophilic waterstop shall be continuous, and installed in strict accordance with the manufacturer's instructions, in double rows with a space between, at each joint. Any extended contact with standing water, such as puddles, is not permitted.

F. Form liners shall be manufactured by Greenstreak, Doran, Scofield, or approved equal, type as shown on the Contract Drawings.

PART 3 – EXECUTION

A. The Contractor shall design, erect, shore, brace, and maintain formwork in accordance with ACI 301 to support loads, including construction loads, until the concrete structure can support such loads.

B. Tolerances shall be in accordance with ACI 117.

C. At locations where continuous surfaces are formed in successive units, forms shall be tightly fitted over the hardened concrete surface to obtain accurate surface alignment and to prevent leakage of mortar and the formation of fins, ridges, and other defects.

D. Openings

1. Form openings in concrete where required for other Work. Upon failing to form such openings, provide them in a manner approved by the Engineer at no additional cost to the City.

2. Provide Hydrophilic waterstop at the perimeter of such openings required to be watertight.

3. Except as otherwise specified, all such openings shall be filled with concrete after the Work to be installed therein is complete.

E. Form Release Agent

1. Forms shall be coated with the approved form release agent before placement of reinforcing steel. Do not apply form release agent at locations of monolithic construction joints, which are construction joints with the reinforcement continuous through the joint. Excess agent applied to the forms, and on the reinforcing steel and other surfaces requiring a concrete bond, shall be removed.

2. Forms for unexposed surfaces may be thoroughly wetted in lieu of the

approved form release agent immediately before concrete is placed. However, form release agent shall be used in freezing weather.

F. Form Removal

1. Form removal per ACI 347, as modified herein.

2. Forms shall be removed while ensuring the complete safety and serviceability of the structure.

3. Newly unsupported portions of the structure shall not be subjected to heavy construction or material loading. Additional shores or re-shores shall be provided as required to adequately support the members during the construction period.

4. The Contractor shall be responsible for the proper removal of forms, shores, and bracing.

5. Spalling of concrete surfaces shall be prevented.

6. When forms are removed before the specified curing period (as specified in **Section 3.20 Concrete Placing, Curing, and Finishing**) is complete, measures shall be taken to continue curing and to continue providing thermal protection for the concrete.

7. Forms may be removed after a total cumulative time of 24 hours during which the temperature of the air surrounding the concrete is above 50 degrees F.

   a. Alternatively to the stripping times specified, additional concrete cylinders shall be made using representative concrete, witnessed and approved by the Engineer, and tested at no additional cost to the City. Such specimens shall be field cured in accordance with ASTM C31 under conditions that are not more favorable than the most unfavorable conditions for the portions of the concrete that the test specimens represent.

G. Filling of form tie holes and concrete finishing are specified in **Section 3.20 Concrete Placing, Curing, and Finishing**.

H. Parts of forms reserved for reuse shall be inspected, cleaned, and repaired. Any parts dented, deformed, or otherwise rendered unfit for reuse shall be discarded.

3.17 Concrete Specialties

PART 1 – SUMMARY

A. Provide materials, tools, equipment, and labor necessary for the construction of

concrete specialties as specified, as shown on the Contract Drawings, and as necessary for the proper completion of the Work in accordance with this section and applicable reference standards.

B. Epoxy adhesive for installing drilled and epoxy rebar is specified herein.

C. Submittals

1. Product Data: Non-Shrink Grout

2. Shop Drawings: Reinforcement

3. Closeout and Maintenance Material Submittals

D. Qualifications for anchor installation are as follows:

1. Anchors shall be installed by qualified personnel trained to install adhesive anchors.

2. Adhesive anchors shall be installed in strict accordance with the Manufacturer's Printed Installation Instructions (MPII).

3. Each installer shall have the MPII in their possession at all times.

PART 2 – PRODUCTS

A. Grout

1. Grout shall be non-metallic, cementitious non-shrink grout meeting ASTM C1107, grade C. Grout shall be Five Star Grout by U.S. Grout Company, Crystex or Premier by L&M Construction Chemicals, Inc., Sure-Grip High Performance Grout, by Dayton Superior, or approved equal.

2. Grouting is required for structural, mechanical, and electrical items, and shall be in accordance with the manufacturer's recommendations.

PART 3 – EXECUTION

A. Concrete surfaces to receive grout shall be cleaned of contamination and debris. Surface roughening shall be required if laitance or poor concrete is evident.

B. Grout placement shall be rapid and continuous such that grout completely fills the space to be grouted, absent of air pockets.

C. Grout may be placed by gravity or pumped. When practical, grout shall be placed from one side and made to flow to the open side to prevent the formation of air pockets.

3.18 Concrete Reinforcing

PART 1 – SUMMARY

A. Provide materials, tools, equipment, and labor necessary for the fabrication and installation of reinforcement as shown on the Contract Drawings, as specified, and as necessary for the proper completion of the Work in accordance with this Section and applicable reference standards.

B. Submittals

1. Product Data

a. Certified mill reports, including chemical and physical analyses

b. Dowel bar splicers and dowel inserts

2. Shop Drawings

a. Reinforcement Drawings: Comply with ACI SP-66, and include the following information

i. Sizes, dimensions, and locations for reinforcement and supports

ii. Bending diagrams and schedules

iii. Splices

iv. Cover and clearances

v. Class designation and details of bar supports

vi. Pertinent reinforced concrete details with dimensions and elevations

vii. Items furnished by other trades or under other sections of the Specification that are to be cast in concrete where interference with reinforcement may occur

viii. Reinforcement shall be shown on wall elevations with required sections, on beam elevations with required sections, on plan views of slabs with required sections. Provide plan details where walls intersect.

3. Closeout and Maintenance Material Submittals

C. Fabricate reinforcement in accordance with ACI 117.

D. Deliver reinforcement in bundles with tags indicating size, length, and identification mark.

E. Store materials off the ground to prevent soiling and to facilitate subsequent inspection and handling.

PART 2 – PRODUCTS

A. Steel reinforcement shall include bars, anchorages, stirrups, dowels, ties, tie-wire, chairs and other steel supports, and spacers as noted on the Contract Drawings, specified, and as required for the proper completion of the Work.

B. Reinforcement bars shall be formed from new billet steel conforming to ASTM A615, Grade 60 except as otherwise specified.

C. Tie Wire

1. 16-gauge minimum

2. FS QQ-W-461 annealed black, except for architectural concrete

D. Bar Supports

1. Chairs, bolsters, spacers and other supports to properly position reinforcement shall conform to the bar support recommendations of CRSI 10MSP and shall be of adequate strength and design to prevent displacement of reinforcement and discoloration of concrete.

2. Supports shall be Class 1 - plastic protected.

3. Supports for bottom reinforcement of slabs on soil shall be chairs with integral plates, or precast concrete blocks not less than 4-inches square with a compressive strength equal to that of the surrounding concrete. Precast blocks may only be used to support reinforcement not more than 3-inches from the bottom of the slab.

E. Steel reinforcement shall be fabricated to the sizes, shapes and dimensions shown on the Contract Drawings, details and schedules. Bending shall be in accordance with CRSI 10MSP. Steel shall be bent cold and shall not be bent or straightened in a manner that will injure the metal. Bars with kinks or bends not so detailed shall not be used.

F. Bends for stirrups and ties shall be made around a pin having a diameter not less than 4 times the diameter of the bar. Bends for other bars shall be made around a pin having a diameter not less than 6 times the diameter of the bar, except for bars larger than 1-inch, the pin shall be not less than 8 times the diameter of the bar.

G. Dowel bar splicers shall be a 2-component threaded rebar splice system. The internally threaded component shall be forged from Grade 60 deformed rebar material free of external machining or welding. It shall contain an integral flange

with nailing holes and be threaded with Unified National Coarse (UNC) or UN (unified) threads to a depth equal to the nominal diameter of the threads plus 1/4 inch. The externally threaded splice component shall be fabricated from Grade 60 deformed rebar material and supplied with rolled threads corresponding with the internally threaded component. The root diameter of the threads shall provide a minimum cross-sectional area equal to the cross-sectional area of the nominal bar size. Manufacturer testing shall indicate ultimate tension failure occurring in the nominal bar diameter, not at the mechanical splice.

PART 3 – EXECUTION

A. Tolerances shall conform to ACI 117.

B. Reinforcement shall be accurately positioned both horizontally and vertically, and shall be properly secured and sufficiently rigid to prevent displacement during concrete placement.

C. Reinforcement shall be securely tied at intersections with tie wire or clips in a manner that will keep all metal away from exposed concrete surfaces.

D. Reinforcement splices shall be as shown on the Contract Drawings. Where not shown, splices shall be located away from areas of maximum stress and shall be approved by the Engineer.

E. Welding shall only be permitted by written approval of the Engineer and shall be in accordance with AWS D1.4.

F. Reinforcement within an area of a continuous concrete placement shall be installed, supported, and secured before beginning the concrete placement.

G. Adjust to within allowable tolerances to avoid interference with other reinforcement, conduits, or embedded items.

H. Reinforcement shall not be moved beyond allowable tolerances without the Engineer's approval.

I. Reinforcement shall not be heated, bent or cut without approval Engineer's approval.

J. Reinforcement shall be entirely free from flaking rust, loose mill scale, grease, dirt, etc. that might reduce its bond with the concrete.

K. Concrete cover for reinforcement shall conform to the dimensions shown on the Contract Drawings.

L. Notify the Engineer at least 24 hours before placing concrete. Reinforcement within the area of one (1) day's concrete placement shall be tied in place and observed by the Engineer or City’s representative, prior to commencing concrete

placement.

3.19 Cast-in-Place Concrete

PART 1 – SUMMARY

A. Provide cast-in-place concrete in accordance with this Section and applicable reference standards. Where requirements in this Section differ from the City of Sacramento Standard Specifications, the more stringent requirement shall apply unless otherwise approved by the Engineer.

B. Submittals

1. Test Reports: Provide reports by testing agencies according to ASTM E329.

2. Design Data for Each Concrete Mixture

a. Submit for mix designs for each concrete mixture specified in the Concrete Mix Design Schedule, located at the end of this Section. Submitted mix designs shall use the same, or similar, names as indicated in the Concrete Mix Design.

b. Submit minimum 14 days before initial placement of concrete.

c. Proportions for ingredients, 28-day design compressive strength, water to cementitious materials ratio, admixture dosages, slump, and air content.

d. Test data supporting proportions based upon laboratory trial batches or field test records according to ACI 301.

i. Field test data used to determine the standard deviation used for establishing the required average design strength shall be from within the previous 12 months, according to ACI 301.

ii. Field test data documenting proposed concrete proportions will produce an average compressive strength equal to or greater than the required average compressive strength from within the previous 12 months.

iii. Laboratory trial batch data shall be from within the previous 24 months.

3. Cement: Certified mill reports, not older than 90 days.

4. Supplementary cementitious materials: source and test reports for actual material to be used in the Work, not older than 90 days.

a. Fly ash

b. Ground granulated blast-furnace slag

5. Aggregate

a. Data not older than 90 days, except test data for soundness, abrasion, and alkali reactivity - not older than 1 year.

b. Fine and coarse aggregate data, except as specified

c. Sources

d. Specific gravity

e. Sieve analyses according to ASTM C33 (including fineness modulus of fine aggregate)

f. Organic impurities for fine aggregate according to ASTM C40

g. Potential alkali reactivity (not required if a cement containing less than 0.60 percent alkalis is used, according to ASTM C33) according to ASTM C1260, ASTM C1293, or ASTM C1567

h. Soundness according to ASTM C88

i. Abrasion for coarse aggregate according to ASTM C131 and ASTM C535

6. Product Data and Instructions: Admixtures

7. Sample Batch Ticket: Sample blank batch ticket from concrete batch plant

8. Closeout and maintenance material submittals

C. Carefully store cement immediately upon receipt in a weatherproof structure, as airtight as practical to prevent moisture absorption, stacked closely to reduce air circulation, but not against exterior walls. Allow easy access for inspection and shipment identification.

D. Transfer bulk cement to elevated airtight weatherproof bins. Test quality of cement that has been stored for suitability if quality is questionable and do not use without approval.

E. Store aggregates to prevent contamination by foreign materials and in separate piles by size. Build coarse aggregate stockpiles in horizontal layers not exceeding 4-feet in depth to avoid segregation.

F. Provide concrete supplied from a single commercial ready-mix plant, mixed and delivered according to ASTM C94, except if plant does not exist within a reasonable distance from Site, furnish material for on-Site batching and store as

specified. Concrete shall be discharged at the job site within 90 minutes after addition of cement to the mix, or within 45 minutes during hot weather conditions (ambient temperature above 85°F), in accordance with City Standard Specifications Section 10-5.

PART 2 – PRODUCTS

A. Concrete Mixture Design

1. ACI 301, Section 4, Concrete Mixtures.

2. 28-day design compressive strength: 4,500 pounds per square inch, except as otherwise specified.

3. Water to cementitious materials ratio: not to exceed 0.42 except as otherwise specified.

4. Provide designs of required strength, water to cementitious materials ratio, slump, and workability for placing conditions and specified finishes without segregation.

5. Slump

   a. ASTM C143.

   b. Specified Slump Range: 3 inches to 5 inches

   c. Specified Slump Range (mixes with mid-range water reducer):

      i. 2 inches to 4 inches, before admixture is added

      ii. Maximum 6 inches, after admixture is added

   d. Specified Slump range (mixes with high-range water reducer)

      i. 2 inches to 4 inches, before admixture is added

      ii. Maximum 8 inches, after admixture is added

B. Cement: ASTM C150, Type II or ASTM C595 IP (MS), is (less than 70) (MS). Do not use ASTM C595 cements that contain ASTM C1157 cement. If equivalent alkali content is greater than 0.60 percent, submit aggregate reactivity testing as specified.

C. Supplementary Cementitious Materials

1. Fly ash (optional)

   a. ASTM C618, Class F

b. Maximum loss of ignition: 3.0 percent

c. Not less than 15 percent or more than 25 percent of weight of cement plus fly ash

d. Maximum available alkalis: 5 percent

2. Ground-granulated blast furnace (GGBF) slag (optional)

a. ASTM C989

b. Activity classification: Grade 100 or 120

c. Not less than 25 percent or more than 50 percent of weight of cementitious material

3. Fly ash plus GGBF slag

a. Maximum 50 percent of total cementitious materials

b. Fly ash portion maximum 25 percent of total cementitious materials

c. Minimum Portland cement: 564 pounds per cubic yard of concrete, unless otherwise approved by the Engineer

D. Aggregate

1. ASTM C33, as amended. Evidence of a satisfactory service record in lieu of testing for alkali reactivity is not permitted.

2. Do not use crushed hydraulic cement concrete for aggregate.

3. Aggregate reactivity testing: according to ASTM C1260. Do not use aggregate having a 14 day expansion greater than 0.10 percent (considered potentially reactive), except if tested according to ASTM C1567, the 14 day expansion is not greater than 0.10 percent, or if tested according to ASTM C1293, the 2-year expansion is not greater than 0.04 percent, or if cement containing less than 0.60 percent alkalis is used according to ASTM C33. In lieu of the above, Alkali-Silica Reactivity (ASR) mitigation may be by substitution of a minimum 25 percent fly ash or 50 percent GGBF slag for cement by weight.

4. Fine aggregates: Sand or screenings of gravel or crushed stone, well graded from fine to coarse; clean and free from soft particles, clay, loam and organic matter, with the volume removed by sedimentation not more than 3 percent.

a. Organic impurities testing: according to ASTM C40. Color of the supernatant liquid above the test Sample, not darker than organic plate

No. 3.

b. Grading

U.S. Standard Sieve	Percent Passing
Size 3/8 inch	100
No. 4	95 - 100
No. 8	80 - 100
No. 16	50 - 85
No. 30	25 - 60
No. 50	5 -30
No. 100	0-10

Where City standards differ from the ranges listed above, the more restrictive requirement shall govern unless otherwise approved by the Engineer.

c. Not more than 45 percent retained between any 2 consecutive sieves listed above. Fineness modulus, not less than 2.3 nor more than 3.1.

5. Coarse Aggregates: Crushed stone or washed gravel of clean, hard, durable, uncoated particles, free from dust, dirt, or other deleterious substances, and free from thin, flat, or elongated particles.

a. Nominal maximum aggregate size for slabs poured on ground, at least 15 inches thick, except where clear spacing between reinforcing bars is less than 2 inches: 1-1/2 inches.

b. Nominal maximum aggregate size at all other locations, except as specified otherwise or approved: 3/4 inch.

c. Nominal maximum aggregate sizes per grading in Table 2 of ASTM C33: No. 467 (1-1/2 inches), No. 57 (1 inch), No. 67 (3/4 inch), No. 7 (1/2 inch), and No. 8 (3/8 inch).

E. Admixtures

1. Air-entraining admixture

a. ASTM C260 and chloride free

b. Provide air entrainment, except as noted below, according to manufacturer's directions and this Specification to produce the following total entrained air content determined according to ASTM C173 or ASTM C231.

Nominal Maximum Size Coarse Aggregate (inches)	Air Content by Volume (percent plus or minus 1.5)
3/8	7.5
1/2	7.0
3/4	6.0
1	6.0
1-1/2	5.5

c. Maximum air content for interior concrete slabs to be hard-troweled: 3.0 percent.

2. Mid-range water reducing agents: according to ASTM C494, Type A, and with consideration of the air entraining effect of the water reducing agent.

3. Water reducing-retarding agents: For use when ambient temperature above 70 degrees F, replace water reducing agent in whole or part with water reducing-retarding agent according to ASTM C494, Type D. Use amounts to produce concrete with set time equal to that at 70 degrees F without the retarder.

4. Set accelerator: Non-chloride type conforming to ASTM C494, Type C or E where allowed under **Section 3.20 Concrete Placing, Curing, and Finishing**.

5. High-range water reducing agent: ASTM C494, Type F or G (added in plant or field).

F. Water

1. Meet ASTM C1602.

2. Fresh and free from oil, acid, salt, alkali, sewage, organic matter, and other deleterious substances.

3. The amount of water carried on the aggregate and the effect of admixtures is included in the water content. Provide that water carried on the aggregate is determined periodically by test and the amount of free water on the aggregate subtracted from water added to the mixture.

4. Residual, wash, or other water in drums: Completely discharged prior to concrete batching (drums backed out).

5. Maximum amount of water required to produce a plastic mixture of strength and water to cementitious materials ratio specified and the required density, uniformity and workability. Consistency of mixture required for the specific placing conditions and methods.

6. Slump adjustment: Not made at wash down, slump rack, or by any other means prior to arrival at point of delivery at the Site.

7. Water added after arrival at Site: Accurately metered and recorded on the batch ticket.

PART 3 – EXECUTION

A. Advise testing laboratory and field observers minimum 24 hours in advance of placing concrete to allow for scheduling observation and testing.

B. Assist testing laboratory and Engineer in obtaining and handling Samples at the Site and other sources of material.

C. Provide space and electrical power at the Site for facilities to be provided by Contractor's testing agency for proper initial curing and storage of concrete test cylinders to be lab-cured as required by ASTM C31 for 48 hours after casting. For cylinders to be field cured: per **Section 3.20 Concrete Placing, Curing, and Finishing**.

D. Contractor's testing agency to store cylinders to be lab-cured at 60 degrees F to 80 degrees F in an environment preventing moisture loss from the specimens such as storage in wooden boxes, and placement in damp sand pits. Shield specimens from direct sunlight and radiant heating devices. Control storage temperature by use of heating and cooling devices as necessary and record temperature with a maximum-minimum thermometer.

E. Concrete Mix Design Schedule: The following table provides a list of concrete mixtures required for the project. The concrete supplier shall submit a concrete mix design for each of the concrete mixtures listed.

Concrete Mixture	Min Comp Strength (psi)	Max W/C Ratio	Air Entrained	Description of Use
Main Mix Design w/ air	4,500 at 28 days	0.42	Yes	Use for concrete, unless noted otherwise, including: concrete tank slabs and walls; concrete basement walls; exterior slabs-on-grade; equipment pads; building foundations and foundation walls.

3.20 Concrete Placing, Curing, and Finishing

PART 1 – SUMMARY

A. Provide placing, curing, and finishing of cast-in-place concrete accordance with this Section and applicable reference standards.

B. Concrete sampling and field testing by an independent technician certified in accordance with the requirements of ACI Concrete Field Testing Technician – Grade 1 certification program, or the requirements of ASTM C1077.

C. Laboratory testing of concrete cylinders by an independent, accredited and certified testing laboratory.

D. Construction joint refers to a monolithic construction joint in which the surface between successive placements is prepared to enhance bond and shear transfer and reinforcement is continuous.

E. Submit Product Data and Manufacturer's Instructions.

1. Delivery Tickets

a. Provide duplicate delivery tickets at time of delivery for each truckload of concrete delivered

b. Serial number of ticket

c. Date and Project location

d. Name and location of ready mixed concrete plant

e. Truck number, time loaded, cubic yardage delivered

f. Dispatcher's name

g. Mixture design, cement type, and admixtures with brand names

h. Types and quantities of cement, fly ash and/or slag (if included in approved mix design) and admixtures. Quantities of water and fine and coarse aggregate including moisture content, and nominal maximum aggregate size.

i. Water added subsequent to plant batching, if any. (Only applicable if total water per mixture design is not added at plant. Addition of water such that the water content of the approved mixture design is exceeded will be strictly prohibited.)

j. Concrete temperature upon delivery

k. Unloading time and location

2. Cure and Seal Compound

3. Source and Field Quality Control Submittals

a. Methods to be used to protect concrete placed during cold weather. The Engineer's review shall not constitute approval as the Contractor shall be responsible for the protection of concrete placed during cold weather.

b. Methods to be used to protect concrete placed during hot weather. The Engineer's review shall not constitute approval as the Contractor shall be responsible for the protection of concrete placed during hot weather.

4. Closeout and Maintenance Material Submittals

5. Concrete sampling and testing.

F. Provisions shall be made for maintaining new concrete in a continuously moist condition for at least seven days after placement.

G. Fresh concrete shall be protected from freezing, premature drying, flowing water, and mechanical injury.

H. Concrete shall not be placed while rain, sleet, or snow is falling unless acceptable protection is provided. Precipitation shall not be allowed to enter into the concrete mix or damage concrete surfaces.

PART 2 – PRODUCTS

A. Water Based Cure and Seal Compound: Conform to ASTM C309, Type 1, and ASTM C1315, Type 1 with minimum 25 percent solids, non-yellowing, non-staining, and UV light resistant.

1. MasterKure CC 1315WB, by Master Builders; Vocomp-25, by W.R. Meadows; Dress & Seal WB 25, by L&M Construction Chemicals, Inc.; or approved equal shall be provided.

2. Approved Use: Water based products are preferred and approved for application to surfaces with a surface temperature above 50F for interior or exterior surfaces.

3. Limitations: Not permitted for Cold weather application to surfaces temperatures less than 50F. Not permitted for surfaces to receive additional concrete fills, chemical hardeners, sealers, waterproofing, and architectural finishes such as concrete stain, paints and coatings, tile, carpet, and floor covering adhesives. Not permitted for surfaces to receive a sack-rubbed finish.

B. Solvent Based Cure and Seal Compound: Conform to ASTM C309, Type 1, and ASTM C1315, Type 1 with minimum 25 percent solids, non-yellowing and non-staining, and UV light resistant.

1. MasterKure CC 250 SB, by Master Builders; CS-309-25, by W.R. Meadows; Dress & Seal 30, by L&M Construction Chemicals, Inc.

2. Approved Use: Exterior surfaces with surface temperature above 40F.

3. Limitations: Not permitted for surfaces with a surface temperature less than 40F. Not permitted for surfaces to receive additional concrete fills, chemical hardeners, sealers, waterproofing, and architectural finishes such as concrete stain, paints and coatings, tile, carpet, and floor covering adhesives. Not permitted for surfaces to receive a sack-rubbed finish.

C. Evaporation Retardant: water-based polymer liquid placed on fresh concrete to control the rate of evaporation and extend workability. E-CON as manufactured by L&M Construction Chemicals, Inc.; SikaFilm by Sika Corporation; MasterKure ER 50 by Master Builders; or approved equal.

PART 3 – EXECUTION

A. Tolerances: Tolerances shall conform to requirements of ACI 117 except as modified.

B. Cold Weather Requirements

1. Cold weather concreting provisions shall be followed during cold weather: any and all periods when for more than three consecutive days the average daily outdoor temperature drops below 40 degrees F. (The average daily temperature is the average of the highest and lowest temperature during the period from midnight to midnight.) When temperatures higher than 50 degrees F occur during more than half of any 24-hour duration, the period shall not be regarded as cold weather.

2. When freezing temperatures may occur during periods not defined as cold weather, concrete surfaces shall be protected against freezing for at least the first 24 hours after placing.

3. Concrete shall not be placed on frozen subgrade. Insulate or heat subgrade to ensure temperature above 32 degrees F when concrete is placed.

4. Embedment's having a cross-sectional area of 1.0 square inch or greater, and including #9 reinforcing bars, shall be at a temperature not less than 10 degrees F at time of concrete placement.

5. Thermal protection must be provided immediately after concrete placement. Procedures for covering, insulating, housing, and/or heating concrete shall be prearranged. Except when supplemental heat is provided, the R-value of the insulation shall be per the recommendations of Chapter 9 of ACI 306R.

6. Accelerating admixtures shall be approved at the Engineer's discretion, however those containing calcium chloride shall not be permitted.

7. Concrete shall be placed and maintained at the following minimum concrete placement temperatures (measured at concrete surface).

a. Sections of less than 12-inch minimum dimension: 55 degrees F.

b. Sections of 12 to 36 inches minimum dimension: 50 degrees F.

8. The concrete placement temperature shall not be higher than the minimum concrete placement temperature by more than 20 degrees F.

9. The minimum concrete temperature as mixed shall be: 5 degrees F higher than the minimum concrete placement temperature when the air temperature is above 30 degrees F; 10 degrees F higher when the air temperature is between 0- and 30-degrees F; and 15 degrees F higher when the air temperature is less than 0 degrees F.

10. The temperature shall be monitored at the surface of the concrete, including at corners and edges, which are more vulnerable to freezing. The concrete surface temperature and the corresponding outside air temperature shall be recorded a minimum of twice per each 24-hour period

11. Concrete shall be maintained at the minimum specified temperatures for a protection period of 6 days. When an approved accelerating admixture is used the protection period may be reduced to 4 days.

12. Concrete shall be cooled gradually at the end of the protection period. The maximum allowable temperature drop at the concrete surface during the first 24 hours after the protection period shall be: 50 degrees F for concrete sections of less than 12-inch minimum dimension; and 40 degrees F for concrete sections of 12 to 36-inch minimum dimension.

C. Hot Weather Requirements

1. The temperature of the concrete when placed shall not exceed 90 degrees F. When the air temperature is 90 degrees F and above, procedures to cool mixture ingredients may be warranted. These include: providing shaded storage for aggregate, frequent sprinkling or fog spraying of coarse aggregate, and using chilled batch water and/or ice. Forms and reinforcement shall be sprinkled with cold water just prior to concrete placement. When possible, placement of slabs should be scheduled after walls and roof structure are in place in order to minimize problems associated with direct sunlight and/or drying winds. Newly placed concrete shall be protected from direct sunlight.

2. Records shall be maintained of: time and location of concrete placement, air temperature, weather conditions (i.e. calm, windy, clear, and/or cloudy), relative humidity, and concrete temperature as delivered and after placement.

3. When the air temperature is 90 degrees F and above: the time between the addition of water to cement or cement to aggregate (whichever occurs first)

and the time of concrete placement shall not exceed 60 minutes, except upon approval of the Engineer when tests for air content, slump and temperature are acceptable.

D. Placing

1. Concrete shall be handled from the truck to the place of final deposit as rapidly as practicable by methods preventing segregation and/or loss of ingredients.

2. The time between the addition of water to cement, or cement to aggregates (whichever occurs first), and the placement of concrete shall not exceed 90 minutes. When air temperature is 90 degrees F and above, this time shall be reduced to 60 minutes. These times may be exceeded only upon approval of the Engineer, and only if all tests for air content, slump, and temperature are also acceptable.

3. Water shall be removed from forms and excavations and the Work shall be kept dry during placement. No water shall be thrown on, allowed to flow over, or rise upon the concrete until it is thoroughly set.

4. The concrete shall be directly deposited as close as possible to its final location and shall be deposited in such manner so as to maintain a homogeneous, plastic, approximately horizontal surface.

5. Where concrete may contact soil while being placed, free fall shall be limited to a maximum of 3 feet. Concrete that has been contaminated by soil and/or other foreign matter shall be rejected. The accumulation of concrete on the forms and/or on reinforcement above the level of placement shall be avoided. The splashing of concrete upon formwork that is set for a subsequent concrete placement shall be prevented due to the resulting marks on the finished concrete.

6. Re-tempering of concrete and concrete placement against partially hardened concrete shall not be permitted. A concrete placement, once started, shall be carried out as a continuous operation until the placement of the entire section between construction joints is complete.

E. Chuting

1. Minimum slope shall be 3 horizontal to 1 vertical and maximum slope shall be 2 horizontal to 1 vertical. Between these limits, the slope shall be that which will prevent segregation and ensure continuous flow.

2. A baffle shall be provided at the end of the chute to prevent segregation. If the end of the chute is more than 3 feet above the surface of deposit, a spout shall be used. The spout shall be kept full of concrete with the end kept as near as practical to the surface of deposit.

3. The chute shall be steel or steel lined, and sections shall have the same slope throughout. Aluminum chutes are not permitted.

4. The chute shall be thoroughly flushed with water before and after each use, the water discharged outside the forms.

F. Pumping: The inside diameter of pipes and hoses used to convey the concrete shall be a minimum of three times the maximum size aggregate of the mixture. In order to minimize altering the concrete properties, long vertical sections at the end of the pump line shall be avoided. A horizontal hose run, a hose loop, or a slide gate at the end of the hose may be used to reduce loss of entrained air.

G. Compaction

1. Provide at least one standby vibrator, and at least one for each three in use.

2. Concrete may be deposited in one or multiple layers. Each layer shall be compacted by mechanical internal vibrating equipment supplemented by hand spading, rodding, and tamping as required. The depth of each layer shall not exceed the smaller of 36 inches and the depth that can be properly vibrated with the equipment used. When deposited in multiple layers, the vibrator shall penetrate the previous layer approximately 6 inches. Ensure initial setting of the previous layer does not occur prior to placement of subsequent layer.

3. Vibrators shall be relocated frequently, and over-vibration resulting in segregation shall be prevented. Vibrators shall not be used to move concrete within the forms. Concrete shall be thoroughly consolidated around reinforcement, embedments, and into the corners of the forms.

4. Ensure that vibrator is kept several inches clear of waterstops.

5. Where internal vibration is impractical, the use of form vibrators will be considered, and will be allowed only with the Engineer's written approval. When allowed, the vibrator shall be placed so that motion is horizontal.

H. Construction Joints

1. Construction joints shall be located where shown on the Contract Drawings, or, if not shown, locations shall be approved by the Engineer. Where required to be watertight, waterstops as specified in **Section 3.16 Concrete Forming** shall be used.

2. Horizontal construction joints: laitance shall be removed immediately after initial set and the surface shall roughened in an acceptable manner that exposes the aggregate uniformly and doesn't leave laitance or loose aggregate. After the concrete has set to a degree that precludes laitance removal by shovels or scrapers, the Contractor shall remove it, and create

a roughened surface, by water jetting or other effective method. The use of pneumatic hammers is not permitted.

3. Vertical construction joints: the surface shall be thoroughly cleaned of laitance by water jetting, or by wire brushing followed by air blasting.

4. Before concrete is placed against set concrete, the surface shall be thoroughly wetted with standing water removed. Horizontal construction joints shall be in a saturated surface dry condition: saturated for a minimum of 6 hours, with standing water removed.

5. Where noted on the Contract Drawings, and as approved by the Engineer where an unplanned interruption within a concrete placement has occurred, epoxy-bonding compound shall be used in accordance with the manufacturer's instructions.

6. Reinforcement shall be continuous at construction joints unless otherwise shown on the Contract Drawings. Waterstops shall be provided where called for in the Contract Documents. Necessary precautions to ensure that the waterstop is properly located and aligned and remains so during concrete placement shall be taken. In the event that the waterstop is improperly located, allowing a tolerance of plus or minus 1/2-inch, the Engineer may order the waterstop extended, or replaced, or such other action as deemed necessary, and at no additional cost to the City.

I. Existing Concrete

1. Where concrete is placed against existing concrete, the following surface preparation shall be required.

2. The existing concrete surface shall be cleaned of contamination and debris, and roughened by steel shot blasting, abrasive (sand) blasting, or water jetting (hydrodemolition). Use of scabblers, scarifiers, bush hammers, or pneumatic hammers is not permitted.

3. The existing concrete surface shall be water-saturated for a minimum of six hours, after which the excess water shall be removed immediately prior to placement of new concrete.

J. Temperature

1. When the ambient temperature falls below 40 degrees F or rises above 95 degrees F, a record shall be kept of concrete temperatures and of protection given to concrete during placement and curing.

2. The temperature of in-place concrete shall be the surface temperature of the concrete. The surface temperature may be determined by placing temperature sensors in contact with concrete surfaces or between concrete

surfaces and covers used for curing, such as insulation blankets or plastic sheeting.

K. Curing

1. Provide curing per ACI 308.1 except as modified.

2. During cold weather, as previously defined, the application of water shall not be required. Curing shall be accomplished by the use of cure and seal compounds, or other approved methods. Thermal blankets are not an approved curing method and shall be used in conjunction with curing provisions previously stated.

3. Provisions shall be made for maintaining new concrete in a continuously moist condition for a minimum of 7 days. Curing shall commence as soon as possible after final finishing when it will not mar, erode, or stain the concrete surface.

4. Water used for curing shall be no more than 20 degrees F cooler than the concrete surface temperature.

5. The use of a cure and seal compound on surfaces to receive applied toppings, chemical hardeners, water repellents, coatings, or a rubbed or bonded finish will not be allowed. Cure and seal compounds have high solid content and shall be applied by trays and rollers, if application by spray tanks is not completed in a timely manner and to the satisfaction of the Engineer.

6. Soaker hoses shall be used at tops of walls and columns before forms are removed. Wood forms shall be kept continuously wet in hot weather.

L. The Engineer may direct the Contractor to remove and replace, at no additional cost to the City, concrete Work that is not formed as shown and/or specified in the Contract Documents, or that contains a defective surface.

M. Upon the Engineer's approval, minor imperfections may be patched as specified herein.

N. After form removal, form ties shall be cut off, fins and irregularities removed, and defective areas, holes, honeycombs, cavities and irregularities shall be repaired where surface finish defects exceed the finish tolerances stated above.

O. Exposed patchwork shall match adjacent finish and shall include a sack rubbed finish to blend repair into adjacent surfaces and cured and protected as specified for concrete.

P. Filling Form Tie Holes: Tie holes shall be filled solid with non-shrink grout, specified in **Section 3.17 Concrete Specialties**, in the same manner as

specified under patching above.

Q. Concrete surfaces "exposed to view" shall be defined as those exposed to view upon completion of the Work, whether or not a painted finish is specified. Surfaces which will be covered by fill, such as exterior faces of walls, shall not be considered exposed to view.

R. Surface tolerance classes indicated herein are specified in ACI 117 and include abrupt surface irregularities that are measured within 1-inch of the irregularity, and gradual surface irregularities measured as the maximum gap between the concrete and the near surface of a 5-foot straight-edge, measured between contact points.

S. Surface Finish – 2.0 (SF-2.0)

1. SF-2.0 shall be provided for formed surfaces not exposed to view for concrete not containing liquids, and/or gases, and below design groundwater elevation.

2. Patch voids larger than 3/4-inch wide or 1/2-inch deep.

3. Remove projections larger than 1-inch.

4. Fill tie holes.

5. Surface tolerance Class D, with formed surface irregularities not more than 1-inch.

T. Tops of exposed walls and similar unformed surfaces shall be struck off smooth and hand steel troweled to produce a smooth hard level surface. Line and elevation shall be pre-established by means of preset wood screeds, which shall be removed during the troweling operation.

U. After troweling is completed and after the curing period, the surface shall be dry honed to a smooth non-directional surface texture satisfactory to the Engineer.

V. Cleaning during progress of the Work shall not be permitted. Cleaning shall not commence until the structure is entirely completed.

W. Rust and other stains and discolorations shall be removed with a non-etching cleaning agent used in accordance with the manufacturer's instructions. Cleaning of surfaces to receive a painted finish is also required.

X. Rust stains may be removed by applying a bleaching agent such as oxalic acid. Acid etching, sandblasting, or cleaning by other methods may be used as approved by the Engineer.

Y. During the progress of the Work, an independent, accredited and certified testing

laboratory shall conduct concrete testing as specified herein, including the preparation and testing of concrete cylinders. Testing shall be paid for by the Contractor.

Z. Field technicians in charge of sampling concrete; testing for slump, unit weight, air content, and temperature; and making and curing test specimens shall be certified in accordance with the requirements of ACI Concrete Field Testing Technician – Grade 1 certification program, or the requirements of ASTM C1077.

AA. Scheduling: Contractor to advise testing laboratory and field technician(s) a minimum 24 hours in advance of placing concrete to allow for scheduling observation and testing.

BB. Test Cylinder Storage: Provide space and electrical power at the Site for temperature-controlled storage of concrete laboratory test cylinders to be standard cured per **Section 3.19 Cast-in-Place Concrete**. Temperature controlled storage containers to be provided by testing agency.

CC. Field Testing and Sampling Procedures

1. Concrete samples shall be taken in accordance with ASTM C172 for slump, entrained air, unit weight, and strength tests.

2. Entrained air content and slump requirements are listed in **Section 3.19 Cast-in-Place Concrete**.

3. Air Content: Test in accordance with ASTM C173 or ASTM C231. Prior to pumping initial delivery of concrete each day, air content and slump shall be verified at point of delivery. Thereafter, pumped concrete shall be sampled and tested for air content at the point of placement, as opposed to at the point of delivery. Upon the Engineer's approval: once the slump loss and the loss of entrained air due to pumping is established, correlated acceptance limits at the point of delivery, where sampling and testing may then be performed, shall be made applicable. When the pump line configuration is changed significantly, sampling and testing shall again be performed at the point of placement until new acceptance limits at the point of delivery may be determined.

4. Slump: Measured in accordance with ASTM C143 at the point of delivery.

5. Temperature shall be measured in accordance with ASTM C1064 at the point of delivery.

6. Test Cylinders: Concrete cylinders shall be prepared in accordance with ASTM C31 and be 4 inches diameter by 8 inches tall.

    a. Lab-Cured (Standard Cured) Cylinders: Filed cured in temperature-controlled storage per **Section 3.19 Cast-in-Place Concrete**.

Cylinders shall be transported to the testing lab within 48 hours of forming, but not sooner than 8 hours after final set.

b. Field Cured Cylinders: Cured in the field under conditions that are not more favorable than the most unfavorable conditions for the portions of the concrete that the cylinders represent.

DD. Laboratory Testing of Test Cylinders

1. Cylinders shall be tested for compressive strength in accordance with ASTM C39.

2. Test concrete cylinders.

3. The compressive strength shall be the average strength of three-cylinder breaks per ASTM C39 and tested at 28-days.

4. Test Results: Submit test results to Engineer and concrete supplier within 24 hours of laboratory testing.

EE. Field and Laboratory Testing Frequency

1. Minimum field-testing frequency for each day concrete is delivered and placed at the project site shall be as follows.

a. Take concrete test cylinders at frequency stated herein from truckload determined by technician, Contractor, or Engineer.

b. 1st truck load: Test air content, slump, and temperature.

c. 2nd and 3rd truck load: No testing unless noted otherwise.

d. 4th truck load: Test air content, slump, and temperature.

e. 5th and 6th truck load: No testing unless noted otherwise.

f. 7th truck load: Test air content, slump, and temperature.

g. Repeat test frequency for additional truckloads of concrete delivered during each day of concrete placement.

h. Concrete temperature shall be tested for each truckload of concrete during cold weather or hot weather as defined within this Section.

i. Contractor, City's representative, or Engineer shall increase testing frequency as required to verify mix designs, address workability concerns, and ensure concrete placed complies with these Special Provisions and the Standard Specifications.

2. Lab-Cured (Standard Cure) Cylinders

    a. Lab-cured cylinders are required for all concrete on the Project and shall be in addition to field-cured cylinders, where provided.

    b. One set of 5 cylinders shall be prepared for each 100 cubic yards, or fraction thereof, of each different mix placed in each single day; or for each 5,000 square foot of slab or wall surface area placed each day.

    c. Test one cylinder at 7 days, three at 28 days, and reserve one cylinder for 56-days.

    d. Test 56-day cylinder as needed or requested by Contractor or Engineer.

3. Field-Cured Cylinders

    a. The Contractor is responsible for taking additional field-cured test cylinders to verify concrete compressive strength prior to tightness testing concrete tanks, backfilling concrete basement walls, or early removal of formwork.

    b. One set of 3 field-cured cylinders shall be prepared for each 100 cubic yards, or fraction thereof, of the concrete placed in each single day.

    c. Test field cured cylinders at 14 days or as requested by Contractor or Engineer.

FF. Acceptance Criteria and Additional Testing Requirements

1. Concrete strength shall be evaluated in accordance with ACI 301 Section 1.6.5, "Evaluation of concrete strength tests", and Section 1.6.6, "Acceptance of concrete strength."

2. Construction will be considered potentially deficient if concrete fails to meet any requirements that affect the strength and durability of the structure, including but not necessarily limited to the following:

    a. Low strength concrete per ACI 301, Section 1.6.5, "Evaluation of concrete strength tests", and Section 1.6.6, "Acceptance of concrete strength"

    b. Water-to-cementitious materials ratio higher than that of the specified mix

    c. Reinforcing steel size, quantity, strength, position or arrangement that does not meet the requirements of the Contract Documents

d. Reinforced concrete that differs from the dimensions or locations shown on the Contract Drawings

e. Curing that does not meet the requirements of the Contract Documents, including premature formwork removal

f. Hot or cold weather concreting that doesn't meet the requirements of the Contract Documents

g. Mechanical damage from accidents or fire

h. Poor construction practices

GG. The Engineer may order load and/or core tests in accordance with ASTM C42. Such testing shall be paid for by the City if the concrete is proven to meet the requirements specified.

3.21 NOT USED

3.22 Manhole Repair

PART 1 – SUMMARY

A. This Section covers the work necessary for preparing manholes for rehabilitation in accordance with **Section 3.23 Epoxy Coating Manhole Rehabilitation** and **3.24 Calcium Aluminate Manhole Coating.** Work on manholes includes, but is not limited to, manhole inspection, crack repair and infiltration elimination, filling of voids behind cracks, replacing manhole covers, and surface restoration, as indicated on the Contract Drawings or as directed by the Engineer.

B. The Contractor shall furnish and install labor, equipment and materials, manhole cleaning, manhole preparation work, containment of debris, waste disposal, equipment, quality control measures, and other necessary appurtenances, in accordance with the requirements of the Contract Drawings and Standard Specifications. The scope of work for manhole repair shall be the entire interior surface of the existing manhole, including grade rings, cones, the full height of the barrel, and base sections, as applicable, unless otherwise noted in the Contract Drawings.

C. The Contractor shall repair existing manhole materials and/or coatings at the Project site that are damaged as a result of the Work performed within the Contract Documents.

D. Reference Standards

1. This section contains references to the following documents. They are a part of this section as specified and modified. Where a referenced document contains references to other standards, those documents are included as

references under this section as if referenced directly. In the event of conflict between the requirements of this section and those of the listed documents, the requirements of this section shall prevail.

2. Unless otherwise specified, references to documents shall mean the documents in effect at the time of Advertisement for Bids or Invitation to Bid (or on the effective date of the Agreement if there were no Bids). If referenced documents have been discontinued by the issuing organization, references to those documents shall mean the replacement documents issued or otherwise identified by that organization or, if there are no replacement documents, the last version of the document before it was discontinued. Where document dates are given in the following listing, references to those documents shall mean the specific document version associated with that date, regardless of whether the document has been superseded by a version with a later date, discontinued or replaced.

    a. ACI 305R Guide to Hot Weather Concreting

    b. ACI 503R Use of Epoxy Compounds with Concrete

    c. ASTM C78 Standard Test Method for Flexural Strength of Concrete (Using Simple Beam with Third-Point Loading)

    d. ASTM C109 Standard Test Method for Compressive Strength of Hydraulic-Cement Mortars (Using 2-in. [50mm] Cube Specimens)

    e. ASTM C157 Standard Test Method for Length Change of Hardened Hydraulic-Cement Mortar and Concrete

    f. ASTM C293 Standard Test Method for Flexural Strength of Concrete (Using Simple Beam with Center Point Loading)

    g. ASTM C496 Standard Test Method for Splitting Tensile Strength of Cylindrical Concrete Specimens

    h. ASTM C596 Standard Test Method for Drying Shrinkage of Mortar Containing Hydraulic Cement

    i. ASTM C876 Standard Test Method for Corrosion Potentials of Uncoated Reinforcing Steel in Concrete

    j. ASTM D4138 Standard Practices for Measurement of Dry Film Thickness of Protective Coating Systems by Destructive, Cross-Sectioning Means

    k. International Concrete Repair Institute, ICRI Technical Guideline No. 03730 – Surface Preparation for the Repair of Deteriorated Concrete Resulting from Reinforcing Steel Corrosion

l. National Association of Corrosion Engineers International, NACE RP 0188 Standard Recommended Practice – Discontinuity (Holiday) Testing of New Protective Coatings on Conductive Substrates

E. Quality Assurance

1. Manufacturer shall have a minimum of 5 years of experience manufacturing products for sewer manhole rehabilitation/restoration.

2. Contractor/Applicator: The individual that is applying the restoration products shall have a minimum of 3 years of experience on 6 (six) separate projects installing the manufacturer's specified products.

3. Equipment utilized for the application of the coating product shall be approved by the manufacturer and the Contractor shall have received training on the operation and maintenance of the equipment from the manufacturer.

F. Submittals: The following submittals shall be provided in accordance with **Section 1.08 Shop Drawings & Submittals**.

1. Experience

a. Submit documentation/certification showing the Contractor is currently certified by the appropriate licensor to perform manhole repair and/or spray coating work by proposed manufacturer of the repair or spray coating product. Certification shall be submitted prior to any materials being delivered to the Project site.

b. Certification that the equipment to be used for applying the products has been manufactured or approved by the manufacturer of the manhole repair or spray coating product and applicator personnel have been trained and certified for the proper use of the equipment and materials.

c. List three (3) projects using the proposed coating system with at least four (4) years of successful service history. Include project name, project location, names of owner and engineer, description of products used, substrates, and application procedures. Include the size (area of lining) in the project description.

d. Written certification from the Contractor stating that they are qualified and experienced in the application of the specified coating system.

2. Product Data

a. Technical data including physical properties and surface preparation requirements, acknowledging that the proposed products meet the

requirements of this specification.

b. Instructions for application of the proposed products.

c. Material safety data sheets (MSDS) for hazardous chemicals used or expected to be onsite. The Contractor shall have copies of MSDS sheets on site during construction.

d. Test reports of in-place testing performed by an independent testing agency.

e. Storage, handling, and clean-up requirements.

f. Product manufacturer(s) information, including contact information.

3. Preparation Plan

a. Complete plan for cleaning and other surface preparation prior to applying coating as well as application and testing after the coating is installed. Plan shall include materials and equipment to be used, exact steps to be taken, and quality control procedures to be implemented. The plan shall also include minimum time requirements for coating, recoating, and surface patches.

4. Inspection Data

a. Submit complete written inspection report noting present defects and recommended repairs. Inspection report shall include digital photo files for each manhole.

G. Warranty

1. Contractor shall provide a minimum 5-year warranty to be in force and effect from the date of written final acceptance by the City. The warranty shall cover both materials and the installation of the product from damage caused by exposure to the environment. The warranty shall require repair or replacement of the manhole due to failure resulting from faulty materials or installation as deemed necessary by the City. Required work incidental or required as part of the repair or replacement shall be provided by the Contractor at no additional cost to the City.

H. Delivery, Storage, and Handling

1. Deliver materials to project site in manufacturer's original, unopened containers and packaging, with labels clearly identifying product name and manufacturer.

2. Storage

a. Store materials in accordance with manufacturer's recommendations.

b. Keep containers sealed until ready for use.

c. Store mortar at 40 to 80 degrees Fahrenheit.

d. Protect materials during handling and application to prevent damage.

PART 2 – PRODUCTS

A. Chemical Grout Injection

1. Chemical grout injection used to stop active leaks through cracks, holes, and joints. Chemical grout shall be injected into the soil surrounding the manholes on an as needed basis to completely seal infiltration where infiltration is identified during initial inspection and/or where infiltration will affect serviceability of applied coatings. Grouts injected near surface and chimney-corbel areas may require the addition of shrink control agents, gel reinforcing agents, and accelerators. Grouting shall be done utilizing Avanti A-220 or an equivalent product and shall be performed prior to application of a rehabilitation coating.

B. Crack Repair

1. Epoxy for pressure grouting/crack injection shall be the two-component epoxy-resin compound SealGuard II, as manufactured by Seal Guard Inc, or approved equal. Surface preparation and application shall be as recommended by the manufacturer.

2. Repair products used in manholes scheduled to receive a rehabilitation coating shall be fully compatible with coating products including the ability to bond effectively and form a composite system.

C. Hydraulic Cement Mortar

1. Fast setting mortar used to stop weeping leaks through cracks and holes. Chemical composition shall consist of a blend of hydraulic cements and fillers.

Property	Value	Time
Compressive Strength	> 2,500 PSI	1 day
	> 4,500 PSI	7 days
	> 5,500 PSI	28 days
Tensile Strength	> 290 PSI	7 days
	>575 PSI	28 days
Shrinkage	0.04 percent	28 days @ 90 percent Rh

D. Restoration Mortar

1. The restoration mortar shall be a sprayable microsilica cement mortar with low shrinkage and high strength. Chemical composition shall consist of a blend of cements, microsilica, thermoplastic fibers, densifiers, and modifiers.

2. Color: dark gray.

3. The physical properties of the mortar mix shall meet the minimum values shown in the following table:

Property	Value	Time
Compressive Strength	> 3,000 PSI	1 day
	> 7,000 PSI	28 days
Flexural Strength	> 535 PSI	1 day
	> 1,400 PSI	28 days
Tensile Strength	>330 PSI	1 day
	>735 PSI	28 days
Shrinkage	<0.01 percent	28 days @ 90 percent Rh
Uniaxial Tensile Bond Strength (over high strength concrete)	>500 PSI	28 days

4. Approved manhole restoration product manufacturers include Madewell Products Corporation Mainstay ML-72 (with DS-5 as referenced in Part D.), Kerneos SewperCoat PG or SewperCoat 2000HS, or approved equal.

E. Manhole Frame Seal

1. The manhole frame seal shall be 100% solids, flexible epoxy trowel-grade mastic. The physical properties of the seal shall meet the following values:

   a. Thickness: minimum 1/4 inch.

   b. Number of components: 2.

   c. Finish: matte.

   d. Color: light gray.

2. Approved product manufacturers include Madewell Products Corporation 806 Flexible Joint and Manhole Chimney Seal or approved equal.

F. Manhole Double Cover

1. The covers for manholes MH7A and MH6A shall be removed and replaced with a double cover per the Contract Drawings. The covers for new manholes MH A, B, C, and D shall be double covers per the Contract Drawings.

2. Double cover shall have a 48-inch diameter full clear opening and 24-inch diameter inner cover opening.

    i. Material: grey iron with bituminous coating for corrosion resistance

    ii. Reference Standard: ASTM48 Class 35b

    iii. Manufacturers: South Bay Foundry, Neenah, or approved equal.

3. Contractor shall repair manhole barrel risers as needed to accommodate the replacement frame and new double cover.

PART 3 – EXECUTION

A. Inspection

1. Contractor shall inspect manholes regardless of being identified as needing repair. Contractor shall inspect manholes that are to be removed and replaced or rehabilitated. Contractor shall spray wash interior of manholes prior to start of inspection. Inspection shall be performed from the ground surface and consist of lowering a video camera down the manhole to record present defects or recording defects via hand-held video camera during man-entry into the manhole. Contractor shall inspect manholes surfaces with the Construction Manager present.

2. Contractor shall note present defects and provide recommendations for repair.

3. For each manhole, Contractor shall provide:

    a. Two photos in jpeg format, one photo showing manhole frame and cover and surrounding area and one photo showing manhole interior.

    b. One digital video clip in avi or mpeg format, showing interior manhole defects.

    c. The naming conventions of the photo and video clip shall use the City's manhole numbering system as identified on the Contract Drawings and files shall be submitted on USB flash drive.

4. Repair of manholes not indicated on the Contract Drawings shall be approved by the Engineer prior to the start of the work.

B. Pre-Application Meeting

1. Conduct a pre-application meeting prior to 72 hours before the start of application of mortars and coatings. Review of surface preparation, application curing, field quality control and coordination with other work will

be discussed.

C. Sewer Flow Control

1. Provide temporary sewage flow control of the force main in accordance with **Section 2.04 Maintaining Water, Sewer & Drainage Flows.**

D. Order of Work

1. Preparation, repair, and coating work shall be completed after CIPP lining of adjacent upstream and downstream trunk sewers has been completed but while the flow diversion is still operational. Coating shall be applied all at one time for each manhole being rehabilitated or other location identified for coating in the Contract Documents.

E. Manhole Cleaning

1. Thoroughly clean the interior surface of the manhole structure and other surfaces including the base and the shelf and the pipeline channel. Cleaning shall be performed by high pressure water spraying (minimum 3,500 PSI) and debris from the cleaning process shall be captured in a net or other device to prevent the debris from entering into the sewer collection system.

F. Examination

1. Examine surfaces to receive restoration mortar. Notify the Engineer in writing if surfaces are not acceptable. Do not begin surface preparation or application until unacceptable conditions have been corrected. Provide the Construction Manager with a minimum of 24 hours' advance notice of completion of surface preparation and start of application.

G. Surface Preparation

1. Replace or treat corroded reinforcing steel, repair cracks and leaks, and treat joints in accordance with manufacturer's instructions and as approved by the Construction Manager.

2. Apply epoxy putty to clean reinforcing steel to protect steel from contamination and future rusting.

3. Prepare surfaces to have a minimum profile of 1/16 inch with aggregate exposed.

4. Inspect surfaces for soundness.

5. Thoroughly saturate surfaces with water prior to the application of spray coating repair materials. In no instance shall the spray coating be applied in an area where running water exists.

6. Apply restoration mortar as soon as water sheen is no longer visible (saturated surface dry condition).

H. Inflow and Infiltration Prevention

1. Existing concrete surfaces shall be cleaned and free from loose materials to secure a firm bond with the restoration lining system.

2. Contractor shall pressure grout or grout fill points of infiltration, cracks, and voids behind cracks in manholes, per manufacturer requirements.

3. Install chemical grout injection as shown on plan or if inflow or infiltration is observed within the structure after surface preparation is complete, install chemical grout injection or hydraulic cement mortar per manufacturer's instructions for application based on site conditions.

I. Restoration Mortar Application

1. Concrete surfaces shall be chipped down to solid material, roughened and cleaned to secure a firm bond with new concrete.

2. Exposed rebar shall be cleaned to remove rust and loose concrete.

3. Manhole walls shall be resurfaced with no less than one-inch cover over exposed rebar, per manufacturers requirements.

4. Manhole walls shall be troweled so that a smooth uninterrupted surface is achieved.

5. Apply restoration mortar in accordance with manufacturer's instructions.

6. Apply uniformly to substrate to the specified thickness. Do not apply to manhole frame.

7. Apply restoration mortar monolithically from the manhole riser wall to the shelf (if applicable).

8. Do not trap air in corners, behind exposed reinforcing steel, or between lifts.

9. The time interval between successive layers of spray coating application must be sufficient enough to allow "tackiness" to develop, but not final set. If final set does occur, this surface shall be prepared in accordance with this Section.

10. Construction joints within a manhole shall be avoided. In the event that a construction joint is necessary and approved by the Engineer, it shall be sloped off to a thin clean, regular edge at a 45-degree angle. Prior to placement of adjoining materials, the sloped portion and adjacent applied

material shall be thoroughly cleaned then moistened and scoured with an air jet.

11. Apply a minimum thickness of 1/2 inch above peaks of existing profile after surface preparation.

12. Finish surface with wood float, sponge float, broom, or brush to produce a textured surface upon which to apply corrosion barrier mortar.

J. Hot Weather Application

1. Follow manufacturer's instructions to reduce evaporation rate of surface moisture until corrosion barrier mortar can be applied. Cover with plastic film or wet burlap as necessary to limit evaporation rate to a maximum of 0.1 pounds per square foot per hour.

K. Cold Weather Application

1. Follow manufacturer's instructions for minimum application temperature and minimum number of days to protect from freezing.

2. Do not apply restoration mortar when temperatures are below 32 degrees Fahrenheit.

3. When freezing temperatures may occur, protect the mortar against freezing as specified for cold weather for the first 24 hours after application.

4. Visual inspection shall be made by the Construction Manager. Deficiencies or defects in the restoration mortar shall be marked and repaired by the Contractor to the satisfaction of the Construction Manager.

5. If there is damage to the manhole or if any defect cannot be repaired, the Contractor shall replace the entire manhole with a new concrete manhole at no additional cost to the City.

L. Application of Epoxy Corrosion Barrier Coating

1. Apply corrosion barrier coating in accordance with manufacturer's instructions and Special Provisions **Section 3.23 Epoxy Coating Manhole Rehabilitation**. Do not apply to manhole frame.

2. Apply corrosion barrier coating as soon as possible after finishing of restoration mortar.

3. Apply corrosion barrier coating within 4 hours of finishing the restoration mortar.

4. If the corrosion barrier coating cannot be applied within 4 hours of finishing

the restoration mortar, apply a primer to the restoration mortar prior to application of the corrosion barrier.

5. If the finished restoration mortar becomes contaminated before application of the corrosion barrier coating, clean the restoration mortar surface with high pressure water spray (minimum 3,500 psi). After water spraying is complete, apply primer to restoration mortar surface prior to application of corrosion barrier coating.

M. Application of Manhole Frame Seal

1. Corrosion Barrier Coating: Clean/decontaminate corrosion barrier coating if required. If within recoat window of corrosion barrier coating (72 hours), no further surface preparation is necessary. If recoat window has been exceeded, sand, sandblast, or wire brush, followed by a solvent wipe of, the corrosion barrier coating surface after cleaning/decontamination.

2. Manhole Frame: Wire brush clean to SSPC SP-3 (Power Tool Cleaning) condition to remove loose rust and any restoration mortar or corrosion barrier coating overspray. Surface shall be clean and dry before application of manhole frame seal material.

3. Apply manhole frame seal to a minimum thickness of 1/4 inch to manhole joints, grade rings and manhole frame. Height of application depends on overall height of manhole, but minimum height will be 4 inches (2 inches above and below joint). Apply material with a putty knife to a uniform thickness and texture.

4. Allow manhole seal to cure at least 24 hours in load bearing applications. Do not apply below 50 degrees Fahrenheit. Protect from freezing for at least 48 hours after application.

N. Testing

1. Testing shall be as outlined in Special Provisions **Sections 3.23 Epoxy Coating Manhole Rehabilitation** and **3.24 Calcium Aluminate Manhole Coating**.

3.23 Epoxy Coating Manhole Rehabilitation

PART 1 – SUMMARY

A. It is the intent of this Section to provide for the rehabilitation of existing force main manholes by the installation of epoxy coating system, should this method be chosen. Manholes eligible to be epoxy coated include: MH4A, MH5A, MH6A, and MH7A. Work shall be in accordance with these Special Provisions, the Contract Drawings, and the Standard Specifications.

1. Manholes to receive epoxy coating are those as indicated on the Contract Drawings. The extent of work for epoxy coating shall be the entire interior surface of existing manhole, including grade rings, cones, reducing slab (ceiling), the full height of the barrel, and base unless otherwise noted on the Contract Drawings. Epoxy coating work shall include, but not limited to cleaning and surface preparation, inspection, repair recommendations, infiltration elimination, crack repairs, filling voids, coating application, touch-up, protection of previously lined and unlined surfaces, containment of debris, waste disposal, cleanup, and appurtenant work.

2. An epoxy coating system consists of a trowelable epoxy filler, a high tensile elongation elastomeric grout, and an epoxy coating. References to epoxy coating system within this Section apply to NeoPoxy NPR-5300 Series "PureEpoxy" manufactured by NeoPoxy International, Inc. or approved equivalent.

B. Submittals: The following submittals shall be provided in accordance with **Section 1.08 Shop Drawings & Submittals**.

1. Technical data sheet on each product used, including required independent third party commercially tested physical and corrosion resistance properties, compressive strength, tensile elongation, flexural modulus, shore hardness, adhesive strength to damp concrete and 10,000-hour flexural creep results. Epoxy manufacturer's certification that the product conforms to and is suitable for its intended use per these Special Provisions and the Standard Specifications.

2. Material Safety Data Sheets (MSDS) for each product used.

3. Project specific guidelines and recommendations, installation requirements, set-up and curing requirements.

4. Applicator Qualifications

   a. Epoxy coating material must be applied by a Certified Applicator of the epoxy manufacturer.

   b. Manufacturer certification that applicator has been trained and approved in the handling, mixing and application of the products to be used. Applicator must provide current manufacturers signed Certified Applicator certifications or re-certifications shall be considered current when issued within the previous 365 days.

   c. Certification that the equipment to be used for applying the products has been manufactured or approved by the epoxy coating material manufacturer and applicator personnel have been trained and certified for the proper use of the equipment and materials.

d. Three references which verify that the coating applicator has demonstrated successful application of the specified coating systems in the past 3 years. Provide the size (area of coating), time of completion, name, the owner's address, and telephone number for each installation referenced.

e. A written certification from the Contractor stating that they are qualified and experienced in the application of the specified coating system.

5. Design details for additional ancillary systems and equipment to be used on site and surface preparation, application, and testing.

6. Complete Contractor plan for cleaning and other surface preparation prior to coating as well as application and testing of the coating after it is installed. Plan shall include materials and equipment to be used, exact steps to be taken, and quality control procedures to be implemented. This plan shall also include minimum time requirements for coating, recoating, and surface patches.

7. Abrasive Blast Material Data: For each abrasive blast material to be used, the Contractor shall submit the manufacturer's catalog containing the following data:

a. Technical data sheet for each product used, including statements on the suitability of the material to produce the required surface profile and the percentage mixture of grit/shot, and sieve size.

b. Material safety data sheet for each product used.

c. Country and state of origin.

C. Quality Assurance

1. Manufacturer

a. The manufacturer shall have directly employed, full time, on-staff chemists that interface directly with the in-house manufacturing personnel. The chemists interfacing with the production personnel shall be available to the agency and Contractor for technical support.

b. A record of quality control tests shall be maintained, and the finished production lot shall meet the manufacturer's standards prior to shipment. A certificate of compliance certifying that the production lot meets the manufacturer's specifications and standards at the time of shipment shall be provided with each lot shipment.

c. A liquid retain shall be maintained by the manufacturer for each production lot. Each retain shall be properly identified, labeled, and

stored for future reference. Retains may be properly disposed of six months from the production date.

2. Contractor shall allow and support the Engineer to access and inspect manhole structures at any time.

3. Applicator shall initiate and enforce quality control procedures consistent with applicable ASTM, NACE and SSPC standards and the protective coating manufacturer's recommendations.

4. Epoxy applicator shall label three standard 3-inch x 5-inch brush steel paint test coupons with pertinent and unique identification for each structure being lined. The minimum acceptable information will include the City, project designations, dates, and Contractor's project engineer or superintendent's name and signature. The non-data containing side of the coupon shall be sprayed with the specified epoxy immediately prior to application to the target surface. Two cured coupons shall be submitted to the Engineer. The Contractor as part of the project record shall keep the remaining coupon.

D. Existing Information

1. See **Section 3.09 Closed Circuit Television Inspection of Pipes** for existing CCTV information.

E. Delivery, Storage and Handling

1. Coating materials shall be sealed in containers that plainly show the designated name, formula or specification number, batch number, color, date of manufacture, manufacturer's directions, and name of manufacturer, all of which shall be plainly legible at the time of use. Products exceeding the manufacturer's recommended shelf life shall not be used.

2. Materials are to be kept dry, protected from weather, and stored under cover.

3. Protective coating materials are to be stored between 32° F and 110° F unless more stringent requirements from the manufacturer apply. Do not store near flame, heat, or strong oxidants.

4. Coating materials are to be handled according to their material safety data sheets.

F. Conditions

1. Applicator shall conform to local, state, and federal regulations including those set forth by Cal/OSHA, RCRA and the EPA and other applicable authorities.

2. Work shall be executed in a workmanlike manner by skilled personnel and shall present a neat appearance when completed.

3. Labor, materials, equipment, and apparatus not specifically mentioned herein or shown on the Contract Drawings, which may be necessary to complete any portion of the work in a substantial manner and in compliance with the requirements stated or implied by the contract documents, shall be furnished by the applicator without additional compensation.

PART 2 – PRODUCTS

A. Materials

1. Epoxy spray coating to be installed shall be Neopoxy NPR-5304, High Viscosity Modified Structural Epoxy System, or approved equivalent. Neopoxy NPR-5305 trowelable epoxy filler, grout and sealant shall be applied to surfaces that have defects that may interfere with the proper preparation or application of epoxy coating, or approved equivalent.

2. Neopoxy NPR-3501 high tensile elongation epoxy elastomeric grout and sealant shall be applied to areas that exhibit movement or cracking due to expansion and contraction, such as joints and manhole adjustment rings, or approved equivalent.

B. Manhole Repair

1. Contractor shall inspect manholes regardless of being identified as needing repair. Contractor shall inspect manholes that are to be removed and replaced or rehabilitated. Contractor shall spray wash interior of manholes prior to start of inspection. Inspection shall be performed from the ground surface and consist of lowering a video camera down the manhole to record present defects or recording defects via hand-held video camera during man-entry into the manhole. Contractor shall inspect manholes surfaces, shelves, and channels with the Construction Manager present. Contractor shall note present defects and provide recommendations for repair.

2. Infiltration Elimination

   a. Chemical grout shall be injected into the soil surrounding the manholes on an as needed basis to completely seal infiltration where infiltration is identified during initial inspection and/or where infiltration will affect serviceability of applied coatings. Grouts injected near surface and chimney-corbel areas may require the addition of shrink control agents, gel reinforcing agents, and accelerators. Grouting shall be done utilizing Avanti A-220 or an equivalent product and shall be performed prior to application of a rehabilitation coating.

3. Crack Repair

a. Epoxy for pressure grouting/crack injection shall be the two-component epoxy-resin compound SealGuard II, as manufactured by Seal Guard Inc, or approved equal. Surface preparation and application shall be as recommended by the manufacturer.

b. Existing concrete surfaces shall be cleaned and free from loose materials to secure a firm bond with epoxy resin compound.

c. Contractor shall pressure grout or grout fill points of infiltration, cracks, and voids behind cracks in manholes, per manufacturer requirements.

4. Resurfacing Concrete

a. Product used for resurfacing manhole wall and shelves, as applicable, shall be the polymer concrete, “All Crete,” as manufactured by Thoroc or the concrete, “Speed Crete,” as manufactured by W.R. Meadows, or approved equal. Surface preparation and application shall be as recommended by the manufacturer.

b. Loose or unsound concrete or masonry or existing coatings must be removed. Unsound concrete shall be determined by lightly tapping with a hammer and shall be removed to sound, hard concrete. Masonry materials may be thoroughly cleaned out and then re-mortared with epoxy or rapid setting cement and used to fill the area from which they came.

c. Concrete surfaces shall be chipped down to solid material, roughened, and cleaned to secure a firm bond with new concrete.

d. Exposed rebar shall be cleaned to remove rust and loose concrete.

e. Manhole walls shall be resurfaced with no less than one-inch cover over exposed rebar, per manufacturers requirements.

f. Manhole walls shall be troweled so that a smooth uninterrupted surface is achieved.

g. Repair products used in manholes scheduled to receive a rehabilitation coating shall be fully compatible with coating products including the ability to bond effectively and form a composite system.

5. Repair Materials

a. Repair materials shall be used to fill void(s), structurally reinforce and/or rebuild surfaces, etc. Repair materials shall be 100 percent solids epoxy compatible with the specified coating epoxy and shall be applied in accordance with the manufacturer’s recommendations. Epoxy repair materials shall be certified compatible with the epoxy

coating material and suitable for municipal sewer use and are preferred over non-epoxy repair materials.

b. The epoxy manufacturer shall provide instructions for proper application of the repair materials.

C. Coating Material

1. Neopoxy NPR-5300 Series “PureEpoxy”, or approved equivalent, a series of rapid curing reactive epoxy polymers made up of a variety of viscosities based upon identical reactive ingredients which exhibit excellent cure properties at low temperatures, in the presence of moisture and underwater. Develops a hard surface in about one hour, or less, under typical ground temperature conditions of 65°F at a coating thickness of 250 mils. Longer cure time will be allowed for lower surface temperatures or underwater conditions. The epoxy manufacturer shall prove cure guidelines to the Contractor for lower temperature conditions. The specified physical and chemical properties shall have been demonstrated by independent third-party testing to be resistance to acids, caustics, gasoline and other normal municipal sewage chemicals, biological agents and their byproducts. The product must be resistant to saturated hydrogen sulfide gas as found in municipal sewer systems. The product may either be trowel or spray applied and shall be color-coded light green, similar to what is generally accepted as “sewer pipe green”.

Product Type	Polyamine cured epoxy resin
Component Colors	Contrasting colors from part A & B
Mixed Color	Light Green
Solids (vol.%)	100
Solvent Content (vol.%)	0
Compressive Strength, psi	>10,000
Tensile Elongation, %	>4
Flexural Modulus, psi	>450,000
Shore Hardness, Type D	>80
Bond Strength – Concrete	200 psi and not less than 80% of the break shall be of a cohesive nature.
>Tensile	strength of concrete
Primer Required	None (self-priming)
Chemical Resistance	City of Los Angeles, Standard Specifications for Public Works Construction, Section 210-2.3.3 and ASTM F1216-98, Table X2.1

D. Epoxy Coating Application Equipment

1. Equipment shall be specifically designed temperature controlled plural

component spray equipment for use in the application of the specified epoxy. Equipment may be either high- pressure low-volume airless (HPLV), or low-pressure high-volume air assisted (HVLP). Equipment must be approved for use by the epoxy manufacturer. Air assisted spray application equipment atomization air must be filtered to adequately remove compressor oil and extraneous water.

2. Standard plastic or metal cement working tools of the Contractor's may be used if trowel applied.

3. Wet film thickness gage shall be 10-500 mil range, similar to Paul N. Gardner Company Item Number WF-790020, 800-762-2478.

PART 3 – EXECUTION

A. General

1. Preparation, repair, and coating work shall be completed after CIPP lining of adjacent combined sewers has been completed.

2. Preparation, repair, and coating work shall be completed while the bypass system is operational and running. Coating shall be applied under dry and dust-free conditions and bypass operations shall continue until epoxy coating is fully cured.

3. Preparation and coating shall be applied all at one time for each manhole being rehabilitated. Starting and stopping of work within one manhole shall not be allowed.

4. Coating shall be applied in a workmanlike manner so as to produce an even film of uniform thickness. Edges, corners, crevices, and joints shall receive special attention to ensure that they have been thoroughly cleaned and that they receive an adequate thickness of coating material. The finished surfaces shall be free from runs, ridges, waves, laps, brush marks, roller marks, and variations in color, texture, and finish.

5. The applicator shall comply with local, state, and federal regulatory and other applicable agencies with regard to environment, health and safety.

B. Examination

1. Extraneous flows into the manhole or structure, at or above the area to be lined, shall be stopped, plugged and/or diverted until the epoxy has developed and evolved from a liquid to a solid phase. After reaching the solid phase, heat may be added to accelerate the cure.

2. Temperature of the surface to be coated should be between 45°F and 90°F during application. Prior to and during application, care should be taken to

avoid exposure of the uncured coating to any heat source capable of causing the uncured epoxy to exceed 90°F. Where varying surface temperatures exist, care should be taken to apply the coating when the temperature is falling versus rising.

C. Preparation

1. Applicator shall inspect surfaces specified to receive a protective coating prior to surface preparation. Applicator shall notify Engineer of noticeable disparity in the surfaces that may interfere with the proper preparation or application of repair mortar and epoxy coating.

2. Prior to the start of work, the Contractor shall establish with the inspector schedules and notification procedures to ensure surface preparation work has been inspected prior to the application of coating.

3. Infiltration, crack repair, and surface restoration shall be addressed as outlined above prior to epoxy coating.

4. Covers shall be placed over pipe openings to prevent extraneous material from entering sewer system.

5. Surface shall be cleaned by removing laitance, dust, unsound or contaminated materials, plaster, oil, paint, grease, corrosion deposits or bacteriological growths. Chemical cleaning aids may be used with water blast equipment; however, Engineer must approve detergents or degreasers proposed by the Contractor and they must be suitable for the water temperature used in any pressure washer system employed. Where breaking out mortar is not required, roughen the surface and remove any laitance by mechanical means, low-pressure hot water blast (minimum 2500 psi. pump pressure at 4 gpm), or high-pressure cold-water blast (>3000 psi. pump pressure at 4gpm) with or without sand injection as is appropriate, abrasive (sand) blasting, acid etching and water cleaning, or shot blasting to a sound profile surface.

6. Acceptable surface pH for epoxy grouting repairs and coating shall be not less than six or more than nine.

7. Prior to coating, surfaces shall be dried by forced air to observe possible infiltration. In the event methods noted within the specification are ineffective stopping infiltration, the Contractor shall immediately notify the Engineer for direction.

8. Metal components shall, at the Engineer's option and at the Contractor's expense, be sandblasted to a NACE No. 2 "Near White Blast Cleaning", or high pressure (>5000 psi. pump pressure) water blast, or water with sand injection. Minimum surface profile shall be CSP 3. Residual penetrating oil and grease deposits shall be removed by steam cleaning, detergent

scrubbing or by the use of degreaser to ensure optimum epoxy adhesion.

9. For new concrete surfaces, epoxy coating may not commence until moisture content is 80 percent, or less, by hygrometer test, or "no visible moisture" by ASTM D4263-85, or 15g/24 hr./m (3lb/24hr/1000 ft.) maximum by calcium chloride test. For existing concrete surfaces, see above.

10. Epoxy coating may not commence until concrete has cured sufficiently to prevent pinholes in the coating due to outgassing. Concrete surfaces that have cured for 28 days or more may be considered sufficiently cured. In lieu of curing for 28 days prior to application of epoxy coating, the Contractor may submit a sample of cement being used on the project to the epoxy manufacturer for adhesion testing and recommendations on a reduced curing time.

11. Remove standing water and blow hot air for 15 to 30 minutes to dry the top surface prior to application of epoxy coating.

12. Fill voids with epoxy filler and/or grout according to the manufacture's recommendations. For flowing or weeping water conditions, rapid setting cementitious "plug" materials may be used instead of epoxy grouts.

13. Determination of adequacy of preparation and substrate integrity may be made by ASTM D4541, with scoring.

D. Application of Epoxy Coating

1. Application procedures shall conform to the recommendations of the epoxy coating manufacturer, including material handling, mixing, environmental controls during application, safety, and spray equipment.

2. Spray equipment shall be specifically designed to accurately ratio and apply the specified epoxy coating materials and shall be regularly maintained and in proper working order.

3. Areas that exhibit movement or cracking due to expansion and contraction, such as joints and manhole adjustment rings, shall be grouted and sealed with a high tensile elongation epoxy Neopoxy NPR-3501, or equivalent, specifically designed and suitable for the service. Prior to placing the grout, surfaces within the joint shall be sealed to a minimum depth of one-half inch with the specified epoxy coating. Subsequently to placement of the epoxy grout, a bond breaker shall be used to prevent adhesion between the flexible grout and the specified epoxy coating material. If the flexible grout and sealant is to be applied to manhole adjusting rings, no bond breaker or topcoat will be applied.

4. Specified surfaces shall be coated by trowel or spray application. Minimum application thickness of the epoxy coating shall be not less than 250 mils

above the aggregate topmost surface. A monolithic single wet film application is preferred over multiple thin layers. The epoxy coating shall be applied such that the total specified surfaces can be completed in one day. If sprayed, and cosmetically smoother appearance is specified, the initial application shall be sprayed and troweled level to aggregate tops with sufficient epoxy to completely fill interstitial voids. A subsequent application will be made to achieve the minimum above-aggregate specified thickness. When trowel applied, a single application may be made. The Contractor may elect to first perform the aggregated interstitial filling followed by the final above aggregate lining after the epoxy transition from liquid to solid phase.

5. Thickness measurement shall be made at the aggregate peaks on three-foot centers, vertically and horizontally, in a grid pattern. A wet film thickness gauge shall be used to ensure that the minimum thickness is applied. The Contractor shall measure the thickness of the coating in the presence of the City inspector or Engineer.

E. Records

1. The Contractor shall maintain an accurate, written record of the quantity of coating material applied and the corresponding surface area covered, a description of the area coated, the batch number, surface temperature, ambient temperature, relative humidity, dewpoint, and applicator on a daily basis. The Contractor shall furnish a signed copy of said record to the inspector at the beginning of the next working day. These quantities shall be independently verified by the inspector and reported on the inspector's log. The inspector shall immediately investigate and resolve discrepancies between these reported quantities and the inspector’s log.

F. Testing and Inspection

1. Destructive Dry Film Thickness Test, ASTM D4138

a. Perform 2 tests for every structure coated. If the thickness is correct, no further testing is required for that structure.

b. If the initial thickness test does not indicate correct film thickness, an additional 4 measurements will be made within the structure, the average of which must equal minimum specified thickness, although individual measurements may under run this amount by a maximum of 20 percent.

c. Any structure that does not meet the specified thickness as tested in a. and b. above, shall receive additional Corrosion Barrier Coating (depending on the time and environment, additional surface preparation may be required).

d. If the structures tested are of proper thickness, destructive test sites shall be repaired with the appropriate product compatible to the coating system as approved by the manufacturer at the Contractor's expense prior to placing the system into service.

2. Spot Adhesion Testing of Restoration and Corrosion Barrier Composite Coating to Substrate

   a. Perform minimum of 2 uniaxial pull-off adhesion tests per ASTM D7234 for every structure coated.

   b. Remove and replace areas not meeting required 145 psi at 28 days minimum adhesion requirement.

   c. If the condition of the substrate is such that minimum pull-off adhesion requirement cannot be met by removal of the upper ¼-inch of the substrate, work shall not proceed until a course of corrective action has been determined that will effectively produce the required adhesion results. When an effective course of remedial action has been determined, the City's representative and the Contractor shall negotiate a mutually agreeable settlement to cover the costs associated with the surface evaluation and remedial action.

3. Visual and Electrical Inspection for Holidays in Corrosion Barrier Coating

   a. Perform visual inspection for holidays in corrosion barrier coating at each structure. Mark areas identified for repair and reapplication of corrosion barrier coating.

   b. Perform spark testing in accordance with NACE RP 0188 or as recommended by the manufacturer at each structure. Mark areas identified for repair and reapplication of corrosion barrier coating.

   c. For areas marked for repair or reapplication of corrosion barrier coating, sand or grind down to substrate, clean, spray with primer, and recoat with corrosion barrier coating.

4. Visual Inspection

   a. The finished surfaces shall be free from runs, ridges, waves, laps, brush marks, roller marks, and variations in color, texture, and finish.

3.24 Calcium Aluminate Manhole Coating

PART 1 – SUMMARY

A. The Work includes force main manhole rehabilitation utilizing a spray applied calcium aluminate cementitious rehabilitation system. The purpose of this

coating is to obtain a dense and durable concrete coating that is resistant to biosulfuric acid and meets the strength requirements described in this specification. The Work covered in this specification consists of furnishing labor, equipment, materials, and supervision necessary to accomplish the rehabilitation as specified.

1. The Work includes cleaning and surface preparation, coating application, touch-up, protection of previously lined and unlined surfaces, debris containment, waste disposal, cleanup and appurtenant work. The Contractor shall repair existing coatings at the Project site that are damaged as a result of the Work performed within the Contract Documents at no additional cost to the City.

2. The specified coating system shall be applied to the manholes as indicated in the Contract Drawings.

B. Submittals: The following submittals shall be provided in accordance with **Section 1.08 Shop Drawings & Submittals**.

1. Proposed product for the structure rehabilitation including, but not limited to:

   a. Technical data sheet on each product used

   b. Independent third party commercially tested: physical and corrosion resistance properties, adhesive strength to damp concrete, and 10,000-hour flexural creep results.

   c. Manufacturer's certification that the product conforms to and is suitable for its intended use per these Special Provisions and the Standard Specifications.

2. Material Safety Data Sheets (MSDS) for each product used.

3. Applicator Qualifications

   a. Manufacturer certification that applicator has been trained and approved in the handling, mixing and application of the products to be used. Applicator must provide current manufacturers signed Certified Applicator certifications or re-certifications shall be considered current when issued within the previous 365 days.

   b. Certification that the equipment to be used for applying the products has been manufactured or approved by the coating material manufacturer and applicator personnel have been trained and certified for the proper use of the equipment and materials.

   c. Three references which verify that the calcium aluminate coating

applicator has demonstrated successful application of the specified rehabilitation system within the past three years. Provide the size (area of coating), time of completion, name, the owner's address and telephone number for each installation referenced.

d. A written certification from the Contractor stating that they are qualified and experienced in the application of the specified rehabilitation system.

4. Design details for additional ancillary systems and equipment to be used on site and for surface preparation, application and testing.

5. Specific plan for the sub-surface preparation prior to coating as well as application and testing of the coating after it is installed. Plan shall include materials and equipment to be used, exact steps to be taken, and quality control procedures to be implemented. This plan shall include minimum time requirements for coating, recoating, and surface patches.

6. A certificate of compliance shall be furnished for materials supplied.

7. A work plan.

8. A safety plan. It is the Contractor's responsibility to comply with OSHA standards and regulations pertaining to the work including confined space entry.

PART 2 – PRODUCTS

A. Materials

1. Coating material furnished under this specification shall be a prepackaged mortar mix, including cement, aggregates, and any required additives. It is the intent of this specification that the Contractor only be required to add the proper amount of potable water so as to produce concrete suitable for spray application. Do not add Portland cement, other aggregates, or admixtures to coating material. Typical package weights shall not be less than 50 lbs. and shall be identical for the material furnished on this Project.

2. The chemical composition of the cement portion as well as the aggregates of the mortar mix shall 39 percent – 44 percent Al203 and 35 percent – 40 percent CaO.

a. The design properties of the mortar mix shall be as follows:

Standard	Property	24 HOURS	7 DAYS	28 DAYS
ASTM C109	Compressive Strength, psi	>6000	>7000	>8000
ASTM C293	Flexural Strength, psi	>1300	>1400	>1600
ASTM C596	Shrinkage at 90% Humidity, %	<0.04	<0.06	<0.08
ASTM C666	Freeze-Thaw after 300 Cycles	No Damage		
ASTM C457	Air Void Content (7 days)	2 – 4 percent		
ASTM C642	Specific Gravity / Absorption Test (7 days)	3 – 5 percent		

b. The mortar mix shall be "SewperCoat PG" manufactured by Kerneos Inc. – Chesapeake, Virginia, or equal.

c. The mortar mix shall be designed to withstand long-term exposure to a bacterially corrosive hydrogen sulfide environment that may be expected to produce a pH of 1 on normal Portland cement based concrete or typical brick and mortar surfaces.

d. Water used in mixing shall be fresh, clean, potable water, free from injurious amounts of oil, acid, alkali, vegetable, sewage and/or organic matter. Water shall be considered as weighing 8.32 pounds per gallon.

e. Mortar mix shall be stored with adequate provisions for the prevention of absorption of moisture. It shall be stored in a manner that will permit easy access for inspection and identification of each shipment.

3. If inflow or infiltration is observed within the structure after surface preparation is complete, a rapid setting crystalline enhanced hydraulic cement product specifically formulated for infiltration control shall be used to stop minor infiltration flows in accordance with the manufacturer's recommendations. The material shall meet the following strength requirements:

a. Compressive Strength (ASTM C597B): 600 psi (24 hours), 1,000 psi (7 days).

b. Bond Strength (ASTM C 321): 30 psi (1 hour), 80 psi (1 day).

c. The material shall be Octocrete, Burke Plug or approved equal. Where infiltration flows are more severe, pressure grouting may be required. The material for pressure grouting shall be Avanti A-202, DeNeef or approved equal installed in accordance with the manufacturer's written instructions.

d. Materials, labor, equipment, and incidentals required to correct inflow and infiltration conditions will be considered incidental to rehabilitation.

PART 3 – EXECUTION

A. Preparation

1. The Contractor shall ensure the nozzle operating air pressure is uniform and provides adequate nozzle velocity for proper compaction of coating material. Contractor shall ensure that the nozzle is held at the proper distance away from and perpendicular to the prepared sub-surface to secure maximum material compaction with minimum rebound and no visible "sag".

2. Applicator's job foreman shall operate the mixing/placing equipment and direct the work of mixing crew personnel. Applicator's work crew shall also maintain proper line pressures throughout the mixing/placing equipment to ensure the necessary consistent nozzle velocity. Applicator's work crew shall further see that material fed to the nozzle is uniformly fed through this equipment.

B. Equipment

1. Equipment shall be of spray type and approved by the material manufacturer. Alternate equipment may be utilized, provided it meets the performance requirements of this Section. Equipment must be kept in operating condition and good repair.

C. Surface Preparation

1. Ensure sub-surfaces are clean and free of laitance, loose material, residue and existing coating and lining materials.

2. Sub-surfaces shall be thoroughly saturated with water prior to the application of the coating materials. In no instance shall coating be applied in an area where running water exists. It is the intent of this specification that the existing surface be saturated and free of running water just prior to installation – or SSD, "saturated surface dry condition." To achieve this condition, it may be necessary to presoak the sub-surface for at least 24 hours.

D. Operations

1. The Contractor shall provide the equipment necessary to individually gauge, control, and monitor the actual amounts of component materials necessary to complete the coating installation. The type of equipment and methods used to gauge, control, and monitor component materials are subject to City approval.

2. Coating materials shall be mixed by mechanical means to ensure agglomerated particles are reduced to original size or removed prior to

placement into the application equipment (i.e., the hopper). Each batch of material should be entirely discharged before recharging with fresh material. Mixing equipment shall be cleaned at regular intervals to remove adherent materials.

3. The addition of water to the mix shall be in strict accordance with the Manufacturer's recommendations.

4. Re-mixing or tempering shall not be permitted. Rebound materials shall not be reused.

E. Protection of Adjacent Surfaces

1. During progress of the work, adjacent areas or grounds which may be permanently discolored, stained or otherwise damaged by dust and rebound material, shall be adequately protected and, if contacted, shall be cleaned by early scraping, brushing or washing as the surroundings permit.

2. Remaining discoloration, staining, or other damage shall be repaired by the Contractor to the satisfaction of the Engineer at no additional cost to the City.

F. Application of Materials

1. Sequence of application may be from bottom to top or vice versa if rebound is properly removed.

2. Application shall be from an angle as nearly perpendicular to the surface as practicable, with the nozzle held at least 1 foot from the working sub-surface (except in confined control). If the flow of material at the nozzle is not uniform and slugs, sand spots, or wet sloughs result, the nozzleman shall direct the nozzle away from the work until the faulty conditions are corrected. Such defects shall be replaced as the work progresses.

3. Application shall be suspended if:

a. Air velocity separates the cement from the aggregate at the nozzle.

b. Ambient temperature approaches freezing and the newly placed calcium aluminate cannot be protected and insulated.

4. The time interval between successive layers of material application must be sufficient to allow "tackiness" to develop, but not final set. If final set does occur, this surface shall be prepared as specified above.

5. Construction joints within a manhole shall be avoided. In the event a construction joint is necessary and approved by the City, it shall be sloped off to a thin, clean, regular edge, at a 45-degree angle. Prior to placement

of the adjoining materials, the sloped portion and adjacent applied material shall be thoroughly cleaned as necessary, then moistened and scoured with an air jet.

6. Nozzleman shall bring the material to an even plane and to well-formed corners.

7. After the body coat has been placed, the surface shall be trued with a thin-edge screed to remove high areas and expose low areas. Low areas shall be properly filled with additional material to ensure a true, flat surface.

8. The minimum thickness of coating shall be a 3/4-inch cover over all surfaces.

G. Curing

1. If the material has been applied and furnished in accordance with the Special Provisions and the Standard Specifications, and it has been determined that the environment is not moist enough for natural curing, the Contractor will be required to apply a curing compound to coated surfaces.

2. Curing compound shall meet the requirements of ASTM C309 and have the approval of the coating material manufacturer and the City prior to use.

3. Moist curing may also be used in lieu of curing compound. If moist curing is selected, it should be implemented just after the notice of uniform heat generation of the installed coating. Moist curing can consist of the use of soaker hoses, water sprinklers, or vapor/misting machines. Regardless of delivery method, moist curing should continue for a minimum of 18 hours.

H. Sampling, Testing, and Acceptance Criteria

1. The engineer shall approve the inspection and quality control procedure before the project start-up.

2. A recognized independent testing laboratory, approved by the City, shall test mortar materials used on the Project at the Contractor's expense.

3. The cost of sampling and testing of the mortar mix during placement and the surface to which it is applied shall be borne by the Contractor. Other testing required showing conformance with these Special Provisions and the Standard Specifications shall be the responsibility of the Contractor. Certified test reports and certificates, when so directed, shall be submitted in duplicate to the City.

4. Quality Assurance—if the manhole does not meet, comply or test successfully with the prescribed standards, the contractor should make corrections and repeat the test procedure until the specifications are met.

5. Materials failing to meet the requirements of these Special Provisions and the Standard Specifications shall not be incorporated into the work plan.

5. Use (3) 2-inch cube molds in accordance with ASTM Test Method C 109, (3) 3-inch diameter by 6 inch cylinders in accordance with ASTM Test Method C 39, or shotcrete panels as in accordance with Practice ASTM C-1140 or as specified by the engineer for testing compressive strength. Make cylinders, cubes, or panels from each day's work and label each with the date, location, and project and product batch numbers. The product batch numbers are located on each cement bag. Send the cylinders, cubes, or panel to a third-party laboratory or the manufacturer for verification. Test the cement sample for compliance with specified strengths at 7 and 28-day periods or in accordance with the engineer's instructions. Retain one sample for further instructions should the others fail to meet the 28-day test requirement. Field samples should not be moved for a minimum of the first 24-hours. Protect and maintain samples in accordance with ASTM sampling procedures.

6. At the owner's option, each structure will be visually inspected following the application of the cement liner coating. The Contractor will be required to verify the quality of the applied liner material by using one of the following procedures: (1) a visual inspection which may be recorded in still, digital or video format, (2) vacuum testing in accordance with Test Method C 1244, (3) the water exfiltration method in accordance with Practice C 969, (4) other methods to include an approved third party inspector, a NACE accredited inspector or the manufacturer to check the work for defects, voids or holidays.

7. Visual Inspection

   a. The finished surfaces shall be free from runs, ridges, waves, laps, brush marks, roller marks, and variations in color, texture, and finish.

3.25 Cured-in-Place Pipe

PART 1 – SUMMARY

A. Provide cured-in-place pipe (CIPP) lining for structural rehabilitation of the 72-inch diameter Force Main in accordance with this Section, the Contract drawings, and applicable reference standards listed in this Section.

1. The 72-inch Force Main was constructed in 1960 with some upgrades at the downstream most sections occurring in 1976. The force main was built using reinforced concrete pipe with a short section of RCP steel cylinder pipe at the downstream section of the alignment and has deteriorated due to hydrogen sulfide damage. Proceed with Work as appropriate for material and existing condition of host pipe during construction.

2. Work includes prelining measurement of internal diameter of the existing host pipe; acquisition of any additional temporary construction easements not provided by the City as required to complete the work (with prior approval by the City); public outreach; preparation of construction site; acquisition of permits as required to complete the work; traffic control; protection and/or removal of trees as necessary to complete the work; excavation of lining launch and reception shafts; removal of the existing pipe within launch and reception shafts; bypass setup as necessary for construction; delivery of materials to Site; equipment and materials required for on-Site impregnation of liner; procurement and transport of water required for the work; cleaning, flushing and pre-lining television inspection; protection of existing conditions during installation Work; infiltration repairs and other point repairs as needed prior to lining; pre-liner and/or liner installation; sealing CIPP liner ends; liner termination; repair of pipe removed for liner insertion; installation of new manholes (as required); final television inspection; and testing and repair of lined pipe force main system and other accessories as required for proper installation; protection of Site during Work, including protection of inspection personnel, warning lights, barricades, traffic control, dust control and maintenance of detours, as required; cleanup of Work site, including maintenance and replacement of features such as paving, curb and gutter, seeding, sodding and graveling, if damaged.

3. When formed, water-cured CIPP liner extends over the length of host pipe indicated from launch location to termination point in a continuous, tight-fitting, smooth, hard, strong, chemically inert, and watertight interior surface closely following contours of host pipe.

4. Incidental CIPP Work includes the following:

    a. Excavate access and termination shafts and remove and replace top of existing pipe as necessary for CIPP liner installation.

    b. Remove and replace manhole cones, risers, frames, covers, and concrete collars or install new manholes as necessary.

5. Related Requirements

    a. Section 2.05 Temporary Diversion of Sewer and Drainage Flows

    b. Section 3.09 Closed Circuit Television Inspection of Pipes

    c. Section 3.10 Manhole Construction

    d. Section 3.14 Pipe Cleaning

    e. Section 3.22 Manhole Repair

f. Section 3.26 Carbon Fiber Lining

g. Section 3.27 Buried Pipe Installation

h. Section 3.28 Fiberglass Reinforced Polymer Mortar Pipe

B. Measurement and payment requirements: per **Section 4 – Items of the Proposal**.

C. Reference Standards

1. References

a. American Association of State and Highway Transportation Officials (AASHTO)

i. AASHTO LRFD Bridge Design Specifications

b. American Railway Engineering and Maintenance-of-Way Association (AREMA)

i. Manual for Railway Engineering (MRE)

c. American Society of Civil Engineers (ASCE)

i. ASCE Manual of Practice (MOP) 92 Manhole Inspection and Rehabilitation

d. ASTM International (ASTM)

i. ASTM D543 Standard Practices for Evaluating the Resistance of Plastics to Chemical Reagents

ii. ASTM D638 Standard Test Methods for Tensile Properties of Plastics

iii. ASTM D790 Standard Test Methods for Flexural Properties of Unreinforced and Reinforced Plastics and Electrical Insulating Materials

iv. ASTM D2990 Standard Test Methods for Tensile, Compressive, and Flexural Creep and Creep-Rupture of Plastics

v. ASTM D3567 Standard Practice for Determining Dimensions of "Fiberglass" (Glass-Fiber-Reinforced Thermosetting Resin Pipe and Fittings

vi. ASTM D4541 Standard Test Method for Pull-Off Strength of

Coatings Usings Portable Adhesion Testers

vii. ASTM D5813 Standard Specification for Cured-in-Place Thermosetting Resin Sewer Piping Systems

viii. ASTM F1216 Standard Practice for Rehabilitation of Existing Pipelines and Conduits by the Inversion and Curing of a Resin-Impregnated Tube

ix. ASTM F1743 Standard Practice for Rehabilitation of Existing Pipelines and Conduits by Pulled-in-Place Installation of Cured-in-Place Thermosetting Resin Pipe (CIPP)

x. ASTM F2019 Standard Practice for Rehabilitation of Existing Pipelines and Conduits by the Pulled-in-Place Installation of Glass Reinforced Plastic (GRP) Cured-in-Place Thermosetting Resin Pipe (CIPP)

2. Definitions

a. Cured-in-place-pipe (CIPP): trenchless sewer rehabilitation by installing a resin-felt composite structure which when cured will form a continuous-close fit liner within an existing sewer.

b. Full segment CIPP: CIPP extending from launch shaft to manhole or launch shaft to node (wye or tee connection to another sewer).

c. Reinforced CIPP liners: CIPP liner constructed from a felt-based fiberglass reinforced tube combining fiberglass layers and thermosetting resin in a felt tube.

D. Administrative Requirements

1. Coordination, sequencing, and scheduling: per this Section and **Section 1.07 Order of Work**.

2. Do not commence ordering or installation of CIPP liners prior to submission, review, and written acceptance of CIPP related submittals.

E. Submittals: The following submittals shall be provided in accordance with **Section 1.08 Shop Drawings & Submittals**.

1. Product data for each product specified.

2. Contractor's quality control plan which includes name and contact information of Contractor's quality control personnel.

3. Contractor's plan for ensuring compliance with Sacramento Metro Air

Quality Management District and State of California Air Quality requirements. Include Contractor's means for air quality testing to ensure compliance.

4. Contractor's Ventilation Plan for man-entry work in the interceptor. Ventilation Plan shall be developed and stamped by a California Licensed Engineer.

5. CIPP repair plan including information for proposed means and methods for repairs. Include descriptions of and specifications for materials to be used and other information adequate to describe CIPP repair methods.

6. Liner Layout Plan

    a. Map showing planned lining launch and reception site locations

    b. Map showing anticipated location of wet-out plants including Contractor construction footprint

    c. Map showing anticipated access to lining launch and reception site locations

7. Cure water procurement plan including:

    a. Proposed connection locations to existing potable water system

    b. Method of connection to potable water system

    c. Pipe material and alignment for water delivery

    d. Proposed traffic control plans for water transport pipelines

    e. Anticipated schedule of water use by withdrawal location including:

        i. anticipated water use by location

        ii. when (anticipated dates) water will be withdrawn

        iii. at what rate water will be withdrawn

        iv. duration of water withdrawal

    f. Anticipated total volume of potable water use

8. Design Data/Submittals: Provide CIPP designs, sealed and signed by a professional engineer registered in California and experienced in design of large diameter pressure lining systems, for review by Engineer a minimum of one month prior to manufacturing of liner. Liner shall not be manufactured until Engineer has provided written approval of liner design submittal.

Include the following information.

a. CIPP thickness calculations including specified design checks. Identify design assumptions based on review and verification of existing force main dimensions inspection that differ from information provided in specifications for existing force main design conditions. Submit calculations for each liner segment to be completed as specified in this Section.

b. Name and manufacturer of resin and reinforced felt tube proposed for each CIPP segment.

c. CIPP material properties used for design.

d. CIPP lining pressure rating.

e. Host pipe measurements, including force main length, host pipe dimensions, force main invert depths, and, where present, any host pipe imperfections that may govern.

f. Other required pre-design inspection data.

g. Liner Sizing: Identify under-sizing from measured circumference and anticipated liner stretch to form close fit with host pipe.

h. Host pipe modifications to be made to accommodate liner as designed, including chamfer modifications or treatment to match liner design.

i. If Contractor believes temporarily sealing the opening between the force main and the manhole is not necessary during lining, provide a written statement stating such with supporting calculations.

j. Other information that may reasonably be required to confirm CIPP design proposed conforms to specified requirements and design intent.

9. Provide resin samples within five business days of request by Engineer. Provide samples as follows.

a. Arrange for manufacturer of resin to forward reference sample of each type of resin proposed for use on Project to test laboratory designated by the City to be used as comparative reference sample for infrared spectrum testing.

b. When requested by Engineer, deliver representative sample from each resin batch to be used on Project before adding catalyst from wet-out facility to test laboratory designated by the City.

c. The City will arrange and pay for infrared analysis of samples, if required for Project.

10. Submit liner impregnation protocol that provides information on the following a minimum of one month prior to wet of out liners.

    a. Resin impregnation method.

    b. Designated location of on-site wet out facility for each lining segment on the Project.

    c. Documentation that resin to be used has not exceeded its shelf life as recommended by resin manufacturer.

    d. Volume and weight of resin to be impregnated into each liner including proposed excess allowance for polymerization and migration.

    e. Roller gap setting required to provide final installed CIPP thickness based on proposed volume of resin.

    f. Details of wet-out procedure, site setup, quality control, material storage for "over the hole" (OTH) wet-out procedures.

11. Submit liner installation protocol that provides information on the following a minimum of one month prior to installation of each length of CIPP.

    a. Proposed main line and sewer side connection (as necessary) flow control arrangements. Flow control plans must be submitted separately from liner installation protocol. See **Section 2.05 Temporary Diversion of Sewer and Drainage Flows**.

    b. Installation protocol complete with proposed equipment including:

        i. Details of pre-liner installation, if used.

        ii. Liner installation specifics per ASTM F1216 for inversions or ASTM F1743 for pull-in installations.

        iii. Details of any liner diameter changes required for installation.

    c. Full curing protocol, including the following.

        i. Contractor's plan for procuring water for water cure including location of source water and materials and methodology to transmit water from source to discharge point.

        ii. Required curing heads and times per ASTM F1216 for inversions and/or F1743 for pull-in installations. Provide specific direction on the following:

a) Information on proposed heating equipment, boiler management and operational safety systems, and list of certified boiler technicians approved as operators by manufacturer or an independent testing agency.

b) Recognized temperature for exothermic reaction.

c) Curing times by pipe segment.

d) Length of time to full cure after exotherm has occurred and recommended adjustments to curing time based on sags, groundwater, force main depth, seasonal variations in temperature which may impact heat sink around the pipe or curing at temperatures less than optimum exothermic initiation temperatures per pipe segment.

e) Methods used during curing to minimize liner shrinkage that could induce an annulus gap in excess of the Design Objectives specified in this Section.

f) Cool down rates permissible for post curing including procedures incorporated to minimize liner shrinkage.

d. Provide maximum allowable axial and longitudinal tensile stress for fabric tube and arrangement for monitoring pull-in forces during installation if liner insertion is to be by pull-in methods.

e. Details of the continuous cure monitoring system installation and use.

f. Number and location of additional thermistors to be used to supplement the continuous cure monitoring system for monitoring temperature of liner during curing process.

g. Estimated length of time required to reinstate force main and any connections to the system.

h. Site setup details.

i. Over the hole wet-out procedures.

j. Any other information pertinent to review and monitor each liner's installation.

k. Submission Requirements

i. Submit installation protocols as individual submissions.

12. Submit CIPP sampling protocol a minimum of one month prior to installation

of first CIPP liner that provides the following:

a. Detailed procedure for preparing plate samples, including a sample plate sample preparation quality control form. Provide completed plate sample preparation form for each plate sample, signed by wet-out supervisor and Contractor's Project Manager affirming correct preparation of samples. Include dimensions of sample, direction of circumferential and axial reinforcing media, date of preparation, and location of preparation on form.

b. Procedure, complete with diagram, for placing plate samples in common heat sink environment as the curing CIPP.

c. Description of in place sampling procedures at locations where the City directs in-place samples to be obtained.

d. Required sizes for samples to be obtained (including test plate size for reinforced liners).

e. Liner repair products and procedures for both cored and Direct Cut samples in accordance with this Section.

13. Trimming and Finishing

a. Methods, materials, equipment, and procedures to seal annular space between CIPP and host pipe at liner terminations ("end seal") and at internally reinstated sewer connections, if applicable.

b. Note: End seals required at every liner termination point.

14. Submit styrene management plan a minimum of one month prior to installation of CIPP liners requiring styrene management. Include sufficient details on the following.

a. Air and other regulatory compliance considerations for discharge based on Contractor's proposed resin selection, curing method, and discharge location for liner impregnation, cure water, first flush, etc.

b. Means, methods, and techniques employed to mitigate styrene levels to within acceptable limits for Site-specific application, including the following:

i. Resin selection to eliminate or mitigate styrene levels.

ii. Cure and cure monitoring considerations to mitigate excessive styrene volatilization.

iii. Handling considerations, post cure to mitigate levels

discharged to aquatic or other environments that may be deleteriously impacted by excessive styrene levels.

c. Means, methods, and techniques to be employed to mitigate styrene odors.

15. Safety Plan showing compliance with OSHA standards and regulations pertaining to the Work including confined space entry.

16. Permits showing compliance with the Sacramento Metropolitan Air Quality Management District.

17. Qualification statements.

18. Closeout and maintenance material submittals

F. Quality Assurance

1. Provide in accordance with Special Provisions.

2. Warranty: The materials and work supplied under this section shall be warranted for a period of 2 years by the manufacturer and the Contractor. The warranty period for each CIPP lining segment shall commence upon initial acceptance (written notice) of completion of that segment by The City. The materials shall be warranted to be free from defects in workmanship, design, and materials. If the materials should fail during the warranty period, they shall be replaced or restored to service at no expense to The City.

3. Qualifications: per Special Provisions and as follows.

a. Installer: approved manufacturer's licensed installer of specified pipe liner system with the following minimum qualifications:

i. Documented experience with "on-site wet-out" operations on at least three different projects of minimum 60-inch CIPP lining in sewer main pipelines with at least one of those projects using a reinforced tube.

ii. Documented experience with "on-site wet-out" operations on at least one lining project of minimum 30-inch CIPP lining in a pressurized pipeline.

iii. Provide project name, location, date, owner's name, owner's contact person (or owner's current representative), host-pipe diameter, footage of host-pipe that was lined, and lining product(s) used.

b. Field Supervisor: Contractor's CIPP lining field supervisor (defined as

person who supervises in the field during phases of lining) with the following qualifications.

i. Documented experience with the same materials, impregnation and install (reinforced liner, over-the-hole wet-out, and water cure) proposed on Project.

ii. CIPP Lining: As part of lining crew, installed at least 10,000 feet of minimum 54-inch CIPP lining in sewer main lines (includes both non-supervisory and supervisory work). At least 5,000 feet of 30-inch CIPP shall have been installation of a reinforced tube.

iii. CIPP Lining Supervision: As lining field supervisor, installed at least 5,000 feet of minimum 54-inch CIPP in sewer mainlines and installed CIPP lining in sewer mainlines on at least four different projects. At least 2,000 feet of minimum 30-inch CIPP shall have been installation of a reinforced tube.

c. Contractor Technician(s): minimum of one crew member with the following qualifications.

i. Documented experience with the same materials, impregnation and install method (reinforced liner, over-the-hole wet-out, and water cure) proposed on Project.

ii. CIPP Lining: As part of a lining crew, installed at least 5,000 feet of minimum 54-inch CIPP lining in sewer main lines on at least two different projects. At least 2,000 feet of minimum 30-inch CIPP shall have been installation of a reinforced tube.

d. Over-the-hole (OTH) Impregnation Crew (Can be one of the same as above.)

i. Documented experience with the same materials, impregnation, and install method (reinforced liner, over-the-hole wet-out, and water cure) proposed on Project.

ii. CIPP Lining: As part of a lining crew, installed at least 5,000 feet of 54-inch CIPP or larger lining in sewer main lines on at least three different projects using OTH impregnation. At least 2,000 feet of minimum 30-inch CIPP shall have been installation of a reinforced tube.

4. Certificate of Compliance: signed by authorized manufacturer's agent, certifying compliance with Contract Documents. Include manufacturing date of lining materials and resin batch numbers in certification.

G. Warranty

1. Contractor shall provide a 2-year written bonded warranty for the full value of the contract with a 3.5 percent inflation allowed per year after acceptance of the liner to cover the repairs resulting from liner failure within the warranty period, including new pipe, fittings, labor and incidentals as well as any fines by the local, state, and federal environmental agencies.

2. The written bonded warranty shall be issued by a BB+ rated surety with more than 20 years of business history and with headquarters in the United States.

H. Delivery, Storage, and Handling

1. Provide in accordance with Special Provisions.

2. Deliver and handle materials including CIPP liner materials, pre-liner materials (if applicable), and end seal materials in accordance with manufacturer's instructions.

3. Protect force main lining materials before, during, and after installation, and protect materials of other trades, as applicable.

4. Properly store and handle liner materials to prevent damage in accordance with manufacturer's recommendations and as approved by Engineer. Damage includes gouging, abrasion, flattening, cutting, puncturing, or ultra-violet (UV) degradation.

5. Promptly remove materials rejected by Engineer from Project Site at no additional cost to the City and dispose of materials in accordance with current applicable regulations. If CIPP material becomes torn, cut, or otherwise damaged before or during insertion, repair or replace in accordance with manufacturer's recommendations and Engineer's approval at no additional cost to the City. Engineer may inspect tube before placement in host pipe.

6. Protect flexible tube impregnated on Site from heat and ultraviolet light and invert and cure in place immediately following wet-out.

I. Existing conditions: per Special Provisions **Section 2.07 Existing Site Conditions**.

PART 2 – PRODUCTS

A. CIPP Design Objectives

1. Maximize structural enhancement of force main by installing close-fit CIPP.

2. Pressure Rating

    a. Have a long-term independent pressure rating greater than the specified maximum operating pressure for the system.

    b. A long-term (50-year) burst strength, when tested independently from the host pipe, equal to or greater than the maximum operating pressure of the pipe to be rehabilitated in accordance with AWWA Manual M28.

    c. The ability to survive any dynamic loading, burst failure, or other short-term effects associated with sudden failure of the host pipe due to internal pressure loads.

    d. Design shall also consider additional design considerations where specific in this Section, including buckling, transient, and vacuum loads.

3. Maximize internal diameter of rehabilitated force main with as little impact on hydraulic capacity of force main as possible.

4. Reduce infiltration and exfiltration.

5. Span holes, gaps, and defects in the pipe.

6. Prevent root intrusion.

7. Provide sufficient chemical resistance to prevent further force main pipe degradation related to conveyance of sewage.

8. Minimize force main service disruption during rehabilitation.

9. Minimize time required to complete the force main rehabilitation.

10. Minimize disturbance to pavements and roadways.

11. Minimize disruption to vehicular and pedestrian traffic.

12. Minimize impact of construction on commercial, industrial, and institutional facilities.

13. Select CIPP product and construction approach for rehabilitation with intent towards maximizing achievement of design objectives.

B. CIPP General Design Requirements

1. Chemical and mechanical properties of liner: established based on waste stream, based on 50 years of continuous exposure.

2. Size CIPP in accordance with design objectives to provide close fit to host pipe with no annulus. Notwithstanding the maximum allowable diametric shrinkage due to curing permitted in ASTM D5813, the maximum annular gap permitted by design shall be limited to the diametrical shrinkage associated with 0.4 percent of a true close fit.

3. Long-term values for flexural modulus of elasticity and flexural strength: projected value at 50 years of continuous application of design load based on specific resin and felt composite as established by ASTM D2990.

    a. Flexural modulus testing: carried out at 0.25 of the short-term modulus, or the stress which should induce 0.25 strain upon loading or equivalent ISO testing. Minimum test length of 10,000 hours required. Provide supporting short-term and long-term test data conforming to ASTM D2990 or equivalent for resin and felt composites proposed for use on Project. For flexural strength creep adjustment provide appropriate ASTM D2990 Creep Rupture Type tests.

4. Provide short-term test data on modulus of elasticity and flexural strength of in-place composite structure conforming to ASTM D790 for resin and felt composites proposed for use on Project.

5. The hydraulic capacity of the relined pipe shall be greater than or equal to the existing pipe as specified in this Section.

C. Minimum Loading Assumptions

1. Groundwater table: Assume a groundwater table at 10 feet below the ground surface.

2. Calculate soil loads based on saturated soil unit weight of 120 lb./ft^3.

3. Design Calculations: Consider both maximum and minimum soil cover scenarios for each liner. Governing load case to govern design.

4. Include the following live loads in design.

    a. Pipelines Crossing Beneath Rail Lines

        i. Applied soil pressures from Copper E80 rail load: estimated and utilized in design of CIPP liner, where identified.

        ii. Include track allowance dead load of 200 lbs./ft. in rail loads.

        iii. Applied rail loads at depth: calculated using Boussinesq solution for distribution of soil stresses from surface point loads.

        iv. Impact factors for rail loads: calculated in accordance with

AREMA MRE.

b. All Other Pipelines

i. Applied soil pressures from AASHTO HS 25 design truck: estimated and used in design of CIPP liner, unless otherwise specified.

ii. Applied soil pressures from AASHTO design truck loads: estimated in accordance with AASHTO LRFD Bridge Design Specifications.

5. Applied soil pressures at depth caused by superimposed surface loads: calculated using Boussinesq solution for distribution of stresses from surface point loads, unless otherwise specified.

D. Hydraulic Design Checks

1. Perform design check to confirm full flow hydraulic capacity of CIPP equal to or greater than existing force main. All designs shall be carried out to ensure that the completed installation has a capacity equal or greater than the existing host pipe.

E. CIPP Liner Thickness

1. Final design submissions: Based on a fully deteriorated pressure pipe in accordance with AWWA Manual M28, Clause X1.3.2, or ASTM F1216, Appendix X1, based on the following design assumptions.

a. Pipe is a pressure force main with a maximum operating pressure of approximately 19 psi.

b. Transient short-term over pressure: 25 percent of maximum sustained operating pressure.

c. Vacuum pressure allowance: -7 pounds per square inch.

d. Host pipe design condition: fully deteriorated. The pipe liner shall be designed to bear full pipe loading (including full internal pressure and transient loading). Host pipe shall be assumed not to provide any structural support.

e. Ovality: minimum 2 percent.

f. A Modulus of Soil Reaction (E) of 1,000 psi shall be used.

g. Factor of Safety (N) of 2.0 should be used for calculations.

h. Inside diameter of the existing pipe used in calculating liner thickness

shall be as measured in the field, by the Contractor, prior to producing pipe calculations and ordering lining materials so that the liner can be lined in a tight fitted condition.

i. External Buckling Design: Acceptable third-party testing and verification of the design analysis techniques (ASTM F1216, Section X1.2.2).

2. Selection of CIPP minimum thicknesses: Contractor shall be responsible for control of material and installation and process variables to provide a finish CIPP liner possessing the minimum properties in accordance with ASTM F1216 and required in this Section.

3. Design calculations material properties use long-term (time-corrected) values.

4. Determine required CIPP liner wall thickness using the following procedure.

   a. Select short and long-term flexural strength and modulus properties for lining product proposed for use on the individual pipe reach.

   b. Determine depth and load conditions for liner.

   c. Using reviewed and accepted short and long-term flexural strength and modulus, determine minimum liner thickness using applicable design conditions.

   d. Required minimum thickness: greater of the thicknesses determined from design equation for flexural modulus and flexural strength based on the short and/or long-term loading condition.

   e. Select nominal CIPP liner thickness greater than minimum determined through above method to allow for the Contractor's proposed installation and processing methods.

5. Minimum Material Properties

   a. Conform to material requirements specified.

   b. The physical properties of the cured liner shall meet the minimum chemical resistance requirements of ASTM F1216, shall conform to the structural standards as listed in this specification, and with the minimum standard physical properties as follows:

Minimum Physical Properties		
Property	Reference Minimum Value	
	Short Term	Long Term
Wall Thickness	As Calculated (ASTM 2122)	N/A
Flexural Strength	7,000 psi (ASTM D790)	NA
Tensile Strength[1]	6,500 psi (ASTM 638)	N/A
Flexural Modulus of Elasticity	500,000 psi (ASTM D790)	250,000 psi

1. For materials that do not allow sufficiently accurate hoop/weft testing in accordance with ASTM D638, initial tensile strength may also be substantiated by short-term flat plate specimen testing.

6. Confirm design conditions stipulated with design equations and notify Engineer of any conditions more adverse than those identified with design.

   a. Engineer will provide new minimum thickness for design conditions measured on Site and Contractor's stated declared values and processing allowances. Increases to liner thickness based on discovery of more adverse design conditions: considered a Change in Work as defined in the City Specifications.

   b. Similarly, should host pipe dimensions and conditions be found that are less severe than used for design, Contractor may apply for reduced liner thickness with provision of a suitable credit to the City as a Change in Work.

F. Existing Force Main Design Conditions

1. Assessment of liner system design conditions and Site-specific repairs required to accommodate lining were based on conditions observed from force main inspections performed as part of the City's inspection program. Refer to **Section 3.09 Closed Circuit Television Inspection of Pipes** for information regarding obtaining copies of existing inspections.

2. Video inspections provided were completed by others. It is not known what level of cleaning was completed prior to completing videos. The amount of sediment and debris present may differ than documented by video inspections. It is Contractor's responsibility to determine actual amount of sediment and debris in force mains.

G. Materials

1. Per ASTM F1216, ASTM F1743 and ASTM D5813, a fiber-reinforced resin-felt composite tube with glass and/or carbon reinforcing media designed to withstand the internal pressure design requirements shall be used for inversion and/or pull-in installations. Tubes shall also be marked as follows:

    a. Outside of tube: marked for distance at regular intervals along its entire length, not to exceed 5 feet. Include manufacturer's name or identifying symbol in markings.

2. Use a vinyl ester resin system that is designed for use in pressure pipelines and compatible with the installation process being used. Resin shall also be tinted for adequate visibility suitable for internal inspection and provide positive indication of adequate liner wet-out.

3. CIPP Continuous Curing Monitoring System shall be a VERICURE® CIPP CURING MONITORING SYSTEM or approved equal. The optical fiber cable used shall be a VeriCure FlatTemp cable, suitable for the specific length of the CIPP installation being undertaken.

H. Equipment

1. Boilers or water heating equipment for the CIPP curing process shall be equipped with integral safety systems and feature manage burner operation. Such safety systems and features shall include, but not necessarily be limited to, the following:

    a. Flame safeguard system to control the burner during start, run, and shutdown periods.

    b. Flame detector system that will:

        i. Shut off fuel valves when absence of flame is identified by the monitoring system, and

        ii. Prohibit fuel valves from opening until pilot flame is established.

    c. Burner management control system with lockout ability at ignition and during operation.

    d. Control system with lockout ability to monitor and control temperature, pressure, and water level, with a low water cutoff control.

    e. Fuel source conforming to burner manufacturer's specifications, with a safeguard system which will shut off fuel when a boiler system imbalance is detected.

2. The Contractor shall submit to the Engineer a boiler inspection certification for the equipment that will be used on the project, current within 90 days

prior to the date of submittal and prepared by a certified independent boiler inspection firm. No such equipment shall be transported to or operated at the job site prior to the Engineer's written approval of the certification.

3. Boiler or water heating equipment shall be operated by a certified technician. Weekly routine boiler inspections shall be conducted by the operator, and a written log containing inspection results shall be kept at the job site and made available to the Engineer upon request.

4. Boilers shall conform to Sacramento Metropolitan Air Quality Management District requirements.

I. Source quality control: in accordance with Special Provisions.

PART 3 – EXECUTION

A. Examination

1. Verification of Existing Force Main Dimensions

a. Verify dimensional requirements of each force main segment to be rehabilitated prior to design and manufacture of CIPP tube.

b. Measure manhole invert depths (from manhole rim).

c. Measure diameter and cross-section of force main at each manhole at a minimum distance of 2 feet inside force main from each manhole.

d. Use calibrated calipers or other suitable measuring device capable of measuring accurately to plus or minus 1 mm to confirm cross-section geometry at the following clock positions.

i. 12:00 to 6:00

ii. 2:00 to 8:00

iii. 3:00 to 9:00

iv. 4:00 to 10:00

e. Obtain additional measurements sufficient to define cross-section to meet design objectives for rehabilitation system being utilized, including length of inside perimeter (circumference) of force main at upstream and downstream ends.

f. Estimate remainder of force main dimensional requirements based on dimensional checks and CCTV force main inspection videos.

g. In lieu of hand measurements, Contractor may use laser profiling

technology of sufficient accuracy and replicability as indicated.

i. No coding of laser profiling submission required.

ii. Laser profiling may only be used after bypass has been initiated.

h. Provide host pipe lengths, depths, and dimensions to the Engineer in conjunction with CIPP liner design submission.

i. Minimum length of flexible tube: as necessary to span distance between terminal points, with allowance for circumferential stretching and shrinkage of resin. Field verify lengths of existing force main to be lined prior to impregnation of tube with resin, to ensure tube will have sufficient length to extend entire length of run.

i. Minimum length shall be that which continuously spans the distance from the center of the insertion access shaft to the center of the termination access shaft.

2. Three-Dimensional (3D) Laser Scanning Inspection Equipment

a. 3D laser scanning: technique used to determine surface profile of mainline pipes using 3D laser on entire circumference in an empty pipe.

b. 3D laser scanning equipment: capable of providing an accurate determination of pipe geometry (features and defects) above fluid level.

c. Minimum 3D Laser Scanning Inspection Equipment Requirements

i. Class 1; eye-safe for operator safety.

ii. Surface measurements accurate to 0.2-inch at 10 feet in 48-inch pipes and larger.

iii. Precision ovality/deflection detailed range laser measurement scans accurate to plus or minus 1 percent.

iv. Laser scans capable of producing a point cloud with maximum distance between points of 0.4 inch in transverse direction and 1.6 inches in longitudinal direction. Rate of scan not to exceed 30 feet/minute.

d. Use laser scanning internal diameter and deflection graphs, as needed, to quantify internal pipe wall material loss/gain or deformation (ovality and deflection) at a given location. Use pipe cross-sections

obtained from high resolution scans to provide quantitative information regarding internal pipe diameter, including ovality. Precision scans are produced with multi-color indication depicting deviations from as-built conditions as well as localized material gain and/or loss.

e. Laser scanning: conducted on identified force main pipe entities, from access point to access point.

f. Laser equipment: moved through pipeline on transport vehicle capable of supporting laser inspection equipment above water level.

B. Preparation

1. Safety: Carry out operations in accordance with OSHA and manufacturer's safety requirements. Pay particular attention to safety requirements working with hazardous/combustible materials, scaffolding, and entering confined spaces.

2. Clean force main to adequately prepare force main for lining as specified in this Section.

3. Force Main Preparation and Repairs Prior to Lining

a. Perform force main preparation and repairs as specified and per Contract Drawings.

b. Complete internal host pipe repairs as specified.

i. Fill in holes and patch deteriorated sections of host force main pipe wall.

ii. Fill voids in surrounding backfill flush with inside surface of force main pipe.

iii. Reshape host force main pipe invert to original dimension and cross section at locations where invert has completely deteriorated.

iv. Stop all infiltration and inflow and ensure that host pipe is dry prior to lining.

c. Temporarily seal existing opening between force main and manhole as necessary prior to lining for structural integrity of the CIPP liner. If Contractor believes temporarily sealing this opening is not necessary, provide a written statement stating such with supporting calculations as part of lining design submittals.

C. Continuous Temperature Monitoring

1. Install CIPP liners complete with fiber optic or copper based thermal sensing cable (to be left in place) capable of continuously monitoring curing temperatures along length of CIPP liner.

2. Submit curing data logs to Engineer with Quality Control records.

3. Notwithstanding the above, install conventional devices as per ASTM F1216, Clause 7.6.1.1 and monitor to independently monitor and verify the cure process.

D. Field splices for CIPP: not allowed for this Project.

E. Installation of CIPP

1. Install liners by inversion methods in accordance with ASTM F1216 or by pull-in methods in accordance with ASTM F1743.

2. Full segment and partial full segment CIPP: must be cured by hot water.

3. Carry out workmanship in accordance with ASTM D5813.

4. Seal ends of CIPP liner at liner termination with compression hydrophilic end seal gasket compatible with installed CIPP liner.

a. When hydrophilic gasket comes in contact with water, it swells to create 360-degree compression seal between host pipe and CIPP liner at CIPP termination points. Swelling that occurs to create seal between liner and host pipe shall not deform liner or create obstruction in flow.

b. End Seals

i. Acceptable level of quality: equivalent to Hydrotite CJ0725.

ii. Install ends seals in accordance with manufacturer's recommendations.

iii. Due to potential inconsistencies during application of chemical grout, hydrophilic caulks or hydrophilic paste, these sealing methods are not considered an acceptable alternative.

5. Trim ends of CIPP neatly to interface with interior vertical surface in accordance with Contract Drawings and approved Submittal (i.e. trim in a manner to preclude axial shrinkage) and manhole benching (as necessary) and seal to make watertight.

6. Fill annular spaces where CIPP does not make an adequate seal with host pipe at manholes, termination points and side connections with resin-rich mixture compatible with CIPP for minor locations (<12-inch width and/or

length) and as specified in this Section for larger locations.

7. Liner terminations shall transition to the adjacent FRP spool piece as shown on the Contract Drawings. CIPP liner termination shall be sealed by installing a full circumferential CFRP repair as specified in this Section and other incidental repairs to the liner.

8. Transitions at Liner Termination

    a. Taper transitions to host pipe. Construct transitions where liner thickness is greater than 1 inch.

    b. At transition terminations, make interface between exterior surface of liner and host pipe watertight. Extend transition a minimum of 3 feet into host pipe from end of liner, unless otherwise shown on Drawings, and provide gradual transition from host pipe to lined section.

    c. Preparation of host pipe and installation of approved sealant product: per manufacturer's recommendations.

    d. Construct transitions while flow bypass arrangements are in place and allow to cure sufficiently prior to exposure to sewage.

9. Where liner is cut to allow access to manhole opening, apply seal consisting of resin mixture compatible with liner and resin system, host pipe, and field conditions in accordance with manufacturer's requirements and as approved by Engineer. Permanently seal exposed edges of cut liner to host pipe to prevent infiltration between CIPP liner and host pipe.

    a. Hydraulic cements and quick-set cement products not acceptable.

    b. Acceptable materials: manufacturer approved polyurethane-type product that will bond and will not crack, dry, slough off, or shrink in time.

F. Reinstatement of Sewer Connections

1. Reinstate active and unable-to-determine sewer connections including CB leads and utility drains to 100 percent of original cross-sectional area.

2. Cut out openings for sewer connections from inside lined sewer by manual means or with television camera and remote-controlled cutting device.

3. Remove sharp edges from opening cut outs and provide smooth rounded lip.

4. Sewer connection finishing shall be as specified in this Section.

5. Contractor: responsible for ensuring cut-outs for sewer connections are removed from sewer and are prevented from being washed into sewer system downstream of repair location. The Contractor responsible for costs associated with damage to downstream infrastructure and time expended to clear blockages.

G. Shaft Closures

1. At mid-pipe access shafts where CIPP liner cannot practically provide a fully restored force main invert and obvert, restore existing host pipe as follows.

   a. Restore invert up to interface with CIPP closure using approved cementitious repair product.

   b. Perform invert restoration in accordance with product manufacturer's recommendations with flow control measures in place and permit to cure sufficiently prior to exposure to sewage. Construct closure to thickness equal to thickness of liner. Do not allow closure to result in a low spot or sump within force main.

   c. Provide smooth and level transition from liner to closure location.

   d. Coat host pipe and CIPP liner/host pipe transition per Contract Drawings.

H. Annulus Grouting

1. After installation of the liner, inspect the installation by person-entry methods and conduct routine sounding to identify any large annulus gaps (e.g. extended areas >3 feet long or wide). Report any significant voids to the Engineer that could reasonably be construed as compromising the close-fit design objective. The Engineer will review these on a case-by-case basis in conjunction with the Post-Construction Design Reconciliation Review.

2. Large voids between the liner and the host pipe that can facilitate flowable fill grouting can be repaired at the Contractor's expense with a flowable controlled low strength material (CLSM) in conformance with Chapter 9 of ACI 229R -13 (22), or a cellular grout in conformance with (d) ACI 523.3R Guide for Cellular Concretes Above 50 pcf, and for Aggregate Concretes Above 50 pcf with Compressive Strengths Less Than 2500 psi and have liner repairs at ports to facilitate grouting carried out commensurate with sampling repairs using full circumference GFRF/CRFP methods.

3. Where flowable fill grouting is not feasible, alternate repair methods will be considered based on the Design Reconciliation Assessment.

I. Finished Pipe

1. Finished CIPP liner: continuous over length of pipe between manholes or access shafts, and free from defects such as dry spots, delamination, and lifts. If defects are present, either repair CIPP liner in a manner that will not compromise the intended design life of the liner or remove and replace CIPP liner at no additional cost to the City.

2. Install liner to provide a smooth interior surface free from significant wrinkles. Wrinkles in finished lined pipe are unacceptable if they meet any of the following conditions.

    a. Have a height equal to or greater than 5 percent of pipe diameter outside of 120-degree invert arc which causes any of the following to occur:

        i. Has a void (i.e. not filled with excess resin) either in the fold of the wrinkle or between wrinkle and host pipe.

        ii. Reduces structural integrity of pipe.

    b. Have a height equal to or greater than 2 percent of pipe diameter inside of 120-degree invert arc which causes any of the following to occur.

        i. Causes backwater greater than 1 inch in depth.

        ii. Has a void (i.e. not filled with excess resin) either in the fold of the wrinkle or between wrinkle and host pipe.

        iii. Can reasonably be construed as causing future maintenance issues.

        iv. Causes debris and solids to accumulate.

        v. Reduces structural integrity of pipe.

    c. If any of these conditions are present in finished liner, provide photographs and dimensions of wrinkle, including height and direction, and a determination will be made on an appropriate resolution to repair the wrinkle at no additional cost to the City.

J. CIPP Repair Procedures

1. Repair procedures: in accordance with approved repair plan.

2. Contractor may use one or more of the following repair methods to make repairs.

    a. If a determination is made that wrinkles need to be addressed and concentrated wrinkles/ridges fall outside 120-degree invert arc and

Contractor demonstrates grinding does not compromise CIPP structural integrity or reduce CIPP thickness below submitted calculated minimum thickness, Contractor may grind concentrated ridges to required tolerance. After grinding to required tolerance, coat ground area with manufacturer's approved resin. At the end of each workday, dispose of residue generated from grinding.

b. Where grinding of wrinkles damages structural integrity or where portions of the liner are removed to eliminate the wrinkles, the Contractor may make internal spot repairs to CIPP. Internal spot repairs may be made using the same method as is required for repair of Direct Cut Samples as specified in this Section.

c. If CIPP does not fit tightly against host pipe at termination point, fill annular space between CIPP liner and host pipe with the following.

   ii. Fill large voids between the liner and the host pipe with a flowable controlled low strength material (CLSM) in conformance with Chapter 9 of ACI 229R -13 (22), or a cellular grout in conformance with ACI 523.3R Guide for Cellular Concretes Above 50 pcf, and for Aggregate Concretes Above 50 pcf with Compressive Strengths Less than 2500 psi. Smaller voids, not suitable for flowable fill material may be grouted with a suitable polymeric grout such as a polyurethane and/or methacrylic acrylate resins or equal. Seal the termination of the annulus with a hydrophilic end seal as noted herein.

d. Where Repair of the CIPP liner is noted on the Construction Drawing or in these Specifications as using a carbon fiber reinforced polymer (CFRP), they shall be designed as follows:

   i. The carbon fiber reinforced polymer (CFRP) shall be designed in conformance with AWWA C305-18. Structural Design for the Repair shall be to accommodate all external loads with no internal pressure. The magnitude and distribution of the external loads can be determined based on the ASTM F1216 values for the CIPP liner. Repairs shall be fully verified based on AWWA C305 protocol. Design protocols shall be submitted for the Repair sealed by an Engineer licensed to practice in the State of California and the installer of the repairs shall be certified by the manufacturer of the CFRP product for the repairs and/or demonstrate previous experience with the CFRP product being considered for use. See Specification **Section 3.26 Carbon Fiber Lining** for qualification and experience requirements.

   ii. Where repairs are structural in nature such as repairs to facilitate Direct Samples, repairs to large sections of CIPP fabric removed,

etc. or for liner terminations the total external loads shall consider a full earth load transfer design condition for the section where the repair is being undertaken.

iii. Where the repairs are a result of a Design Reconciliation deficiency, the design condition shall be a function of the Design Reconciliation requirements.

e. Use materials compatible with CIPP liner system, host pipe, and field conditions. Correct CIPP liner that may affect flow at or near invert in a manner that fully meets the overall stated design objectives for the liner.

f. All Defects shall be subject to review in the Design Reconciliation Process as specified in this Section. Remedial action, if warranted will be governed by the Post -Construction Design Review process.

K. CIPP Lining Repair/Restoration

1. In the event of damage, immediately make repairs and/or replacements necessary to fully achieve the Design Objectives stated herein at no additional cost to the City.

L. Styrene Management

1. Styrene management: in accordance with approved styrene management plan and as necessary for the Project.

2. Do not allow cure water or condensate containing styrene to be discharged into storm sewer or any other direct connection to surficial drainage courses or facilities.

3. Contractor: responsible to undertake sufficient monitoring to confirm and demonstrate discharge levels are consistent with styrene management plan's stated discharge limit objectives as necessary.

4. Provide a report on styrene monitoring results upon completion of liner installation as necessary.

M. Field Quality Control

1. Provide in accordance with Special Provisions.

2. Maintain the following quality control records and deliver to the City upon completion of the Work.

a. Summary of the resin impregnation process including the following.

i. Volume of resin supplied.

ii. Any excess quantity of resin added during wet out to account for polymerization and migration into host pipe.

iii. Roller gap setting.

iv. Resin catalysts used.

v. Times for impregnation process and location of wet out.

vi. Means taken to protect the resin impregnated CIPP liner from issues associated with temperature if an OTH wet-out was carried out.

vii. Means taken to store and transport resin impregnated CIPP from wet out facility to Project Site in installations where factory wet-out was carried out.

b. Means of curing liners.

c. Continuous log of pressure maintained in liner during the installation and curing period.

d. Pulling force used to pull or winch CIPP into place in host force main and liner elongation measurements.

e. Continuous log of temperature at boiler in and out and at thermistors placed between host pipe and liner at manholes during initial cure, cure, and cool down periods.

f. Curing data logs.

g. Continuous temperature monitoring logs.

3. CIPP Samples for Quality Assurance

a. Provide plate samples from each CIPP liner installed.

b. All materials testing: performed at Contractor's expense and by an independent third-party laboratory recommended by manufacturer and pre- approved by the City.

c. Tests: conducted at minimum of one location per CIPP inversion.

d. Contractor will coordinate CIPP all materials testing to confirm CIPP flexural strength, flexural modulus, and thickness in accordance with requirements of ASTM D5813, ASTM D790, and ASTM D3567.

e. Where plate sample testing results are used for design reconciliation purposes, they should be vetted by the Contractor to confirm that they

are cured in a representative heat sink as the liner. The Contractor shall report to the Engineer any plate sample curing anomalies that may require additional consideration during the Design Reconciliation process.

f. To facilitate wall thickness and annulus verification:
   i. Obtain and provide Engineer with pre- and post-lining measurements taken in accordance with this section.
   ii. Secure 2" diameter Core Samples for full wall thickness in the 10:00 o'clock to 2:00 o'clock position for each inversion to confirm thickness and to verify that the annular gap is in conformance with the design requirements. Repair the cored sample location with a resin-rich compound compatible with the CIPP liner.

g. Engineer will review CIPP liner thickness results taken from:
   i. Wall thickness verification per Item f above,
   ii. Liner thickness and materials testing results from test plates completed for every lining segment, and
   iii. Cored samples completed as noted in Item f above.

h. Label samples as follows.

   i. City asset number (from MH X to MH Y)

   ii. Date of installation

   iii. Location descriptor (i.e. street name or other location description)

i. Test Plate Samples

   i. Produce and provide to Engineer test plate samples of each CIPP liner installed.

   ii. Test plate samples: produced from full thickness portion of liner (where possible). They shall contain the same resin and hardener ratios and volumes used in CIPP liner wet-out. Ensure test plate is clamped as close to final installation thickness of CIPP liner as possible.

   iii. For reinforced liners, test plate sample: sized to accommodate a 32:1 span to depth (liner thickness) ratio. Circumferential reinforcing fibers: orientated in long dimension of test plate sample. Confirm required test plate size for reinforced liners with Engineer prior to installation of CIPP liner. Minimum dimensions for test sample as follows.

a) Width: 13 times the thickness of the liner.

b) Length: 32 times the thickness of the liner.

j. Prepare test plate samples on-Site from actual CIPP materials used for the Project and cure in the following manner.

i. In clamped mold placed in downtube or manhole for water-cured liners.

k. Direct Cut Samples

i. Where directed by the Engineer, obtain sample of installed CIPP liner from within host pipe. If additional direct samples are required to be taken to resolve design reconciliations deficiencies that arise as a result of the Contractor's plate sample results, the sampling and repairs associated with the direct samples shall be carried out at the Contractor's own expense. If Direct samples are required by the Engineer for other reasons beyond the Contractor's control, they shall be compensated for as extra work.

ii. For reinforced liners, sample: direct cut samples sized to accommodate a 32:1 span to depth (liner thickness) ratio. Circumferential reinforcing fibers: orientated in long dimension of sample. Confirm required test plate size for reinforced liners with Engineer prior to obtaining sample. Minimum dimensions for Direct Cut sample as follows.

a) Width: 13 times the thickness of the liner.

b) Length: 32 times the thickness of the liner.

iii. Cut test sample at the 10:00 o'clock or 2:00 o'clock position in circular sewers. Direct samples from reinforced liners: oriented with long dimension vertically in straightest portion of force main. Confirm sampling locations with Engineer prior to Work.

iv. Repair sections of CIPP removed for direct sampling by placing full circumference internal point repair extending 12 inches beyond each side of cut section. Repair method for any samples shall be by application of a carbon fiber reinforced polymer (CFRP) in accordance with AWWA C305. Structural Design for the Repair shall be to accommodate all external loads and anticipated internal pressures. The magnitude and distribution of the external loads can be determined based on the ASTM F1216 values for the CIPP liner. Repairs shall be fully verified based on AWWA C305 protocol. Design protocols shall

be submitted for the Repair sealed by an Engineer licensed to practice in the State of California.

v. Ensure repairs at direct sampling locations are captured during subsequent CCTV inspections.

4. Infrared Spectroscopy

a. Engineer may arrange for testing to compare infrared spectrum of resin field samples supplied from wet-out to reference spectrum generated from resin sample provided by resin manufacturer to verify installed material acceptability, at no cost to Contractor.

5. Post-Construction Design Reconciliation Review

a. Engineer will perform a post-construction design reconciliation review to confirm completed CIPP meets minimum structural resistance with full safety factor or load and resistance factors for ASTM F1216 design prior to issuance of Notice of Completion. Design review will utilize measured values for flexural strength, flexural modulus, and CIPP thickness from directly obtained samples or adjusted strength/modulus values obtained from test plate testing to confirm equivalent structural resistance of installation has been achieved.

b. CIPP stiffness and strength values will be further reduced to account for creep based on creep and/or creep rupture reduction values identified during CIPP design process to assess suitability of liner to meet design requirements for the Project.

i. Any imperfections in liner/host pipe interface: assessed in accordance with ASTM F1216 and observed conditions to confirm acceptability of installation.

6. Engineer will advise of any discrepancies between constructed CIPP and design requirements.

a. Deficiencies in physical testing results for CIPP liners will be reviewed by Engineer. Engineer will undertake efforts to reconcile design based on physical test results for deficient liner, and accounting for verified condition of host pipe prior to lining, CIPP installation conditions, and long-term use of force main to assess whether installed CIPP meets specified design objective.

b. Defects in CIPP liners will be reviewed by Engineer. Engineer will consult with Contractor and consider condition of host pipe prior to lining, CIPP installation conditions, and long-term use of force main to assess structural and performance ramifications of defects.

7. Contractor Responsibilities

   a. Perform necessary remedial measures to confirm CIPP deemed as structurally deficient will comply with design requirements including confirmation of actual ovality, determination of a more representative groundwater elevation locally through monitoring, and supplemental strength testing and thickness measurements.

   b. Repair sections of CIPP removed for direct sampling by placing full circumference internal point repair extending 12 inches beyond each side of cut section. Repair method for any samples shall be by application of a carbon fiber reinforced polymer (CFRP) in accordance with AWWA C305. Structural Design for the Repair shall be to accommodate all external loads and anticipated internal pressures. The magnitude and distribution of the external loads can be determined based on the ASTM F1216 values for the CIPP liner. Repairs shall be fully verified based on AWWA C305 protocol. Design protocols shall be submitted for the Repair sealed by an Engineer licensed to practice in the State of California.

   c. Install supplemental CIPP of required thickness to structurally enhance installed CIPP if supplemental testing fails to confirm CIPP will meet stated design requirements.

   d. Review remedial action with Engineer prior to implementation.

   e. Perform further testing, monitoring and calculations and install structural enhancements at no additional cost to the City.

N. Cleaning

1. Restore or replace removed or damaged manhole collars, grade rings, and cones; paving; curbing; sidewalks; gutters; street median; trail pathways; landscaping; fences; sod; and other disturbed surfaces or structures to condition equal to that before Work began, to satisfaction of the City and appropriate property owner. Furnish labor and material incidentals as necessary.

2. Remove surplus liner material, tools and temporary structures. Legally dispose of dirt, rubbish and excess earth from operation. Leave Site clean to the satisfaction of the City.

O. Final System Leakage Test

1. The Contractor shall perform a leakage test on the CIPP lined force main system at a pressure of 2 psi for a minimum of four hours. Allowable leakage shall be calculated as:

$L=(SD\sqrt{P})/148{,}000$Where:

L is the allowable leakage in gallons per hour,

S is the length of pipe in feet,

D is the nominal pipe diameter in inches, and

P is the average test pressure in psig.

2. Should any test disclose damaged or defective materials or leakage greater than that permitted, the Contractor shall, at the Contractor's expense, locate and repair and/or replace the damaged or defective materials. Materials used for repair must be approved by the Engineer and meet the relevant specifications. Repeat the tests until the leakage is within the permitted allowance and is satisfactory to the Engineer.

3.26 Carbon Fiber Lining

PART 1 – SUMMARY

A. This section covers the work necessary for the structural rehabilitation of the existing 72-inch reinforced concrete pipe (RCP) force main using a carbon fiber reinforced polymer (CFRP) composite lining system. The CFRP system shall provide structural enhancement, corrosion resistance, and long-term durability.

B. Reference Standards:

1. General

The publications listed below form a part of this specification to the extent referenced. Where a date is given for referenced standards, the edition of that date shall be used. Where no date is given for reference standards, the latest edition available on the date of the Notice of Invitation to Bid shall be used.

2. American Water Works Association (AWWA)

a. AWWA C305-24, CFRP Renewal and Strengthening of Prestressed Concrete Cylinder Pipe.

3. International Code Council (ICC)

a. ICC AC125, Acceptance Criteria for Concrete and Reinforced and Unreinforced Masonry Strengthening Using Externally Bonded Fiber Reinforced Polymer (FRP) Composite Systems.

b. ICC-ESR-2103, Acceptance Criteria for Concrete and Masonry Strengthening using the LOCTITE TYFO FRP, Fiber-Reinforced Composite Systems.

4. American Standard for Testing and Materials (ASTM)

a. ASTM D7565, Standard Test Method for Determining Tensile Properties of Fiber Reinforced Polymer Matrix Composites Used for Strengthening of Civil Structures.

b. ASTM D4541, Standard Test Method for Pull-off Strength of Coating Using Portable Adhesive-Testers.

c. ASTM D7290, Standard Practice for Evaluating Material Property Characteristic Values for Polymetric Composites for Civil Engineering Structural Applications.

5. International Concrete Repair Institute (ICRI)

a. ICRI Technical Guideline No. 310.2-1997 (formerly No. 03732), Guideline for Selecting and Specifying Concrete Surface Preparation for Sealers, Coatings, and Polymer Overlays.

C. Submittals: Submit the following in accordance with **Section 1.08 Shop Drawings & Submittals**.

1. Product data and technical data sheets for CFRP system components

2. Manufacturer's installation instructions

3. Design calculations sealed by a California-licensed Professional Engineer

4. Installer qualifications and certifications

5. Surface preparation and installation procedures

6. Quality control and testing plan

7. Safety data sheets (SDS) for all materials

8. Warranty documentation

D. Quality Assurance

1. Provide in accordance with the Standard Specifications and Special Provisions.

2. Installer Qualifications

a. Minimum 5 years of experience with CFRP systems

b. Successfully completed at least 25 projects with similar size and scope in the last 5 years.

c. Certified by the CFRP system manufacturer

3. Quality Control Specialist (QCS) Qualifications:

a. The Contractor shall provide a quality control technician for the duration of project.

b. The Quality Control Specialist(s) shall have a minimum of one year of documented FRP experience and a minimum of three (3) pipe documented rehabilitation projects.

c. The Quality Control Specialist can be a manufacturer's field representative, a member of the Installer crew that is designated as a qualified inspector, or a third-party inspector. All Qualified Control Specialists must be certified by the manufacturer.

4. Materials: certified by the manufacturers for compatibility with the carbon fiber wrap system and the cured-in-place pipe liner.

E. Delivery, storage and handling: in accordance with the Standard Specifications and Special Provisions.

F. Warranty: Provide a minimum 5-year warranty covering materials and workmanship. Warranty shall include repair or replacement of defective CFRP lining at no additional cost to the City.

PART 2 – PRODUCTS

A. Carbon Fiber Fabric: unidirectional or bidirectional carbon fiber fabric with a minimum tensile strength of 500 ksi and modulus of elasticity of 33 Msi.

B. Epoxy Resin: two-component, 100 percent solids epoxy resin compatible with the carbon fiber fabric and the host pipe substrate.

C. Primer: as recommended by the CFRP system manufacturer.

D. Putty/Filler: for surface smoothing and void filling, compatible with the CFRP system.

PART 3 – EXECUTION

A. Design Requirements

1. The pipe rehabilitation system shall be designed to resist loads from earth pressure, live loads, and internal pressure based on procedures of AWWA C305 design guideline. The design shall be based on the maximum of the forces resulting from different load combinations and the design shall be based on a minimum 50-year design life assumption. The design parameters listed below are applicable for the rehabilitation of all proposed pipeline sections and the Owner shall provide on per project basis. The design of the proposed rehabilitation system shall be based on the following parameters:

Internal diameter (inch) ____72 in.___

Maximum operating pressure (psi)	19 psi
Transient short-term over pressure (psi)	25 percent of maximum sustained operating pressure.
Vacuum pressure (psi)	-7 psi
Soil cover height (above invert) (feet)	per Contract Drawings
Soil density (pcf)	120 pcf
Soil modulus (psi)	1,000 psi
Height of ground water below the ground surface (feet)	10 ft.
Live loads (HS20 truck, E80 RR, etc.)	HS20 truck
Bends	Yes

2. The pipeline rehabilitation system shall be designed as a stand-alone system in resisting pressure and bending. The design shall include factors of safety that are selected for long-term loads, short-term loads, and buckling based on established procedures.

B. Surface Preparation

1. Clean and remove loose material, laitance, grease, oil, and deteriorated concrete.

2. Repair cracks, spalls, and voids using compatible epoxy or cementitious repair mortar.

3. Surface profile shall meet ICRI CSP 3–5.

4. Substrate shall be dry and free of contaminants prior to application. If water leakage exists through cracks or joints, water flow must be stopped prior to installation. The Contractor shall be responsible for maintaining dry conditions.

5. Roughen the cured CIPP lining material to prepare for adhesion with the overlapping carbon fiber wrap lining.

C. Installation

1. Apply primer to the prepared surface per manufacturer's instructions.

2. Apply epoxy resin and saturate carbon fiber fabric using wet lay-up method.

3. Install CFRP in layers as specified in the approved design. When multiple ply installation is required by the structural design, the sequence and stacking shall follow the special instructions in the shop drawings. Each ply

shall be installed before the onset of complete gelation of the previous layer. Multiple plies are typically installed in one immediate application, but they can also be applied after several days and after the previous ply is cured, provided that the surface is roughened by sanding and is cleaned from dust and residue

4. Following the application of the FRP layers, a final epoxy coating in accordance with the manufacturer's recommendation shall be applied over all exposed surfaces including seams and edges of the composite material to seal the surface. The thickness of the final epoxy layer shall be based on the design by the manufacturer.

5. Ensure full contact with the substrate and eliminate air pockets.

6. Cure per manufacturer's recommendations. All CFRP areas shall be cured using the curing schedule recommended by the Manufacturer in writing and approved by the Engineer prior to Construction.

7. The Installer's work schedule shall allow sufficient time between completion of repairs and refilling of the pipeline so that the FRP system achieves at least 85% cure condition before being exposed to water. See section 2.6.3 for confirmation of cure condition.

8. Curing shall take place in a dry environment to prevent amine blush. If heating is used, direct-fired gas or kerosene "salamander" type heater shall not be permitted. Only electric or indirect-fired heaters shall be permitted. Curing at elevated temperatures is strongly encouraged.

D. Quality Control

1. The Contractor shall provide a Quality Control Specialist (QCS) or manufacturer's field engineer during all stages of the installation of the FRP product. The QCS shall provide observation during the FRP installation to ensure compliance with shop drawings and bid documents. The QCS shall inspect surface preparation, monitor acceptable atmospheric conditions, supervise or perform all quality testing, ensure proper material installation as per the approved submittal documents, and inspect installed material for any defects per the manufacturer's quality control standards. The QCS shall review all laboratory test results to ensure compliance with the submitted material properties and bid documents. The QCS will report any non-conformance to the Engineer-of-Record/Owner and provide suggested remedial measures as necessary.

2. Perform visual inspection for defects (e.g., delamination, wrinkles, voids).

3. A misalignment of more than ½ inch per foot or more than 5° will be rejected. Any fabric kinks, folds or severe waviness shall not be permitted. There

shall be a minimum circumferential overlap of 12 inches between layers to ensure a full transfer of load through shear.

4. Defects (including blisters, voids, fiber misalignment, delamination, and fabric tears) spanning more than 2% of the surface area of each pipe section, or as specified by the Engineer, shall be repaired. Small defects shall be repaired by epoxy injection methods in accordance with the QCS/manufacturer's recommendation. Small defects and structurally insignificant defects shall be defined and supported by submitted defect criticality testing. Large repair methods shall be designed and accepted by the Engineer on a case-by-case basis. Any required repairs shall be at the Contractor's expense.

5. In-situ Testing

   a. ASTM D7522 and/or ASTM D4541 – Adhesion Tests

      i. Direct tension adhesion testing of cored samples shall be conducted using the method described by ASTM D7522 and/or ASTM D4541. The CONTRACTOR shall install one layer of CFRP in at least one 2ft by 2ft area to be used as mock-ups of the installed CFRP system in accordance with ASTM D4541. The location shall be representative and selected by the engineer and may be on an adjacent non-repair pipe provided that surface preparation is the same as that to be used for the repair pipe. Mock-up shall be prepared on each type of concrete substrate or for each surface preparation technique used if variations in such conditions exist. **No testing on FRP pipe unless approved by FRP pipe manufacturer.**

      ii. The Contractor shall perform at least three pull-off tests in the mockup area in the presence of the owner's inspector and QCS according to ASTM D4541 and using testers with documented calibration. The Contractor shall take precautions to ensure proper alignment and shimming of the test fixture to prevent non-perpendicular forces on the test specimen which can produce low bond strength results.

      iii. The prepared surface of the bonded CFRP system shall be allowed to sufficiently cure before execution of the direct tension pull-off test. The minimum acceptable value for any single tension test is 300-psi for concrete liner substrates and 700 psi for steel substrates. If bond strength is less than 300 psi (700psi for steel at terminal ends where FRP is bonded on the steel liner/can) or failure is between the CFRP system and mortar substrate, the engineer shall be notified for evaluation and acceptance.

      iv. Do not start work until the inspector (with Engineer's approval if

necessary) has approved the adhesion test mock-ups unless the Owner allows commencement of work prior to testing of mock-ups.

6. Material Thickness Testing

   a. Testing specimens shall be conducted on the installed and cured GFRP and CFRP material as a quality assurance check to ensure the proper number of layers was installed.

   b. Use a calibrated (within 12 months) electromagnetic thickness measurement device.

   c. Conduct thickness testing at 90 degree intervals circumferentially every 50-ft of pipe axially or when pipe diameter changes, whichever yields more frequent testing.

   d. Each area must consist of at least four test locations (i.e. pipe invert, 3 o'clock, 9 o'clock and 12 o'clock positions). One value will be calculated and recorded based on the average of eight (8) readings at each test location.

   e. All recorded data shall be provided in a spreadsheet format. Records of thickness testing shall be furnished to the owner.

   f. Acceptable thicknesses for each location shall be in accordance with those shown on the approved FRP lining designs.

7. Laboratory Testing

   a. Sampling

      i. Record lot number of fabric and epoxy resin used, and location of installation. Measure square footage of fabric and volume of epoxy used each day. Label each sample from each day's production.

      ii. A "sample batch" shall consist of two 12" by 12" sample panels of cured composite. A minimum of two "sample batches" shall be made daily. The two "sample batches" will be taken at appropriate times during the day as to ensure the maximum material deviance in the components of the CFRP composite as accepted by ICC AC 178.

   b. Preparation of Samples

      i. Prepare sample on a smooth, flat, level surface covered with polyethylene sheeting, or 16 mil plastic film, prime with epoxy

resin. Then place one-layer of saturated fabric and apply additional topping of epoxy. Cover with plastic film and squeegee out all bubbles.

ii. Samples shall be stored in a sample box and not moved for a minimum of 48 hours after casting. The prepared, identified samples shall be given to a pre-approved and experienced testing agency. The testing agency shall be a qualified testing laboratory that is independent from the installer, capable of performing tests according to the ASTM standards. The laboratory shall then precondition samples for 48 hours at 140°F before testing.

8. ASTM D7565 and/or ASTM D3039 – Tension Tests

a. Testing specimens shall be cut from samples and tested for ultimate tensile strength, tensile modulus and percentage elongation as per ASTM D7565 and/or ASTM D3039 in the longitudinal fiber direction.

b. Test a minimum of 15% of all samples as per ICC AC178. If one coupon fails, specimens from the same 12" x 12" sample will be tested. If these specimens also fail, the other 12" x 12" sample from the same "sample batch" will be tested. In the extreme case that this sample also fails, the remaining "sample batch" for that day will be tested and appropriate remediation shall be taken to ensure integrity of the system at locations from the failed "sample batch". In addition, 25% of the remaining samples shall be tested by the same criteria as per ICC AC178.

c. The results of the testing shall be carried out no later than two weeks after the completion of the carbon fiber application and shall be supplied to the Engineer within two weeks of laboratory testing.

d. CFRP design values must be lower than the calculated mean determined from the test results received from the ASTM D7565 and/or ASTM D3039 field test specimens. Acceptable minimum values for ultimate tensile strength, tensile modulus, and elongation shall not be below the submitted design values. A list of two different manufacturer approved testing laboratories that can perform the required ASTM D7565 and/or ASTM D3039 tests.

e. Any values below the submitted design values will require evaluation by the Design Engineer to confirm installed FRP system will satisfy performance demands listed in Table X (Section 1.6). If demands are not satisfied, FRP remediation may be required per Manufacturer and Design Engineer recommendations.

9. Submit daily installation logs and inspection reports.

E. Protection and Cleanup

1. Protect installed CFRP from damage during curing and subsequent work.

2. Clean all tools and equipment per manufacturer's guidelines.

3. Dispose of waste materials in accordance with local regulations.

3.27 Buried Pipe Installation

PART 1 – SUMMARY

A. The Contractor shall furnish and install buried piping and related appurtenances including connections to existing and new piping and structures in accordance with the requirements of the Contract Documents.

1. The Contractor shall install Ductile Iron Pipe (DIP) for the blowoff pipeline and fiberglass reinforced polymer mortar pipe for the closure spools as indicated in the Contract Drawings.

2. Connection to existing pipelines may require temporary shutdown or diversion of the City's facilities. Construction work and connections shall be closely coordinated with the City through the Engineer.

B. Submittals

1. Shop Drawings: The Contractor shall submit shop drawings and laying diagrams of pipe and fittings in accordance with the requirements of **Section 1.08 Shop Drawings and Submittals**, and the following supplemental requirements as applicable:

a. Line layout and marking diagrams shall be provided. The line layout and marking diagrams shall include the specific number of each pipe and fitting and the location of each pipe and the direction of each fitting in the completed line. In addition, the line layout shall include: the pipe station and invert elevation at changes in grade or horizontal alignment; the station and invert elevation to which the bell end of each pipe will be laid; elements of curves and bends, both in horizontal and vertical alignment; the limits of each reach of restrained and/or welded joints; and the limits of concrete encasement.

b. Drawings showing location, design, and details of bulkheads to be used for hydrostatic testing of the pipeline, and a written summary of the removal process for test bulkheads and repair of pipe lining, as required.

c. Details and locations of pipe closures for length adjustment and construction convenience.

d. Detail drawings indicating the type, number and other pertinent details of slings, strutting and other methods proposed for pipe handling during manufacturing, transport and installation.

e. Testing Plan: Contractor shall provide the qualifications of its proposed independent testing firm and shall describe its testing plans in detail for City review and approval. The submittal shall include a description of the test section procedures and pipe deflection testing procedures, including reporting of data and findings to the City.

C. Delivery, Storage and Handling

1. Pipe, specials, and fittings shall be handled, at a minimum, at the 1/3 points using wide fabric slings, padded cradles, or other devices acceptable to the Construction Manager, which are designed and constructed to prevent damage to the pipe coating. The use of equipment that might damage pipe coating will not be permitted. Stored pipe shall be supported on sand or earth berms free of rocks exceeding 3 inches in diameter. Pipe shall not be rolled and shall be secured to prevent accidental rolling. Pipe handling equipment and methods shall be acceptable to the Construction Manager.

2. Pipe and fittings shall be carefully handled and protected against damage to lining and coating/interior and exterior surfaces, impact shocks, and free fall. Pipe shall not be placed directly on rough ground but shall be supported in a manner that will protect the pipe against injury whenever stored at the trench site or elsewhere. No pipe shall be installed when the lining, coating, interior or exterior surfaces show cracks that may be detrimental to the pipe performance as determined by the Construction Manager. Such damage shall be repaired or the pipe shall be removed and new undamaged pipe shall be provided.

3. Fittings shall be lowered into the trench in a way that will prevent damage to the fittings. Devices used for lowering fittings into trench shall be attached around the exterior of the fitting for handling. Under no circumstances, shall any device be attached through the fitting's interior for handling.

4. The Contractor shall inspect each pipe and fitting for damage and defects and shall remove or smooth out any fins, burrs, gouges, weld splatter, or other small defects prior to installation.

5. Pipe damaged prior to acceptance by the Contractor from the Manufacturer at the site shall be repaired or replaced by the Manufacturer. Pipe damaged after Contractor acceptance from Manufacturer and prior to Substantial Completion shall be repaired or replaced by the Contractor at no increased cost to the City. Damaged pipe shall be repaired in a manner acceptable to the City.

6. The Contractor shall store pipe materials in accordance with the pipe

manufacturer's recommendations and the following requirements:

a. Store pipe at ambient outdoor temperature.

b. Store plastic pipe out of direct sunlight.

c. Do not cover pipe in a manner that will cause temperature rise.

PART 2 – PRODUCTS

A. Pipe Material: The pipe material shall be ductile iron or fiberglass reinforced polymer mortar pipe as indicated in the Contract Drawings.

B. Marking: The Contractor shall legibly mark shop-fabricated specials and fittings and mitered pipe in accordance with the laying schedule and marking diagram. Each marked element shall be numbered in sequence and said number shall appear on the laying schedule and marking diagram in its proper location for installation. A mark indicating the true vertical axis of each marked pipe, special and fitting shall be placed on the top and bottom of the pipe, special or fitting.

C. Bolts and hardware, including nuts, washers, restraining rods for pipe and appurtenances shall meet the following requirements:

1. Standard Service (Non-Corrosive Application): Unless otherwise indicated, bolts, anchor bolts, washers, and nuts shall be steel, galvanized after fabrication as indicated herein. Threads on galvanized bolts and nuts shall be formed with suitable taps and dies such that they retain their normal clearance after hot-dip galvanizing. Except as otherwise indicated, carbon steel bolts, anchor bolts and cap screws shall be in accordance with the requirements of ASTM A307, Grade B where working pressures are 175 psi or less. For higher pressures, bolt material shall conform to the requirements of ASTM A193, Grade B7.

2. Corrosive Service: Bolts, nuts, and washers in the locations listed below shall be stainless steel as indicated below.

a. Buried locations.

b. Submerged locations.

c. Locations subject to seasonal or occasional flooding.

d. Inside hydraulic structures below the top of the structure.

e. Inside buried vaults, manholes, and structures that do not drain through a gravity sewer or to a sump with a pump.

f. Chemical handling areas.

g. Inside trenches, containment walls, and curbed areas.

h. Locations indicated by the Contract Documents or designated by the Construction Manager to be provided with stainless steel bolts.

3. Unless otherwise indicated, stainless steel bolts, anchor bolts, nuts, and washers shall be Type 316 stainless steel in accordance with ASTM A193, Class 2, Grade 8M or ASTM F593, Condition SH. Threads on stainless steel bolts shall be protected with an anti-seize lubricant suitable for submerged stainless steel bolts, to meet government specification MIL-A-907E. Coating for buried bolts, nuts and metallic washers of the ductile iron pipe and the copper insulating corporation stops shall be Bitumastic 300M coal tar mastic coating, as manufactured by Carboline or approved equal.

   a. Anti-seize lubricant shall be classified as acceptable for potable water use by the NSF.

   b. Anti-seize lubricant shall be "Pure White" by Anti-Seize Technology, Franklin Park, IL; or equal.

4. Bolt Requirements

   a. The bolt and nut material shall be free-cutting steel.

   b. The nuts shall be capable of developing the full strength of the bolts. Threads shall be Coarse Thread Series conforming to the requirements of the American Standard for Screw Threads. Bolts and cap screws shall have hexagon heads and nuts shall be Heavy Hexagon Series.

   c. Bolts and nuts shall be installed with washers fabricated of material matching the base material of bolts, except that hardened washers for high strength bolts shall conform to the requirements of the AISC Specification. Lock washers shall be installed with washers where indicated and shall be fabricated of material matching the bolts.

   d. The length of bolts shall be such that after joints are made up, each bolt shall extend through the entire nut, but in no case more than 1/2-inch beyond the nut.

   e. All thread studs shall be used on valve flange connections, where space restrictions preclude the use of regular bolts.

   f. Insulating Flanges: Insulation flanges shall be provided on metallic pipes at the transition between dissimilar metals and from buried pipe to exposed pipe. Insulating flanges shall meet the requirements of the

City of Sacramento Standard Details and Standard Specifications.

g. Protective Coating: Protective coatings shall be in accordance with applicable sections of **Section 3.31 Paintings and Coatings**.

h. Utility Supports: Existing utilities that are encountered during the work shall be supported, unless otherwise specified to be removed or replaced as identified elsewhere in the Contract Documents.

PART 3 – EXECUTION

A. Installation of Pipe and Appurtenances

1. General

a. The Contractor shall provide fittings, closure pieces, bends, reducers, wyes, tees, crosses, outlets, manifolds, and other specials, bolts, nuts, gaskets, jointing materials, and other appurtenances as required for a complete installation.

b. The Contractor shall provide support and protection for existing utilities that are exposed during the work, unless otherwise specified to be removed or replaced elsewhere in the Contract Documents.

c. Where proposed pipe is to be connected to existing pipe, the Contractor shall verify the material, size and condition of the existing pipe prior to installing the new pipe. The existing pipe shall be inspected for corrosion or other conditions that would prevent an adequate connection.

d. The locations of existing pipes shown on the Contract Drawings are approximate. Contractor shall field verify the location of connection points prior to starting work or preparing shop drawings.

e. Before placement of pipe in the trench, each pipe or fitting shall be thoroughly cleaned of any foreign substance that may have collected thereon and shall be kept clean at all times thereafter. For this purpose, the openings of all pipes and fittings in the trench shall be closed during any interruption to the Work.

2. Layout and Grade

a. Pipe Laying: Unless otherwise required, pipe shall be laid straight between changes in alignment and at uniform grade between changes in grade. Pipe utilizing bell-and-spigot joints shall be laid with the bell end pointing in the direction of laying. Pipe shall not be laid when the conditions of trench or weather are unsuitable.

b. The Contractor shall not use the proposed pipeline as a conductor for trench drainage.

c. Installation Tolerances: Where provisions of these Special Provisions require pipe laying diagrams, the pipe shall be laid in the order and position shown on the laying diagram and in accordance with the following:

i. Each section of pipe having a nominal diameter less than 36 inches shall be laid to the line and grade shown in the Contract Drawings, within plus or minus 2 inches horizontal deviation and plus or minus 1/2-inch vertical deviation.

ii. Where horizontal and vertical alignment deflections (PI's and VPI's) shown in the Contract Drawings do not match standard fitting angles, the Contractor shall make the necessary adjustments using allowable joint deflections, shorter pipe segments, combined elbows and other standard fittings to fall within1 foot horizontally and 6 inches vertically of the alignment as defined in the Contract Drawings.

iii. Allowable joint deflection is limited to no more than 75 percent of the maximum joint deflection recommended by the pipe manufacturer. No joint shall be misfit any amount that will be detrimental to the strength or water tightness of the finished joint. In all cases the joint opening, before finishing with the protective mortar inside the pipe if required, shall be the controlling factor.

iv. Alignment adjustments made by the Contractor shall still meet the required clearances to existing utilities as shown or described in the Contract Documents.

v. Pipe shall be laid so that no high or low points other than those on the laying diagram are introduced.

vi. On grades of zero slope, the pipe shall be laid as close as possible to level and within the tolerances specified above.

d. Trench excavation, bedding, and backfill shall be in accordance with **Section 3.03 Trench Excavation and Backfill**. Trenches shall be graded to provide uniform and continuous support beneath the pipe at all points to prevent point loading at any location along the pipe section.

e. Trenches shall be in a reasonably dry condition when the pipe is laid. Necessary facilities, including slings, shall be provided for lowering and properly placing the pipe sections in the trench without damage.

The pipe and specials shall be laid to the line and grade indicated and shall be closely jointed in accordance with the pipe manufacturer's written installation recommendations to form a smooth flow line. Do not over stab the pipe.

f. Immediately before placing each section of pipe in final position for jointing, the pipe bedding shall be checked for firmness and uniformity of surface.

g. Pipe shall be laid directly on the bedding unless Controlled Low Strength Material (CLSM) is used for bedding. No blocking will be permitted, and the bedding shall be such that it forms a continuous, solid bearing for the full length of the pipe. Excavations shall be made as needed to facilitate removal of handling devices after the pipe is laid. Bell holes shall be formed in the bedding at the ends of the pipe to prevent point loading at the bells or couplings. Excavation shall be made as needed outside the normal trench section at field joints to permit adequate access to the joints for field connection operations, for application of coating on field joints, and for inspection.

h. If CLSM is used for bedding, the Contractor shall use sand piles or sand bags prior to placement of CLSM bedding backfill. Permanently supporting on saddles, blocking or stones is prohibited. The Contractor shall take care not to impart loads onto the pipe that could damage it prior to backfilling and attaining full support along the length of the pipe.

i. Driving pipe down to required grade by striking with shovel handle, timber, or other object is prohibited.

j. Pipe shall be installed at the coordinates identified in the Contract Documents. Pipe sections without coordinates identified in the Contract Documents are shown at approximate locations and shall be installed by scaling their location from the Contract Drawings.

k. Where unforeseen obstructions or other causes interfere with the installation of the pipe at the location and/or depth shown on the Contract Drawings, the Construction Manager may change the alignment and/or the grades. Such changes shall be made by the deflection of joints, by the use of bevel adapters, or by the use of additional fittings. However, in no case shall the deflection in the joint exceed 75% of the maximum deflection recommended by the pipe manufacturer. No joint shall be misfit any amount that will be detrimental to the strength or water tightness of the finished joint. In all cases the joint opening, before finishing with the protective mortar inside the pipe if required, shall be the controlling factor.

l. Where grade or alignment of the proposed pipe conflicts with an

existing utility conduit, manhole, duct, pipe, or other structure, the utility shall be supported, relocated, or removed and reinstalled by the Contractor in accordance with the requirements of the owner of the affected utility. Unless otherwise indicated and where utilities are shown in the Contract Drawings, this work shall be performed at no additional cost to the City.

m. The Contractor shall take necessary precautions to prevent the pipe from floating due to water entering the trench from any source or backfilling with CLSM, shall assume full responsibility for any damage due to this cause, and shall restore and replace the pipe to its specified condition and grade if it is displaced due to floatation at no additional cost to the City.

n. Drainage pipe or pipe designed for gravity flow shall maintain an average slope between elevations as indicated on the Contract Drawings, unless approved otherwise to avoid an interference with existing structure or utility. In no case shall the pipe slope be less than 0.2 percent unless indicated otherwise.

o. Pressure pipe shall be installed with a slope, except where noted or otherwise shown on the Contract Drawings, to allow free drainage to blow-off valves or structures. Elevations indicated on the Contract Drawings for pressure pipe can be adjusted with Construction Manager's approval to accommodate interferences provided free drainage can be maintained.

p. Slope of pressure pipe between structures, when no intermediate blow-offs are shown, can be adjusted with written permission by the Construction Manager, provided adequate adjustment exists inside structures to provide free drainage.

q. Pipe shall have a minimum cover greater than 4'-0" unless specified or otherwise shown on the Contract Drawings.

r. Where minimum cover cannot be maintained, the pipe shall be concrete encased in accordance with the details shown in the Contract Drawings. In no case shall the concrete encasement be exposed above the ground or take the place of minimum asphalt paving thickness in roadways.

s. Pipe shown concrete encased under structures shall be encased to a minimum distance beyond the structure equal to the clearance between the pipe and the structure footing.

t. No pipe shall be installed under tension. Provide allowance for thermal expansion and contraction when installing pipe, particularly plastic pipe installed in warm temperatures. Plastic pipe can be "snaked" in

the trench to prevent cooling into tension.

B. Cleaning

1. Pipe and Specials Protection: The openings of all pipe and specials that have been mortar lined by the manufacturer shall be protected with suitable bulkheads to maintain a moist atmosphere and to prevent unauthorized access by persons, animals, water, or any undesirable substance. The bulkheads shall be designed to prevent the interior of the pipe from drying out.

2. Before placement of pipe in a trench, each pipe or fitting shall be thoroughly cleaned of any foreign substance that may have collected thereon and shall be kept clean at all times thereafter. For this purpose, when the work of installing pipe is not in progress, openings into the pipe and the ends of the pipe in trenches or structures shall be kept tightly closed to prevent entrance of animals, water and foreign material. The use of burlap, wood or other similar temporary plugs will not be permitted.

3. Do not remove pipe closure devices until provisions are made to prevent water, earth or other substances/material from entering the pipe.

4. Pipe Cleanup: As pipe laying progresses, the Contractor shall keep the pipe interior free of debris. The Contractor shall completely clean the interior of the pipe of sand, dirt, mortar splatter, and any other debris following completion of pipe laying, pointing of joints as applicable, and any necessary interior repairs prior to testing the completed pipeline. The Contractor shall maintain the inside of the pipe free from foreign materials and in a clean and sanitary condition until acceptance by the City.

C. Installation of Pipeline Appurtenances

1. Couplings shall be installed per the Contract Drawings.

2. Installation of Flanged Joints: Before the joint is assembled, the flange faces shall be thoroughly cleaned of all foreign material with a power wire brush. The gasket shall be centered and the connecting flanges drawn up watertight without unnecessarily stressing the flanges. Bolts shall be tightened in a progressive diametrically opposite sequence and torqued with a suitable, approved, and calibrated torque wrench. Clamping torque shall be applied to the nuts only. Full face reinforced rubber gaskets shall be applied to the inside face of blind flanges with adhesive.

3. Installation of Valves: Valves shall be handled in a manner to prevent any injury or damage to any part of the valve. Joints shall be thoroughly cleaned and prepared prior to installation. The Contractor shall adjust stem packing and operate each valve prior to installation to insure proper operation.

4. Valves shall be installed so that the valve stems are plumb and in the location indicated.

5. Buried valves and flanges shall be coated and protected in accordance with applicable sections of **Section 3.31 Paintings and Coatings**.

6. Flexible Coupled Joints: When installing flexible couplings, care shall be taken that the connecting pipe ends, couplings and gaskets are clean and free of dirt and foreign matter with special attention being given to the contact surfaces of the pipe, gaskets, and couplings. The couplings shall be assembled and installed in accordance the coupling manufacturer's installation instructions.

7. Wrenches used for bolting couplings shall be the type and size recommended by the coupling manufacturer. Coupling bolts shall be tightened to secure a uniform annular space between the follower rings and the body of the pipe with all bolts tightened approximately the same amount. Diametrically opposite bolts shall be tightened progressively and evenly. Final tightening shall be performed with a suitable, approved, and calibrated torque wrench set for the torque recommended by the coupling manufacturer. Clamping torque shall be applied to the nut only.

D. Corrosion Control

1. General: Buried piping shall be provided with corrosion protection in accordance with the requirements of these Specifications.

2. Polyethylene Encasement: Ductile iron pipe, valves, and fittings as identified on the Contract Drawings shall be furnished with polyethylene encasement in accordance with AWWA C105 Polyethylene Encasement for Ductile-Iron Pipe Systems.

   a. Polyethylene film shall be either linear low-density film with a minimum thickness of 8-mil or high-density, cross-laminated film with a minimum thickness of 6-mil.

   b. Polyethylene film shall be supplied as either tubes or sheets in sizes appropriate for the size of pipe being encased.

   c. Polyethylene film shall be secured with adhesive duct tape. Overlaps and ends shall be secured with adhesive duct tape. Circumferential wraps of tape shall be placed at 2-foot intervals along the barrel of the pipe to minimize the space between the polyethylene film and the pipe.

   d. Method of polyethylene encasement installation may be either Method A, B or C as described in AWWA C105, except that Method B shall not be used at bolted-type joints.

e. Polyethylene film shall be installed such that it is fitted to the contour of the pipe creating a snug, not tight, encasement. Sufficient slack shall be provided to prevent stretching of the film where it bridges irregular surfaces.

f. The valve body, joints, couplings, and pipe or fittings within three feet on either side of a joint shall be thoroughly wrapped with two layers of polyethylene film. When it is not practical to wrap valves and fittings in a tube, wrap with a flat sheet or split length of polyethylene tube by passing the sheet under the appurtenance and bringing the sheet around the body. Make seams by bringing the edges of the polyethylene sheet together, folding them over twice, and securing with adhesive duct tape. Tape the polyethylene securely in place at the valve stem and other penetrations.

g. Polyethylene film shall be secured with duct tape at intervals sufficient that no gaps or sags are visible and that the encasement prevents contact between the pipe and joint with the surrounding backfill and bedding material during the backfill process.

h. Soil and dirt shall not be trapped between the pipe material and the polyethylene film during installation.

i. Backfilling operations shall be conducted so as not to damage or displace the polyethylene film.

j. Cuts, tears, punctures or other damage to the polyethylene film shall be repaired with either duct tape or a short section of tube film secure into place.

3. Coating of Bolts: Bolts for valves and fittings shall be as required in applicable sections of **Section 3.31 Paintings and Coatings**.

E. Testing

1. Test Section: For buried pipe 8 inches in diameter or greater, prior to full scale pipe laying operations, the Contractor shall perform a test section to demonstrate that the methods and materials to be utilized will satisfy the pipe zone backfill compaction and pipe deflection criteria. The maximum length of the test section shall be 250 feet. The Contractor shall not proceed with production pipe laying beyond the test section without the City's approval. The entire test section length that does not comply with the Contract Documents shall be reworked as necessary to comply. The City will observe construction of the test section. The Contractor's quality control testing and laboratory firms and the City will perform tests and take measurements. The Contractor shall submit its records and data for City review and acceptance of the test section work. Any change in means, methods, and trench conditions, including excavation, bedding, and pipe

zone materials, in-situ soils, water conditions, and backfill and compaction methods will require another successful test section before additional production pipe installation.

2. Joint Testing (Flexible Restrained Couplings at FRPMP to RCP or FRPMP to FRPMP Joints as shown on the Contract Drawings):

   a. After installing concrete collars and prior to backfilling, Contractor shall perform joint tests by applying a hydrostatic pressure of 19 psi. Maintain test pressure for 4 hours.

   b. Measure and record the volume of water added to maintain pressure. Contractor shall use two calibrated pressure gauges with appropriate size and range acceptable to the Engineer during pressure tests.

   c. Test water shall be obtained from City hydrants. Contractor shall meter and provide backflow prevention devices as required. Costs to obtain test water from City or by other means and methods by Contractor shall be at the Contractor's expense.

   d. No joints shall be tested until field-placed concrete or mortar has attained an age of 14 days.

   e. The test shall be made by placing temporary bulkheads or plugs in the pipe and filling the line slowly with water. The Contractor shall be responsible for ascertaining that test bulkheads/plugs and adjoining pipeline are suitably restrained to resist the thrust of the test pressure without damage to, or movement of, the adjacent pipeline.

   f. The Contractor shall provide sufficient temporary air taps in the pipeline to allow for evacuation of entrapped air in each segment to be tested. After completion of the tests, such taps shall be permanently plugged. Care shall be taken to see that air vents are open and operational during both draining and filling.

   g. No visible leakage shall be allowed at joints.

   h. Detected leaks shall be repaired and retested by the Contractor at no additional cost to the City. Contractor shall include pressure test results in project record documents.

3. Completed pipelines shall be tested in accordance with the appropriate **Section 3.28 Fiberglass Reinforced Polymer Mortar Pipe** or **Section 3.29 Ductile Iron Pipe**.

3.28 Fiberglass Reinforced Polymer Mortar Pipe

PART 1 – SUMMARY

A. The Contractor shall furnish and install centrifugally cast fiberglass reinforced polymer mortar pipe (FRPMP) in accordance with the requirements of the Contract Documents. Pipe furnished under this Section shall conform to the applicable requirements of **Section 3.27 Buried Pipe Installation**.

B. References

1. ASTM D2412 Standard Test Method for Determination of External Loading Characteristics of Plastic Pipe by Parallel- Plate Loading

2. ASTM D3754 Standard Specification for "Fiberglass" (Glass-Fiber-Reinforced Thermosetting-Resin) Sewer and Industrial Pressure Pipe

3. ASTM D4161 - Standard Specification for "Fiberglass" (Glass-Fiber-Reinforced Thermosetting-Resin) Pipe Joints Using Flexible Elastomeric Seals

4. AWWA C950 - AWWA Standard for Fiberglass Pressure Pipe

PART 2 – PRODUCTS

A. Materials

1. Resin Systems: The manufacturer shall use only polyester resin systems with a proven history of performance in this particular application. The historical data shall have been acquired from a composite material of similar construction and composition as the proposed product.

2. Glass Reinforcements: The reinforcing glass fibers used to manufacture the components shall be of highest quality commercial grade E-glass filaments with binder and sizing compatible with impregnating resins.

3. Silica Sand: Sand shall be minimum 98 percent silica with a maximum moisture content of 0.2 percent.

4. Additives: Resin additives, such as curing agents, pigments, dyes, fillers, thixotropic agents, etc., when used, shall not detrimentally effect the performance of the product.

5. Elastomeric Gaskets: Gaskets shall meet ASTM F477 and be supplied by qualified gasket manufacturers and be suitable for the service intended.

B. Manufacture

1. Pipes: Manufacture pipe by the centrifugal casting process to result in a dense, nonporous, corrosion-resistant, consistent composite structure. The pipe nominal pressure class (PN) shall be equal to or greater than the maximum sustained operating pressure of the line. The maximum transient

(operating plus surge) pressure of the line shall not exceed the pipe nominal pressure class by more than 40%. Pipes shall be Type 1, Liner 2, Grade 3 per ASTM D3754.

2. Manufacturer: HOBAS Pipe USA or approved equal.

C. Testing

1. Pipes: Pipes shall be manufactured in accordance with the applicable standard.

2. Stiffness: Minimum pipe stiffness when tested in accordance with ASTM D2412 shall normally be 36 psi.

3. Tensile Strength: Pipe hoop tensile strength for pressure pipe shall be verified as specified in applicable standard (ASTM D3754 or AWWA C950) or by random burst testing at the same sampling frequency.

4. All pipes shall be capable of withstanding a test pressure of two (2) times the maximum sustained operating pressure of the line without leaking or cracking.

5. Joint Testing: All joints between FRPMP and FRPMP and all joints between FRPMP and concrete pipe shall be tested per **Section 3.27 Buried Pipe Installation**.

PART 3 – EXECUTION

A. Installation: The installation of pipe and fittings shall be in accordance with the Contract Drawings and specifications and the manufacturer's requirements.

B. Pipe Handling: Use textile slings, other suitable materials or a forklift. Use of chains or cables is not permitted.

C. Jointing

1. Clean ends of pipe and coupling components.

2. Apply joint lubricant to pipe ends and the elastomeric seals of coupling, if applicable. Use only lubricants approved by the pipe manufacturer.

3. Use suitable equipment and end protection to push or pull the pipes together.

4. Do not exceed forces recommended by the manufacturer for coupling pipe.

5. Join pipes in straight alignment then deflect to required angle, if applicable. Do not allow the deflection angle to exceed the deflection permitted by the manufacturer.

D. Field Tests

1. Deflection: Maximum Allowable long-term deflection is normally 5 percent of the initial diameter.

3.29 Ductile Iron Pipe

PART 1 – SUMMARY

A. The Contractor shall furnish and install ductile iron pipe and appurtenances in accordance with the requirements of the Standard Specifications and these Contract Documents. Pipe furnished and installed under this Section shall also conform to the applicable requirements of **Section 3.27 Buried Pipe Installation**.

B. Submittals: Submit the following in accordance with **Section 1.08 Shop Drawings & Submittals**.

1. Submit manufacturer's data including dimensional data, physical and chemical properties of materials, and installation instructions for the following:

a. Ductile iron pipe

b. Fittings

c. Joints

d. Gaskets

e. Mechanical restraints

f. Polyethylene encasement

g. Joint bonding

2. Lay diagrams (for piping equal to and greater than 8-inches in diameter), bulkhead information, and pipe closure information as specified in **Section 3.27 Buried Pipe Installation**.

3. Affidavit of Compliance: Furnish a certified affidavit of compliance from the pipe manufacturer guaranteeing that the pipe and other products or materials furnished hereunder are in compliance with the requirements of the Standard Specifications, these Special Provisions, and the reference standards.

PART 2 – PRODUCTS

A. Mortar-lined and coated ductile iron pipe shall conform to ANSI/AWWA C151 and

C104, subject to the modifications contained herein. The pipe shall be the diameter and class shown on the Contract Drawings and shall be furnished complete with rubber gaskets as indicated. The pipe and gaskets shall be suitable for wastewater service. Specials and fittings shall be provided as shown or as required to install the pipe to the alignment and grade shown on the Contract Drawings.

1. Ductile iron pipe shall be manufactured by U.S. Pipe and Foundry, American Ductile Iron Pipe, or approved equal. Piping materials of like kind and application shall be the product of one manufacturer.

B. Ductile iron pipe shall have a 60,000-psi minimum tensile strength, 42,000 psi minimum yield strength, and 10 percent minimum elongation.

C. Specials and Fittings

1. Fittings for ductile iron pipe shall conform to the requirements of ANSI/AWWA C153/A21.53 or ANSI/AWWA C110/A21.10 for diameters shown and shall have a minimum pressure rating of 150 psi. Fittings for ductile iron mechanical joints shall be restrained mechanical joints with EBAA Iron Megalug 1100 restraining gland or locking segment push on joint type, TR FLEX or equal, unless noted otherwise. Each fitting shall be wrapped with polyethylene wrap per AWWA.

2. Each fitting shall have distinctly stamped or cast on the outside of the body the following information as required by AWWA C110 and C153:

   a. Pressure rating

   b. Nominal diameter of openings

   c. Manufacturer's identification

   d. Country where fitting is cast

   e. Number of degrees of the circle on bends

   f. Lettering "DI" or "Ductile"

D. Bolts and Hardware

1. Bolts, nuts, washers and hardware for ductile iron pipe shall be stainless steel and shall meet the requirements specified in **Section 3.27 Buried Pipe Installation.**

E. Design of Pipe

1. Design Working Pressure: 150 psi.

2. Joint Design: Ductile iron pipe joint type; shall have restrained push-on joints unless specified otherwise. At fittings and tie-ins, pipe shall have restrained push-on joints, restrained mechanical joints, or flanged joints as shown on the Contract Drawings. Restrained mechanical joints may be used for closures, subject to meeting thrust restraint requirements. Flanged ends, or plain ends with restrained couplings, shall be used for piping above ground.

    a. Unrestrained ductile iron pipe joints shall be push-on joint type conforming to ANSI/AWWA C111/A21.11

    b. Restrained joints shall be provided per the Standard Specifications.

    c. Flanged joints shall conform to AWWA/ANSI C115/A21.15, or AWWA/ANSI C110/A21.10 for fittings and short lengths of pipe manufactured with integrally cast flanges. Gaskets shall be full face ring type gasket and shall be Ring Flange-Tyte Gasket as manufactured by U.S. Pipe or approved equal.

    d. Bolts, nuts, washers, and hardware for ductile iron pipe shall be stainless steel and shall meet the requirements specified in the Standard Specifications.

    e. Flange insulation for discontinuity shall be provided as specified in the Standard Specifications.

F. Corrosion Control

1. Exterior Coating: Buried ductile iron pipe, joints, and fittings shall be coated with an asphaltic coating approximately 1 mil thick per AWWA C151 for pipe.

2. Coating of Buried Valves: See **Section 3.31 Painting and Coatings.**

3. Polyethylene Encasement: Buried ductile iron pipe, joints, valves, and fittings shall be encased in 8 mil polyethylene film conforming to AWWA C105. Refer to **Section 3.27 Buried Pipe Installation** for details.

G. Field Tests

1. Pressure Test: The newly installed DIP piping system shall be field tested after completion of the installation (including required thrust restraints) at a maximum pressure of 1.5 times the system operating pressure not to exceed 1.5 x PN. Prior to testing, assure that all work has been properly completed. When filling the line assure that all air is expelled to avoid dangerous build-up of compressed air potential energy. Pressurize the line slowly, so pressure surges exceeding test pressures are not developed. Check for leaks when the test pressure has stabilized.

3.30 Valves

PART 1 – SUMMARY

A. The Contractor shall provide valves, actuators, and appurtenances, complete and operable, in accordance with the Standard Specifications, these Special Provisions, and the Contract Drawings.

B. Submittals: Submit the following in accordance with **Section 1.08 Shop Drawings & Submittals**.

1. Valve name, size, Cv factor, pressure rating, and identification number (if any).

2. Assembly drawings showing part nomenclature, materials, dimensions, weights, and relationships of valve handles.

PART 2 – PRODUCTS

A. Resilient-Wedge Gate Valves (12-inch): Contractor shall provide the gate valve(s) as required by the Contract Documents and Standard Specifications. Gate valve shall be manufactured by the following or approved equal:

1. American Flow Control Series 2500

2. Clow Valve Co. Model No. F6100

3. Kennedy Valve Ken-Seal 11 #4561

4. Mueller Company Model No. A-2360

B. Protective Coatings

1. The exterior surfaces of valves and the wet interior surfaces of ferrous valves of sizes 3 inches and larger shall be coated in accordance with **Section 3.31 Painting and Coatings**.

2. Buried valves and fittings shall be factory coated with fusion bonded epoxy. The valve Manufacturer shall certify in writing that the required coating has been applied and tested in the manufacturing plant prior to shipment, in accordance with these Specifications. Flange faces of valves shall not be epoxy coated.

3. Buried valves shall be encased in CLSM or electrically isolated via insulating flanges and unions. Bolts for valves shall be as specified in the Standard Specifications. The entire valve shall be encased in polyethylene. The polyethylene sheets used for encasement of the ductile iron pipe, valves, and fittings shall be minimum 8-mils thick in accordance with AWWA

C105.

4. Where surfaces have been shop-painted but have been damaged during delivery, storage or assembly, or where shop coats have deteriorated, these surfaces shall be properly cleaned and retouched or repainted with matching paint.

C. Testing

1. General: Valve testing shall be in accordance with the Standard Specifications and applicable standards of AWWA, ANSI, and ASTM.

2. Factory Testing: As a minimum, unless otherwise indicated, each valve body 4 inches and larger shall be tested hydrostatically to 1.5 times its rated 100 degrees F design water-working pressure, for a period of 5 minutes, without showing leaks or loss of pressure. In addition, valves 4 inches and larger shall undergo a functional test to demonstrate satisfactory operation throughout its operating cycle, and a closure test rated at 100 degrees F water-working pressure for a period of 5 minutes to demonstrate tight shut-off. Stem seal leakage shall not be a cause for rejection.

3. Performance Testing: Valves shall be tested with the piping system in accordance with **Section 3.27 Buried Pipe Installation**. Field testing will be witnessed by the City or Construction Manager. The Contractor shall provide three days advance notice of field testing.

3.31 Paintings and Coatings

PART 1 – SUMMARY

A. Provide surface preparation and painting in accordance with this Section for items as referenced in other sections of these Special Provisions.

B. Contractor shall also recoat the components of the existing air release structure at MH4A per Detail 17/GC-6 of the Contract Drawings and in accordance with these Special Provisions.

C. Reference Standards

1. ASTM International (ASTM)

a. ASTM A780 Practice for Repair of Damaged and Uncoated Areas of Hot-Dip Galvanized Coatings

b. ASTM D16 – Standard Terminology for Paint, Related Coatings, Materials, and Applications

c. ASTM D4258 Standard Practice for Surface Cleaning Concrete for

Coating

d. ASTM D4259 Standard Practice for Abrading Concrete

e. ASTM D4260 Standard Practice for Liquid and Gelled Acid Etching of Concrete

f. ASTM 4261 Standard Practice for Surface Cleaning Concrete Unit Masonry for Coating

g. ASTM D4263 Standard Test Method for Indicating Moisture in Concrete by the Plastic Sheet Method

h. ASTM D4414 Standard Practice for Measurement of Wet Film Thickness by Notch Gages

i. ASTM D4417 Standard Test Method for Field Measurement of Surface Profile of Blast Cleaned Steel

j. ASTM D6386 Standard Practice for Preparation of Zinc (Hot-Dip Galvanized) Coated Iron and Steel Products and Hardware Surfaces for Painting

k. ASTM D6944 Standard Test Method for Measuring Humidity with a Physchrometer

l. ASTM F1869 Standard Test Method for Measuring Moisture Vapor Emission Rate of Concrete Subfloor Using Anhydrous Calcium Chloride

2. International Concrete Repair Institute, (ICRI)

a. ICRI Technical Guideline No 310.1 Guide for Surface Preparation for the Repair of Deteriorated Concrete Resulting from Reinforcing Steel Corrosion

b. ICRI Technical Guideline No 310.2 Selecting and Specifying Concrete Surface Preparation for Sealers, Coatings, Polymer Overlays, and Concrete Repair with CSP Chips

3. NACE International, (NACE)

a. NACE Publication 6D-173 A Manual for Painter Safety

b. NACE SP0178 Surface Finishing of Welds Prior to Coating

c. NACE No. 6/SSPC-SP13 Surface Preparation of Concrete

4. NSF International (NSF)

a. NSF/ANSI 61 Drinking Water System Components – Health Effects

5. Steel Structures Painting Council (SSPC)

a. SSPC-Paint 16, Coal Tar Epoxy-Polyamide

b. SSPC-Paint 20, Zinc-Rich Coating Inorganic and Organic

c. SSPC-SP12/NACE 5 Surface Preparation and Cleaning of Steel and Other Hard Materials by High and Ultra High-Pressure Jetting Prior to Recoating

d. SSPC-SP13/NACE No. 6 Surface Preparation of Concrete

e. SSPC-Guide 12 Guide for Illumination of Industrial Painting Projects

f. SSPC-VIS-1 Guide and Reference Photographs for Steel Surfaces Prepared by Dry Abrasive Blast Cleaning

6. Green Seal

a. GC-03 Anti-Corrosive Paints

b. GS-11 Product Specific Environmental Requirements

D. Definitions

1. The term “paint”, “coatings”, or “finishes” as used herein, shall include surface treatments, emulsions, enamels, paints, epoxy resins, and other protective coatings, excepting galvanizing or anodizing, whether used as a pretreatment, primer, intermediate coat, or finish coat.

2. The term “DFT” means minimum dry film thickness.

3. Concrete Surface Profiles (CSP) per ICRI Technical Guideline No 310-2. Concrete surface preparation definitions listed below shall be field verified with Concrete Surface Profile Chips.

a. CSP 1: Acid Etched

b. CSP 2: Grinding

c. CSP 3: Light Shotblast

d. CSP 4: Light Scarification

e. CSP 5: Medium Shotblast

f. CSP 6: Medium Scarification

g. CSP 7: Heavy Abrasive Blast

h. CSP 8: Scabbed

i. CSP 9: Heavy Scarification

j. CSP 10: Course Planing

4. Surface Preparation of Carbon Steel per SSPC Surface preparation Standards. Definitions below summarize surface preparation requirements for each level of cleaning. Refer to SSPC standards for complete requirement for each level of surface preparation and cleaning.

   a. Adherent: Mill scale, rust and coating are considered tightly adherent if they cannot be lifting with a dull putty knife.

   b. SSPC-SP1: Solvent Cleaning: The removal of visible oil, grease, soil, drawing and cutting compounds and other soluble contaminants from surfaces with solvents or commercial cleaners using various methods of cleaning such as wiping, dipping, steam cleaning or vapor degreasing.

   c. SSPC-SP2: Hand Tool Cleaning: The removal of loose mill scale, loose rust, loose paint and other loose detrimental foreign matter by the use of non-power hand tools.

   d. SSPC-SP3: Power Tool Cleaning: The removal of loose mill scale, loose rust, loose paint and other loose detrimental foreign matter by the use of power-assisted hand tools.

   e. SSPC-SP5/NACE 1: White Metal Blast Cleaning: The complete removal of visible oil, grease, dirt, dust, mill scale, rust, paint, oxides, corrosion products and other foreign matter by compressed air nozzle blasting, centrifugal wheels or other specified methods.

   f. SSPC-SP6/ NACE 3: Commercial Blast Cleaning: The complete removal of visible oil, grease, dirt, dust, mill scale, rust, paint, oxides, corrosion products and other foreign matter by compressed air nozzle blasting, centrifugal wheels or other specified methods. Discoloration caused by certain stains shall be limited to no more than 33 percent of each unit area. Unit area is approximately 9 sq in.

   g. SSPC-SP7 / NACE Brush-off Blast Cleaning: A brush-off, blast-cleaned surface, when viewed without magnification, shall be free of visible oil, grease, dirt, dust, loose mill scale, loose rust and loose coating. Tightly adhered mill scale, rust and coating may remain on the surface.

h. SSPC-SP10 / NACE 2 Near-White Metal Blast Cleaning: The removal of visible oil, grease, dirt, dust, mill scale, rust, paint, oxides, corrosion products and other foreign matter by compressed air nozzle blasting, centrifugal wheels or other specified method. Discoloration caused by certain stains shall be limited to no more than 5 percent of each unit area. Unit area is approximately 9 sq. in.

i. SSPC-SP11 Power Tool Cleaning to Bare Metal: The removal of visible oil, grease, dirt, mill scale, rust, paint, oxide, corrosion products, and other foreign matter. Slight residues of rust and paint may be left in the lower portion of pits if the original surface is pitted. Differs from SSPC-SP3 in that is requires more thorough cleaning and a surface profile not less than 1 mil (25 microns).

5. SSPC-SP12 / NACE 5 Pressure Categorization

a. Water Jetting: Use of water at high or ultra-high pressure to prepare a surface for recoating using pressure above 10,000 psi. Water jetting will not produce a profile; rather it exposes the original abrasive-blast surface profile.

b. Low-Pressure Water Cleaning (LP WC): Cleaning performed at pressures less than 5,000 psi.

c. High-Pressure Water Cleaning (HP WC): Cleaning performed at pressures from 5,000 psi to 10,000 psi

d. High-Pressure Water Jetting (HP WJ): Cleaning performed at pressures from 10,000 psi to 25,000 psi.

e. Ultra-High-Pressure Water Jetting (UHP WJ): Cleaning performed at pressures above 25,000 psi.

6. SSPC-SP12 / NACE 5 Visual Conditions of Surface Cleanliness

a. Water jetting shall be performed to meet one of the following four conditions: WJ-1, WJ-2, WJ-3, WJ-4, and a minimum acceptable surface shall have loose rust, loose mill scale, and loose coatings uniformly removed.

b. WJ-1: Surface shall be free of previously existing visible rust, coatings, mill scale, and foreign matter and have a matte metal finish.

c. WJ-2: Surface shall be cleaned to a matte finish with at least 95 percent of the surface area free of previously existing visible residues and the remaining 5 percent containing only random dispersed stains of rust, coatings, and foreign matter.

d. WJ-3: Surface shall be cleaned to a matte finish with at least two-thirds of the surface free of previously existing visible residues (except mill scale), and the remaining one-third containing only randomly dispersed stains of previously existing rust, coatings, and foreign matter.

e. WJ-4: Surface shall have loose mill scale and loose coatings uniformly removed.

E. Submittals: Submit the following in accordance with **Section 1.08 Shop Drawings & Submittals.**

1. Product Data

a. Block Fillers

b. Primers

c. Manufacturer's technical information including label analysis and instructions for handling, storage, and application of each material proposed for use.

d. Manufacturer's material data and certificates of performance for proposed substitutions.

e. List each material and cross-reference the specific coating, finish system, and application. Identify each material by the manufacturer's catalog number and general classification.

2. Material Safety Data Sheet for each product used

3. Samples and Mockups: Provide manufacturer's color charts for initial color selection. Samples of paint, finishes, and other coating materials shall be submitted on 8 1/2-inch by 11-inch sheet metal. Each sheet shall be completely coated over its entire surface with one protective coating material, type, and color. One fifteen pound sample of each abrasive proposed to be used for surface preparation for submerged and severe service coating systems.

4. Certificates: From manufacturer that products supplied comply with local Regulations controlling use of volatile organic compounds (VOCs).

5. Closeout and maintenance material submittals.

F. Quality Assurance

1. Engage experienced applicators who have completed painting system applications similar in material and extent to those indicated for the Project

that have resulted in a construction record of successful in-service performance. Applicator shall have a minimum of 5 years experience.

2. After color selection, furnish sample color chips of selections made for surfaces to be coated.

3. Manufacturer shall be a company specializing in manufacturing products specified in this Section with a minimum of 5 years of documented experience.

G. Delivery, Storage, and Handling

1. Packing, Shipping, Handling, and Unloading

a. Deliver materials to the Site in the manufacturer's original, unopened packages and containers bearing manufacturer's name and label, and the following information:

b. Product name or title of material

c. Product description (generic classification or binder type)

d. Manufacturer's stock number and date of manufacture

e. Contents by volume, for pigment and vehicle constituents

f. Thinning instructions

g. Application instructions

h. Color name and number

2. Storage and Protection

a. Store materials not in use in tightly covered containers in a well-ventilated area at a minimum ambient temperature of 45 degrees F. Maintain containers used in storage in a clean condition, free of foreign materials and residue. Protect from freezing.

b. Keep storage area neat and orderly. Remove oily rags and waste daily. Take necessary measures to ensure that workers and Work areas are protected from fire and health hazards resulting from handling, mixing, and application.

H. Waste Management and Disposal

1. Remove unused material from the Site, unless the City requests portions of unused material to be provided in properly sealed containers for future repair and maintenance of coatings. Transport extra material to the City

specified storage facility located at the Project Site.

2. Extra Materials are to be provided to the City in properly sealed containers prior to removing from Site for disposal.

PART 2 – PRODUCTS

A. Suitability: Contractor shall use suitable coating materials as recommended by the manufacturer.

B. Compatibility: Only compatible materials from a single manufacturer shall be used in the work. Particular attention shall be directed to compatibility of primers and finish coats. If necessary, a barrier coat shall be applied between existing prime coat and subsequent field coats to ensure compatibility.

C. Paint Materials

1. Provide materials designated by item or area to be painted on the Contract Drawings.

2. Provide primers and undercoat paint produced by the same manufacturer as the finish coats.

3. Provide block fillers, primers, finish coat materials, and related materials that are compatible with one another and the substrates indicated under conditions of service and application, as demonstrated by the manufacturer based on testing and field experience.

4. Manufacturer's best-quality trade sale paint material of the various coating types specified. Ensure paint material containers display manufacturer's product identification.

5. Colors from the manufacturer's full range of standard colors. Colors and shades of coats of paint shall be as selected by the Engineer.

6. Before applying finish coats, apply a prime coat of material as recommended by the manufacturer, to material that is required to be painted or finished and that has not been prime-coated by others. Recoat primed and sealed surfaces where evidence of suction spots or unsealed areas in first coat appears, to ensure a finish coat with no burn-through or other defects due to insufficient sealing. Apply prime coat to previously painted surfaces if finish coats are not compatible with existing coating.

D. Fusion Bonded Epoxy: The coating material shall be a 100 percent powder epoxy applied in accordance with the ANSI/AWWA C213 Fusion Bonded Epoxy Coating for the Interior and Exterior of Steel Water Pipelines. The coating shall be applied using the fluidized bed process.

1. Liquid Epoxy: For field repairs, the use of a liquid epoxy will be permitted, applied in not less than 3 coats to provide a DFT of 15 mils. The liquid epoxy shall be a 100 percent solids epoxy recommended by the powder epoxy manufacturer.

2. Coating DFT = 16 mils, Scotchkote 134 or 206N, or equal

3. Total System DFT = 16 mils

4. For coating of valves, DFT = 12 mils

PART 3 – EXECUTION

A. Examination

1. Examine substrates and conditions under which painting will be performed for compliance with paint application requirements. Ensure surfaces receiving paint are thoroughly dry before paint is applied. Do not begin to apply paint until unsatisfactory conditions have been corrected.

2. Coordination of Work: Review other Specifications in which primers are provided to ensure compatibility of the total system for various substrates. On request, furnish information on characteristics of finish materials to ensure use of compatible primers. Notify Engineer about anticipated problems using the materials specified over substrates primed by others.

B. Preparation

1. Remove hardware and hardware accessories, plates, machined surfaces, and similar items already installed that are not to be painted, or provide surface-applied protection prior to surface preparation and painting. Following completion of painting operations in each space or area, ensure workers skilled in the trades involved reinstall items.

2. Before applying paint or other surface treatments, clean the substrates of substances that could impair the bond of the various coatings. Remove oil and grease prior to cleaning. Schedule cleaning and painting so dust and other contaminants from the cleaning process will not fall on wet, newly painted surfaces.

3. Clean and prepare surfaces to be painted according to the manufacturer's instructions for each substrate condition and as specified. Use more stringent cleaning and surface preparation if manufacturer's recommendations differ from the requirements specified.

4. Provide barrier coats over incompatible primers or remove and re-prime. Notify Engineer in writing about anticipated problems using the specified finish-coat material with substrates primed by others.

5. Ensure existing painted surfaces are structurally sound, dry, clean, and free of oil, grease, dirt, mildew, form release agents, curing compounds, efflorescence, loose and flaking paint, or other foreign material. Engineer will approve condition of prepared substrate prior to application of coating system. Test old coatings for lifting per coating manufacturer's recommendations.

6. Abrasive Blast Surfaces: coat before any visible rust forms on the surface. Abrasive blast cleaning shall be performed only when the relative humidity is no higher than 85 percent and the surface temperature of the steel at its coldest point is at least 5 degrees Fahrenheit above the temperature of the dew point. Material that is abrasive blast-cleaned shall be primed in the same shift, no more than 12-hours after the surfaces have been blast-cleaned.

C. Preparation of New or Previously Uncoated Surfaces

1. Prepare to be painted by removing efflorescence, chalk, dust, dirt, grease, oils, loose rust, and release agents.

a. Ferrous Metals: prepare metal according as follows.

i. Structural steel, steel bar joists, and miscellaneous metal used for interior building framing components that are not exposed to view and are not scheduled to be field painted: SSPC-SP2 prior to shop coat with fabricator's standard primer.

ii. Submerged components: sandblasted clean in accordance with SSPC-SP10/NACE 2, near-white blast cleaning immediately prior to priming.

iii. Other ferrous metals: sandblasted clean in accordance with SSPC-SP-6, commercial grade, immediately prior to priming.

b. Clean galvanized surfaces with non-petroleum-based solvents so that the surface is free of oil and surface contaminants. Remove pretreatment from galvanized sheet metal fabricated from coil stock by mechanical methods in accordance with ASTM D6386.

D. Preparation of Previously Coated Surfaces

1. Prepare to be painted by removing efflorescence, chalk, dust, dirt, grease, oils, loose rust, and release agents.

a. Concrete walls, columns, and ceilings (excludes floors): Low-Pressure Water Cleaning (LP WC) to remove existing loose coatings. Pressure shall be less than 5000 psi. 4000 psi minimum should be used to ensure that all weekly adhered coating is removed. Tightly adherent

material will be allowed to remain. Tightly adherent is defined by material that cannot be removed when tooling with a dull putty knife.

b. Concrete floors: ICRI CSP 5 to CSP-6.

c. Ferrous metals including structural steel columns and beams: SSPC-SP7 Brush-Off Blast Cleaning to remove dirt, loose rust, and loose coatings.

d. Painted metal roof or floor deck: SSPC-SP7 Brush-Off Blast Cleaning to remove dirt, loose rust, and loose coatings.

e. Galvanized (corroded) roof or floor deck: SSPC-SP6 Commercial Blast Cleaning or SSPC-SP11 Power Tool Cleaning to Bare Metal.

2. Check for coating compatibility by applying a test patch of the recommended coating system, covering at least 2-3 square feet. Allow to dry one week before testing adhesion per ASTM D3359. If the coating is incompatible contact Engineer and coating manufacturer for recommendations.

3. Existing interior finished spaces: where existing interior occupied spaces are scheduled to be coated, perform surface preparation and cleaning without damage to existing finishes, electronics, and equipment that cannot be removed prior to coating. Surface preparation and cleaning shall include the following steps until efflorescence, chalk, dust, dirt, grease, oils, loose rust, and release agents are removed.

   a. Detergent scrubbing and rinsing as required to remove dust, dirt, grease, oils, and release agents

   b. Solvent cleaning

   c. Hand tool cleaning

   d. Power tool cleaning

4. Over-coating of hard, high-gloss, or existing epoxy coatings. Overcoating mechanical equipment or other surfaces that would otherwise be damaged by water cleaning or abrasive blast cleaning.

   a. Clean existing coating with degreaser or other cleaner recommended by coating manufacturer.

   b. Remove damaged, delaminated, or questionable portions of existing coat from the substrate.

   c. Sand, grind, or abrasive blast existing coating to clean and texture

surface to improve bond of over-coat.

E. Color Selection

1. Colors of finish coats: as indicated or specified or as selected by the City.

F. Application

1. Apply water-based paints only when the temperature of surfaces to be painted and surrounding air temperatures are between 50 degrees F and 90 degrees F.

2. Apply solvent-thinned paints only when the temperature of surfaces to be painted and surrounding air temperatures are between 45 degrees F and 95 degrees F.

3. Do not apply paint in snow, rain, fog, or mist; or when the relative humidity exceeds 85 percent; or to damp or wet surfaces. Painting may continue during inclement weather if surfaces and areas to be painted are enclosed and heated within temperature limits specified by the manufacturer during application and drying periods.

4. Priming Abrasive Blast Surfaces: Shall be primed before visible rust forms on the surface. Abrasive blast cleaning shall be performed only when the relative humidity is no higher than 85 percent and the surface temperature of the steel at its coldest point is at least 5 degrees F above the temperature of the dew point. Material that is abrasive blast-cleaned shall be primed in the same shift, no more than 12-hours after the surfaces have been blast-cleaned.

5. Carefully mix and prepare paint materials according to manufacturer's directions.

   a. Maintain containers used in mixing and applying paint in a clean condition, free of foreign materials and residue.

   b. Stir material before application to produce a mixture of uniform density; stir as required during application. Do not stir surface film into material. Remove film and, if necessary, strain material before using.

6. Use only thinners approved by the paint manufacturer and only within recommended limits

7. Apply paint according to manufacturer's directions. Use applicators and techniques best suited for substrate and type of material being applied.

   a. Do not paint over dirt, rust, scale, grease, moisture, scuffed surfaces, or conditions detrimental to formation of a durable paint film.

b. Paint colors, surface treatments, and finishes as indicated in the Contract Drawings.

c. Provide finish coats that are compatible with primers used.

d. The number of coats and the film thickness required are the same regardless of the application method. Do not apply succeeding coats until the previous coat has cured as recommended by the manufacturer. Sand between applications where sanding is required to produce a smooth even surface according to the manufacturer's directions.

e. Apply additional coats if undercoats, stains, or other conditions show through final coat of paint until paint film is of uniform finish, color, and appearance. Give special attention to ensure that surfaces, including edges, corners, crevices, welds, and exposed surfaces/fasteners, receive a dry film thickness equivalent to that of flat surfaces.

f. The term exposed surfaces includes areas visible when permanent or built-in fixtures, convector covers, covers for finned tube radiation, grilles, and similar components are in place. Extend coatings in these areas, as required, to maintain the system integrity and provide desired protection.

g. Paint surfaces behind movable equipment and furniture the same as similar exposed surfaces. Before the final installation of equipment, paint surfaces behind permanently fixed equipment or furniture with prime coat only.

h. Paint backsides of access panels and removable or hinged covers to match exposed surfaces.

i. Finish exterior doors on tops, bottoms, and side edges same as exterior faces.

j. Sand lightly between each succeeding enamel or varnish coat.

k. Omit primer on metal surfaces that have been shop-primed and touch-up painted.

8. Apply first coat to surfaces that have been cleaned, pretreated, or otherwise prepared for painting as soon as practicable after preparation and before subsequent surface deterioration.

a. Allow sufficient time between successive coats to permit proper drying. Do not recoat until paint has dried to where it feels firm, does not deform or feel sticky under moderate thumb pressure, and where application of another coat of paint does not cause the undercoat to lift

or lose adhesion.

9. Apply paints and coatings by brush, roller, spray, or other applicators according to the manufacturer's directions.

    a. Use brushes best suited for the material applied.

    b. Use rollers of carpet, velvet back, or high-pile sheep's wool as recommended by the manufacturer for the material and texture required.

    c. Use airless spray equipment with orifice size as recommended by the manufacturer for the material and texture required.

10. Apply materials no thinner than the manufacturers' recommended spreading rate. Provide the total dry film thickness of the entire system as recommended by the manufacturer.

11. Ferrous metals indicated on the Contract Drawings to be painted will be provided with a shop primer compatible with the coatings specified. Paint ferrous metals that are not galvanized and indicated to be painted on the Contract Drawings.

12. Apply block fillers to concrete masonry block at a rate to ensure complete coverage with pores filled.

G. Prime Coats

1. Before applying finish coats, apply a prime coat of material as recommended by the manufacturer, to material that is required to be painted or finished and that has not been prime-coated by others. Recoat primed and sealed surfaces where evidence of suction spots or unsealed areas in first coat appears, to ensure a finish coat with no burn-through or other defects due to insufficient sealing. Apply prime coat to previously painted surfaces if finish coats are not compatible with existing coating.

H. Pigmented (Opaque) Finishes

1. Completely cover to provide a smooth, opaque surface of uniform finish, color, appearance, and coverage. Cloudiness, spotting, holidays, laps, brush marks, runs, sags, ropiness, or other surface imperfections will not be acceptable.

I. Pipe, Valve/Equipment Identification

1. Provide identification of pipes or valves.

J. Completed Work

1. Match approved samples for color, texture, and coverage. Remove, refinish, or repaint Work not complying with specified requirements.

K. Cleaning

1. At the end of each workday, remove empty cans, rags, rubbish, and other discarded paint materials from the Site. Clean up debris resulting from Work and dispose in Project on-site trash receptacles.

2. After completing painting, clean paint-spattered surfaces. Remove spattered paint by washing and scraping. Be careful not to scratch or damage adjacent finished surfaces.

L. Protection

1. Protect Work of other trades, whether being painted or not, against damage by painting. Correct damage by cleaning, repairing or replacing, and repainting, as acceptable to Engineer.

2. Provide Wet Paint signs to protect newly painted finishes. Remove temporary protective wrappings provided by others to protect their Work after completing painting operations.

3. At completion of construction activities of other trades, touch up and restore damaged or defaced painted surfaces.

M. Repair

1. Repair damaged shop applied primers and coatings as required to provide the same level of protection as provided by undamaged coating systems. Color and finish of repairs shall match adjacent undamaged coating.

N. Field Quality Control

1. Site/Field tests and inspections: May be required by City up to two times during the period when paint is being applied.

2. Engage the services of an independent testing agency with minimum 5 years of experience to sample the paint material used. Provide that Samples of material delivered to the Project are taken, identified, sealed, and certified in the presence of the Contractor.

3. The independent testing agency shall perform appropriate tests at no additional cost to the City for the following characteristics:

a. Quantitative materials analysis

b. Abrasion resistance

c. Apparent reflectivity

d. Flexibility

e. Washability

f. Absorption

g. Accelerated weathering

h. Dry opacity

i. Accelerated yellowness

j. Recoating

k. Skinning

l. Color retention

m. Alkali and mildew resistance

4. If test results show material being used does not comply with specified requirements, stop painting, remove noncomplying paint, repaint surfaces coated with rejected paint, and remove rejected paint from previously painted surfaces if, upon repainting with specified paint, the two coatings are incompatible.

O. Paint Schedule

1. Number of coats scheduled is as a minimum. Painting and finishing shall conform to applicable Laws and building code regarding fire hazard classifications and volatile organic content of finish materials. Products listed shall not be in contact with potable water supply and do not comply with NSF/ANSI 61. Provide products by the manufacturers named or approved equal.

2. Provide paint and coating systems listed below where the Contract Drawings refer to this Specification section or reference any item to be painted or coated, unless a specific paint or coating system is specified elsewhere.

3. The following Paint Schedule is intended to cover all potential conditions that may require painting and not all paint and coating systems listed below may not be included in the Work.

Ductile, Cast Iron, Copper, Aluminum, or PVC: Interior or Exterior (Epoxy/Polyurethane)		
Field Applied Prime Coat	• Tnemec: Series 66 Hi-Build Epoxoline or Series N69 Hi-Build Epoxoline II • S-W: Macropoxy 646 • PPG: Amerlock 2 • Or Equal	DFT 2 – 3 mils DFT 3 – 5 mils DFT 4 – 8 mils
Field Applied Intermediate Coat	• Tnemec: Series N69 Hi-Build Epoxoline II • S-W: Macropoxy 646 • PPG: Amerlock 2 • Or Equal	DFT 4 – 6 mils DFT 3 – 5 mils DFT 4 – 8 mils
Field Applied Finish Coat	• Tnemec: Series 1095 Endura-Shield • S-W: Hi-Solids Polyurethane 250 • PPG: Amercoat 250H • Or Equal	DFT 2 – 5 mils DFT 4 – 5 mil DFT 4 – 6 mils
Ductile Iron Pipe Submerged (Epoxy)		
Field Applied Prime Coat	• Tnemec: Series 21 Epoxoline • S-W: Macropoxy 646 • PPG: Amerlock 2 • Or Equal	DFT 2 – 3 mils DFT 4 – 6 mils DFT 4 – 8 mils
Field Applied Intermediate Coat	• Tnemec: Series 21 Epoxoline • S-W: Macropoxy 646 • PPG: Amerlock 2/400 • Or Equal	DFT 4 – 6 mils DFT 4 – 6 mils DFT 4 – 8 mils
Field Applied Finish Coat	• Tnemec: Series 21 Epoxoline • S-W: Macropoxy 646 • PPG: Amerlock 2/400 • Or Equal	DFT 4 – 6 mils DFT 4 – 6 mil DFT 4 – 8 mils

3.32 Payment

Full compensation for furnishing all labor, materials, tools, equipment and incidentals and for doing all work involved in performing and complying with these Special Provision items shall be considered as included in the prices paid for in the various contract bid items the Contractor deems appropriate and no additional compensation will be allowed.

****END OF SECTION****

SECTION 4 – ITEMS OF THE PROPOSAL

Item No. 1 Mobilization/Demobilization

Mobilization shall consist of preparatory work and operations including, but not limited to, those necessary for the bonding, movement of personnel, equipment, supplies, and incidentals to the project site; public notification; and for all other work and operations which must be performed or costs incurred prior to beginning work on the various contract items.

Demobilization shall include, upon substantial completion of the contracted work, the removal of signs, construction trailers, storage trailers and bins, temporary fencing, garbage, construction debris, equipment, utility services not scheduled to remain, portable toilet facilities, and excess construction material not included and paid for within other base bid items. Work shall also include the repair, restoration and/or replacement of facilities damaged by the Contractor and/or Subcontractor and suppliers not included in Bid Item No. 17, and the submittal of Record Drawings. Work area shall be cleaned and restored to original condition or better as further shown on the Contract Drawings.

Compensation for remobilization of personnel, equipment, supplies, and incidentals shall be included with this item, and no additional compensation shall be permitted.

Compensation for mobilization/demobilization in excess of five (5) percent of the total amount of all other bid items shall be paid with the progress payment when all other work items are 100 percent complete.

Payment for mobilization and demobilization shall be on a contract lump sum (LS) basis and shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals, and for performing all work necessary to complete this item. 75 percent of the total lump sum bid for this item shall be paid for mobilization and the remaining 25 percent shall be paid for demobilization. Release of payment for mobilization shall be based on payment installments, 25 percent paid on the first progress payment, with five 10% payments from the remaining 50 percent balance on the next five successive progress payments. Payment for demobilization shall occur after the Contractor receives written notification of substantial completion from the Engineer.

Item No. 2 Temporary Traffic Control

Traffic control work shall be performed in accordance with City of Sacramento Ordinance No. 2002-004, Section 7, “Prosecution and Progress” of the Standard Specifications, **Section 2.11 Maintenance of Traffic, Public Safety, and Convenience** and **Section 2.12 Removal of Street Parking** of these Special Provisions, as shown on the Contract Drawings, and as directed by the Engineer.

These activities include, but are not limited to, preparation of traffic control plans, furnishing, installing, and removing traffic control devices, including signs, Portable Changeable Message Signs (CMS), covers, lights, flares, cones, barricades, water-filled barriers, temporary striping, channelizing devices, flagmen, and other items necessary

for the safety, sole convenience, and direction of public traffic through and around the work area.

Payment for traffic control shall be at the contract lump sum (LS) price for traffic control and shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals, and for performing all work necessary to complete this item.

Item No. 3 Dewatering

Groundwater dewatering shall be performed in accordance with Section 16-1 and Section 26-2 of the Standard Specifications and **Section 3.07 Dewatering** of these Special Provisions. Work under this item shall include permitting, pumping, electrical connection and power costs required to dewater areas to effectuate a safe construction site and provide a dewatered work surface for the placement and curing of structural concrete and as required for the installation of the cured-in-place pipe liner. Work shall also include the treatment and disposal of water removed as part of the process.

Dewatering will be considered an allowance item. This item is for bidding purposes only. Actual payments shall be based on actual work completed, as verified by the Engineer.

Contractor shall plan to work collaboratively with the Engineer to control allowance costs and avoid impacts to the Progress Schedule. Contractor shall maintain accurate cost records which depict the total cost incurred for dewatering. Contractor shall monitor the dewatering item total costs to date and immediately report to the Engineer should the total cost to date reach 80% of the total allowance amount of any allowance item amount included in the bid. Should the total cost of any allowance item reach 80% of the total allowance amount budgeted, the Contractor shall quantify and forecast the cost to complete the remaining known allowance item tasks and submit this forecasted quantity and completion cost to the Engineer.

Payment for dewatering shall be done so through an allowance (ALLOW) amount of up to $250,000. The amount of money allocated is to cover the actual costs of furnishing all labor, materials, tools, and equipment and performing all work necessary to complete this bid item. The Contractor shall not exceed the allowance amounts set forth in this contract without written approval of the City. Should the Contractor exceed the allowance amounts without the written approval of the City, the Contractor will be responsible for all costs greater than the approved allowance amount. The City understands and agrees that the final billing for Dewatering may be more or less than the figure specified in this Contract, and that any adjustments will be made through contract change order.

Item No. 4 Sheeting, Shoring, and Bracing

Sheeting, shoring, and bracing shall be performed in accordance with **Section 3.02 Sheeting, Shoring, and Bracing** of these Special Provisions. Temporary facilities shall include all materials, labor, equipment, power, and maintenance to implement the necessary safety of the open-cut excavations in the work area for the duration of the work. The design and installation of the necessary systems, as well as the corresponding operation of the sheeting, shoring, and bracing system shall be the Contractor's

responsibility.

Payment for sheeting, shoring, and bracing shall be at the contract lump sum (LS) price bid and shall include full compensation for furnishing all labor, materials, submittals, engineering design, maintenance, equipment storage, equipment relocation, tools, equipment, and incidentals and for performing all work necessary to complete this item as specified in the Contract Drawings, these Special Provisions, the Standard Specifications, and as directed by the Engineer.

Item No. 5 Potholing

Payment shall be at the contract per each (EA) price basis for utility potholes, including potholes to locate the existing 72-inch force main and its vertical and horizontal angle points, and shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals and for performing all work necessary to complete this item in place including pavement cutting and removal, excavation, backfilling, and repaving or other surface restoration as specified in the Contract Drawings, these Special Provisions, and as directed by the Engineer.

Item No. 6 Pre-CIPP 72-inch FM Cleaning

Labor, materials, tools, equipment, and incidentals for performing work in accordance with **Section 3.14 Pipe Cleaning** of these Special Provisions. Pre-CIPP sewer cleaning includes, but is not limited to, sewer cleaning of the 72-inch force main to remove debris, grease, roots, and other materials that would prevent the proper installation of the CIPP liner (as defined and accepted by the Engineer); several passes, if necessary, with high-pressure jet cleaning equipment; use of root cutters or mechanical brushes attached to the jet nozzle and sent through the pipeline to remove root intrusions (as necessary); spoils removal from the pipeline; and spoils disposal. This pay item includes man-entry as necessary to complete cleaning to the satisfaction of the Engineer.

Pre-CIPP 72-inch FM Cleaning will be considered an allowance item. This item is for bidding purposes only. Actual payments shall be based on actual quantities installed, in-place, as measured and/or verified by the Engineer.

Contractor shall plan to work collaboratively with the Engineer to control allowance costs and avoid impacts to the Progress Schedule. Contractor shall maintain accurate cost records which depict the total cost incurred for pre-CIPP 72-inch FM cleaning. Contractor shall monitor the pre-CIPP 72-inch FM cleaning item total costs to date and immediately report to the Engineer should the total cost to date reach 80% of the total allowance amount of any allowance item amount included in the bid. Should the total cost of any allowance item reach 80% of the total allowance amount budgeted, the Contractor shall quantify and forecast the cost to complete the remaining known allowance item tasks and submit this forecasted quantity and completion cost to the Engineer.

Payment for pre-CIPP rehabilitation force main cleaning shall be done so through an allowance (ALLOW) amount of up to $525,000. The amount of money allocated to cover the actual costs of furnishing all labor, materials, tools, and equipment and performing all

work necessary to complete this bid item. The Contractor shall not exceed the allowance amounts set forth in this contract without written approval of the City. Should the Contractor exceed the allowance amounts without the written approval of the City, the Contractor will be responsible for all costs greater than the approved allowance amount. The City understands and agrees that the final billing for Dewatering may be more or less than the figure specified in this Contract, and that any adjustments will be made through contract change order.

Item No. 7 Pre-CIPP 72-inch FM CCTV Inspection

Labor, materials, tools, equipment, testing, measuring, and completing the work in accordance with **Section 3.09 Closed Circuit Television Inspection of Pipes** of these Special Provisions. Pre-CIPP CCTV inspection includes, but is not limited to, the work involved with CCTV inspection of the 72-inch force main after flow control has been set-up and is operational and prior to CIPP lining per these Special Provisions, and any other items not specifically enumerated in the Contract Documents, and no additional allowance will be made therefore. This bid item includes as many passes as necessary to obtain a complete CCTV inspection as per written acceptance by the Engineer for the entire force main alignment from manhole to manhole after flow control has been set-up and the force main has been cleaned, but prior to CIPP lining.

Payment for pre-CIPP rehabilitation CCTV inspection shall be at the per linear foot (LF) bid price and shall include full compensation for furnishing all labor, materials, submittals, equipment relocation, storage and maintenance, tools, equipment, and incidentals and for performing the work necessary to complete this item as specified in the Contract Drawings, these Special Provisions, and as directed by the Engineer.

Item No. 8 Cured-in-Place Pipe Rehabilitation of 72-inch FM

Labor, materials, tools, equipment, testing, measuring, and doing all of the work in accordance with **Section 3.25 Cured-in-Place Pipe** of these Special Provisions. Cured-in-Place Pipe (CIPP) liner rehabilitation includes, but is not limited to, permits (as required), public outreach, field measurements of the inside diameter of the pipeline, field locating the pipe including locations of existing manholes and vertical and horizontal angle points other than through potholing (See Bid Item No. 5), delivery of materials to the site, flushing and dewatering of host pipe, protection of existing conditions during installation work, confined space entry as necessary to complete the work, major and minor point repairs as identified on the Contract Drawings including filling the voids associated with MH 2A and MH 3A, infiltration repairs and other point repairs as needed prior to lining, construction and deconstruction of the watertight temporary bulkhead at N11, equipment and materials required for on-site impregnation of the liner, liner impregnation (over-the-hole wet-out), liner installation, liner curing, liner termination sealing at each access point and at MH 4A, MH 5A, MH 6A, MH 7A, MH A, MH B, MH C, and MH D, ~~installation of closure spools including bedding materials (excluding manhole installation associated with Bid Item 14)~~, materials testing of the liner, leakage testing of the lined force main, and other accessories as required for proper installation.

Payment for CIPP rehabilitation shall be at the per linear foot (LF) bid price and shall include full compensation for furnishing all labor, materials, submittals, equipment relocation, storage and maintenance, tools, equipment, and incidentals and for performing the work necessary to complete this item as specified in the Contract Drawings, these Special Provisions, and as directed by the Engineer.

Item No. 9 Lining Launch and Reception Locations with FRPMP Pipe Closures

Costs for furnishing labor, materials, tools, equipment, and incidentals for completing the work of establishing cured-in-place pipe on-site wet-out launch and reception locations including permits (as required), protection of existing trees, tree removal, temporary relocation of existing boulders and other landscaping, temporary removal and replacement of existing utilities, excavation, spoils disposal, confined space entry as necessary to complete the work, steel traffic plating, temporary fencing, cutting and removing the existing 72-inch FM, installation of FRPMP closure spools including installation of couplings, pressure testing of the newly installed FRPMP couplings, bedding, backfill, compaction, and doing all of the work involved for the CIPP lining launch and reception shaft locations. All work in this bid item shall be considered as included in the unit price at no additional compensation.

Installation of FRPMP closure spools is included in this Bid Item.

Installation of Carbon Fiber Wrap Overlay is included in Bid Item 10. Installation of new manholes is included in Bid Item 14. These items are excluded from this Bid Item.

Payment shall be at the unit price per each (EA) shaft location and shall include labor, materials, equipment, and incidentals necessary to excavate to the existing pipe, remove the existing pipe to facilitate CIPP installation, close the pipe, and backfill and complete surface restoration as specified on the Contract Drawings, these Special Provisions, the CSSS, and as directed by the Engineer.

Item No. 10 Carbon Fiber Wrap Overlay

Labor, materials, tools, equipment, testing, measuring, and doing all of the work in accordance with **Section 3.26 Carbon Fiber** Lining of these Special Provisions. Carbon Fiber Wrap installation includes, but is not limited to, liner design in accordance with these Special Provisions, delivery of materials to the site, confined space entry as necessary to complete the work, protection of existing conditions during installation, surface preparation, equipment and materials required for carbon fiber wrap application, and other accessories as required for proper installation. Carbon Fiber Wrap overlay shall be installed at the pipe closures as shown on the Contract Drawings and where carbon fiber wrap repairs are called for on the Contract Drawings and in these Special Provisions.

Payment for Carbon Fiber Wrap rehabilitation shall be at the per linear foot (LF) bid price and shall include full compensation for furnishing all labor, materials, submittals, equipment relocation, storage and maintenance, tools, equipment, and incidentals and for performing the work necessary to complete this item as specified in the Contract Drawings, these Special Provisions, and as directed by the Engineer.

Item No. 11 Post-CIPP 72-inch CCTV Inspection

Labor, materials, tools, equipment, testing, measuring, and doing all of the work in accordance with **Section 3.09 Closed Circuit Television Inspection of Pipes** of these Special Provisions. Post-CIPP CCTV inspection includes, but is not limited to, all of the work involved with CCTV inspection of the 72-inch force main while the flow control is operational and after CIPP lining has been completed in a given pipe segment. This bid item includes as many passes as necessary to obtain a complete CCTV inspection as per written acceptance by the Engineer for each entire pipeline segment from manhole to manhole.

Payment for post-CIPP rehabilitation CCTV inspection shall be at the per linear foot (LF) bid price and shall include full compensation for furnishing all labor, materials, submittals, equipment relocation, storage and maintenance, tools, equipment, and incidentals and for performing the work necessary to complete this item as specified in the Contract Drawings, these Special Provisions, and as directed by the Engineer.

Item No. 12 84-inch FM Cleaning

Labor, materials, tools, equipment, and incidentals for performing work in accordance with **Section 3.14 Pipe Cleaning** of these Special Provisions. 84-inch FM Cleaning includes, but is not limited to, sewer cleaning of the 84-inch combined sewer force main to remove debris, grease, roots, and other materials (as defined and accepted by the Engineer) after the 72 inch force main has been lined, structures have been rehabilitated or replaced, and flow has been placed back into the 72 inch force main. This bid item includes several passes, if necessary, with high-pressure jet cleaning equipment; use of root cutters or mechanical brushes attached to the jet nozzle and sent through the pipeline to remove root intrusions (as necessary); spoils removal from the pipeline; and spoils disposal. This pay item also includes man-entry as necessary to complete cleaning to the satisfaction of the Engineer.

Payment for 84-inch FM Cleaning shall be at the per linear foot (LF) bid price and shall include full compensation for furnishing all labor, materials, submittals, equipment relocation, storage and maintenance, hauling, disposal, tools, equipment, and incidentals and for performing the work necessary to complete this item as specified in the Contract Drawings, these Special Provisions, and as directed by the Engineer.

Item No. 13 84-inch FM CCTV Inspection

Labor, materials, tools, equipment, testing, measuring, and doing all of the work in accordance with **Section 3.09 Closed Circuit Television Inspection of Pipes** of these Special Provisions. CCTV inspection includes, but is not limited to, all of the work involved with CCTV inspection of the 84-inch force main after flow is returned to the 72-inch force main. This bid item includes as many passes as necessary to obtain a complete CCTV inspection as per written acceptance by the Engineer for the entire pipeline alignment from Sump 2A to the CWTP.

Payment for CCTV inspection shall be at the per linear foot (LF) bid price and shall include

full compensation for furnishing all labor, materials, submittals, equipment relocation, storage and maintenance, tools, equipment, and incidentals and for performing the work necessary to complete this item as specified in the Contract Drawings, these Special Provisions, and as directed by the Engineer.

Item No. 14 New Manholes A, B, C and D (within Shaft Excavation)

Costs for construction of new manholes (MH A, MH B, MH C, and MH D) as identified in the Contract Drawings. The bid price shall include, but is not limited to, supporting existing utilities (as required), excavation, removal of existing 72-inch force main (as needed and where not already removed under other Bid Items), furnishing and installing manhole barrels, cones, risers, sections, collars, and covers, forming and installing reinforced concrete bases, metal castings, water stops, imported bedding and backfill material, compaction, grouting, erosion and sediment control measures, inspection and testing, surface restoration and clean-up, and all work associated with the installation of manholes that is not included as part of other Bid Items.

Payment shall be at the unit price per each (EA) manhole and shall include labor, materials, equipment, and incidentals necessary to install the new manhole per the Contract Drawings, these Special Provisions, the Standard Specifications, and as directed by the Engineer.

Item No. 15 Manhole Rehabilitation

Labor, materials, tools, equipment, testing, measuring, and doing the work in accordance with **Section 3.22 Manhole Repair**, and **Section 3.23 Epoxy Lining Manhole Rehabilitation** or **Section 3.24 Calcium Aluminate Mortar Lining** of these Special Provisions. Manhole rehabilitation includes, but is not limited to, all of the work involved in rehabilitation of the existing concrete manholes (MH4A, MH5A, MH6A, and MH7A) as shown on the Contract Drawings. The bid price shall include but not be limited to furnishing all labor, materials, tools and equipment, testing and measuring, confined space entry, and doing the work involved in cleaning the existing manhole, legal disposal of any existing equipment called for in the Contract Documents, preparing the surface and completing repairs on vertical and horizontal surfaces, as applicable; removal of existing manhole cones and/or riser; furnishing and installing flat top slabs as required; furnishing and installing the manhole repair products and epoxy or calcium aluminate lining system on the manhole interior surface; replacement or refurbishment of manhole lids; gas monitoring, control measures, traffic control measures, inspection and testing; installation of erosion control measures (i.e. straw wattles) as necessary and required; surface restoration and clean-up; and all work associated with rehabilitating the manhole with epoxy lining that is not included as part of other Bid Items.

Payment shall be at the unit price bid per each (EA) manhole rehabilitated and shall include all labor, materials, equipment and incidentals necessary to construct this item complete in place including furnishing and placing necessary materials, and testing as specified on the Contract Drawings, these Special Provisions, and as directed by the Engineer.

Item No. 16 Blowoff Replacement

Costs for furnishing labor, materials, tools, equipment, and incidentals, and for doing the work involved in open cut construction of the Ductile Iron Pipe (DIP) 12-inch sanitary sewer force main blowoff replacement, including, but not limited to: removal and replacement of the valve assembly, valve box and cover, and appurtenances, as shown and described in the Contract Documents, and restoring features of the property that were affected by construction. Work includes dewatering the 72-inch force main from Sump 2 to manhole MH462 as shown and described in the Contract Documents. This work also includes surveying and staking, temporary fencing, protection of or removal and replacement of existing utilities and other improvements, site preparation, excavation, trenching, bedding material, temporary storage and disposal of excess materials, furnishing pipe and fittings, pipe installation, pipe appurtenances including, but not limited to isolation valves and blowoffs, testing, import of backfill material (as required), backfill, compaction, finish grading, erosion control, surface restoration, temporary paving work, and clean-up.

Finished pavement and surfacing, pavement restoration, surfacing and striping, including pre-construction location recording of traffic delineation items, replacement of traffic delineation, restoring sidewalks, curb and gutter, and clean-up as shown and specified in the Contract Documents and as directed by the City shall be paid separately under Bid Item 17.

Payment for this Bid Item shall be by lump sum (LS) which price named on the Bid Schedule under this Bid Item shall constitute full compensation for completion of all such Work as required per the Contract Documents. Payment will be made for the work completed in proportion to the total value of the work for this Bid Item.

Item No. 17 Site Restoration and Vehicle Gate Installation

Costs for furnishing labor, materials, tools, equipment and incidentals to remove and replace damaged concrete and asphalt improvements, including though not limited to driveways, sidewalks, and curb and gutters, finished pavement and surfacing, pavement restoration, surfacing and striping, including pre-construction location recording of traffic delineation items, and replacement of traffic delineation. Bid item also includes work to replace trees, sod, shrubs, fencing, the Del Rio Trail, restoration as required at the Partner Park Dog Park, other landscape improvements, and work to install the new double-swing tubular steel gate at Partner Park Dog Park, as shown and described in the Contract Documents and as directed by the City. The cost to obtain and comply with the City of Sacramento tree permit(s) shall also be paid under this bid item.

Payment for this Bid Item shall be by lump sum (LS) which price named on the Bid Schedule under this Bid Item shall constitute full compensation for completion of all such Work as required per the Contract Documents. Payment will be made for the work completed in proportion to the total value of the work for this Bid Item.

Item No. 18 N11 Bypass

Costs for labor, materials, tools and equipment, and doing all the work involved in setting up and dismantling a bypass pumping system as described herein and shown on the Contract Documents, including but not limited to notification; development of emergency plans; bypass system design; mobilization; bypass system set-up; plugs (as required); standby pump(s); temporary power source; system testing; 24-hour bypass system monitoring; above and below ground discharge installations; excavation; manhole components removal and replacement (as necessary); spoils disposal; trenching; steel plating (if needed); temporary ramps for driveway and sidewalk/path crossings (as needed and allowed); temporary trench paving associated with bypass pumping efforts; temporary fencing; removal and reinstatement of existing fencing as necessary; sand bags; and all efforts required to return surface conditions to pre-project condition, bypass system dismantling and shipping; any other items necessary for a Bypass Pumping system not specifically enumerated in these Special Provisions, and no additional allowance will be made therefor.

The estimated bypass piping quantities shown on the Contract Documents are for bidding purposes only. This quantity may be increased or decreased based on field condition evaluation by the Contractor, and no adjustment in the contract bid price or other contract items will be made therefor.

Payment for this Bid Item shall be by lump sum (LS) which price named on the Bid Schedule under this Bid Item shall constitute full compensation for completion of all such Work as required per the Contract Documents. Payment will be made for the work completed in proportion to the total value of the work for this Bid Item.

Item No. 19 Hazardous Waste Handling, Testing, Stockpiling, Hauling, and Disposal – Kettleman Hills (Revocable)

Costs for labor, materials, tools, equipment and incidentals for doing all work involved per the Contract Documents. Measurement for this bid item shall be made per cubic yard of contaminated sediment handled, stockpiled, tested, hauled and removed from the combined sewer and/or excavated soils required to complete the work. This item includes costs for disposal of contaminated materials at the Kettleman Hills Hazardous Waste Facility per the Contract Documents. All work in this Bid Item shall be considered as included in the unit price at no additional compensation.

Item No. 20 Storm Water Pollution Prevention Plan (SWPPP) Compliance

Payment for SWPPP shall be a lump sum (LS) basis, and shall constitute full compensation for furnishing all labor, materials, tools, equipment, and incidentals for doing the work involved in installing and maintaining storm water BMPs for the duration of the project, as specified herein and as directed by the Engineer and no additional compensation shall be allowed therefor. The work performed, including preparing, obtaining approvals, revising and amending the project SWPPP, installing, constructing, operating, maintaining, removing and disposing of all BMPs specified in the project SWPPP and as required by applicable codes and in strict accordance with the State Water Board and their National Pollutant Discharge Elimination System General Permit

for Stormwater Discharges Associated with Construction and Land Disturbance Activities (CGP) Order WQ 2022-0057-DWQ, maintenance of storm water and non-storm water BMPs throughout the duration of the work, preparing a storm water annual report, and job site management. These requirements apply to offsite storage yards or construction laydown areas used for this project. The lump sum bid price shall include payment of application and annual fees required by the Regional Water Quality Control Board until the date of the project's substantial completion, and no additional compensation shall be allowed therefor.

****END OF SPECIAL PROVISIONS****

REIMBURSEMENT AGREEMENT BETWEEN THE CITY OF SACRAMENTO AND THE SACRAMENTO AREA SEWER DISTRICT FOR THE N29 FORCE MAIN REHABILITATION PROJECT

THIS AGREEMENT is made and entered into on _____ by and between the SACRAMENTO AREA SEWER DISTRICT, a county sanitation district pursuant to and operating under the authority of the County Sanitation District Act, commencing at Health and Safety Code section 4700 et.seq., hereinafter referred to as "SacSewer," and the CITY OF SACRAMENTO, a municipal corporation and charter city, hereinafter referred to as "CITY". Each of the foregoing agencies is herein referred to in the singular as a "Party" and collectively as the "Parties."

RECITALS

WHEREAS, on November 1, 1974, the Sacramento Regional County Sanitation District, the predecessor entity to the current entity now known as the Sacramento Area Sewer District, and CITY entered into an agreement entitled "Sacramento Regional Wastewater Management Program Master Interagency Agreement," which agreement, including all subsequent amendments thereto, is hereafter referred to as the "1974 Master Interagency Agreement"; and

WHEREAS, in accordance with Section 28 of the 1974 Master Interagency Agreement, SacSewer designed, financed and constructed facilities known as the "Combined Wastewater Control System" (also referred to herein as the "CWCS") for pumping, storage, treatment and rediversion of combined wastewater flows collected by the CITY's combined sewer system; and

WHEREAS, Section 29 of the 1974 Master Interagency Agreement provides for CITY operation and maintenance of the CWCS facilities, because it is most efficient for the CITY to operate and maintain certain wastewater facilities that are owned by SacSewer, and authorizes SacSewer to lease the facilities to CITY; and

WHEREAS, on November 25, 1980, SacSewer and CITY entered into an agreement regarding the operation and maintenance of the CWCS, titled "Agreement Regarding the Operation and Maintenance of The Combined Wastewater Control System and Natomas Area Pump Stations and Ownership Transfer Of Certain Facilities," which agreement is hereafter referred to as the "1980 Operating Agreement"; and

WHEREAS, on October 29, 2013, in a desire to update and replace the 1980 Operation Agreement, to specify and clarify operation and maintenance responsibility and expectations for shared wastewater facilities, and to provide for certain flow and cost allocations, and related reimbursements, SacSewer and the CITY terminated the 1980 Operation Agreement and entered into an agreement titled "Wastewater Operating Agreement between the Sacramento Regional County Sanitation District and City of Sacramento," which agreement is hereafter referred to as the "Operating Agreement"; and

WHEREAS, on November 15, 2021, in a desire to update and restate the 1974 Master Interagency Agreement, SacSewer and the CITY, along with other Contributing Agencies, entered into an agreement titled "Sacramento Regional Wastewater Management Program Master Interagency Agreement," which agreement is hereafter referred to as the "Master Interagency Agreement"; and

WHEREAS, the CWCS includes some SacSewer interceptor facilities that serve the CITY, including the 72-inch force main between the Sump 2 sanitary sewer conveyance facility and the N-12 Interceptor Valve Structure, hereinafter referred to as the "N29 Force Main" or "Del Rio Trail Force Main", and, pursuant to the Operation Agreement, SacSewer is responsible for all costs associated with the upkeep and rehabilitation of the subject wastewater facilities; and

WHEREAS, in 2023, the CITY identified a need to rehabilitate the N29 Force Main as it conveys the CITY's combined wastewater from the Sump 2 facility to the Combined Wastewater Treatment Plant ("CWTP"); and

WHEREAS, the CITY determined that the N29 Force Main needs to be replaced, for a total estimated cost of $22,392,209; and

WHEREAS, SacSewer and CITY desire to agree upon the payment to the CITY for their expenses of completing the N29 Force Main Rehabilitation project ("Project"), including engineering (design), construction, contract administration, inspection, and related project costs.

NOW, THEREFORE, in consideration of the mutual promises hereinafter set forth, SacSewer and CITY agree as follows:

1. SCOPE OF SERVICES

SacSewer and CITY shall provide services in the amount, type and manner described in Exhibit A, which is attached hereto and incorporated herein.

2. TERM

This Agreement shall be effective and commence as of the date first written above and shall remain in effect until all services covered by this Agreement are completed, which is estimated to be March 31, 2027.

3. NOTICE

Any notice, demand, request, consent, or approval that either party hereto may or is required to give the other pursuant to this Agreement shall be in writing and shall be either personally delivered or sent by mail, addressed as follows:

TO SACSEWER:	**TO CITY:**
Attn: Contracts Payment Desk Sacramento Area Sewer District 10060 Goethe Rd.	Attn: Angelo Vasquez City of Sacramento Department of Utilities

Sacramento, CA 95827

1395 35th Avenue
Sacramento, CA 95822

Either party may change the address to which subsequent notice and/or other communications can be sent by giving written notice designating a change of address to the other party, which shall be effective upon receipt.

4. COMPLIANCE WITH LAWS

CITY shall observe and comply with all applicable federal, state, and county and SacSewer laws, regulations and ordinances.

5. GOVERNING LAWS AND JURISDICTION

This Agreement shall be deemed to have been executed and to be performed within the State of California and shall be construed and governed by the internal laws of the State of California. Any legal proceedings arising out of or relating to this Agreement shall be brought in Sacramento County, California.

6. PERFORMANCE STANDARDS

CITY shall perform its services under this Agreement in accordance with the industry and/or professional standards applicable to CITY's services.

7. RESPONSIBILIY OF CITY

The CITY shall be solely responsible for the quality and accuracy of its work and the work of its contractors and consultants performed in connection with this Agreement. Any review, approval, or concurrence therewith by SacSewer shall not be deemed to constitute acceptance or waiver by SacSewer of any error or omissions as to such work.

8. RESPONSIBILITY OF SACSEWER

SacSewer shall furnish information and render services as required by this Agreement, and shall review documents, render decisions and perform other actions hereunder as expeditiously as is reasonably necessary under the circumstances at the time, for the orderly progress of the CITY's services and Project.

9. CONFLICT OF INTEREST

The CITY certifies that it has disclosed to SacSewer any actual, apparent, or potential conflicts of interest that may exist relative to the services to be provided pursuant to this Agreement. The CITY hereby agrees to advise SacSewer of any actual, apparent, or potential conflicts of interest that may develop subsequent to the date of execution of this Agreement.

10. NONDISCRIMINATION IN EMPLOYMENT, SERVICES, BENEFITS AND FACILITIES

A. CITY agrees and assures SacSewer that CITY and any of its contractors, consultants, and their subcontractors and subconsultants, shall comply with all applicable federal, state, and local Anti-discrimination laws, regulations, and ordinances and to not unlawfully discriminate, harass, or allow harassment against any employee, applicant for

employment, employee or agent of SacSewer, or recipient of services contemplated to be provided or provided under this Agreement, because of race, ancestry, marital status, color, religious creed, political belief, national origin, ethnic group identification, sex, sexual orientation, age (over 40), medical condition (including HIV and AIDS), or physical or mental disability. CITY shall ensure that the evaluation and treatment of its employees and applicants for employment, the treatment of SacSewer employees and agents, and recipients of services are free from such discrimination and harassment.

B. CITY represents that it is in compliance with and agrees that it will continue to comply with the Americans with Disabilities Act of 1990 (42 U.S.C. § 12101 et seq.), the Fair Employment and Housing Act (Government Code § 12900 et seq.), and regulations and guidelines issued pursuant thereto.

C. CITY agrees to compile data, maintain records and submit reports to permit effective enforcement of all applicable anti-discrimination laws and this provision.

D. CITY shall include this nondiscrimination provision in all subcontracts related to this Agreement.

11. INDEMNIFICATION

A. To the fullest extent permitted by law, for work or services (including professional services), provided under this Agreement, CITY shall indemnify, defend, and hold harmless, SACRAMENTO AREA SEWER DISTRICT, its governing Boards, officers, directors, officials, employees, and authorized volunteers and agents (each, an "Indemnified Party," and collectively "Indemnified Parties"), from and against any and all claims, demands, actions, losses, liabilities, damages, and all expenses and costs incidental thereto (collectively "Claims"), including cost of defense, settlement, arbitration, expert fees, and reasonable attorneys' fees, resulting from injuries to or death of any person, including employees of either party hereto, and damage to or destruction of property, or loss of use or reduction in value thereof, including the property of either party hereto, and recovery of monetary losses incurred by the Indemnified Parties directly attributable to the performance of CITY, arising out of, pertaining to, or resulting from the negligent acts, errors, omissions, recklessness, or willful misconduct of CITY, its employees, or CITY's contractors or consultants, or subconsultants or subcontractors at any tier, or any other party for which CITY is legally liable under law; provided that the foregoing indemnity does not apply to liability for any damages for death or bodily injury to persons, injury to property, or other loss, damage, or expense, to the extent arising from the negligence or willful misconduct of SACRAMENTO AREA SEWER DISTRICT, its agents, servants, or independent contractors who are directly responsible to SACRAMENTO AREA SEWER DISTRICT.

B. The right to defense and indemnity under this indemnity obligation arises upon occurrence of an event giving rise to a Claim and, thereafter, upon tender in writing to CITY. Upon receipt of tender, CITY shall provide prompt written response that it accepts tender. Failure to accept tender may be grounds for termination of the Agreement. CITY

shall control the defense of Indemnified Parties; subject to using counsel reasonably acceptable to Indemnified Parties. Both parties agree to cooperate in the defense of a Claim.

C. To the fullest extent permitted by law, this indemnity obligation shall not be limited by the types and amounts of insurance or self-insurance maintained by CITY or CITY's contractors or consultants, or subconsultants or subcontractors at any tier.

D. Nothing in this indemnity obligation shall be construed to create any duty to, any standard of care with reference to, or any liability or obligation, contractual or otherwise, to any third party.

E. The provisions of this indemnity obligation shall survive the expiration or termination of the Agreement.

12. INSURANCE

The CITY, at its sole cost and expense, shall carry insurance, or self-insure, its activities in connection with this Agreement, and obtain, keep in force and maintain, insurance or equivalent programs of self-insurance as described in Exhibit B. Failure to maintain insurance as required in this Agreement is material breach of contract and may be grounds for termination of the Agreement.

13. COMPENSATION AND PAYMENT OF INVOICES LIMITATIONS

A. Compensation under this Agreement shall be limited to the Maximum Total Payment Amount set forth in Exhibit C, or Exhibit C as modified by SacSewer in accordance with express provisions in this Agreement.

B. In the event that actual costs are anticipated to exceed or do exceed the Maximum Total Payment Amount, CITY and SacSewer shall promptly meet and confer in good faith to determine whether an adjustment to the Maximum Total Payment Amount is appropriate. Any agreement to increase the Maximum Total Payment Amount must be documented in writing and executed through a formal amendment to this Agreement prior to reimbursement of any additional costs.

C. CITY shall submit an invoice in accordance with the procedures prescribed by SacSewer on a quarterly basis, upon completion of services, for services provided in the prior quarter. Invoices shall be submitted to SacSewer no later than the fifteenth (15th) day following the invoice period, and SacSewer shall pay CITY within thirty (30) days after receipt of an appropriate and correct invoice.

D. CITY shall maintain for four years following termination of this Agreement full and complete documentation of all services and expenditures associated with performing the services covered under this Agreement. Expense documentation shall include: time sheets or payroll records for each employee; receipts for supplies; applicable subcontract expenditures; applicable overhead and indirect expenditures.

E. In the event CITY fails to comply with any provisions of this Agreement, SacSewer may withhold payment until such non-compliance has been corrected.

14. AMENDMENT AND WAIVER

Except as provided herein, no alteration, amendment, variation, or waiver of the terms of this Agreement shall be valid unless made in writing and signed by both parties. Waiver by either party of any default, breach or condition precedent shall not be construed as a waiver of any other default, breach or condition precedent, or any other right hereunder. No interpretation of any provision of this Agreement shall be binding upon SacSewer unless agreed in writing by the District Engineer and counsel for SacSewer nor upon the CITY unless agreed in writing by the City Manager and counsel for the CITY.

15. SUCCESSORS

This Agreement shall bind the successors of SacSewer and CITY in the same manner as if they were expressly named.

16. TIME

Time is of the essence of this Agreement.

17. INTERPRETATION

This Agreement shall be deemed to have been prepared equally by both of the parties, and the Agreement and its individual provisions shall not be construed or interpreted more favorably for one party on the basis that the other party prepared it.

18. DISTRICT ENGINEER

As used in this Agreement, "District Engineer" shall mean the District Engineer of the Sacramento Area Sewer District, or his designee.

19. DISPUTES

In the event of any dispute arising out of or relating to this Agreement, the parties shall attempt, in good faith, to promptly resolve the dispute mutually between them. If the dispute cannot be resolved by mutual agreement, nothing herein shall preclude either party's right to pursue remedy or relief by civil litigation, pursuant to the laws of the State of California.

20. TERMINATION

A. Either Party may terminate this Agreement for cause immediately upon giving written notice to the other Party should the other Party materially fail to perform any of the covenants contained in this Agreement in the time and/or manner specified. In the event of such termination, SacSewer may proceed with the work in any manner deemed proper by SacSewer. If notice of termination for cause is given by the terminating Party and it is later determined that the other Party was not in default or the default was excusable, then the notice of termination shall be deemed to have been given without cause.

B. SacSewer may terminate or amend this Agreement immediately upon giving written notice to CITY, 1) if advised that funds are not available from external sources for this Agreement or any portion thereof, including if distribution of such funds to SacSewer is suspended or delayed; 2) if funds for the services and/or programs provided pursuant to

this Agreement are not appropriated by the State; 3) if funds in SacSewer's yearly proposed and/or final budget are not appropriated by SacSewer for this Agreement or any portion thereof; or 4) if funds that were previously appropriated for this Agreement are reduced, eliminated, and/or re-allocated by SacSewer as a result of mid-year budget reductions.

C. If this Agreement is terminated under paragraph B above, CITY shall be paid for authorized and approved services performed prior to the termination date in accordance with the provisions of the Compensation and Payment of Invoices Limitations provision of this Agreement.

D. The District Engineer has authority to terminate this Agreement under paragraphs A or B above.

21. AUDITS AND RECORDS

A. Upon SacSewer's request, SacSewer or its designee shall have the right at reasonable times and intervals to audit, at CITY's premises, CITY's financial and program records as SacSewer deems necessary to determine CITY's compliance with legal and contractual requirements and the correctness of claims submitted by CITY. CITY shall maintain such records for a period of four years following termination of the Agreement, and shall make them promptly available for copying upon SacSewer's request at SacSewer's expense. SacSewer shall have the right to withhold any payment under this Agreement until CITY has provided access to CITY's financial and program records related to this Agreement.

B. CITY recognizes that SacSewer records are accessible to the public, and must be made promptly available to a requestor, and CITY agrees to provide the appropriate facilities and services in full compliance with the California Public Records Act when directed by SacSewer to do so. CITY will follow SacSewer guidance and instruction in the case of any Public Records Act requests. If this Agreement is terminated before the completion of the project, the CITY shall promptly provide options to SacSewer for the disposition of its records. This provision shall survive in the event of termination of this Agreement.

22. PRIOR AGREEMENTS

This Agreement constitutes the entire contract between SacSewer and CITY regarding the subject matter of this Agreement. Any prior agreements, whether oral or written, between SacSewer and CITY regarding the subject matter of this Agreement are hereby terminated effective immediately upon full execution of this Agreement.

23. SEVERABILITY

If any term or condition of this Agreement or the application thereof to any person(s) or circumstance is held invalid or unenforceable, such invalidity or unenforceability shall not affect other terms, conditions, or applications which can be given effect without the invalid term, condition, or application; to this end the terms and conditions of this Agreement are declared severable.

24. FORCE MAJEURE

Neither CITY nor SacSewer shall be liable or responsible for delays or failures in performance resulting from events beyond the reasonable control of such party and without fault or negligence of such party. Such events shall include but not be limited to acts of God, strikes, lockouts, riots, acts of war, epidemics, acts of government, fire, power failures, nuclear accidents, earthquakes, unusually severe weather, acts of terrorism, or other disasters, whether or not similar to the foregoing, and acts or omissions or failure to cooperate of the other party or third parties (except as otherwise specifically provided herein).

25. SURVIVAL OF TERMS

All services performed and deliverables provided pursuant to this Agreement are subject to all of the terms, conditions, price discounts and rates set forth herein, notwithstanding the expiration of the initial term of this Agreement or any extension thereof. Further, the terms, conditions and warranties contained in this Agreement that by their sense and context are intended to survive the completion of the performance, cancellation or termination of this Agreement shall so survive.

26. DUPLICATE COUNTERPARTS

This Agreement may be executed in duplicate counterparts. The Agreement shall be deemed executed when it has been signed by both parties.

27. AUTHORITY TO EXECUTE

Each person executing this Agreement represents and warrants that he or she is duly authorized and has legal authority to execute and deliver this Agreement for or on behalf of the parties to this Agreement. Each party represents and warrants to the other that the execution and delivery of the Agreement and the performance of such party's obligations hereunder have been duly authorized.

(SIGNATURE PAGE FOLLOWS)

IN WITNESS WHEREOF, the parties hereto have caused this Agreement to be duly executed as of the day and year first written above.

SACRAMENTO AREA SEWER DISTRICT, a county sanitation district pursuant to and operating under the authority of the County Sanitation District Act, commencing at Health and Safety Code section 4700 et.seq.

By: _____
Christoph Dobson, District Engineer

Date: _____

CITY OF SACRRAMENTO, a municipal corporation and charter city

By: _____

Name: Ryan Moore

Title: Assistant City Manager

Date: _____

Agreement Approved by the Board of Directors with Authority Delegated to the District Engineer to execute the Agreement on behalf of SacSewer.

Agenda Date: _____

Item Number: _____

Resolution No.: _____

THIS AGREEMENT FORMAT HAS BEEN APPROVED BY DISTRICT COUNSEL

By: _____ Date: _____
Diane McElhern
District Counsel

Prepared by: _____
Alexander Montes, Senior Contract Services Officer
Finance Department

EXHIBIT A to Agreement
Between SACRAMENTO AREA SEWER DISTRICT
and CITY OF SACRAMENTO

SCOPE OF SERVICES

1. CITY'S RESPONBILITIES:

A. CITY shall design and construction of the N29 Force Man Rehabilitation Project, which include, but are not limited to, the following responsibilities:

(1) Administer and manage professional services agreements with qualified engineering and environmental firms to provide construction management and environmental monitoring services for the Project in accordance with the CITY's contracting procedures and requirements.

(2) Administer and manage a construction contract with a qualified contractor to construct the Project in accordance with the CITY's contracting procedures and requirements. To the extent practicable, the CITY shall submit all supplemental agreements or change orders between the CITY and their qualified construction contractor to SacSewer for its review and comment prior to being approved by the CITY.

(3) Pay the Project Construction Costs and issue detailed itemized invoices to SacSewer on a monthly basis, or on such other basis as may be agreed to by the Parties, for reimbursement of Project Costs.

(4) Upon completion or termination of the Project, the CITY will prepare an accounting of all costs incurred for the Project. SacSewer shall have the right, during the CITY's normal business hours, for a period of three (3) years after completion of the Project, to audit the CITY's books and accounts for the Project Costs billed to County and SacSewer under this Agreement.

2. SACSEWER'S RESPONBILITIES:

A. SacSewer shall pay to CITY actual and incurred costs by the CITY for project costs, including construction, contract administration, inspection and related costs, up to and including the completion of the Project.

3. PUBLICATION OF DOCUMENTS AND DATA

CITY shall not publish, or disclose to any third party, documents, data, or any confidential information relative to the work of SacSewer without the prior written consent of SacSewer, however, submission or distribution to meet official regulatory requirements, or for other purposes authorized by this Agreement, shall not be construed as publication in derogation of the rights of either SacSewer or CITY.

4. PROJECT PERSONNEL

Key contacts for this project shall be as follows:

SacSewer:	**CITY**:
NAME: Jared Wagoner	NAME: Angelo Vasquez
PHONE: (916) 875-1254	PHONE: (916) 808-1701
E-MAIL: wagonerja@sacsewer.com	E-MAIL: arvasquez@cityofsacramento.org

EXHIBIT B to Agreement between SACRAMENTO AREA SEWER DISTRICT and CITY OF SACRAMENTO

SACSEWER INSURANCE REQUIREMENTS

Without limiting CITY's indemnification, CITY shall procure and maintain for the duration of the Agreement, insurance against claims for injuries to persons or damages to property which may arise from or in connection with the performance of the Agreement by CITY, its agents, representatives, or employees. SacSewer shall retain the right at any time to review the coverage, form, and amount of the insurance required hereby. If in the opinion of SacSewer Risk Manager, insurance provisions in these requirements do not provide adequate protection for SacSewer and for members of the public, SacSewer may require CITY to obtain insurance sufficient in coverage, form and amount to provide adequate protection. SacSewer's requirements shall be reasonable but shall be imposed to assure protection from and against the kind and extent of risks that exist at the time a change in insurance is required.

1. Verification of Coverage

CITY shall furnish SacSewer with certificates evidencing coverage required below. Copies of required endorsements must be attached to certificates provided. SacSewer Risk Manager may approve self-insurance programs in lieu of required policies of insurance if, in the opinion of the Risk Manager, the interests of SacSewer and general public are adequately protected. All certificates, evidences of self-insurance, and additional insured endorsements are to be received and approved by SacSewer before performance commences. SacSewer reserves the right to require that CITY provide complete copies of any policy of insurance including endorsements offered in compliance with these specifications.

2. Minimum Scope of Insurance

Coverage shall be at least as broad as:

A. GENERAL LIABILITY: Insurance Services Office's Commercial General Liability occurrence coverage form CG 0001. Including, but not limited to Premises/Operations, Products/Completed Operations, Contractual, and Personal & Advertising Injury, without additional exclusions or limitations, unless approved by SacSewer Risk Manager.

B. AUTOMOBILE LIABILITY: Insurance Services Office's Commercial Automobile Liability coverage form CA 0001. Commercial Automobile Liability: auto coverage symbol "1" (any auto) for corporate/business owned vehicles. If there are no owned or leased vehicles, symbols 8 and 9 for non-owned and hired autos shall apply. Personal Lines automobile insurance shall apply if vehicles are individually owned.

C. WORKERS' COMPENSATION: Statutory requirements of the State of California and Employer's Liability Insurance.

D. PROFESSIONAL LIABILITY or Errors and Omissions Liability insurance appropriate to CITY's profession.

E. POLLUTION LIABILITY (INCLUDING CONTRACTORS POLLUTION LIABILITY OR ENVIRONMENTAL IMPAIRMENT LIABILITY): Coverage shall include, but not be limited to, bodily injury, property damage, cleanup costs, defense expenses, and loss arising from the actual, alleged, or threatened discharge, dispersal, release, or escape of pollutants (including, but not limited to, smoke, vapors, soot, fumes, acids, alkalis, toxic chemicals, waste materials, and other irritants, contaminants, or hazardous substances) into or upon land, the atmosphere, or any watercourse or body of water. Coverage shall apply to sudden and accidental as well as gradual pollution conditions, whether occurring on, at, under, or migrating from any site owned, occupied, leased, or used by the insured in the performance of this Agreement.

If the CIYU or its contractors, consultants, subcontractors, or subconsultants perform work involving environmental sampling, remediation, or handling of hazardous materials, such policy shall also cover transportation and disposal of pollutants and include coverage for third-party claims arising from those activities.

F. BUILDERS' RISK INSURANCE shall cover the project for loss or damage due to all risks of physical damage or loss, land movement and flood.

G. UMBRELLA or Excess Liability policies are acceptable where the need for higher liability limits is noted in the Minimum Limits of Insurance and shall provide liability coverages that at least follow form over the underlying insurance requirements where necessary for Commercial General Liability, Commercial Automobile Liability, Employers' Liability, and any other liability coverage (other than Professional Liability) designated under the Minimum Scope of Insurance.

3. <u>Minimum Limits of Insurance</u>

CITY shall maintain limits no less than:

A. General Liability shall be on an Occurrence basis (as opposed to Claims Made basis). Minimum limits and structure shall be:

(1) General Aggregate:	$2,000,000
(2) Products Comp/Op Aggregate:	$2,000,000
(3) Personal & Adv. Injury:	$2,000,000
(4) Each Occurrence:	$2,000,000

B. Automobile Liability:

(1) Commercial Automobile Liability for Corporate/business owned vehicles including non-owned and hired, $2,000,000 Combined Single Limit.

(2) Personal Lines Automobile Liability for Individually owned vehicles, $250,000 per person, $500,000 each accident, $100,000 property damage.

C. Workers' Compensation: Statutory coverage. CITY may provide a letter of self-insurance to comply with the workers' compensation insurance requirement.

D. Employer's Liability: $1,000,000 per accident for bodily injury or disease.

E. Professional Liability or Errors and Omissions Liability: $2,000,000 per claim and aggregate.

F. Pollution Liability: $1,000,000 per claim and aggregate.

G. Builders' Risk Insurance: limits of liability equal to one hundred percent (100%) of the replacement cost of the Project, which shall include the cost of materials and the cost of labor to install materials.

4. Deductibles and Self-Insured Retention

Any deductible or self-insured retention that apply to any insurance required by this Agreement must be declared and accepted by SacSewer.

5. Claims Made Professional Liability and Pollution Insurance

If professional liability or Pollution coverage is written on a Claims Made form:

A. The "Retro Date" must be shown, and must be on or before the date of the Agreement or the beginning of Agreement performance by CITY.

B. Insurance must be maintained and evidence of insurance must be provided for at least one (1) year after completion of the Agreement.

C. If coverage is cancelled or non-renewed, and not replaced with another claims made policy form with a "Retro Date" prior to the contract effective date, CITY must purchase "extended reporting" coverage for a minimum of one (1) year after completion of the Agreement.

6. Other Insurance Provisions

The insurance policies required in this Agreement are to contain, or be endorsed to contain, as applicable, the following provisions:

A. All Policies:

(1) ACCEPTABILITY OF INSURERS: Insurance is to be placed with insurers with a current A.M. Best's rating of no less than A-: VII. SACRAMENTO AREA SEWER DISTRICT Risk Manager may waive or alter this requirement, or accept self-insurance in lieu of any required policy of insurance if, in the opinion of the Risk Manager, the interests of SACRAMENTO AREA SEWER DISTRICT and the general public are adequately protected.

(2) MAINTENANCE OF INSURANCE COVERAGE: The CITY shall maintain all insurance coverages and limits in place at all times and provide SACRAMENTO AREA SEWER DISTRICT with evidence of each policy's renewal within ten (10) days after its anniversary date. CITY is required by this Agreement to immediately notify SACRAMENTO AREA SEWER DISTRICT if they receive a

communication from their insurance carrier or agent that any required insurance is to be canceled, non-renewed, reduced in scope or limits (except for reduction due to claims), or otherwise materially changed. CITY shall provide evidence that such cancelled or non-renewed or otherwise materially changed insurance has been replaced or its cancellation notice withdrawn without any interruption in coverage, scope, or limits. Failure to maintain required insurance in force shall be considered a material breach of the Agreement.

B. Commercial General Liability and/or Commercial Automobile Liability:

(1) ADDITIONAL INSURED STATUS: SACRAMENTO AREA SEWER DISTRICT, and the County of Sacramento and their governing Boards, officers, directors, officials, employees, and authorized volunteers and agents (each an "Additional Insured Party," and collectively "Additional Insured Parties"), are to be included as additional insureds as respects: liability arising out of activities performed by or on behalf of CITY in the performance of work; products and completed operations of CITY; premises owned, occupied or used by CITY in the performance of the work; or automobiles owned, leased, hired or borrowed by CITY. The coverage shall contain no endorsed limitations on the scope of protection afforded to the Additional Insured Parties.

(2) PRIMARY INSURANCE: For any claims related to this agreement, CITY's insurance coverage shall be primary insurance as respects any insurance or self-insurance maintained by the Additional Insured Parties. Any insurance or self-insurance maintained by the Additional Insured Parties shall be excess of CITY's insurance and shall not contribute with it.

(3) SEVERABILITY OF INTEREST: CITY's insurance shall apply separately to each insured against whom claim is made or suit is brought, except with respect to the limits of the insurer's liability.

(4) SUBCONTRACTORS: CITY shall be responsible for the acts and omissions of all its subcontractors and additional insured endorsements as provided by CITY's subcontractor.

C. Professional Liability:

PROFESSIONAL LIABILITY PROVISION: Any professional liability or errors and omissions policy required hereunder shall apply to any claims, losses, liabilities, or damages, demands, and actions arising out of or resulting from professional services provided under this Agreement.

D. Workers' Compensation:

WORKERS' COMPENSATION WAIVER OF SUBROGATION: The workers' compensation policy required hereunder shall be endorsed (via a specific endorsement or as required by written contract) to state that the workers' compensation carrier waives its right of subrogation against the SACRAMENTO AREA SEWER DISTRICT, and the County of Sacramento and their governing Boards, officers, directors, officials, employees, and authorized volunteers and agents, which might arise by reason of payment under such policy in connection with performance under this Agreement by CITY. Should CITY be self-insured for workers' compensation, CITY hereby agrees to waive its right of

subrogation against SACRAMENTO AREA SEWER DISTRICT, and the County of Sacramento and their governing Boards, officers, directors, officials, employees, and authorized volunteers and agents.

7. Notification of Claim

If any claim for damages is filed with CITY or if any lawsuit is instituted against CITY, that arise out of or are in any way connected with CITY's performance under this Agreement and that in any way, directly or indirectly, contingently or otherwise, affect or might reasonably affect SACRAMENTO AREA SEWER DISTRICT, or any Additional Insured Party, CITY shall give prompt and timely notice thereof to SACRAMENTO AREA SEWER DISTRICT. Notice shall be prompt and timely if given within thirty (30) days following the date of receipt of a claim or ten (10) days following the date of service of process of a lawsuit.

EXHIBIT C to Agreement between SACRAMENTO AREA SEWER DISTRICT and CITY OF SACAMENTO

COMPENSATION

1. MAXIMUM PAYMENT TO CITY

The Project's estimated total construction cost is $20,710,209 and estimated total design cost is $1,682,000, combined for a total estimated cost $22,392,209. SacSewer's Maximum Total Payment Amount under this Agreement is: $22,392,209.

2. WORK NOT IN SCOPE OF SERVICES

CITY shall immediately notify SacSewer's key personnel listed in this Agreement, Exhibit A, Section 4, in writing of any work that SacSewer requests to be performed that CITY believes is outside of the original scope of work covered by this Agreement. If it is determined that said request is outside of the scope of work, such work shall not be performed unless and until the District Engineer approves such request in writing and authorizes the use of any contingency funds for such work, or an amendment providing for an adjustment in CITY's compensation is approved and executed by both parties.

3. SUBMISSION OF INVOICES

CITY shall address and submit all invoices associated with this Agreement by electronic means, including via email to sacsewerap@sacsewer.com, or U.S. mail or personal delivery to the following address:

Sacramento Area Sewer District
10060 Goethe Road
Sacramento, CA 95827
ATTN: CONTRACTS ACCOUNTS PAYABLE

CITY shall include the following information on all invoices:

(1) Contract Number: 143
(2) Project Name: N29 Force Main Rehabilitation Project
(3) Date of Invoice Submission
(4) Time Period Invoice Covers
(5) Services Provided and Respective Compensation Requested
(6) Any other information deemed necessary by CITY and/or SacSewer

SacSewer may change the address to which subsequent invoices shall be sent by giving written notice designating a change of address to CITY, which shall be effective upon receipt.

4. PAYMENTS

In accordance with the Compensation and Payment of Invoices Limitations provision of this Agreement, SacSewer shall address and submit payments to CITY at address in the Notice provision of this Agreement.

CITY may change the address to which subsequent payments shall be sent by giving written notice designating a change of address to SacSewer, which shall be effective upon receipt.

RESOLUTION NO. 2026-

Adopted by the Sacramento City Council

February 24, 2026

Del Rio Trail Sewer Force Main Rehabilitation Project

BACKGROUND

A. In 2021 and 2023, the Sacramento Area Sewer District (SacSewer) retained V&A Consulting Engineers to perform condition assessments on several combined wastewater facilities, including the 72-inch reinforced concrete pipe (RCP) force main (N29) that runs from the City's Sump 2 Facility to the Combined Wastewater Treatment Plant (CWTP).

B. The assessment revealed severe concrete surface damage and corrosion, and recommended rehabilitation within two to five years to prevent potential catastrophic failure.

C. The City of Sacramento, in collaboration with SacSewer, is undertaking a project to rehabilitate approximately 5,900 feet of the 72-inch RCP force main, originally constructed in 1960, to restore its structural integrity and extend its useful life by an estimated 50 years.

D. The Department of Utilities (DOU) intends to utilize the water-cured pressure cured-in-place pipe (CIPP) method to rehabilitate the pipeline with minimal surface disruption.

E. On September 23, 2025, the City issued Request for Proposals (RFP No. P25141311011) via PlanetBids for Resident Engineer, Inspection, and Material Testing Services. One proposal was received by the October 28, 2025, deadline from MCK America, Inc.

F. A four-member evaluation panel, including staff from DOU and SacSewer, reviewed the proposal and determined that MCK America, Inc. is qualified to perform the required services.

G. On October 30, 2025, the City issued a Construction Bid (B25131311013) via Planetbids. Two proposals were received by the December 10, 2025, deadline from SAK Construction LLC and Insituform Technologies LLC. Insituform Technologies LLC was the lowest responsible bidder.

H. The reimbursement agreement with SacSewer is essential to provide the necessary funding for the City to deliver the project.

BASED ON THE FACTS SET FORTH IN THE BACKGROUND, THE CITY COUNCIL RESOLVES AS FOLLOWS:

Section 1. The City Manager or the City Manager's designee is authorized to execute a reimbursement agreement with the Sacramento Area Sewer District in the amount of $22,392,209 to fund the Del Rio Trail 72-inch Force Main Rehabilitation Project.

Section 2. The City Manager or the City Manager's designee is authorized to increase the expense budget in the Combined Sewer System Pipe Program (X14170100, Fund 6206) by $20,792,209.

Section 3. The City Manager or the City Manager's designee is authorized to execute a professional services agreement with MCK America, Inc. in an amount not-to-exceed $489,903.24 for Resident Engineer, Inspection, and Material Testing Services for the Del Rio Trail 72-inch Force Main Rehabilitation Project.

Section 4. The contract plans and specifications for the Del Rio Trail 72-inch Force Main Rehabilitation Project are approved.

Section 5. The City Manager or City Manager's designee is authorized to award the contract to Insituform Technologies LLC.

Section 6. The City Manager or the City Manager's designee is authorized to execute the construction agreement with Insituform Technologies LLC in an amount not-to-exceed $16,966,203.

Adopted by the City of Sacramento City Council on February 24, 2026, by the following vote:

Ayes:

Noes:

Abstain:

Absent:

Attest:

The presence of an electronic signature certifies that the foregoing is a true and correct copy as approved by the Sacramento City Council.