

Meeting Date: 8/27/2013

Report Type: Consent

Report ID: 2013-00585

Title: Contract Award: Cured-In-Place-Pipe (CIPP) Sewer Rehabilitation 2013

Location: Districts 2, 3, 5, 6, and 8

Issue: The project will rehabilitate, in place, existing deteriorated sewer pipe and restore other related utility structures.

Recommendation: Pass 1) a Resolution a) closing Sewer Rehab 2012 (X14120700) and transferring sewer funds (Fund 6006) from this project to Wastewater Collection Pipe Lining Program (X14130700), and b) transferring Drainage funds (6011) in the amount of \$30,000 from the Base CIP Contingency (W14000200) to X14130700; and 2) a Motion approving the contract plans and specifications for the Wastewater Collection Pipe Lining Program (X14130700), and awarding the contract to Michels Corporation dba Michels Pipeline Construction, for an amount not-to-exceed \$459,113.75.

Contact: Dave Brent, Director, (916) 808-1420; Brett Grant, Supervising Engineer, (916) 808-1413, Department of Utilities

Presenter: None

Department: Department Of Utilities

Division: Engineering & Water Resources

Dept ID: 14001311

Attachments:

- 1-Description/Analysis
- 2-Background
- 3-Location Map
- 4-Resolution
- 5-Contract Specifications

City Attorney Review

Approved as to Form
Joe Robinson
8/21/2013 1:35:13 PM

City Treasurer Review

Reviewed for Impact on Cash and Debt
John Colville
8/16/2013 12:19:13 PM

Approvals/Acknowledgements

Department Director or Designee: Dave Brent - 8/20/2013 4:20:59 PM

Description/Analysis

Issue: This project will repair/rehabilitate approximately 7220 feet of 6, 8, & 10-inch diameter pipeline by lining the existing pipeline with a cured-in-place-pipe liner. As part of this project, twenty-nine manholes will be rehabilitated and other associated work performed.

Policy Considerations: Rehabilitation of aging and deteriorated sewer pipes is consistent with the Department of Utilities' (DOU's) Capital Improvement Programming Guide to rehabilitate, replace, and expand critical infrastructure to ensure reliability and safety of the City's sewer system. The requested action is in conformance with City Code Chapter 3.60, Articles I and III, which provide that the City Council may award competitively bid contracts to the lowest responsible bidder. Staff has verified or will verify prior to the Notice to Proceed, that the bonds and insurance required for this project are valid.

Economic Impacts:

This infrastructure repair project is expected to create 1.8 total jobs (1.0 direct jobs and 0.8 jobs through indirect and induced activities) and create \$283,474 in total economic output (\$178,676 of direct output and another \$104,798 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 Community Development Department, Environmental Planning Division, has reviewed the proposed project and has determined that this project is categorically exempt from the California Environmental Quality Act (CEQA) under Class 1 and Section Number 15301(d) of the CEQA Guidelines, as the project consists of the rehabilitation of existing deteriorated and/or damaged facilities (sewer and drainage pipes and associated appurtenances (i.e., manholes) to meet current standards of public health and safety.

Sustainability: The project is consistent with the City's Sustainability Master Plan by reducing sanitary sewer outflows, which is one of the City's sustainability targets; and by improving reliability, which will reduce energy-intensive maintenance efforts.

Commission/Committee Action: Not applicable.

Rationale for Recommendation: Engineering Services advertised the project to solicit bids in accordance with City Code Chapter 3.60 and Administrative Policy Instruction Number 4002. Three bids were received and opened by the City Clerk on July 31, 2013. The lowest responsive and responsible bidder is Michels Corporation dba Michels Pipeline Construction. Staff recommends the contract be awarded to Michels Corporation dba Michels Pipeline Construction for an amount not to exceed \$459,113.75.

Financial Considerations: Cured-in-Place-Pipe (CIPP) Sewer Rehab is within the Wastewater Collection Pipe Line Program (X14130700). With the construction contract for an amount not to exceed \$459,113.75 the total costs for design, inspection, construction, and contingency are estimated to be \$600,000. The project will be funded with \$511,000 (Fund 6320), and additional budget transfers to the project from the following funds:

Sewer Rehab 2012 X14120700, Fund 6006 \$140,000 (closes out this project)

Base CIP Contingency W14000200, Fund 6011 \$30,000 (to fund a drainage pipeline included in the project scope).

This will give the project a budget of \$681,000, which is adequate for the completion of the project.

Emerging Small Business Development (ESBD): This project included a participation requirement of 20% for emerging and small business enterprises (ESBEs). The lowest responsible bidder, Michels Corporation dba Michels Pipeline Construction, exceeded the ESBE participation requirement with a participation level of 25.0%.

Background

In the City of Sacramento, many sewer mains were constructed in back yard or side yard easements. These sewer mains are difficult to access with conventional equipment and costly and disruptive to repair, maintain or replace. The Department of Utilities currently uses trenchless or “no dig” technologies to repair and maintain these sewer mains. Cured-in-place-pipe (CIPP) rehabilitation repairs the pipeline with minimal public disruption and surface damage, since the majority of the work occurs remotely within the pipeline itself and access is through existing manholes.

On an annual basis, pipelines requiring trenchless repairs are prioritized per the Department’s CIP Programming Guide and funded as budgets allow. This construction contract, Cured-In-Place Pipe Rehabilitation 2013, will repair approximately 7,220 feet of 6, 8 & 10-inch diameter pipeline. The repair consists of inserting a resin impregnated liner into an existing pipe, forming a seamless pipe within a pipe. Twenty-nine manholes will be rehabilitated by installing a coating on the manhole walls to repair any degradation caused by hydrogen sulfide attack, repair any holes or cracks, and to effectively seal the manholes.

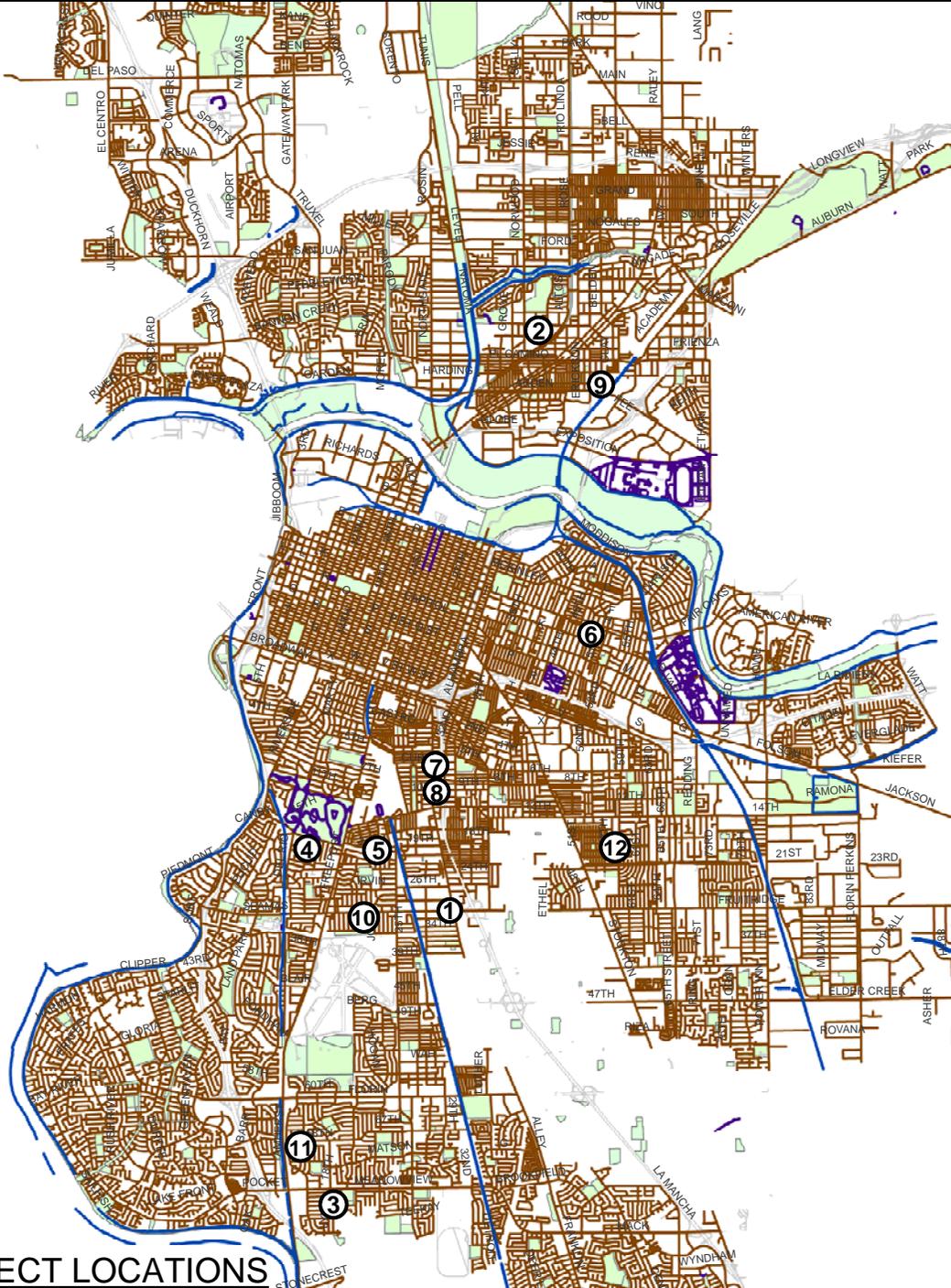
Three bids were received and opened by the City Clerk on July 31, 2013. The summary of the bids is as follows:

Bidder No.	Bidder Name	Total Bid
1	Michels Corporation dba Michels Pipeline Construction	\$ 459,113.75
2	SAK Construction, LLC	\$ 513,795.00
3	Insituform Technologies, inc.	\$ 605,535.00

The lowest responsive and responsible bidder is Michels Corporation dba Michels Pipeline Construction with a bid amount of \$459,113.75.

The Engineer’s construction estimate was \$566,000.

CIPP SEWER REHABILITATION 2013 (X14130701) LOCATION MAP



PROJECT LOCATIONS

1. St. Joseph Dr. at Fruitridge Rd
2. Acacia Ave/Alamos Ave Easement at Altos Ave
3. Armington Ave./Ferran Ave Easement at 18th St.
4. Birchwood Lane/Cabana Way Easement
5. Larson Way/22nd St Easement at 24th Ave
6. 47th St/48th St Easement at J St
7. 6th Ave/7th Ave Easement between E. Curtis Way and Franklin Blvd.
8. 10th Ave/11th Ave Easement between E. Curtis Way and Franklin Blvd.
9. Arden Way between Evergreen St and Green St
10. Brado Wy/Dana Wy Easement, 34th Av-Fruitridge Blvd
11. Quincy Ave, 19th-21st St
12. 25th-27th Ave Easement, from Esmerelda St to 60th St

RESOLUTION NO.

Adopted by the Sacramento City Council

August 27, 2013

BUDGET TRANSFERS FOR THE WASTEWATER COLLECTION PIPE LINING PROGRAM (X14130700)

BACKGROUND

- A. Based on the Utilities Department's asset management program, which prioritizes sewer facilities in need of repair or replacement, the Department is recommending award of a contract to repair approximately 7220 feet of sewer pipeline segments by lining them with a cured-in-place-pipe (CIPP) liner, in addition to the rehabilitation of 29 manholes and other associated work.
- B. Budget transfers are necessary to fully fund the project.

BASED ON THE FACTS SET FORTH IN THE BACKGROUND, THE CITY COUNCIL RESOLVES AS FOLLOWS:

- Section 1. The remaining balance of \$140,000 in sewer funds (Fund 6006) in the Sewer Rehab 2012 project (X14120700) are authorized to be transferred to the Wastewater Collection Pipe Lining Program (X14130700) and X14120700 will be cancelled.
- Section 2. Drainage funds (Fund 6011) in the amount of \$30,000 are authorized to be transferred from the Base Capital Improvement Project (CIP) Contingency (W14000200) to the Wastewater Collection Pipe Lining Program (X14130700) to fund a drainage pipeline included in the project scope.



ENGINEERING SERVICES DIVISION

CONTRACT SPECIFICATIONS
FOR

CURED-IN-PLACE-PIPE REHABILITATION 2013

PN: X14130701

B14141321002

Engineer's Estimate: 566,000

For Pre-Bid Information Call:

No Separate Plans

Melissa Marshall
Associate Engineer
(916) 808-1437

Bid to be received before 2:00 PM
July 31, 2013
City Hall, Office of the City Clerk
915 I Street, 1st Floor, Room 1119
Sacramento, CA 95814

ESBE Program Goals

For information on meeting the City of Sacramento's Small Business Enterprise (SBE) and Emerging Business Enterprise (EBE) project goals, please contact Lorrie Lowry at (916) 808-5448, or visit the City of Sacramento's small business web site at: <http://www.cityofsacramento.org/econdev/business-open/small-business-certification.cfm>

**CURED-IN-PLACE-PIPE REHABILITATION 2013
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SPECIAL PROVISIONS

ESBD INFORMATION

The City of Sacramento's Emerging and Small Business Development (ESBD) program establishes an annual emerging and small business enterprise (ESBE) participation goal for City contracts, and authorizes City departments to require minimum ESBE participation levels in individual contracts. Under City Code section 3.60.270, all bidding contractors must meet or exceed participation goals established for this project in order to qualify as a responsible bidder.

For information on meeting the City of Sacramento's Small Business Enterprise (SBE) and Emerging Business Enterprise (EBE) project goals, please contact Lorrie Lowry at (916) 808-5448, or visit the City of Sacramento's small business web site at:

<http://www.cityofsacramento.org/econdev/business-open/small-business-certification.cfm>

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, City Hall, located at 915 I Street, 1st Floor, Room 1119, up to the hour of 2:00 p.m. on **July 31, 2013** and opened at 2:00 p.m. **July 31, 2013**, or as soon thereafter as business allows, in the Hearing Room, 2nd Floor Room, in Historic City Hall, for construction of:

CURED-IN-PLACE-PIPE REHABILITATION 2013
(PN: X14130701) (B14141321002)

as set forth in the Construction Documents.

Proposals received and work performed thereunder shall comply with the requirement of Chapter 3 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 right to reject proposals or to waive any error or omission in any Bid Proposal received is reserved by the City. Signed proposals shall be submitted on the printed forms contained herein and enclosed in an envelope marked:

SEALED PROPOSAL FOR
CURED-IN-PLACE-PIPE REHABILITATION 2013
(PN: X14130701) (B14141321002)

EBE AND SBE CERTIFICATION ARE DUE BY THE CLOSE OF BUSINESS TWO DAYS AFTER BID OPENING to:

Melissa Marshall, Department of Utilities, Engineering Services Division
1395 35th Avenue, Sacramento, CA 95822

Phone: (916) 808-1437 / Fax: (916) 808-1497/ Email: PMName@cityofsacramento.org

Failure to submit the required ESBE information may be grounds for finding the bid non-responsive.

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

PLANET BIDS

<http://www.planetbids.com/portal/portal.cfm?CompanyID=15300#>

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. 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 Public Construction project of \$25,000 or less, or Public 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.** Each contractor and every lower-tier subcontractor submits 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.

Disseminate these provisions to every lower-tier subcontractor and vendor required to provide labor compliance documentation.

All questions regarding this Labor Compliance Program should be directed to the department's contracts staff or Contracts Services at (916) 808-5524.

Pursuant to Sacramento City Code Section 3.60.250, any Agreement awarded pursuant to this Invitation to Bid shall contain a provision permitting the substitution of securities for any monies withheld to ensure performance under the Agreement. The terms of such provisions shall be according to the requirements and the form required 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 to be considered valid in accordance with City of Sacramento Resolution No. 2003-231 dated April 29, 2003. As used herein, 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, or (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, 1st Floor, Sacramento, CA 95814.

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 **July 31, 2013**, at the Office of the City Clerk, New City Hall, at 915 I Street, 1st Floor, Room 1119, Sacramento, California and opened and read at 2:00 PM, or as soon thereafter as business allows, on **July 31, 2013**, 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

CURED-IN-PLACE-PIPE REHABILITATION 2013
(PN: X14130701) (B14141321002)

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	Preconstruction Photographs	1	LS	\$_____	\$_____
2	Mobilization	1	LS	\$_____	\$_____
3	Point Repairs	50	LF	\$_____	\$_____
4	CCTV and Clean Sewer Pipe	7220	LF	\$_____	\$_____
5	6-Inch CIPP Liner to Install	5040	LF	\$_____	\$_____
6	8-Inch CIPP Liner to Install	1705	LF	\$_____	\$_____
7	10-Inch CIPP Liner to Install	475	LF	\$_____	\$_____
8	Laterals to Reinststate Internally	166	EA	\$_____	\$_____
9	Laterals to Reinststate Externally	12	EA	\$_____	\$_____
10	Inside Drop Connection to Construct	1	EA	\$_____	\$_____
11	Manhole Flow Channel & Bench to Construct	8	EA	\$_____	\$_____
12	Flusher Branch to Remove and Replace	8	EA	\$_____	\$_____
13	Manhole to Rehabilitate	29	EA	\$_____	\$_____
14	Flusher Branch to Remove/ Manhole No. 3 to Construct	2	EA	\$_____	\$_____

TOTAL BID: \$_____

If awarded the contract, the undersigned shall execute said contract and furnish the necessary bonds within ten (10) days after the notice of award of said contract and begin work within fifteen (15) days after the signing of the contract by the Contractor and the City or the Notice to Proceed has been prepared, whichever is applicable.

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 **one hundred thirty-five (135) 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 three hundred seventy-five (\$375.00) for each calendar 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 Contractor shall provide written documentation with the bid of previous successful experience in installation of CIPP Thermosetting Resin pipe, in accordance with the follow:

- The Contractor shall be certified and licensed by the manufacturer for the CIPP lining installation process. Documentation of the licensing and training certification from the manufacturer for the foreman and the installers who will perform the actual lining process shall be provided with the bid package.
- The Contractor shall have completed a minimum of three (3) projects of similar size and scope for installation of CIPP Thermosetting Resin pipe for a municipality or other agency within the last five (5) years. The documentation for each project shall be submitted with the bid and shall describe the work performed, the contract amount and duration, the time period of performance, and shall include the name, address, and telephone number of the owner agency or municipality. The documentation also shall include the name of the contact person for each owner who is familiar with the work performed.
- A Bid that does not include the above required documentation shall be rejected as non-responsive.

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 forty-five (45) working days after opening of the Proposals. The City reserves the right to reject any and all bids.

BID DEPOSIT ENCLOSED IN THE FOLLOWING FORM:

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

____ CERTIFIED CHECK

____ MONEY ORDER

____ CASHIERS'S CHECK

____ BID BOND

FOR CITY USE ONLY

TYPE OF DEPOSIT

- Bid Bond
- Cashier/Certified Check
- Other _____

Reviewer's Initials: _____

CONTRACTOR

Addendum No. 1 _____

Addendum No. 2 _____ By: _____
(Signature)

Addendum No. 3 _____ Title: _____

Addendum No. 4 _____ Address: _____

No PO Box – Physical Address ONLY

City STATE ZIP Code

Telephone No. _____

Fax No. _____

Email _____

(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.

Valid Contractor's License No. _____, Classification _____ is held by the bidder.

Expiration date _____. Representation made herein are true and correct under penalty or perjury

PN: X14130701 (B14141321002)

KNOW ALL MEN BY THESE PRESENTS,

That we, _____

as Principal, and _____

a corporation duly organized under the laws of the State of _____ and duly licensed to become sole surety on bonds required or authorized by the State of California, as Surety, are held and firmly bound unto the City of Sacramento, hereinafter called the City, in the penal sum of ten percent (10%) of the (BASE OR LUMP SUM) Proposal of the Principal above named, or other amount as set forth in the Invitation to Bidders, submitted by said Principal to the City for the Work described below, for the payment of which sum in lawful money of the United States, well and truly to be made, we bind ourselves, our heirs, executors, administrators and successors, jointly and severally, firmly by these presents.

THE CONDITION OF THIS OBLIGATION IS SUCH

That whereas the Principal has submitted the above mentioned proposal to the City of Sacramento, for which Proposals are to be opened in the Office of the City Clerk, Historic City Hall, Hearing Room 2nd Floor, 915 I Street, Sacramento, California, on **July 31, 2013**, for the Work specifically described as follows:

**CURED-IN-PLACE-PIPE REHABILITATION 2013
(PN: X14130701) (B14141321002)**

NOW, THEREFORE, if the aforesaid Principal is award the Agreement and within the time and manner required under the Contract Documents, enters into a written Agreement, in the prescribed form, in accordance with the Proposal, and files two (2) bonds with the City, one to guarantee faithful performance and the other to guarantee payment for labor and materials, and files the required insurance policies with the City, all as required by the Contract Documents or by law, then the obligation shall be null and void; otherwise it shall be and remain in full force and effect.

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 THEREOF, We have hereunto set our hands and seal this _____ day of _____, 2013.

PRINCIPAL Seal
By: _____

Title

SURETY Seal
By _____

Title

Agent Name and Address

Agent Phone #

Surety Phone #

California License #

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 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: _____

BY: _____ Date: _____
Signature Title

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:

2. Has a contractor's license held by your firm and/or any owner, officer or partner of your firm been revoked at anytime 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: $(N/EH) \times 200,000$, 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 _____, on _____.
(Location) (Date)

Signature: _____

Print name: _____

Title: _____

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 \$100,000.00. 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 or 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 COMPLIANCE CERTIFICATE AND NOTICE REQUIREMENTS

- (a) All contractors seeking a Contract subject to the Ordinance shall submit a completed Declaration of Compliance Form (attachment “A”), signed by an authorized representative, with each proposal, bid or application. The Declaration of Compliance shall be made a part of the executed contract, and will be made available for public inspection and copying during regular business hours.
- (b) 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 “B.”
- (c) Contractor shall post, in a place visible to all employees, a copy of the notice provided as attachment “C.”

**DECLARATION OF COMPLIANCE
Equal Benefits Ordinance**

Name of Contractor

Address

The above named contractor ("Contractor") hereby declares and agrees as follows:

1. I have read and understand the Requirements of the Non-Discrimination In Employee Benefits Code (the "Requirements") provided to me by the City of Sacramento ("City") in connection with the City's request for proposals or other solicitations for the performance of services, or for the provision of commodities, under a City contract or agreement ("Contract").
2. As a condition of receiving the City Contract, I agree to fully comply with the Requirements, as well as any additional requirements that may be specified in the City's Non-Discrimination in Employee Benefits Code codified at Chapter 3.54 of the Sacramento City Code (the "Ordinance").
3. I understand, to the extent that such benefits are not preempted or prohibited by federal or state law, employee benefits covered by the Ordinance, are any of the following:
 - a. Bereavement Leave
 - b. Disability, life, and other types of insurance
 - c. Family medical leave
 - d. Health benefits
 - e. Membership or membership discounts
 - f. Moving expenses
 - g. Pension and retirement benefits
 - h. Vacation
 - i. Travel benefits
 - j. Any other benefit offered to employees

I agree that should I offer any of the above listed employee benefits, that I will offer those benefits, without discrimination between employees with spouses and employees with domestic partners, and without discrimination between the spouses and domestic partners of such employees.

4. I understand that I will not be considered to be discriminating in the provision or application of employee benefits under the following conditions or circumstances:
 - a. In the event that the actual cost of providing a benefit to a domestic partner or spouse, exceeds the cost of providing the same benefit to a spouse or domestic partner of an employee, I will not be required to provide the benefit, nor shall it be deemed discriminatory, if I require the employee to pay the monetary difference in order to provide the benefit to the domestic partner or to the spouse.
 - b. In the event I am unable to provide a certain benefit, despite taking reasonable measures to do so, if I provide the employee with a cash equivalent, I will not be deemed to be discriminating in the application of that benefit.
 - c. If I provide employee benefits neither to employee's spouses nor to employee's domestic partners.
 - d. If I provide employee benefits to employees on a basis unrelated to marital or domestic partner status.
 - e. If I submit, to the Program Coordinator, written evidence of making reasonable efforts to end discrimination in employee benefits by implementing policies which are to be enacted before the

first effective date after the first open enrollment process following the date the Contract is executed with the City.

I understand that any delay in the implementation of such policies may not exceed one (1) year from the date the Contract is executed with the City, and applies only to those employee benefits for which an open enrollment process is applicable.

- f. Until administrative steps can be taken to incorporate, in the infrastructure, nondiscrimination in employee benefits

The time allotted for these administrative steps will apply only to those employee benefits for which administrative steps are necessary and may not exceed three (3) months from the date the Contract is executed with the City.

- g. Until the expiration of a current collective bargaining agreement(s) where, in fact, employee benefits are governed by a collective bargaining agreement(s).
- h. I take all reasonable measures to end discrimination in employee benefits by either requesting the union(s) involved agree to reopen the agreement(s) in order for me to take whatever steps are necessary to end discrimination in employee benefits or by my ending discrimination in employee benefits without reopening the collective bargaining agreement(s).
- i. In the event I cannot end discrimination in employee benefits despite taking all reasonable measures to do so, I provide a cash equivalent to eligible employees for whom employee benefits (as listed previously), are not available.

Unless otherwise authorized in writing by the City Manager, I understand this cash equivalent must begin at the time the union(s) refuse to allow the collective bargaining agreement(s) to be reopened or no longer than three (3) months from the date the Contract is executed with the City.

- 5. I understand that failure to comply with the provisions of Section 4. (a) through 4. (i), above, will subject me to possible suspension and/or termination of this Contract for cause; repayment of any or all of the Contract amount disbursed by the City; debarment for future contracts until all penalties and restitution have been paid in full; deemed ineligible for future contracts for up to two (2) years; the imposition of a penalty, payable to the City, in the sum of \$50.00 for each employee, for each calendar day during which the employee was discriminated against in violation of the provisions of the Ordinance.
- 6. I understand and do hereby agree to provide each current employee and, within ten (10) days of hire, each new employee, of their rights under the Ordinance. I further agree to maintain a copy of each such letter provided, in an appropriate file for possible inspection by an authorized representative of the City. I also agree to prominently display a poster informing each employee of these rights.
- 7. I understand that I have the right to request an exemption to the benefit provisions of the Ordinance when such a request is submitted to the Procurement Services Division, in writing with sufficient justification for resolution, prior to contract award.

I further understand that the City may request a waiver or exemption to the provisions or requirements of the Ordinance, when only one contractor is available to enter into a contract or agreement to occupy and use City property on terms and conditions established by the City; when sole source conditions exist for goods, services, public project or improvements and related construction services; when there are no responsive bidders to the Ordinance requirements and the contract is for essential goods or services; when emergency conditions with public health and safety implications exist; or when the contract is for specialized legal services if in the best interest of the City.

8. In consideration of the foregoing, I shall defend, indemnify and hold harmless, the City, its officers and employees, against any claims, actions, damages, costs (including reasonable attorney fees), or other liabilities of any kind arising from any violation of the Requirements or of the Ordinance by me.

I declare under penalty of perjury under the laws of the State of California that the foregoing is true and correct, and that I am authorized to bind the Contractor to the provisions of this Declaration.

Signature of Authorized Representative

Date

Print Name

Title



YOUR RIGHTS UNDER THE CITY OF SACRAMENTO'S

NON-DISCRIMINATION IN EMPLOYEE BENEFITS BY CITY CONTRACTORS ORDINANCE

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 By City Contractors Ordinance (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
- Health benefits
- Membership or membership discounts
- Moving expenses
- Pension and retirement benefits
- Vacation
- Travel benefits
- 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
Contract Services Unit
915 I St., 2nd 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



YOUR RIGHTS UNDER THE CITY OF SACRAMENTO'S

NON-DISCRIMINATION IN EMPLOYEE BENEFITS BY CITY CONTRACTORS ORDINANCE

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
Contract Services Unit
915 I St., 2nd 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 all 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

C&D Debris Waste Management Plan

C&D Debris Waste Management Plan
City of Sacramento Solid Waste Services
2812 Meadowview Road, Building 1
Sacramento, CA 95832
Phone: (916) 808-4839 / Fax: (916) 808-4999
C&D@cityofsacramento.org

Form
submitted by:

Please attach a business card, or put your name with a phone number and/or an email address.

This Waste Management Plan (WMP) must be submitted and approved before work can begin. Only one WMP is required for each public construction project. The administration fee and, if applicable, a security deposit must be submitted with this form to be approved. Administration fee is 0.04% of project bid amount (min \$40, max \$800); security deposit, if applicable, is 1% of bid amount (max \$10,000). The accompanying Waste Log must be submitted within 30 days of the project completion report, or a penalty may be imposed.

A. Building Project Information:

Job Address: _____
Contractor: _____
Address: _____

Engineering
Estimate: _____
Phone: _____
Email: _____

B. Briefly describe the project:

C. Materials Required to be Recycled

50% of all debris must be recycled if generated during the course of your project. 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.

50%
of all debris
must be recycled

D. Material Management.

1. How will C&D debris will be stored on the project site: _____ Mixed C&D _____ Source-Separated
2. Company to haul away debris: _____
3. Facilities to receive debris: _____

C&D Debris Waste Management Plan

C&D Debris Waste Management Plan
City of Sacramento Solid Waste Services
2812 Meadowview Road, Building 1
Sacramento, CA 95832
Phone: (916) 808-4839 / Fax: (916) 808-4999
C&D@cityofsacramento.org

E. Definitions.

Please read and understand these terms. Call Solid Waste at (916) 808-4833 if these terms are not clear to you. More information is also available online at <http://www.cityofsacramento.org/utilities/>.

1. **Self-haul or self-hauling:** This is when the 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 need to be franchised in order to haul mixed C&D debris away.
2. **Franchised hauler:** Check the Department of Utilities (DOU) website for a list of these haulers. Only these companies and the City of Sacramento can collect and haul mixed C&D debris generated within the City for a fee.
3. **Source separation:** This means keeping wood, metal, cardboard, or other recyclables in separate containers, and sending the materials to an authorized recycler. A list of authorized recyclers can be found on the DOU web site. Source-separated materials may be hauled by anyone.
4. **Mixed C&D debris:** This means putting all recyclable debris into one container. Mixed materials must be sent to a certified mixed C&D sorting facility. Mixed materials may be either self-hauled or hauled by a franchised hauler. If your job site is crowded, this option saves the most space.
5. **Certified Mixed C&D Sorting Facility:** See the DOU web site for a list. These facilities have been certified by the Sacramento Regional Solid Waste Authority (SWA) to extract recyclable materials from mixed C&D debris.

F. Terms and Conditions

- Your approved Waste Management Plan and Waste Log must be kept on the job site for the duration of the project.
- City of Sacramento Solid Waste Services staff may enter the jobsite to inspect waste collection areas.
- **ALL Clean Wood Waste** (unpainted, untreated lumber, plywood and OSB), **Inert Materials** (concrete, asphalt paving, brick, block, and dirt), **Wooden Pallets**, **Scrap Metal**, and **Corrugated Cardboard** must be recycled.
- Only SWA-Certified Mixed C&D Sorting Facilities may be used to recycle these materials if mixed with other materials.
- Only the City of Sacramento, SWA-Franchised Haulers, or self-haulers (as defined above) may collect and transport mixed C&D material from the jobsite.
- C&D Debris may not be burned or dumped illegally.
- Your Waste Log must be completed and submitted, with supporting weight tickets, within 30 days of submitting your project completion report. 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.
- 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 payment of 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*

Recovery Stations & Landfills

Bell Marine	(916) 442-9089	Elder Creek Recovery & Transfer Station	(916) 387-8425
C & C Paper Recycling	(916) 920-2673	Kiefer Landfill	(916) 875-5555
EBI Aggregates	(916) 372-7580	L & D Landfill	(916) 383-9420
International Paper	(916) 371-4634	North Area Recovery Station	(916) 875-5555
Modern Waste Solutions	(916) 447-6800	Sacramento Recycling & Transfer Station	(916) 379-0500
PRIDE Industries, Inc.	(916) 640-1300	Waste Management Recycle America	(916) 452-0142
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		

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.

Voluntary Green Contracting Fleet Inventory List (On-Road Equipment)

In partnership with the City of Sacramento and the Sacramento Metropolitan Air Quality Management District

Green Contracting Survey (Voluntary)

The City of Sacramento and the Sacramento Metropolitan Air Quality District (SMAQMD) are conducting a joint pilot project to help meet Federal Clean Air Standards for the Sacramento region.

Attached is a Green Contracting Fleet Inventory Form. Please complete the form, remove it from the bid package and return it to SMAQMD in the postage paid envelope provided with the bid package. Please do not return the Green Contracting Fleet Inventory Form to the City of Sacramento with the bid documents or otherwise.

A limited amount of funds and other financial incentives may be available to qualified contractors participating in this joint project to assist qualified contractors with upgrading and/or replacing equipment and/or trucks.

Completing and returning the Green Contracting Fleet Inventory Form is strictly voluntary

Voluntary Green Contracting Fleet Inventory List (On-Road Equipment)

In partnership with the City of Sacramento and the Sacramento Metropolitan Air Quality Management District

Company Name:

Contact Name:

Company Address:

City, State, ZIP:

Company Phone:

City Bid Information	
Department	<input type="text"/>
Project #	<input type="text"/>
ESBE/SBE?	<input type="text"/>

Instructions:

- a) Please enter the vehicle / equipment information for each unit used in conjunction with your City of Sacramento Bid.
- b) All fields are required for both on-road heavy-duty vehicles and off-road construction equipment over 50 HP.
- c) Electronic version available at <http://www.airquality.org/ceqa/index.shtml>
For additional questions, please call (916) 874-4892
- d) 4892

Please Submit To:

Kristian Damkier, P.E.
 Sacramento Metropolitan AQMD
 777 12th St, 3rd Floor
 Sacramento, CA 95814-1908

#	VIN	License Plate	Vehicle Information			Engine Information				Annual Usage (miles)	Received Funding
			Make	Model	Year	Make	Model	Year	HP		
(ex)	1XP5AAC35RG339402	1T45678	Kenworth	T-300	2002	Cummins	ISB	2002	250	35,000	No

Voluntary Green Contracting Fleet Inventory List (On-Road Equipment)

In partnership with the City of Sacramento and the Sacramento Metropolitan Air Quality Management District

Company Name:	
Contact Name:	
Company Address:	
City, State, ZIP:	
Company Phone:	

City Bid Information	
Department	
Project #	
ESBE/SBE?	

Instructions:

- Please enter the vehicle / equipment information for each unit used in conjunction with your City of Sacramento Bid.
- All fields are required for both on-road heavy-duty vehicles and off-road construction equipment over 50 HP.
Electronic version is available at <http://www.airquality.org/ceqa/index.shtml>
- <http://www.airquality.org/ceqa/index.shtml>
For additional questions, please call (916) 874-4892
- 4892

Please Submit To:
Kristian Damkier, P.E. Sacramento Metropolitan AQMD 777 12th St, 3rd Floor Sacramento, CA 95814-1908

Equipment Serial Number	Equipment Information				Engine Information				Annual Usage (hours)
	Make	Model	Type	Year	Make	Model	Year	HP	
48W34456	Caterpillar	631G	Scraper	2003	Caterpillar	3408E	2003	485	1,600

Guidelines for City of Sacramento Boycott of Arizona and Arizona-Headquartered Businesses

Sacramento City Council Resolution No. 2010-346 calls for a boycott of the State of Arizona and businesses headquartered in Arizona. The boycott provisions prohibit employee travel to Arizona at City expense, and restrict the purchase of goods and services with Arizona headquartered businesses.

Resolution No. 2010-346 provides that “where ***practicable*** and where there is no ***significant*** additional cost to the City, the City of Sacramento shall not enter into any new, amended, extended or supplemental contracts to purchase or procure goods or services from any business or entity that is ***headquartered*** in Arizona ...”

The guidelines below are provided to city staff for implementing the Resolution.

● Definitions

- **Headquartered**: State in which a company is headquartered. This may be different than the state of incorporation, where subsidiaries are located. You may determine a company headquarters from the declaration provided in a solicitation response or by calling the company directly.
- **Practicable**: The proposed or existing vendor can be replaced without interruption to services and/or supplies, and the replacement of the vendor does not adversely affect the Sacramento economy. For example, excluding a company headquartered in Arizona, but with a Sacramento-area office would not be practicable, as it would adversely affect the local economy. The cost of transition should not be significant.
- **Significant**: Costs that exceed the following percentages or dollar thresholds:
 - For contracts valued \$250k and less – the lesser of 10% or \$25k
 - For contracts valued between \$250k and \$1m – the lesser of 10% or \$100k
 - For contracts valued between \$1m and 10m – the lesser of 8% or \$100k
 - For contracts valued at \$10m and more – the lesser of 6% or 100k
- **Related companies, subcontractors**: The policy applies only to the company with which the City enters into a contract.

● Exceptions Checklist

If the lowest bidder is headquartered in Arizona, in order to have a valid exception to the boycott Resolution, you must be able to answer yes to **at least** one of the following questions:

- Is the difference between the low bid and the second low bid “significant”? (see definitions) OR if the vendor has a current contract and we evaluating a renewal, is there a significant cost to switch vendors?
- Does the lowest bidder have a local office in Sacramento, providing benefit to the local economy, if awarded the contract?
- Is the vendor the sole-source for this particular service/commodity?
- Is the contract award or extension in the “best interest of the City” for reasons not listed above?

City of Sacramento Boycott of Arizona-Headquartered Businesses

On June 15, 2010, the Sacramento City Council adopted Resolution No. 2010-346 opposing two Arizona laws (SB 1070 and HB 2162) that will allow Arizona police to arrest individuals suspected of being unlawfully present in the United States and to charge immigrants with a state crime for not carrying immigration documents. Sacramento City Council Resolution No. 2010-346 also called for a boycott of the State of Arizona and businesses headquartered in Arizona until Arizona repeals or a court nullifies SB 1070 and HB 1262. Resolution No. 2010-346 provides, in pertinent part, that “where practicable and where there is no significant additional cost to the City, the City of Sacramento shall not enter into any new, amended, extended or supplemental contracts to purchase or procure goods or services from any business or entity that is headquartered in Arizona ...”

Pursuant to the provisions of Resolution No. 2010-346, the City may determine that a bid from a business or entity that is headquartered in Arizona is nonresponsive and the City may reject the bid on that basis.

Bidders that are headquartered in the United States shall certify in the space below the state where the bidder is headquartered:

State Where Firm is Headquartered

Signature of Authorized Representative

Date

Print Name

Title

This Page to be completed and submitted with bid proposal

ESBE REQUIREMENTS

(City Construction Contracts no Federal Funds Used)

I. ESBE PARTICIPATION REQUIREMENT

On February 9, 1999, the Sacramento City Council adopted an Emerging and Small Business Development (ESBD) program to provide enhanced opportunities for the participation of small business enterprises (SBEs) and emerging business enterprises (EBEs) in the City's contracting and procurement activities. The ESBD program establishes an annual emerging and small business enterprise (ESBE) participation goal for City contracts, and authorizes City departments to require minimum ESBE participation levels in individual contracts so that the annual ESBE participation goal can be met. Under City Code section 3.60.270, when the bid specifications for a City contract establish a minimum participation level for ESBEs, no bidder on the contract shall be considered a responsive bidder unless its bid meets the minimum ESBE participation level required by the bid specifications.

The City has established a **minimum 20% participation level for ESBEs on this contract**. Pursuant to City code Section 3.60.270, no bidder on this contract shall be considered a responsive bidder unless its bid meets or exceeds this minimum participation level.

Bidders shall submit copies of their Certification as a SBE or EBE, and the SBE or EBE Certifications for each subcontractor, supplier, or other SBE or EBE business entity listed in the bidder's sealed proposal, within two (2) working days after being requested to do so by City. Failure to submit the requested ESBE information within this time period will be grounds for finding the bid non-responsive.

II. ESBE CERTIFICATION

- A. A SBE designated in the bid must be certified as such by the State of California, Department of General Services, or by the City, prior to the time bids are received by the City.
- B. An EBE designated in the bid must be certified as such by the City prior to the time bids are received by the City.

III. DETERMINATION OF ESBE PARTICIPATION LEVEL

- A. ESBE Participation: The percent of ESBE participation shall be determined based on the dollar value of the work to be performed or supplies to be furnished by certified ESBEs designated in the bidder's Subcontractor and ESBE Participation Verification Form, relative to the total dollar amount of the bid.
- B. Participation Credit: To receive credit for participation:(1) an ESBE subcontractor must be responsible for the execution of a distinct element of the work, must possess any license or certification required for the work, and must carry its responsibility by actually performing, managing, or supervising the work without subcontracting or otherwise shifting any portion of the work to another subcontractor; and (2) an ESBE supplier must be furnishing materials, equipment,

or supplies that the supplier sells as a recurring, although not necessarily primary, part of its business, and that are necessary for performance of the work.

- C. ESBE Bidders: The dollar value listed for an ESBE bidder on the bidder's Subcontractor and ESBE Participation Verification Form shall include only the amount of work to be performed by the ESBE bidder, and shall not include any amount to be paid by the ESBE bidder for the cost of materials, equipment, or supplies.
- D. Suppliers: Credit for an ESBE supplier of materials, equipment, or supplies is counted as one hundred (100) percent of the amount paid to the supplier for the material, equipment, or supplies. To receive this credit, ESBE suppliers must be listed on the bidder's Subcontractor and ESBE Participation Verification Form.
- E. Subcontractors (including truckers): To receive credit for an ESBE subcontractor, the subcontractor must be listed on the bidder's Subcontractor and ESBE Participation Verification Form. The dollar value listed for a subcontractor on the bidder's Subcontractor and ESBE Participation Verification Form shall not include any amount to be paid to the subcontractor for the cost of materials, equipment, or supplies.
 - Truckers: Credit for an ESBE trucker is counted as one hundred (100) percent of the amount paid to the trucker for trucking services, not including any amount paid to the trucker for the cost of any materials, equipment, or supplies being transported by the trucker.

IV. ESBE REQUIREMENTS FOR CONTRACTOR

- A. ESBE Records: The Contractor shall maintain records of all subcontracts with certified ESBE subcontractors and records of materials purchased from certified ESBE suppliers for one (1) year after receiving final payment from the City. Such records shall show the name and business address of each ESBE subcontractor or supplier and the total dollar amount actually paid each ESBE subcontractor or supplier.

Not 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 City, to determine compliance with any provision of the ESBD program or these specifications.

- B. Performance of ESBE Subcontractors and Suppliers: The ESBEs listed by the Contractor shall perform the work and supply the materials, equipment, and supplies for which they are listed unless the Contractor has received prior written authorization from the City to perform the work with other forces or to obtain the material, equipment, or supplies from other sources. Reasons for requesting such authorization would include:
 - 1. The listed ESBE fails to execute a written contract based upon the general terms, conditions, plans, and specifications for the project.

2. The listed ESBE becomes bankrupt or insolvent.
 3. The listed ESBE subcontractor fails to meet the bond requirements of the Contractor.
 4. The work performed or the materials/equipment/supplies provided by the listed ESBE are unsatisfactory or are not in accordance with the plans and specifications, or the listed ESBE fails to perform its contractual obligations.
 5. It would be in the best interest of the City.
- C. Subcontractor Substitution: No substitution of an ESBE subcontractor shall be made at any time without compliance with the Subletting and Subcontracting Fair Practices Act. If an ESBE subcontractor is unable to perform successfully and is to be replaced, the Contractor shall make reasonable efforts to replace the original ESBE subcontractor with another certified ESBE subcontractor. The new ESBE subcontractor must be certified at the time of substitution.
- D. 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 ESBEs in substantial compliance with the ESBE utilization indicated in the Contractor's bid (unless otherwise authorized by 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, and a deduction may be made from the contract amount. The deduction shall be not more than ten (10) percent of the value of the work or materials/equipment/supplies that the subject ESBE(s) were listed to perform/provide in the Contractor's bid, and shall be deducted from any payment due to 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.
- E. Hearing and Review of Division Manager Decision: Prior to making a deduction pursuant to Section IV(D), above, the City shall provide written notice of the proposed deduction to the Contractor, and the Contractor may, not later than five (5) working days after receiving such notice, provide a written request to 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 five (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.

The written notices and requests described above shall be provided by registered or certified mail (return receipt requested), by telecopy, by personal delivery, or by any

other method that provides reliable evidence of the date of receipt. Written notice provided by telecopy shall be deemed received on the date that it is transmitted and transmission is confirmed by the transmitting machine. Written notice provided by personal delivery shall be deemed received on the date of delivery.

V. DEFINITIONS

- A. Emerging Business Enterprise (EBE): The City shall certify EBEs utilizing the small business certification criteria and standards of the State of California, General Services Department, Office of Small Business and DVBE Services, that were in effect on December 1, 1998, provided that the size standard, industry by industry, shall be set at 50% of the State small business certification criteria and standards that were in effect on December 1, 1998.
- B. Small Business Enterprise (SBE): The City shall certify SBEs utilizing the current small business certification criteria and standards of the State of California, General Services Department, Office of Small Business and DVBE Services. The City will also accept State certified SBEs.
- C. The small business certification criteria and standards of the State of California, General Services Department, Office of Small Business and DVBE Services shall be used only for the purpose of determining whether a firm may receive certification as an EBE or SBE.
- D. Contractor: The sole proprietorship, partnership, limited liability company, corporation, or any other business entity entering into a contract with the City of Sacramento.
- E. Subcontractor: The sole proprietorship, partnership, limited liability company, corporation, or other business entity entering into a contract with the prime contractor to perform a portion of the work.
- F. Supplier: The sole proprietorship, partnership, limited liability company, corporation, or other business entity entering into a contract with the prime contractor to provide materials, equipment, or supplies necessary for performance of the work.

FOLLOWING FORMS TO BE FILLED OUT AND SIGNED

ONLY

IF AWARDED CONTRACT

WORKER'S COMPENSATION INSURANCE CERTIFICATION

TO THE CITY OF SACRAMENTO:

The undersigned does hereby certify that he is aware of the provisions of Section 3700 et seq. of the Labor Code which require every employer to be insured against liability for worker's compensation claims or to undertake self-insurance in accordance with the provisions of said Code, and that he/she will comply with such provisions before commencing the performance of the work on this contract.

Bidder

BY: _____

Title: _____

Address: _____

Date: _____

PLEASE READ CAREFULLY BEFORE SIGNING

To be signed by authorized corporate officer or partner or individual submitting the bid. If bidder is: (example)

1. An individual using a firm name, sign: "John Doe, and individual doing business as Blank Company".
2. An individual doing business under his own name, sign: Your name only.
3. A co-partnership, sign: "John Doe and Richard Doe, co-partners doing business as Blank Company, by, John Doe, Co-Partner".
4. A corporation, sign: "Blank Company, by John Doe, Secretary". (Or other title)

AGREEMENT
(Construction Contract Over \$25,000)

THIS AGREEMENT, dated for identification _____, 20___, is made and entered into between the CITY OF SACRAMENTO, a municipal corporation (“City”), and _____ (“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:

- The Notice to Contractors
- The Proposal Form submitted by the Contractor
- The Instructions to Bidders
- The Emerging and Small Business Enterprise (ESBE) Requirements
- The Requirements for the Non-Discrimination in Employee Benefits by City Contractors Ordinance and the Declaration of Compliance
- The City’s Reference Guide for Construction Contracts
- The Addenda, if any
- This Agreement
- The Standard Specifications
- The Special Provisions
- The 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 June 4, 2007 (Resolution No. 2007-350), 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:

CURED-IN-PLACE-PIPE REHABILITATION 2013 (PN: X14130701)

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.

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 phrase "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 **One hundred thirty-five (135) 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 **Three hundred seventy-five (\$375.00)) for each calendar 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.

(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-erectations, 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 this Contract and until completion and final acceptance of the Work as provided in the Contract Documents, Contractor shall maintain in full force and effect the insurance coverage described in this section.

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 performance of the Work under the Contract. No additional compensation will be provided for Contractor's insurance premiums.

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 of or carried by the Contractor.

(A) Minimum Scope and 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, 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 on an occurrence basis 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.

(3) Workers' Compensation Insurance with statutory limits, and Employers' Liability Insurance with limits of not less than one million dollars (\$1,000,000). The Worker's Compensation policy shall include a waiver of subrogation.

(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, products and completed operations of Contractor, and premises owned, leased or used by Contractor. The general liability additional insured endorsement must be signed by an authorized representative of the insurance carrier.

If the policy includes a blanket additional insured endorsement or contractual additional insured coverage, the above signature requirement may be fulfilled by submitting that document with a signed declaration page referencing the blanket endorsement or policy form.

(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 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:V. Self-insured retentions, policy terms or other variations that do not comply with the requirements of this Section 19 must be declared to and approved by the City Risk Management Division in writing prior to execution of this Agreement.

(E) Verification of Coverage

(1) Contractor shall furnish City with certificates and required endorsements evidencing the insurance required. The certificates and endorsements shall be forwarded to the City representative designated by City. 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) The City may withdraw its offer of contract or cancel the Contract if the certificates of insurance and endorsements required have not been provided prior to execution of this Agreement. 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.

(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 not 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.

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 _____

BY _____

Print Name

Title

BY _____

Print Name

Title

Federal ID#

State ID#

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
- _____ Limited Liability Company
- _____ Other (*please specify*: _____)

CITY OF SACRAMENTO
a municipal corporation

DATE _____

BY _____

For: John F. Shirey, City Manager

Original Approved As To Form:

Attest:

City Attorney

City Clerk

CITY OF SACRAMENTO
PERFORMANCE BOND
Department of Utilities

Bond #: _____
Premium: _____
Page 1 of 1

WHEREAS, the City of Sacramento, in the State of California, hereinafter called City has conditionally awarded to *(here insert full name and address of Contractor)*:

as principal, hereinafter called Contractor, an agreement for construction of:

CURED-IN-PLACE-PIPE REHABILITATION 2013
(PN: X14130701) (B14141321002)

in accordance with the plans, specifications, drawings, conditions, and project manual prepared therefore, which agreement is by reference made a part hereof, 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)*:

_____, 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 obligee, in the sum of _____ DOLLARS \$ _____), 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 this obligation shall be null and void; otherwise shall be and remain in full force and effect. This obligation shall remain in full force and effect until (1) the date that the Contractor no longer has any remaining obligation of performance under the Contract, or (2) the date that is one year after the date that the work to be performed under the Contract is accepted as complete by the City, whichever occurs later.

As part of the obligation 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 obligation, all to be taxed as costs and included in any judgement 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 _____, 2013.

(Contractor) (Seal)

By _____

Title _____

ORIGINAL APPROVED AS TO FORM:

City Attorney

(Surety) (Seal)

By _____

Title _____

Agent Name and Address _____

Agent Phone # _____

Surety Phone # _____

California License # _____

Surety Email: _____

WHEREAS, the City of Sacramento, in the State of California, hereinafter called City, has conditionally awarded to:

hereinafter called Contractor, a contract for construction of:

CURED-IN-PLACE-PIPE REHABILITATION 2013
(PN: X14130701) (B14141321002)

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*):

_____, a corporation 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 of _____ DOLLARS (\$_____), 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 _____ 2013.

(Contractor) (Seal)
By _____
Title _____

(Surety) (Seal)
By _____
Title _____
Agent Name and Address _____

ORIGINAL APPROVED AS TO FORM:

City Attorney

Agent Phone # _____
Surety Phone # _____
California License # _____
Surety Email: _____

CALIFORNIA LABOR CODE RELATING TO APPRENTICES ON PUBLIC WORKS PROJECTS

See following links: www.dir.ca.gov and/or www.leginfo.ca.gov

Request for Taxpayer Identification Number and Certification

**Give Form to the
 requester. Do not
 send to the IRS.**

Print or type See Specific Instructions on page 2.	Name (as shown on your income tax return)	
	Business name/disregarded entity name, if different from above	
	Check appropriate box for federal tax classification: <input type="checkbox"/> Individual/sole proprietor <input type="checkbox"/> C Corporation <input type="checkbox"/> S Corporation <input type="checkbox"/> Partnership <input type="checkbox"/> Trust/estate <input type="checkbox"/> Limited liability company. Enter the tax classification (C=C corporation, S=S corporation, P=partnership) ▶ _____ <input type="checkbox"/> Other (see instructions) ▶ _____	
	<input type="checkbox"/> Exempt payee	
	Address (number, street, and apt. or suite no.)	Requestor's name and address (optional)
City, state, and ZIP code		
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 the "Name" line to avoid backup withholding. For individuals, this is your social security number (SSN). However, for a resident alien, sole proprietor, or disregarded entity, see the Part I instructions on page 3. For other entities, it is your employer identification number (EIN). If you do not have a number, see *How to get a TIN* on page 3.

Note. If the account is in more than one name, see the chart on page 4 for guidelines on whose number to enter.

Social security number											
				-			-				
Employer identification number											
				-							

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).

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 on page 4.

Sign Here	Signature of U.S. person ▶	Date ▶

General Instructions

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

Purpose of Form

A person who is required to file an information return with the IRS must obtain your correct taxpayer identification number (TIN) to report, for example, income paid to you, real estate transactions, mortgage interest you paid, acquisition or abandonment of secured property, cancellation of debt, or contributions you made to an IRA.

Use Form W-9 only if you are a U.S. person (including a resident alien), to provide your correct TIN to the person requesting it (the requester) and, when applicable, to:

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. If applicable, you are also certifying that as a U.S. person, your allocable share of any partnership income from a U.S. trade or business is not subject to the withholding tax on foreign partners' share of effectively connected income.

Note. If 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).

Special rules for partnerships. Partnerships that conduct a trade or business in the United States are generally required to pay a withholding tax on any foreign partners' share of income from such business. Further, in certain cases where a Form W-9 has not been received, a partnership is required to presume that a partner is a foreign person, and pay the withholding tax. Therefore, if you are a U.S. person that is a partner in a partnership conducting a trade or business in the United States, provide Form W-9 to the partnership to establish your U.S. status and avoid withholding on your share of partnership income.

2013 Withholding Exemption Certificate**590**

This form can only be used to certify exemption from nonresident withholding under California Revenue and Taxation Code (R&TC) Section 18662. Do not use this form for exemption from wage withholding.

File this form with your withholding agent. (Please type or print)

Withholding agent's name _____

Payee's name _____

Payee's

SSN or ITIN

FEIN

CA corp. no.

CA SOG file no.

Address (number and street, PO Box, or PMB no.) _____

Apt. no./ Ste. no. _____

City _____

State _____

ZIP Code _____

Read the following carefully and check the box that applies to the payee.

I certify that for the reasons checked below, the payee named on this form is exempt from the California income tax withholding requirement 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, Who is a Resident, for the definition of a resident.

Corporations:

The above-named 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 and withhold on payments of California source income to nonresidents when required. 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 F, What is a Permanent Place of Business, for the definition of permanent place of business.

Partnerships or limited liability companies (LLC):

The above-named 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 and will withhold on foreign and domestic nonresident partners or members when required. 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 above-named 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). The tax-exempt entity will withhold on payments of California source income to nonresidents when required. 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 above-named 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 and will withhold on foreign and domestic nonresident beneficiaries when required. If the trustee 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. The decedent was a California resident at the time of death. The estate will file a California fiduciary tax return and will withhold on foreign and domestic nonresident beneficiaries when required.

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: Please complete and sign below.

Under penalties of perjury, I hereby certify that the information provided in this document is, to the best of my knowledge, true and correct. If conditions change, I will promptly notify the withholding agent.

Payee's name and title (type or print) _____ Daytime telephone no. _____

Payee's signature ► _____ Date _____

SPECIAL PROVISIONS

CITY OF SACRAMENTO
SPECIAL PROVISIONS
FOR
CURED-IN-PLACE-PIPE SEWER REHABILITATION 2013
(X14130701)

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**SPECIAL PROVISIONS
FOR
CURED-IN-PLACE-PIPE REHABILITATION 2013
(X14130701)**

SECTION 1 – GENERAL CONSTRUCTION REQUIREMENTS

1.01 Location, Scope of Work

These Special Provisions cover in general, the rehabilitation of several 6-inch and 8-inch diameter sewer pipeline segments, and one 10-inch diameter storm drain pipeline segment, at various locations within the City.

1. St. Joseph Dr. at Fruitridge Rd Sewer Rehabilitation
2. Acacia Ave/Alamos Ave Easement at Altos Ave Sewer Rehabilitation
3. Armington Ave./Ferran Ave Easement at 18th St. Sewer Rehabilitation
4. Birchwood Lane/Cabana Way Easement Sewer Rehabilitation
5. Larson Way/22nd St Easement at 24th Ave Sewer Rehabilitation
6. 47th St/48th St Easement at J St Sewer Rehabilitation
7. 6th Ave/7th Ave Easement Sewer Rehabilitation - E. Curtis Way to Franklin Blvd.
8. 10th Ave/11th Ave Easement Sewer Rehabilitation - E. Curtis Way to Cutter Way
9. Arden Way Sewer Rehabilitation - Evergreen St to Green St
10. Brado Way/Dana Way Easement Sewer Rehabilitation - 34th Av to Fruitridge Blvd.
11. Quincy Ave Sewer Rehabilitation - 19th to 21st St
12. 25th-27th Ave Easement Storm Drain Rehabilitation - Esmerelda St to 60th St

Please note that some of the pipeline segments to be lined are combined sewer facilities that convey both drainage and sanitary sewer flows. Also included in the scope of work is the rehabilitation of selected manholes associated with the pipeline segments. See Appendix A for locations and project limits of each pipeline segment and manhole to be rehabilitated.

The work includes cleaning pipeline segments and manholes, pre- and post-lining CCTV documentation, performing required point repairs, installing cured-in-place pipe liners, reinstating all live sewer service connections and rehabilitating specified manholes. The Contractor shall provide all labor, materials, tools and equipment, and shall perform all work necessary to complete the subject project.

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 Standard Specifications of the City of Sacramento, adopted June 2007, 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 included in these Special Provisions govern only the applicable technical specifications.

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 responsible 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 all surety bond costs should the City Council not award a contract.

1.05 Interpretation of Contract Documents

No oral representations or interpretation will be made to any bidder as to the meaning of the contract documents. Requests for interpretation shall be made in writing and delivered to the City at least 7 days before the time announced for opening the proposals. 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. Requests for information regarding this procedure or other similar information shall be directed to Melissa Marshall, Project Manager, of the Engineering Division, Department of Utilities, 1395 35th Avenue, Sacramento, CA 95822 (916) 808-1437.

It shall 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 1 week 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 determinable 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 Shop Drawings & Submittals

In accordance with Section 5-7 of the Standard Specifications, Contractor shall prepare and submit for review 5 copies of the following shop drawings and submittals:

1. Construction schedule
2. Preconstruction photos or videotape.

3. Traffic control plan
4. Manufacturer's Certification that liner materials and resin material are in compliance with the required application, specifications, codes, and standards referenced herein.
5. Documentation of the licensing and training certifications from the manufacturer for the foreman and installer who will perform the actual lining process.
6. Submittal of manufacturer's installation instructions and procedures for:
 - Sewer main lining materials
 - Manhole rehabilitation materials
7. Remote lateral reinstatement tool
8. Remote pipeline locating device
9. Liner thickness calculations.
10. Bypass pumping plan
11. Liner end seal material specification and installation instructions.
12. Public notification form.
13. Record drawings (upon completion of work).
14. Any other items

Contractor is advised that at the Engineer's discretion, the above list may be expanded to include additional items to which Section 5-7 of the Standard Specifications will apply. The Engineer, after taking appropriate action, will return 2 marked copies to the Contractor. The Contractor shall keep one copy of the approved Traffic Control Plan at the construction site at all times.

1.08 Project Sign

Prior to beginning any onsite work the contractor shall install a total of 6 project signs. The signs will be supplied by the City and are approximately 2' x 3'. Sign placement shall be as directed by the Engineer. In general, the signs shall be placed on barricades and located at the ends of the construction area where work is being performed. Signs shall be removed at the end of each work day and placed accordingly on the next construction day. The signs shall be removed at the end of the project and returned to the City.

1.09 Manufacturer's Instructions

Contractor shall comply with manufacturer's installation instructions and procedures in accordance with Section 5-16 of the City Standard Specifications.

1.10 Project Scheduling

The Contractor shall submit a detailed schedule showing all items of work prior to initiating 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 be responsible to communicate the work schedule of his subcontractors on a regular basis to the City Inspector or Engineer.

If night work is required due to flow volume or other issues, it will not increase the contract amount, or relieve the Contractor from the Public Notification requirements. Night work is subject to the City's noise ordinance. A City inspector will be available for night installations at no additional contract cost. Weekend work shall conform to Section 7-4 of the Standard Specifications.

1.11 Record Drawings

The Contractor shall maintain a clearly and accurately 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, including field instructions, change orders, and construction adjustments. Installed flusher branches and any new sewer cleanouts and manholes shall be dimensioned to the nearest property lines. Drawings shall be subject to the inspection of the Engineer at all times and progress payments, or portions thereof, may be withheld if drawings are not accurate and current. Prior to acceptance of the work, the Contractor shall deliver to the Engineer 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 "Shop Drawings and Submittals" of these Special Provisions.

1.12 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 Section 5-15, 5-16, 5-17, 5-18, 5-21, and 5-22 of the Standard Specifications and these Special Provisions.

1.13 Permits

It is mandatory for portable equipment used throughout this project for cleaning, lining, bypass pumping, etc., to comply with the Sacramento Metropolitan Air Quality Management District (AQMD) rules and regulations. With certain limited exceptions, portable equipment usually requires an AQMD permit. The type of portable equipment that needs a permit is determined by the local air districts only. There will be no separate payment for permits needed for this project and the cost therefore shall be considered included in the various contract items of work.

1.14 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 levels

Copies of the ordinance are available from the City Clerk's Office, 915 I Street, Sacramento, CA. 95814, and at www.cityofsacramento.org.

1.15 Water Quality Control

The Contractor shall be responsible for the requirements consisting of regulations contained in the National Pollution Discharge Elimination System (NPDES) Stormwater Permit, issued to the City and in accordance with Section 16 of the Standard Specifications.

The Contractor shall prepare and submit an erosion, sediment and pollution control plan (ESC Plan) to the Engineer for review. The ESC Plan shall be submitted a minimum of 48 hours prior to start of the work. The Contractor shall not begin work until an accepted ESC Plan is on file with the Engineer.

The City reserves the right to take corrective action and withhold the City's costs for corrective action from progress payments or final payment in accordance with Section 7, "Retention of Sums Charged against the Contractor", of the Agreement, contained herein. Any fines, including third-party claims, levied against the City as a result of the Contractor's non-compliance are the Contractor's sole responsibility and will be withheld from progress payments or final payment in accordance with Section 7, of the Agreement.

There will be no separate payment for Water Quality Control and the cost therefore shall be considered included in the various contract items of work.

1.16 Project Closeout

When the project is completed in accordance with the Plans and 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.

1.17 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.

SECTION 2 – PUBLIC CONVENIENCE & PROTECTION OF EXISTING CONDITIONS

2.01 Public Right-of-Way and Easements

All pipe and appurtenances rehabilitated as part of this project are located within public rights-of-way and easements. The Contractor shall confine his or her operations to the limits of existing street right-of-way or easements as much as practicable.

In the event the Contract requirements necessitate the Contractor to encroach onto adjoining private property the Contractor shall make all necessary 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.

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.

Existing improvements, utility and adjacent property shall be protected from damage resulting from the Contractor's operations. All trees, shrubbery, lawn, fences, walls, patios and other improvements including existing pavements, decks, pools, sidewalks, street improvements and underground utilities and other improvements not to be removed under this contract shall be protected from damage by the Contractor throughout the construction period. Contractor shall be responsible for repairing damage to existing improvements or replacing in kind at the Engineer's option. Concrete/hardscape surface replacement shall be to the nearest score line and shall match the existing adjacent surface. The final restored surface shall be as good as or better than the pre-construction condition.

The location, alignment, and depth of existing underground utilities as shown on the Plans 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 Plans. Attention is directed to the provisions in Section 6-19 of the Standard Specifications.

The Contractor will insure that utility services to customers in the project are maintained.

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 Plans to be relocated, but are relocated or cut and reconnected at the Contractor's choice, shall be borne by the Contractor.

2.03 Coordination of Work

The Contractor shall cooperate and coordinate regularly with the residents and business owners along the alley way during the course of construction and shall minimize impacts to the residents and business owners.

2.04 Maintaining Water, Sewer & Drainage Flows

The Contractor shall be responsible maintaining water, sewer, and drainage flows including emergency repairs and temporary bypasses in accordance with Section 13-2 of the City Standard Specifications.

The Contractor shall be responsible for maintaining existing sewer flows until new sewer improvements are complete and functioning. Any cut sewer services shall be replaced or repaired by 5:00 PM of the same day, and shall be constructed per Standard Drawing S-260 & S-265.

The Contractor shall be responsible for maintaining existing drainage flow until the final completion of the project. This includes removal of ponded water from any temporary low points created during construction.

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.

Temporary Diversion of Sewer, and Drainage Flows

Should it become necessary for the Contractor to temporarily divert, bypass, or impound flows carried by existing sewer or drainage systems through or around the construction operations within the limits of this project, the Contractor shall prepare a plan of such diversion, bypass, or impoundment and submit the plan to the Engineer for approval.

The plan shall be sufficiently detailed to illustrate the concept proposed. The plan shall also provide information on the quantity of flow to be conveyed by the diversion or bypass system or the volume to be impounded. The plan shall indicate the number, size and configuration of any channel, and the size and configuration of any impoundment basin to be used.

The plan for temporary diversion or bypassing of existing sewer or drainage flows shall be

submitted to the Engineer a minimum of 10 working days prior to the start of work on any temporary system. The Contractor shall not begin work on temporary diversion, bypass, or impoundment system until an approved plan is on file with the Engineer.

No additional compensation will be paid to the Contractor for temporary diversion, bypassing, or impoundment of existing sewer or drainage flows. The cost of such work shall be included in the various contract items of work.

2.05 Work Performed by City Crews

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.

2.06 Existing Site Conditions

Bidders are directed to Section 2-4 of the Standard Specifications which require Bidders to examine the project site. Bidders are hereby notified that CCTV reports of some of the existing pipes are available and located in Appendix C. CCTV report records constitute a recording of the pipe condition at the date indicated on the report and no guarantee is made or implied that the condition is the same at the time of construction.

2.07 Handling and Removal of Hazardous or Contaminated Materials

In the event that 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, contact the Engineer, and schedule operations to work elsewhere on the site, if possible. The City will be responsible for handling and removal of hazardous material or may request that the Contractor be made available, through 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.

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 that the material was delivered.

None of the aforementioned 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.

2.08 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 ensure 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.

2.09 Public Notification of Work

The Contractor shall notify property owners and tenants adjacent to the project limits in writing two (2) working 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. See sample notification letters in Appendix B.

The Contractor shall notify residents with manholes or flusher branches located in their yard 1 week prior to commencing any work, in addition to the 2 day notice, with a door hanger containing the information in the sample letter included in Appendix B (labeled to distribute 1 week in advance).

Contractor shall submit completed notice form for approval per the requirements of these Special Provisions and shall include a map that shows the extent of the area proposed to receive notification.

The Contractor shall complete the Event Notification Form located in Appendix B, and submit it to the Sacramento Regional Wastewater Treatment Plant (SRWTP), 14 days prior to pipe cleaning (greater than 21-inch diameter) or CIPP lining (water cured only) activities as required.

2.10 Maintenance of Traffic, Public Safety and Convenience

The Contractor's attention is directed to Sections 6-6 through 6-11, 7-4 and 16-3 of the Standard Specifications.

Spillage resulting from hauling operations along or across any public traveled way shall be removed immediately by the Contractor at his expense. Water or dust palliative shall be applied if ordered by the Engineer for the alleviation or prevention of dust nuisance.

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.

The Contractor will ensure that utility services to customers in the project are maintained.

Contractor shall not interfere with or impair any railroad operations in accordance with Section 6-6 of the City Standard Specifications.

The Contractor shall be required to establish traffic scheduling and control measures acceptable to the Engineer prior to starting any work. The Contractor shall submit to the Engineer for review and approval a plan showing proposed traffic control measures and/or detours for vehicles and pedestrians affected by the construction work. This plan shall be submitted a minimum of ten (10) working days prior to the scheduled commencement of any work by the Contractor. **The Contractor will not be allowed to begin work until an approved plan is on file with the Engineer.** In addition, the approved plan shall be kept on hand at the project site at all times while construction is in progress. **All advance warning and traffic delineation shall conform to the provisions of Section 6-10 of the Standard Specifications** and the latest edition of "Work Area and Traffic Control Handbook", (WATCH).

The Contractor's traffic control plan shall include location of proposed work area, locations of areas where the public right of way will be closed or obstructed, any proposed phases of traffic control and time period of when traffic control will be in effect. The traffic control plan shall also include the name and business address of Contractor and a statement that the Contractor will comply with the City's noise ordinance.

The Contractor shall be solely and completely responsible for furnishing, installing, and maintaining all warning signs and devices necessary to safeguard the general public and the work, and to provide for the safe and proper routing of all vehicular 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 all 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 twenty-four (24) 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. Contractor shall give property owners forty-eight (48) hours notice in advance of the closure.
5. Provide for pedestrian traffic at all times except where closures are approved in advance by the Engineer.
6. At least one (1) 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 so as 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. For work done before 7:00 A.M. or after 6:00 P.M., or during all daylight hours between 6:00 P.M. Friday to 7:00 A.M. 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.
8. 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.

The Contractor is hereby alerted that Fruitridge Road, Arden Way, Evergreen Street and Franklin Blvd are designated as “primary streets” and as such the requirements and administrative penalties of Chapter 12.20 of the City ordinance apply. In accordance with the ordinance, the Contractor shall not impede traffic on primary streets in any fashion outside the work hours of 8:30 A.M. and 4:00 P.M.

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.

Prior to commencing work and/or closing the street or alley to through traffic, Contractor shall contact the following City Divisions and agencies:

1. Police Communication Center one (1) working day prior to closure by calling 277-1750, or fax at 277-1772.
2. Fire Department Communications Center one (1) working day prior to closure by calling 228-3035 or fax at 228-3082.
3. City Traffic Engineering Services five (5) working days prior to closure by calling 808-5307.
4. City Solid Waste Division five (5) working days prior to closure by calling 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 808-5579 or fax at 808-7501.
6. Regional Transit five (5) working days prior to closure by calling Lynn Cain at 321-5375 or fax at 557-4541.

At a minimum, the information faxed shall include:

- Project name and number
- Contractor's name and a 24-hour phone number
- City of Sacramento's project manager's name
- City Inspector Name and phone number
- Limits of street closure, with street names
- Duration of street closure

Full compensation for doing all work involved in providing maintenance of traffic, public safety and convenience shall be considered as included in the prices paid for the various contract items of work and no additional compensation will be allowed therefor.

2.11 Removal of On-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.

2.12 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.

SECTION 3 – GENERAL SEWER CONSTRUCTION REQUIREMENTS

3.01 Dewatering/Infiltration Control

A determination of groundwater level has not been made for this project. In accordance with Sections 16 and 26-2 of the Standard Specifications, Contractor shall be responsible for the control, removal, and disposal of any groundwater encountered in the course of excavating or backfilling trenches, placing pipe, or constructing any other improvement associated with this project.

No separate payment will be made for de-watering/infiltration control. All costs should be included in the individual items requiring dewatering.

3.02 Trench Excavation and Backfill

Trench excavation and backfill in all streets shall meet the applicable requirements of Sections

10, 14 and 26 of the Standard Specifications and these Special Provisions.

3.03 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 Plans 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 trench wall. Extent of curb and gutter replacement shall coincide with sidewalk panel being replaced. Pavement cutting shall be perpendicular and parallel to the centerline of the road when practicable.

3.04 Temporary Paving

Temporary paving shall be in accordance with Section 14-4 of the Standard Specifications.

3.05 Closed Circuit Television (CCTV) Inspection of Pipes

An internal CCTV inspection shall be performed by the Contractor after the sewer cleaning operation prior to liner installation for each sewer rehabilitation location. If any protruding taps, offset joints, grease buildup, debris, roots or other obstructions prevent the CCTV inspection from proceeding, the contractor shall remove the obstructions and make all repairs necessary in order to proceed with the inspection. The CCTV inspection video disk (DVD) and a hard copy of the video report shall be delivered to the Engineer a minimum of 10 working days prior to any further work on the pipeline segment by the Contractor. The CCTV inspection shall be completed in the same direction each time and shall be done with a color camera in a digital format. The Contractor shall conduct additional CCTV inspections in locations where repairs are performed in order to inspect the quality of the repair. A copy of the additional CCTV inspection DVD shall be provided to the Engineer for review prior to the liner installation. A pan and tilt camera shall be used to video all pipelines that are 6 inches in diameter and greater and shall be used to perform detailed inspection of each service lateral connection.

The Contractor shall perform a second CCTV inspection of each installed liner after existing services have been reconnected and manhole work has been completed. This final CCTV inspection shall be in accordance with NASSCO's Pipeline Assessment Certification Program (PACP). CCTV inspections shall be conducted entirely in digital format and shall be recorded in MPG or AVI format written to DVD and shall be compatible with the Granite XP software (version 4.6.10 or City's current version). All CCTV inspection reports shall be within +/- 2 (two) feet of the measured linear footage along the existing pipe centerline from the center of manhole to the center of manhole or access point.

The documentation of the work shall consist of a DVD, PACP CCTV Reports, and the unmodified PACP database. **The database shall contain PACP scoring for each inspection observation or defect.** The database itself shall be compatible with the City's most current version of the Granite XP software. 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 DVD shall become the property of the City.

Every section of the pipe (manhole to manhole or access point) shall be identified on the video display and shall include: project name, street name, City manhole numbers, inspector's name, pipe diameter and length, and date of inspection. In addition to inspecting the pipe, all manholes shall be panned with the CCTV camera.

The inspection shall be free of steam or vapor that obscures the picture and the flow level in the sewer shall be held sufficiently low to provide for a clear view of the lined pipeline and reinstated laterals. At each lateral, the Contractor shall pan and tilt the camera as necessary to show a perpendicular view of the entire reinstatement. *Special attention shall be made to adjust the light and focus in order to clearly pan along the edge of CIPP liner reinstatement to show its condition.* The Contractor shall provide a "snap shot" still photograph showing the complete circumference of each lateral reinstatement. The image shall include distance from manhole and clock position of lateral opening in the pipe. A copy of the CCTV inspection DVD and a hard copy of the video report including photographs for each lateral reinstatement shall be provided to the Engineer.

The requested hard copies of the pre and post liner installation reports shall be neatly organized in a three ring binder or similar, with dividers separating the information for each individual rehabilitation location, and shall include a Table of Contents. Each inspection DVD shall be labeled, clearly indicating that the video is pre or post liner and listing each pipeline segment (identified by manhole reach) contained on the DVD. Each individual pipeline video segment shall be identifiable on the DVD and data file.

Payment for Television Inspection of Pipes shall be as indicated in the Items of the Proposal. All costs should be included in the individual items requiring television inspection, unless otherwise specified.

3.06 Tree Preservation Requirements

Trees within the project area shall be protected by the following means:

1. The contractor shall hire an International Society of Arboriculture (ISA) certified arborist to do any required pruning for equipment clearance. The contractor shall contact the City Arborist (Dan Pskowski, 768-8604) for a root inspection(s) for trenching activities within

the dripline(s) of the trees.

2. If during excavation for the project, tree roots greater than two inches in diameter are encountered, work shall stop immediately until the project arborist can perform an on-site inspection. All roots shall be cut clean and the tree affected may require supplemental irrigation/fertilization and pruning as a result of the root cutting. The project sponsor will be responsible for any 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.
3. The contractor shall be held liable for any damage to existing trees, i.e. trunk wounds, broken limbs, pouring of any 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 for review by the City Arborist.
4. Tree protection methods noted above shall be identified on all construction plans for the project.

3.07 Archaeological Resources Discovery

Discovery of cultural resources. In the event that any 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. All 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, all 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, all 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, all 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.

3.08 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 4 – ITEMS OF THE PROPOSAL

Item No. 1 Preconstruction Photographs

This item shall conform to Section 11 of the Standard Specifications except as modified herein. Photographs and/or videos shall be taken at each location where access to manholes or flusher branches is required and in all areas of private property where access is required to complete the requirements of the Contract. Photographs are not required at 100 foot intervals elsewhere. Installation of liner shall not proceed until preconstruction photographs have been submitted and reviewed and approved.

Payment shall be on a "lump sum" basis and shall include full compensations for all labor, materials, and required processing.

Item No. 2 Mobilization

This item shall include moving onto the site, establishing a corporation yard, bonding and other items the Contractor deems necessary to complete mobilization. The compensation for mobilization shall not exceed 10 percent of the total bid amount.

Payment shall be on a "lump sum" basis and shall include full compensations for all labor, materials, equipment, and required processing.

Item No. 3 Point Repairs

This item shall include all work required to perform point repairs. The work shall include verifying the location of the point repair through internal television inspection of the pipe and marking the location on the surface using a remote locating device, locating all affected utilities, excavation, dewatering, pipe repairs or replacement, backfilling, surface restoration, post repair CCTV inspection and, where required, temporary flow diversion or bypass, sewer dewatering, and traffic control.

It shall be the responsibility of the Contractor to clear the line of obstructions such as solids, offset joints, protruding service connections that cannot be corrected internally, or collapsed pipe that will prevent proper liner insertion. If inspection reveals obstructions that the Engineer agrees cannot be removed by conventional pipe cleaning equipment or with the cutting tools such as a hydro jet cutting tool or a robotic grinding cutter head specifically designed for this purpose, then the Contractor shall locate the point repair at the surface with a remote locating device and make a point repair excavation to uncover and remove or repair the obstruction. Prior to the commencement of the work, the point repair excavation shall be approved in writing by the Engineer and the final length of repaired pipe shall be as directed by the Engineer in the field.

Before any point repair excavation is initiated, the Contractor shall give the Engineer 2 working days notice. Replacement pipe diameter and materials shall match existing (pipe material may be

PVC SDR-35 upon approval by the Engineer). The Contractor shall provide a flexible rubber repair coupling with Type 316 stainless steel bands at each end of the replaced section in order to connect it with the existing sanitary sewer. The replaced section of pipe shall provide a smooth transition from the existing pipe to the new pipe.

If a sewer service lateral connects to the section of main being replaced, the Contractor shall place a wye or tee fitting at the appropriate location in the replacement section of main to facilitate reconnection of the service. The existing sewer service shall be reconstructed as specified in and paid according to the Lateral, to Reinstatement Externally item. For each lateral reconstruction performed within a point repair section, 1.5 feet will be deducted from the overall point repair length, and an external reinstatement will be paid.

The length of point repairs listed in the Bid Proposal is approximate only. The unit price indicated for point repairs will not be adjusted because the length of point repairs actually required varies from the quantity in the Bid Proposal.

Payment for point repairs shall be at the unit price bid per lineal feet of pipe replaced, measured to the nearest ½ foot. The minimum length for a point repair shall be 3 feet, unless an external lateral reinstatement is associated with the point repair. Payment shall include full compensation for all materials, labor, equipment, and supplies necessary to complete this item in place.

Item No. 4 CCTV and Clean Sewer Pipe

This item covers, in general, the cleaning and television inspection of sanitary sewer segments to be lined. The Contractor shall be responsible for cleaning, providing an internal CCTV inspection, confirming the inside diameter and determining the condition of each manhole-to-manhole segment of all the existing sewer segments proposed to be lined.

The cleaning process shall include the removal of all roots. The Contractor shall note that the existing sewer may have heavy solids, such as drain rock and collapsed pieces of pipe or other debris. The cleaning operation shall be performed with nozzles and water pressure that provide the required cleaning, yet minimizes further damage to the existing pipe. Mechanical equipment or balling shall not be used unless approved by the Engineer. If any protruding taps, offset joints, grease buildup, debris, roots or other obstructions prevent the CCTV inspection from proceeding, the contractor shall remove the obstructions and make all repairs necessary in order to proceed with the inspection. Protruding clay sewer service taps shall only be cut by use of a hydro jet cutting tool or a robotic grinding cutter head specifically designed for this purpose. For any other protruding plastic tap, pipe gasket, or other obstruction, reasonable effort shall be taken to trim or remove the obstruction internally.

All materials removed from the sewer system as a result of the pipeline cleaning operations shall be conveyed by the Contractor to a suitable waste disposal site as selected by the Contractor.

Non-hazardous liquid waste removed from the sewer system may be disposed of at the following locations with proper documentation:

- 1) SRCSD Wastewater Treatment Plant in Elk Grove
 - 2) Roseville Rd/Watt Ave liquid waste disposal site
- Contact Linda Stephens (916-876-5287) or Rachel Gillis (916-875-6454, gillisr@sacsewer.com) for further information.

Non-hazardous solid waste removed from the sewer system may be disposed of at the following locations with proper documentation:

- 1) Keifer Landfill – 12701 Kiefer Blvd at Grant Line Road, Sloughhouse
- 2) North Area Recovery Station – 4450 Roseville Rd, North Highlands

Documentation shall include the following items:

- total amount of waste
- type of waste
- type of truck
- number of trips expected
- time & day of visit to dispose of waste

Contact Wendy Nelson (916-875-5117) for further information.

Any materials removed from the sewer system that are deemed to be hazardous waste shall be disposed of according to the Handling and Removal of Hazardous or Contaminated Materials section of these Special Provisions.

The internal CCTV inspection shall be performed by the Contractor after the sewer cleaning operation and after any required point repairs are completed. The CCTV inspection shall be performed as required in the section entitled Closed Circuit Television Inspection of Pipes of these Special Provisions.

Payment shall be at the unit price bid per lineal foot, and will be made for the actual length of pipe cleaned and CCTV inspected. The length shall be measured from centerline of manhole to centerline of manhole. The unit price per lineal foot cleaned & inspected shall include all materials, labor, equipment and supplies necessary for the complete cleaning, CCTV inspections and re-inspections, videos and reports, flow diversion or bypass pumping, non-hazardous waste disposal, removal of obstructions such as protruding taps, offset joints, grease buildup, debris, roots, etc. that prevent the completion of CCTV inspection, and all other work required to complete this Item in place.

Item No. 5 6-inch CIPP Liner to Install

Item No. 6 8-inch CIPP Liner to Install

Item No. 7 10-inch CIPP Liner to Install

These items cover, in general, the work necessary to furnish and install, complete, cured-in-place pipe (CIPP) liners.

GENERAL

SCOPE

This specification covers the work necessary to furnish and install, complete in place, cured-in-place pipe (CIPP) at the locations shown in the contract drawings in Appendix A. The Contractor shall provide all materials, labor, equipment, and services necessary for bypass pumping and/or diversion of sewage flows, repairing protruding laterals, installing the CIPP liner, and, after completion, television inspection and testing of completed CIPP liner pipe system.

Acceptable materials:

- Insituform as manufactured by Insituform Technologies, Inc. shall be used to repair and line the 6-inch and 8-inch diameter sewer main sections and 10-inch diameter storm drain sections.

OR

- InLinerU.S.A. as manufactured by InLinerU.S.A., Inc. shall be used to repair and line the 6-inch and 8-inch diameter sewer main sections and 10-inch diameter storm drain sections.

OR

- Approved Equal.

REFERENCE SPECIFICATIONS, CODES, AND STANDARDS

The following references are part of this Specification. In case of conflict between the requirements of this Specification and those of the listed documents, the requirements of this Specification shall prevail. The latest edition of the following references shall be used:

ASTM D5813	Standard Specification for Cured-in-Place Thermosetting Resin Sewer Pipe
ASTM F1216	Standard Practice for Rehabilitation of Existing Pipelines and Conduits by the Inversion and Curing of Resin-Impregnated Tube
ASTM F1743	Standard Practice for Rehabilitation of existing Pipelines and Conduits by Pulled-in-Place Installation of Cured-in-Place Thermosetting Resin Pipe (CIPP)

CONTRACTOR QUALIFICATIONS

The Contractor must demonstrate previous successful experience in installation of the CIPP Thermosetting Resin pipe. The required experience includes but is not limited to the following:

- The Contractor shall be certified and licensed, by the manufacturer, for the CIPP lining installation process. Documentation of the licensing and training certification from the manufacturer for the foreman and the installers who will perform the actual lining process shall be provided with the bid package.

- The Contractor shall have completed a minimum of three (3) projects of similar size and scope for installation of CIPP Thermosetting Resin pipe for a municipality or other agency within the last five (5) years. The documentation for each project shall be submitted with the bid and shall describe the work performed, the contract amount and duration, the time period of performance, and shall include the name, address, and telephone number of the owner agency or municipality. The documentation also shall include the name of the contact person for each owner who is familiar with the work performed.

CONTRACTOR SUBMITTALS

The Contractor shall provide submittals on all lining materials and resins, and shall furnish manufacturer certification that the liner materials are in compliance with the specifications, codes, and standards referenced herein. The submittals shall include details of all component materials and construction details including complete manufacturer's recommendations for storage procedures and temperature control, handling and inserting the liner, curing details, service connection methods, and trimming and finishing. The Contractor shall also provide manufacturer's certification, field measurements, and pipe sizing calculations which demonstrate that the liner has been properly sized to avoid the creation of wrinkles or folds. The submittal shall include certification from the manufacturer that the Contractor is licensed to perform the work.

The Contractor shall submit bypass pumping and/or diversion plans for review by the Engineer at least ten (10) working days prior to implementation. The Contractor shall notify the Engineer 24 hours prior to commencing with the bypass pumping operation. The Contractor's plan for bypass pumping shall be satisfactory to the Engineer before the Contractor shall be allowed to commence bypass pumping.

The Contractor shall submit shop drawings that identify the liner insertion and bypass pumping locations and methods with sufficient detail to assure that the work can be accomplished without sewage spill. The bypass pumping plan shall include an emergency response plan to be followed in the event of a failure of the bypass pumping system.

The Contractor shall submit the resin manufacture's heating requirements and the general curing guidelines.

QUALITY ASSURANCE

The finished liner shall be continuous over the entire length of an insertion run between two manholes or access points and shall be free from visual defects such as foreign inclusions, dry spots, fins, pinholes, delamination, and other deformities. Such defects and deformities may, at the discretion of the City, be cause for rejection of the entire liner, in which case the lined pipe will be removed and replaced at no additional cost to the City.

The finished liner shall be free of wrinkles. Any wrinkles that are parallel with or perpendicular

to the flow line of the pipe that cause backwater in the rehabilitated pipelines or create maintenance problems are unacceptable and shall be removed and repaired by the Contractor at the Contractor's expense. It is understood that at pipe bend locations, a limited amount of wrinkles are often unavoidable and shall be accepted.

WARRANTY

The Contractor shall provide a warranty to be in force and effect for a period of one year from the date of final acceptance. The warranty shall cause the Contractor to repair or replace the liner should failure result from faulty design, materials or installation.

PRODUCTS

MATERIALS - Materials, installation procedures, and the final product shall meet or exceed the CIPP Manufacturer's requirements and requirements of ASTM F1216, ASTM F1743, and ASTM F2019 as applicable.

A. Liner Tube

The liner tube shall consist of one or more layers of flexible needled felt or an equivalent woven and/or nonwoven material capable of carrying resin, withstanding installation pressures and curing temperatures, and is compatible with the resin system used. The liner shall be fabricated to a size that, when installed, will snugly fit the internal circumference of the existing pipe without any annular space between the liner and existing pipe wall, and provide the design thickness when cured with the liquid thermosetting resin.

The minimum tube length shall be that deemed necessary by the Contractor to effectively span the distance from the inlet to the outlet of the respective manholes, or access points, unless otherwise specified. The Contractor shall verify the lengths in the field before impregnation of the tube with resin.

Prior to insertion, the Contractor shall provide data on the maximum allowable stresses and elongation of the tube. The exterior of the manufactured tube shall be marked along its length at regular intervals not to exceed five feet. These marks shall be used as a gauge to measure elongation during insertion. Should the overall elongation of a reach exceed five percent or the manufacturer's specified limit (whichever is less), the liner tube shall be rejected and replaced.

The outside layer of the tube should be plastic coated with a material that is compatible with the resin system used. The liner shall be fabricated from materials which when cured, will be resistant to corrosion and scour due to abrasion caused by solids, grit and sand.

Prior to insertion, the liner shall be free of all visible tears, holes, foreign materials, and

other defects. Any layers of the tube that are not saturated with resin prior to insertion into the existing pipe shall not be included in the structural CIPP wall thickness computation.

B. Resin.

Unless otherwise specified, provide a general purpose, unsaturated, thermosetting, polyester, vinylester, or epoxy resin able to cure in the presence or absence of water, and a catalyst system compatible with the insertion process. Resin shall not be subjected to ultraviolet light and shall form no excessive bubbling or wrinkling during lining.

STRUCTURAL REQUIREMENTS

A. The CIPP system shall conform to and comply with the minimum standards listed below. The installed thickness of the liner shall at no point be less than 95% of the design thickness.

<u>Characteristic</u>	<u>Test Method</u>	<u>Standard</u>	<u>Long Term*</u>
Flexural Strength	ASTM D 790	4,500 psi	
Flexural Modulus	ASTM D 790	250,000 psi	125,000 psi

* Long term flexural modulus shall, as a maximum, be 50% of the value of the manufacturer’s published Flexural Modulus. A smaller reduction can be used if substantiated by third party testing to the Engineer’s satisfaction.

B. The required structural CIPP wall thickness shall be, as a minimum, based on the physical properties as specified in Section A and designed as per ASTM F1216, Appendix X1. The CIPP design shall assume no bonding between the liner and the original pipe wall. Design shall incorporate the following design parameters:

Diameter	varies
Pipe Condition	fully deteriorated
Ovality	2%
Enhancement Factor, K	7*
Maximum Soil Depth (above the crown)	use max. manhole depth for each pipeline segment to be lined
Water Table (max. height above the crown)	use half the Maximum Soil Depth associated with each pipeline segment to be lined
Live Load	HS-20

Soil Density 110 pcf

Design Safety Factor 2.0

* Application of Enhancement Factor, K, in excess of 7 shall be substantiated through independent test data.

EXECUTION

PREPARATION

A. Bypass Pumping.

Should it become necessary for the Contractor to temporarily divert, bypass, or impound flows carried by existing sewer through or around the construction operations within the limits of this project, the Contractor shall prepare a plan of such diversion, bypass, or impoundment and submit the plan to the Engineer for approval.

The plans shall be sufficiently detailed to illustrate the concept proposed. The plan shall provide information on the quantity of flow to be conveyed by the diversion or bypass system or the volume to be impounded. The plan shall also indicate the number, size and configuration of any conduit to be used, and the size and configuration of any impoundment basin to be used.

Bypass pumping shall consist of furnishing, installing, and maintaining all power, primary and standby pumps, appurtenances and bypass piping required to maintain existing flows and services. The bypass pumping and/or diversion plan shall include provisions for a backup system in case of failure of the primary bypass system. The plan for temporary diversion or bypassing of existing sewer shall be submitted to the Engineer a minimum of (10) working days prior to the start of work on any temporary system. The Contractor shall not begin work on temporary diversion, bypass, or impoundment system until an approved plan is on file with the Engineer.

Bypass pumping shall be done in such a manner as not to damage private or public property, create a nuisance or public menace, and shall be subject to the City's noise ordinance. The pumped sewage shall be in an enclosed hose or pipe that is adequately protected from traffic, and shall be redirected into a sanitary sewer system. Dumping or free flow of sewage on private property, gutters, streets, sidewalks, or into storm sewers is prohibited. The Contractor shall be liable for all cleanup, damages, and resultant fines in the event of a spill. After the work is completed, flow shall be returned to the rehabilitated sewer.

The Contractor shall take all necessary precautions including monitoring of bypass pumping to insure that no private residences or properties are subjected to a sewage backup or spill.

The Contractor shall pump out or otherwise positively drain all locations where the building sewer is disconnected from the sewer main for more than one day. More frequent pumping shall be used in locations where wastewater flows exceed the capacity of temporary storage provided by the Contractor. The Contractor shall provide a barrier between the disconnected sewer service and the main sewer which prevents sewage from flowing into or against the sewer main.

B. Cleaning, Preparation and Inspection of Existing Sewer

The Contractor shall be responsible for cleaning, inspecting, confirming the inside diameter and determining the condition of each manhole-to-manhole segment of all existing sewer segments to be lined, prior to installation of the CIPP Liner. Cleaning, preparation and inspection of existing sewers shall conform to and shall be paid for under Item No. 4 of these Special Provisions.

The Contractor shall verify and certify that the pipeline to be lined is suitable in every way for rehabilitation by the CIPP method. All lining work performed by the Contractor after the pre-installation CCTV is considered the Contractor's certification that the method is applicable and that the pipeline is suitable for lining.

The Contractor shall determine if spot repairs are needed for proper installation of the liner as required by the lining manufacturer prior to wetout. The Contractor shall provide written notification for any and all repairs requiring excavation. All point repairs shall be approved by the Engineer prior to construction activities.

C. Manholes.

The Contractor shall protect the manholes, as necessary, to withstand forces generated by equipment, water or air pressure used while inserting the tube. Manholes requiring the removal of manhole frame and cover and/or cone section for liner installation will be determined by the Contractor and approved by the Engineer in writing, prior to start of work. Manholes shall be rebuilt per Section 25 of the Standard Specifications.

INSTALLATION

CIPP installation shall be in accordance with:

- **ASTM F-1216, Section 7** for the installation of a resin-impregnated flexible tube which is inverted into the existing conduit by the use of a hydrostatic head or air pressure,
or
- **ASTM F-1743 section 6** for the installation of a resin-impregnated flexible tube which is pulled-in-place into an existing conduit and secondarily inflated through the inversion of a calibration hose by the use of a hydrostatic head or air pressure,

whichever is applicable to the selected process, and the following additional requirements:

- The impregnated tube shall be inserted through the access approved by the Engineer by means of the installation process. The application of hydrostatic head or compressed air shall fully extend the liner to the termination point and inflate and firmly press/adhere the liner to the pipe wall.
- If the pulled-in-place method of insertion is used, the calibration hose materials, if they are to remain as part of the completed CIPP liner installation, shall be compatible with the resin system used, shall bond permanently with the CIPP liner tube, and shall be translucent to facilitate post-installation inspection.
- If air pressure is used to invert the resin-impregnated liner into the pipe, and the Contractor chooses to release the liner pressure between the inversion process and the curing process, the Contractor assumes the risk of host pipe failure and subsequent liner failure and assumes the responsibility to replace the liner at the Contractor's own cost.
- Once inversion has started the pressure shall be maintained between the minimum and maximum pressures, as set by the liner's manufacturer, until cure completion. A continuous, constant pressure must be maintained for all air inversion steam cure installations. If pressure is lost at any time during installation/cure, the City may request that the CIPP product be removed and the line segment re-inspected, at the contractor's expense, prior to allowing re-installation and curing.

CURING

- Constant pressure must be maintained until the tube has completely cured out.
- The Contractor shall provide a heating source that raises the temperature above the Manufacturer's recommendation based upon the resin-catalyst system employed for curing.
- The Contractor shall place a temperature gauge between the tube and host pipe's invert at a minimum of 5 feet from the termination to monitor the temperatures during the curing process.
- The Contractor must maintain an on-site written log during the CIPP curing process for each installation, tracking temperature, pressure (for steam cure) and curing time. This log must be available for review at any time by the Project Construction Engineer. If air pressure and steam are used, a Safety Gas Detector shall be used to ensure that it does not reach the explosive limit.
- The Contractor shall allow a cool down period that is in accordance with the Manufacturer's specifications prior to returning flow into the system, and no release shall be allowed if temperatures are greater than 100° F.

- The Contractor shall ensure that the heat source piping be fitted with suitable monitors to gauge the temperature of the incoming and outgoing hot water or steam.
- The Contractor shall supply any and all distribution equipment necessary to uniformly cure the resin in accordance with the Manufacturer's recommendations in order to meet the minimum design properties.

END SEALS

To ensure that the CIPP makes a tight seal at the manhole opening, with no annular gaps, a hydrophilic end seal shall be installed, such as LMK's INSIGNIA END SEAL, or other, as approved by the Engineer. Contractor shall install seal per manufacturer's instructions. The hydrophilic end seal shall be installed on the new liner within 6 inches of the entrance and exit of each manhole/flusher branch associated with the installation section.

The liner ends shall be trimmed flush with the manhole walls, with any annular space filled. At intermediate manholes, the reformed liner shall be cut flush with the springline of the existing channel and flush with the manhole walls.

INSPECTION AND TESTING

A. Material Testing

- The Contractor shall provide certified test results. All testing for CIPP shall be provided by the Contractor at the Contractor's expense and shall be approved by the Engineer. All material testing shall be performed by a registered independent, third-party laboratory according to ASTM F1743 or ASTM F1216, Section 8, Inspection Practices.

Delamination testing shall be performed according to ASTM F1743 or ASTM F1216, section 8.4.

Corrosion resistance requirements shall be as stated in ASTM F1216, Section X2, Chemical Resistance Tests.

B. Field Testing.

The Contractor shall televise the installed liner after existing services have been reconnected and manhole work has been completed. At each lateral, the Contractor shall pan and tilt camera as necessary to show a perpendicular view of the reinstatement. The original television inspection video tape/DVD shall be provided to the Engineer.

Prior to sewer service reinstatement CIPP liner shall be tested at the pressure specified herein, in accordance with ASTM F1743 or ASTM F1216, section 8.3 whichever applies.

C. Inspection

All liners shall be assessed by the City based on the guidelines shown in Table 1 below. The City’s assessment and remedy shall be final. All repairs shall meet the original specifications for finished liner and shall be performed by the Contractor at no additional cost.

Table 1 – CIPP defect and repair methods table

DEFECT	TOLERANCE	ACCEPTED REMEDIES	MONETARY PENALTY
Wrinkles/Fins/Folds	Repair if exceeds ½”	Trim/Grind flush with liner wall	No deduction, assuming adequate thickness is achieved
Bubbles, blisters, dimples, lumps, lifts, or foreign inclusions	Repair if exceeds ½”	Approved CIPP Spot Repair or Dig & Repair with lined section if defect is ≤ 15’ long; if defect is ≥ 15’ long, dig and replace entire reach if liner appears to have been compromised, or install *Second Liner in affected areas, if deemed appropriate by City	No deduction assuming a proper CIPP Spot Repair, Dig and Repair, or Dig and Replace is completed. If City accepts the defect without remedy a 15% deduction should be applied to the reach.
Cracked Liner	Repair all	For longitudinal cracks, install *Second Liner meeting original testing requirements if hydraulically acceptable or Dig & Replace entire reach. For circumferential cracks at services laterals, 360° Top Hat (or approved equal).	No deduction, assuming a proper Second Liner, Dig & Replace, or Top Hat (or approved equal) is installed.
Delaminated, dry spots, burst, or collapsed CIPP	Repair all	Dig & Replace entire reach or re-line at City’s discretion.	No deduction, assuming a proper Dig & Replace or re-line is performed. If City accepts the defective reach, a 100% deduction should be applied to the reach.

*Where a second liner of CIPP Spot Repair is listed as an available remedy to repair the defect, the hydraulic implications of adding an additional liner of minimum thickness and testing requirements as the original must be evaluated by the City. If hydraulically acceptable, the diameter of the Second Liner of CIPP Spot Repair must be appropriately sized, smaller than the original liner so as to prevent unnecessary wrinkles and folds from forming in the Second Liner or CIPP Spot Repair.

PAYMENT

Payment shall be at the unit price bid per lineal foot, and will be made for the actual length of Cured-In-Place Pipe installed for each respective diameter. The length shall be measured from centerline of manhole to centerline of manhole. The unit price per lineal foot installed shall include all materials, labor, equipment and supplies necessary for the complete liner installation, CCTV inspections and re-inspections, video DVDs and reports, trimming of protruding laterals, flow diversion or bypass pumping, sealing at manholes, testing, cleaning and all other work required to complete these items in place.

Item No. 8 Laterals to Reinstale Internally

This item shall cover all work associated with internally reinstating sewer services in the lined pipe segments. The Contractor shall be responsible for reconnecting all live service connections to the lined pipe. Live sewer services shall be internally reinstated unless otherwise directed by the Special Provisions or by the Engineer. **Note - Contractor shall have redundant remote cutting tool on site during liner installation.**

Sewer service laterals shall be internally reconnected by using a pivot-head CCTV camera and a remote cutting tool to locate the live service connections from inside the lined pipe and cutting a hole nearly matching the service connection diameter. Contractor shall provide a nearly full-diameter hole, free from burrs or projections and with a smooth and crack-free edge. The hole shall be no more than 100 percent and no less than 95 percent of the original service connection diameter. *Particular care shall be taken that the circular opening in the liner shall match from the invert to the springline of the sewer service opening.*

It is the Contractor's responsibility to make sure that only active service connections are reconnected. If the Contractor reinstates a non-live service, the hole in the liner shall be patched utilizing a short segment CIPP liner approved by the Engineer at no additional cost.

An estimate of the number of service connections to be reinstated internally by the Contractor is provided in the Bid Proposal. This quantity is for purposes of bidding only. The unit price indicated for Laterals, to Reinstale Internally will not be adjusted because the actual number of reinstatements varies from the quantities shown in the Proposal.

Payment shall be at the unit price bid in the Bid Proposal for each sewer service reinstated internally. Payment shall include full compensation for all materials, labor, equipment, and supplies necessary to complete this item in place.

Item No. 9 Laterals to Reinstale Externally

This item shall cover all work associated with externally reinstating sewer services in the lined pipe segments. The Contractor shall be responsible for reconnecting all live service connections to the lined pipe. Live sewer services shall be reinstated unless otherwise directed by the Special Provisions or by the Engineer.

Sewer service laterals shall be externally reconnected by the following procedure. Services shall be exposed and disconnected before liner installation. Contractor shall install cleanouts on all externally reinstated services. Cleanouts shall be constructed with ABS pipe and fittings per Standard Specification Section 10-21 and as shown in Appendix B. New cleanouts shall be located within the property the lateral is serving. Cleanout wye shall be "long sweep" design unless otherwise noted. Reconnection of existing services shall be made by one of the following two methods:

1. After the liner has been installed and successfully tested, reconnect the existing service using

an Inserta-Tee tap or an approved equal. Inserta-Tees shall be installed per manufacturer's recommendations. Inserta-tees are not allowed on 6-inch mains.

2. Before the liner has been installed, install a new VCP tee or wye fitting and reconnect the existing service using a flexible fernco coupling or approved equal. After service reconnection, the main shall be lined and the service reinstated internally using a remote cutting tool. The internal reinstatement does not qualify for additional payment under the Lateral to Reinstatement Internally bid item and no additional payment shall be made for selecting this reconnection option.

All external reinstatements to 6-inch diameter mains shall be reinstated prior to liner installation per method 2 above.

An estimate of the number of service connections to be reinstated externally by the Contractor is provided in the Bid Proposal. This quantity is for purposes of bidding only. The unit price indicated for Laterals, to Reinstatement Externally will not be adjusted because the actual number of reinstatements varies from the quantities shown in the Proposal.

Payment shall be at the unit price bid in the Bid Proposal for each sewer service reinstated externally. Payment shall include full compensation for all materials, labor, equipment, and supplies necessary to complete this item in place.

Item No. 10 Inside Drop Connection to Construct

This item shall include all work associated with providing complete in place the inside drop connections in manholes as required by the Plans and Specifications and as directed by the Engineer. Inside drop connections shall be constructed per City Standard Detail S-130 and S-135.

Payment shall be at the unit price bid for each inside drop connection constructed and shall include full compensation for all labor, materials, equipment and incidentals necessary to construct this item in place.

Item No. 11 Manhole Flow Channel and Bench to Construct

This item shall cover all work associated with constructing flow channels and benches in selected manholes as indicated in the contract drawings attached in Appendix A and as directed by the Engineer. Construction of clay channel and bench shall be in accordance with the exhibit entitled "Manhole Flow Channel and Bench Detail" in the Appendix B.

Flow channel material shall be vitrified clay in conformance to Section 10 of the City's Standard Specifications and these Special Provisions. New flow channel shall match inlet and outlet pipe elevations and shall extend to inside face of manhole walls. Clay channel depth shall be from invert to spring line. If inlet and outlet pipes are of different sizes, new clay channel pipe size shall match larger pipe size. If the entire clay flow channel does not fit through the existing

manhole frame and cover, it is acceptable to construct the clay flow channel using the minimum feasible number of separate pieces of clay pipe, grouted smooth.

Contractor shall prepare manhole by first removing all unsound concrete, oil, grease, laitance, and debris by use of a high pressure water spray. No trash or debris, other than wastewater, is allowed to be discharged into the sewer line. Contractor shall provide a minimum grout/concrete thickness of 2 inches below invert of the clay flow channel. Prior to placement of channel all surface that will be in contact with grout shall be saturated with water. After saturation, Contractor shall remove any excess water, leaving no puddles.

Manhole base & bench shall be constructed with Rapid Set CONCRETE MIX, or approved equal. Minimum compressive strength shall be 6000 psi at 28 days, per ASTM C109. Bonding emulsion additive shall be mixed into the CONCRETE MIX and shall be SB Bonding Emulsion by Koester American Corp., or approved equal.

Manhole benches shall be troweled smooth and without surface defect. Because of the rapid set nature of the concrete mix, Contractor may be required to touch up manhole benches with non-shrink grout to provide the desired finish. Non-shrink grout shall be “Non-shrink Multipurpose Grout Cement All”, by Rapid Set, or equal. Non-shrink grout shall conform to ASTM C1107 and ASTM C928. Minimum compressive strength per ASTM C109 shall be 7400 psi at 28 days. Bonding emulsion additive shall be mixed into non-shrink grout and shall be SB Bonding Emulsion by Koester American Corp. or equal.

Payment shall be at the unit price bid in the Bid Proposal per each Manhole Flow Channel and Bench constructed, and shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals for doing all work necessary to complete this item in place. If a manhole bench is required, but a new flow channel is not, the bench construction shall be paid for as part of the Manhole to Rehabilitate Item.

Item No. 12 Flusher Branch to Remove and Replace

This item shall include all work associated with removing flusher branch to provide an access to line selected sewer segments, and after liner is installed, reconstructing flusher branch per the Plans and Specifications and as directed by the Engineer. Access to flusher branches is typically poor; therefore, the Contractor is encouraged to field review flusher branch locations shown on the location exhibits prior to bidding this item to become familiar with the construction constraints.

Flusher branches shall be constructed per the Flusher Branch Detail attached in Appendix B. If the removed materials meet current standards and are of a condition that the Engineer deems reusable, the Contractor may reuse the removed materials to reconstruct the flusher branch. At the connection between the flusher branch and the lined sewer pipe, the flow line of the reconstructed flusher branch shall match the flowline of the installed CIPP liner. Surface must, as a minimum, be restored to the preconstruction conditions and to the Engineer’s satisfaction. Any

existing service connection to the flusher branch shall be reconnected to the newly constructed flusher branch.

Payment shall be at the unit price bid for each flusher branch removed and replaced and shall include full compensation for all labor, materials, equipment and incidentals necessary to construct this item complete in place.

Item No. 13 Manhole to Rehabilitate

General

The Contractor shall rehabilitate the manhole(s) as indicated in the contract drawings attached in Appendix A.

This item shall govern all work, labor, materials, equipment and incidentals necessary for sanitary sewer manhole interior rehabilitation for the purpose of eliminating infiltration and inflow, providing corrosion protection, repair of cracks and voids and verification and/or restoration of the structural integrity of the manhole.

In general, manholes in Appendix A indicated to be rehabilitated, require some modification. Contractor shall remove, if present, existing ladder rungs in all manholes. Where necessary, existing manhole benches shall be reconstructed to a minimum slope of 4 vertical inches per 12 horizontal inches and all influent and effluent pipes shall be trimmed flush to the manhole wall in conformance with City Standards and these Special Provisions. Any connections to manholes that have been abandoned shall be completely plugged before application of manhole rehabilitation material.

The Contractor shall rehabilitate the manhole(s) as indicated in Appendix A using one of the following methods:

- A. Calcium aluminate cementitious liner
- B. Cementitious liner with epoxy resin topcoat

Submittals

The Contractor shall submit a complete manhole rehabilitation submittal to the Engineer for review and approval. The submittal shall include, but shall not be limited to the following:

1. Name of the liner manufacturer and product data including the material safety data sheets (MSDS), certifications of materials, and the physical properties and chemical resistance testing of the liner system.
2. Name of the manufacturer and product data including the material safety data sheet (MSDS) for the patching/plugging compound and the chemical sealant if infiltration exists.

3. Plan of construction including schedule, equipment setup, inspection, preparation, cleaning, and complete installation procedures and details.
4. Qualifications of the installer including certification by the manufacturer. Certification that the equipment to be used for applying the products has been manufactured or approved by the manufacturer.

PRODUCTS

A. CALCIUM ALUMINATE CEMENTITIOUS LINER

Materials

1. SewperCoat PG as manufactured by Kerneos, Inc. - Chesapeake, Virginia (757-284-3200), shall be used to repair and line manhole(s).

OR

2. Approved equal. (Submit a complete chemistry of products claiming to be calcium aluminate products, along with documented performance results in a bacteriological (biogenic) corrosive environment.)

Lining material furnished under this specification shall be a prepackaged mortar mix, including all cement, aggregates, and any required additives. It is intended 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 any admixtures to the lining material. Typical package weights shall not be less than 50 lbs and shall be identical for all material furnished on this project.

As a minimum, the mortar mix shall meet the following physical design properties:

ASTM C109 Compressive Strength	> 8,000 psi	28 days
ASTM C293 Flexural Strength	> 1,200 psi	28 days
ASTM C496 Splitting Tensile Strength	> 800 psi	24 hours
ASTM C882 Bond Strength/Slant Shear	> 1,200 psi	24 hours
ASTM C596 Shrinkage at 28 days	< 0.1% cured @ 90% relative humidity	
ASTM C666 Freeze/Thaw after 300 Cycles	No visible damage after 300 cycles	

The chemical composition of the cement portion as well as the aggregates of the mortar mix shall be as follows:

<u>Al₂O₃</u>	<u>CaO</u>	<u>FeO + Fe₂O₃</u>	<u>SiO₂</u>
41-46%	33-38%	8-13%	4-9%

Mortar mix must have a proven history of successful performance in similar applications.

In addition, 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.

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.

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.

The Contractor shall provide compressive strength certified test results from each day's work with the date, location, and project number recorded on each. The Contractor shall form four 2-inch testing cubes from the calcium aluminate liner. The cubes shall be tested at 28 days for compressive strength by a local independent testing laboratory, and 2 copies of the test report will be furnished to the Engineer.

Application

Spray applied mortar shall be applied in strict conformance with the manufacturer's directions.

SURFACE PREPARATION - Surface preparation shall be performed to obtain a clean, exposed aggregate condition of all concrete surfaces to be coated. All loose spalled concrete shall be removed. The exposed surface shall be sound, porous, and free of dust, dirt, grease, oil, fats, concrete sealing or hardening chemicals, form release agents or other contaminants. Surface preparation can be accomplished using sandblasting or pressure washing (3500 psi) techniques.

Prior to spray application, the surface shall be damp without noticeable free water droplets or running water. An approved cementitious plug or chemical grout can be used to stop active infiltration. All patching, infiltration control, and grouting material shall be approved by the manufacturer prior to use in the manhole and shall meet the following strength requirements:

ASTM C579B	Compressive Strength	600 psi	(24 hours)
		1,000 psi	(7 days)
ASTM C321	Bond Strength	30 psi	(1 hour)
		80 psi	(1 day)

All materials, labor, equipment, and incidentals required to correct inflow and infiltration conditions will be considered incidental to rehabilitation.

LINING - The Contractor shall provide all equipment necessary to individually gauge, control, and monitor the actual amounts of all component materials necessary to complete the lining installation.

All lining materials shall be thoroughly mixed by mechanical means to ensure all 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 all adherent materials.

Re-mixing or tempering shall not be permitted. Rebound materials shall not be reused. Lining material shall not be applied to a frozen surface or to a surface that may freeze within 24 hours of application. Frozen conditions shall be defined as ambient temperatures of 32 degrees Fahrenheit or below.

Sequence of application may be from bottom to top or vice versa if rebound is properly removed. During application, the Contractor shall protect the manhole flow channel and all pipes connected to the manhole. After the manhole has been lined, the flow channel and all connecting pipes shall be smooth and free of lining material.

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.

Application shall be suspended if:

- 1) Air velocity separates the cement from the aggregate at the nozzle.
- 2) Ambient temperature approaches freezing and the newly placed SewperCoat cannot be protected and insulated.

The time interval between successive layers of material application must be sufficient to allow "tackiness" to develop but not final set.

Construction joints within a manhole shall be avoided. In the event 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 the adjoining materials, the sloped portion and adjacent applied material shall be thoroughly cleaned as necessary, then moistened and scoured with an air jet.

Nozzleman shall bring the material to an even plane and to well-formed corners.

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.

For manhole applications, the minimum thickness of SewperCoat shall be ½-inch over all surfaces.

CURING – The Calcium aluminate liner must cure in a moist environment. Curing by appropriate methods (curing compound, water mist, etc.) should be implemented as the surface begins to harden and dry (as early as one hour after application). Curing compound shall meet the requirements of ASTM C309 and have the approval of the lining material Manufacturer and the Engineer prior to use. Moist curing should continue for a minimum of 18 hours.

QUALIFICATIONS - Foreman shall have at least 4 years experience with similar work and project conditions. Nozzlemen shall be qualified by having had similar work experience.

EQUIPMENT - Equipment must be a low-pressure, wet-spray machine that is clean and free of any Portland cement residue and approved by the manufacturer. Alternate equipment may be utilized provided it meets performance requirements.

SewperCoat® PG is specifically formulated for the “wet-shotcrete” application method. This installation equipment is typically a low-pressure progressive cavity (rotor/stator) type pump. Material should be installed in accordance with standard industry practice as defined by ACI 506 – Specifications for Materials, Proportioning, and Application of Shotcrete.

Packaging: SewperCoat® PG is normally provided in 50-lb. bags. It must be covered and stored in a weather-protected area, free from moisture.

B. CEMENTITIOUS LINER WITH EPOXY RESIN TOPCOAT

CEMENTITIOUS LINER:

Materials

1. Strong Seal MS-2C as manufactured by Strong-Seal Systems (800-345-0164) shall be used to repair and line manhole(s).
- OR
2. ThoRoc SP15 as manufactured by ChemRex Inc. shall be used to repair and line manholes.
- OR
3. Approved equal.

As a minimum, cementitious liners shall meet the following physical properties:

ASTM C109	Compressive strength @ 1 day	3,000	psi
ASTM C78	Flexural strength @ 7 days	600	psi
ASTM C596	Shrinkage @ 90% R.H.	0	%
ASTM C952	Bond	130	psi
Density of mixture		100	pcf

Cementitious products shall be formulated with clean potable water and ASTM C-150 Type I or III Cement.

Cementitious products shall be specifically formulated to be suitable for epoxy topcoating and shall be approved by the epoxy manufacturer.

The Contractor shall provide compressive strength certified test results from each day's work with the date, location, and project number recorded on each. The Contractor shall form four 2-inch testing cubes from the cementitious liner. The cubes shall be tested at 28 days for compressive strength by a local, independent testing laboratory, and 2 copies of the test report will be furnished to the Engineer.

Application

Spray applied mortar shall be applied in strict conformance with the manufacturer's directions.

SURFACE PREPARATION - Surface preparation shall be performed to obtain a clean, dry, exposed aggregate condition of all concrete surfaces to be coated. All loose spalled concrete shall be removed. The exposed surface shall be sound, porous, and free of dust, dirt, grease, oil, fats, concrete sealing or hardening chemicals, form release agents or other contaminants. Surface preparation can be accomplished using sandblasting or pressure washing (3500 psi) techniques.

An approved cementitious plug or chemical grout can be used to stop active infiltration. All patching, infiltration control, and grouting material shall be approved by the manufacturer prior to use in the manhole(s).

The surface, prior to spraying shall be damp without noticeable free water droplets or running water.

Application of Cementitious material shall result in a smooth surface with an average profile equivalent to coarse sandpaper in order to optimally receive the epoxy coating. No bugholes or honeycomb surfaces should remain.

Contractor shall allow the cementitious liner to cure for a minimum of 24 hours before applying an epoxy liner.

The mixer/sprayer shall be approved by the manufacturer.

The minimum thickness for cementitious liners shall be ½ inch.

EPOXY RESIN TOPCOAT:

Materials

1. Raven 405 as manufactured by Raven Lining Systems, Inc. (918-584-2810) shall be used to repair and line manholes.

OR

2. NeoPoxy NPR-5300 as manufactured by Neopoxy International (510-782-1290) shall be used to repair and line manholes.

OR

3. Equal.

As a minimum, epoxy resins shall meet the following physical characteristics:

ASTM D695 Compressive strength	10,800 psi
ASTM D790 Flexural strength	11,300 psi
Solids (by volume)	100%
ASTM D2240 Hardness Shore	D 83
Density of mixture	70 lbs./cu. ft.

Application

SURFACE PREPARATION - Surface preparation shall be performed to obtain a clean, dry, exposed aggregate condition of all concrete surfaces to be coated. All loose spalled concrete shall be removed. The exposed surface shall be sound, porous, and free of dust, dirt, grease, oil, fats, concrete sealing or hardening chemicals, form release agents or other contaminants. Surface preparation can be accomplished using sandblasting or pressure washing (3500 psi) techniques.

An approved cementitious plug or chemical grout can be used to stop active infiltration.

PATCHING - Grout areas that might exhibit movement or cracking due to expansion and contraction with a flexible caulk sealant (approved by the epoxy manufacturer). Spalling greater than 3/4" deep or cracks greater than " wide shall be patched using a manufacturer approved high strength cementitious product or epoxy grout. The mixer/sprayer shall be approved by the manufacturer.

LINING - The self-priming epoxy shall be applied to a minimum thickness of 80 mils.

APPLICATOR - Epoxy resin liners shall be installed by factory trained and approved application technicians. Application technicians shall have a minimum of 1 year field experience with the

application of high build epoxy coatings. The Contractor shall provide a 1 year warranty for material and labor for failure of the lining and its installation.

Testing

If requested, the Contractor will perform an exfiltration test on the rehabilitated manholes. For Manholes 0-6 ft. deep, if water loss is 1 inch or less in five minutes the manhole reconstruction is acceptable. For manholes over 6 ft. deep, if water loss is 1 inch plus 1/8inch for each additional ft of depth or less in five minutes, manhole is acceptable.

Warranty

The Contractor shall provide to the City a warranty to be in force and effect for the period of 1 year from the date of acceptance of the liner. The warranty shall cause the Contractor to repair any lining work should failure result from faulty material or improper installation.

Payment shall be at the unit price bid for each and shall include full compensation for furnishing all labor, materials, tools, equipment and incidentals and for doing all work involved in rehabilitating manholes as specified in these Special Provisions, including reconstructing manhole benches and as directed by the Engineer.

Item No. 14 Flusher Branch to Remove, Manhole No. 3 to Construct

The existing flusher branch identified on the drawings in Appendix A, shall be removed and a Manhole No. 3 shall be constructed as shown on the plans or directed by the Engineer in conformance with Section 25 and Section 38 of the Standard Specifications. Contractor shall locate the flusher branch and build a manhole at this location taking into consideration the existing service connections and surface conditions. The vertical face of the eccentric cone shall be parallel to flow and away from traffic (closest to the nearest curb.) New manhole construction shall be completed prior to CIPP lining work.

The existing flusher branch shall be disposed of away from the site of the project. Excavation shall conform to Section 14-2, Structure Excavation of the Standard Specifications. The existing frame and cover shall be cleaned of all foreign material and delivered to the City of Sacramento Corporation Yard, Division of Field Services, 5730 24th Street, Attention: Rob Jack, Sewer Superintendent (916) 808-4022.

Flowline material for main pipe and intersecting mains shall be vitrified clay except: if manhole base is precast concrete; or if manhole base is placed over main which is "laid through", in which case flowline material shall be same as main. Clay liner may be omitted for manholes with mains of 36- inch diameter and larger. Flow line material shall conform to the Standard Specifications and these Special Provisions. New flowline shall match inlet and outlet pipe elevations and shall extend to inside face of manhole. If inlet and outlet pipes are of different sizes, new flowline pipe size shall match larger pipe size.

Manhole bench shall slope upwards from the spring-line of the pipe to the projected level of the crown of the pipe at the manhole wall or twelve (12) inches above the spring-line, whichever is less. All holes, cracks, and seams shall be grouted flush using nonshrink grout with the manhole interior. Non-shrink grout shall be “Metallic Grouting Compound” by Burke, “Embeco” by Master Builders, “Ferrolith-G” by Sonneborn-Desoto, or approved equal. All internal surfaces shall have a smooth finish.

External Manhole Seal - External joint of each barrel section and of the barrel/cone connection shall be sealed with an external rubber sealing sleeve as manufactured by Infi-Shield Inc. 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 a 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.

Manhole Testing: All sanitary sewer manholes shall be tested and shall meet the requirements of ASTM C1244 prior to acceptance. Manholes shall be tested prior to backfill. If the manhole fails the test at this time, the manhole shall be repaired by the Contractor and retested. This procedure shall be repeated until the manhole passes the required test. The Engineer may also require the manholes to be tested using this method after backfilling if he has reason to suspect that the manhole has been disturbed during the backfilling operation, or at other times during construction of the improvements being installed as part of the development.

In order to prepare the manhole for this test, all lift holes shall be plugged and all pipes entering the manhole shall be temporarily plugged, taking care to securely brace the pipes and plugs to prevent them from being drawn in to the manhole.

The test procedure shall be as follows:

- The test head shall be placed at the top of the manhole in accordance with the manufacturer's recommendations.
- A vacuum of ten (10) inches of mercury shall be drawn on the manhole, the valve on the vacuum line of the test head closed, and the vacuum pump shut off. The time shall be measured for the vacuum to drop to nine (9) inches of mercury.
- The manhole shall pass if the time for the vacuum to drop from ten (10) inches of mercury meets or exceeds the values indicated in Table 1 of ASTM C1244.

The vacuum gauge used for this test shall be supplied by the Contractor, and shall have maximum scale division of 0.1 psi, and shall have an accuracy of 0.04 psi. Accuracy and calibration of the gauge shall be certified by a reliable testing firm at six month intervals, or when requested by the Engineer. In addition, the Engineer may compare the Contractor's gauge with a City owned gauge at any time. During testing, the vacuum gauge shall be located such

that it is readily visible. Surface restoration shall be in accordance with the section of the General Requirements entitled "Pavement Cutting and Surface Restoration" and shall be paid for under this item of the contract.

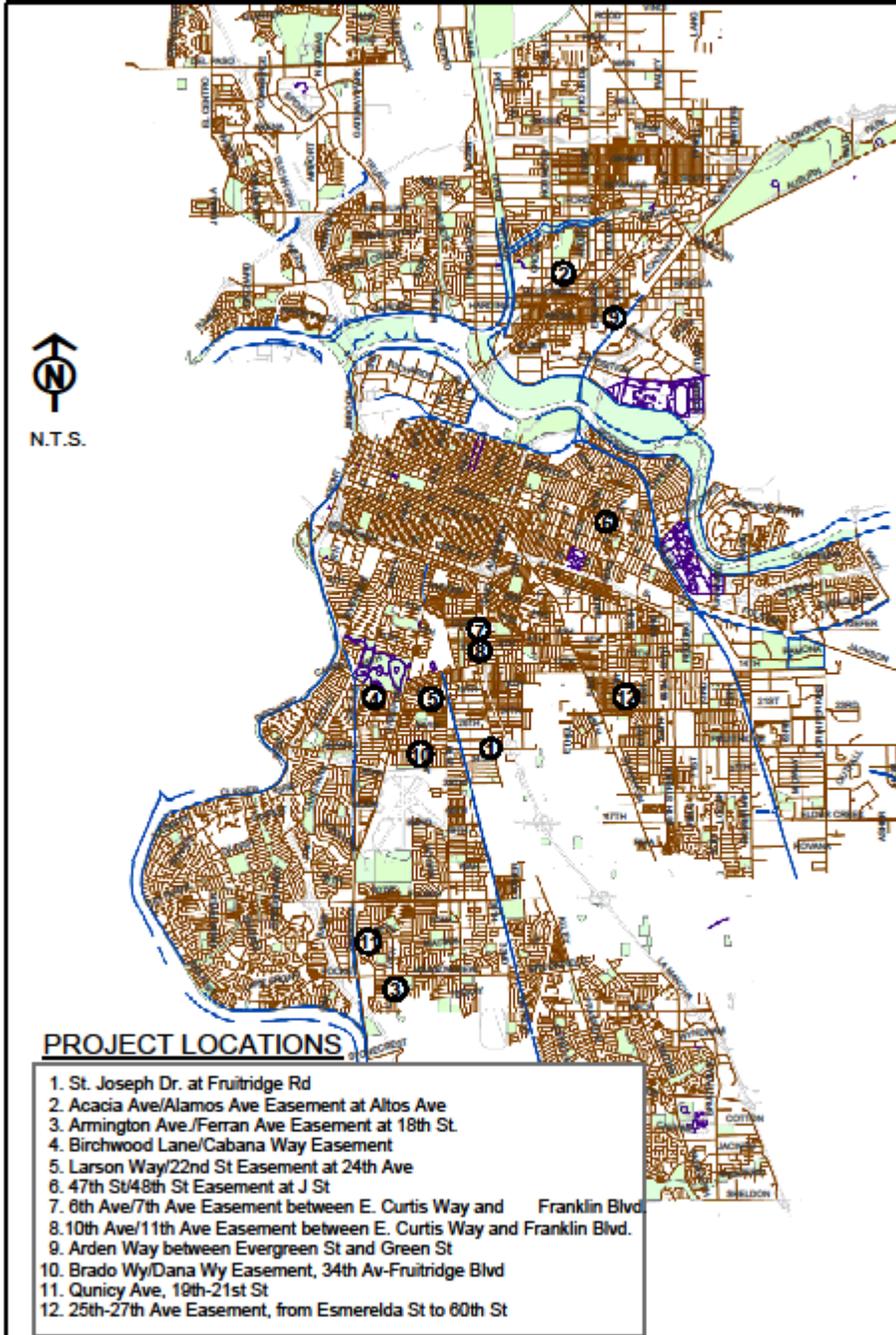
Payment shall be at the unit price bid per each manhole constructed, for depths of 8 feet or less, and shall include full compensation for furnishing all labor, materials, tools and equipment and for performing all work necessary to complete this item in place. \$500/ft of depth shall be added to the base unit cost for items 10-12, for depths greater than 8', but less than or equal to 14'. For depth of pipe greater than 14', a new unit price, or payment based on time and materials, shall be negotiated with Engineer, based on existing project conditions. Measurements shall be rounded to the nearest half foot increment.

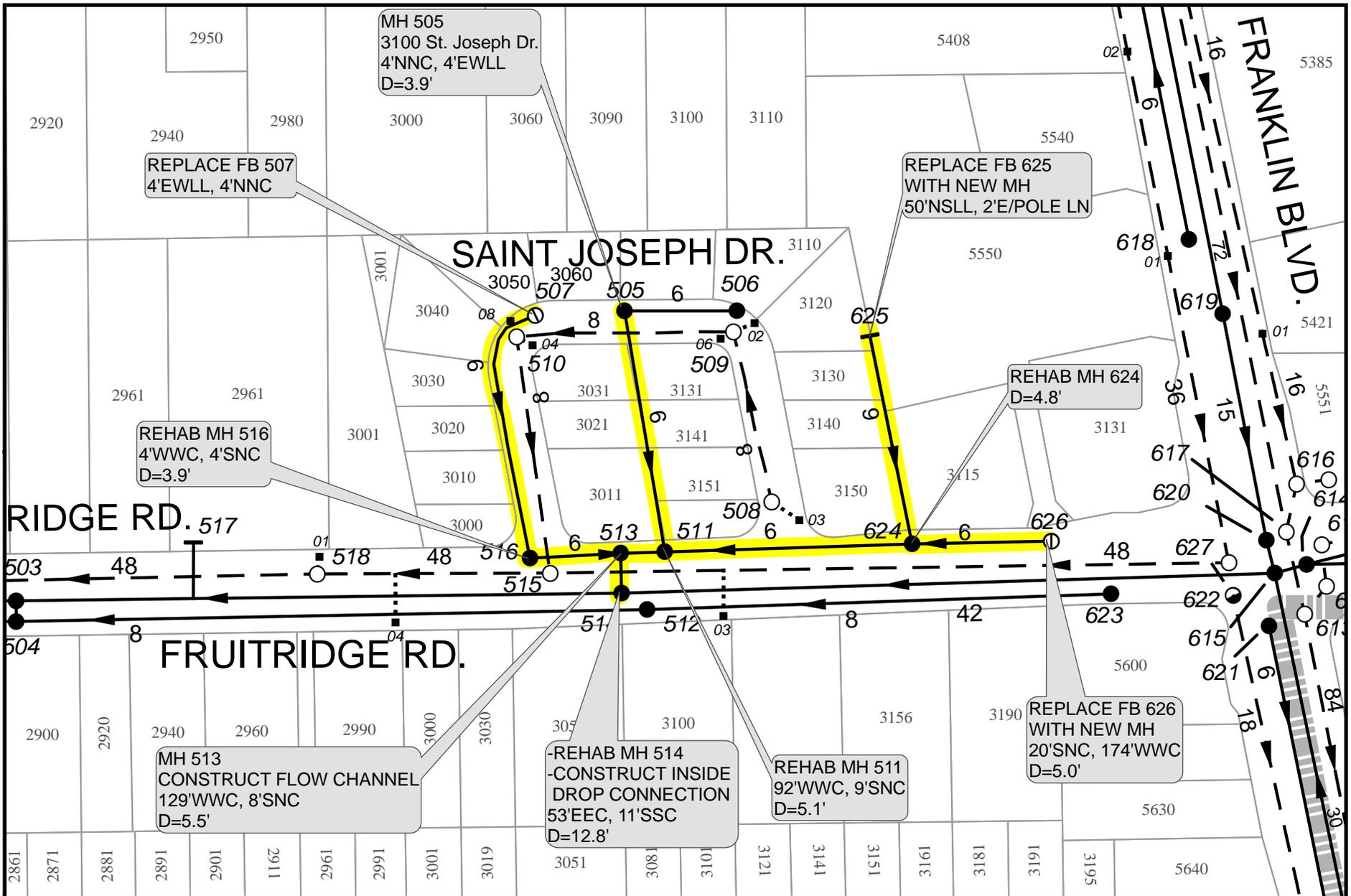
END OF SPECIAL PROVISIONS

APPENDIX A – LOCATION MAPS

1. Project Area Overall Location Map
2. Dwg. 1 - St. Joseph Dr. at Fruitridge Rd Sewer Rehabilitation
3. Dwg. 2 - Acacia Ave/Alamos Ave Easement at Altos Ave Sewer Rehabilitation
4. Dwg. 3 - Armington Ave./Ferran Ave Easement at 18th St. Sewer Rehabilitation
5. Dwg. 4 - Birchwood Lane/Cabana Way Easement Sewer Rehabilitation
6. Dwg. 5 - Larson Way/22nd St Easement at 24th Ave Sewer Rehabilitation
7. Dwg. 6 - 47th St/48th St Easement at J St Sewer Rehabilitation
8. Dwg. 7 - 6th Ave/7th Ave Easement Sewer Rehabilitation - E. Curtis Way to Franklin Blvd.
9. Dwg. 8 - 10th Ave/11th Ave Easement Sewer Rehabilitation - E. Curtis Way to Cutter Way
10. Dwg. 9 - Arden Way Sewer Rehabilitation - Evergreen St to Green St
11. Dwg. 10 - Brado Way/Dana Way Easement Sewer Rehabilitation - 34th Av to Fruitridge Blvd.
12. Dwg. 11 - Quincy Ave Sewer Rehabilitation - 19th to 21st St
13. Dwg. 12 - 25th-27th Ave Easement Storm Drain Rehabilitation - Esmerelda St to 60th St

**CIPP SEWER REHABILITATION 2013 (X14130701)
LOCATION MAP**





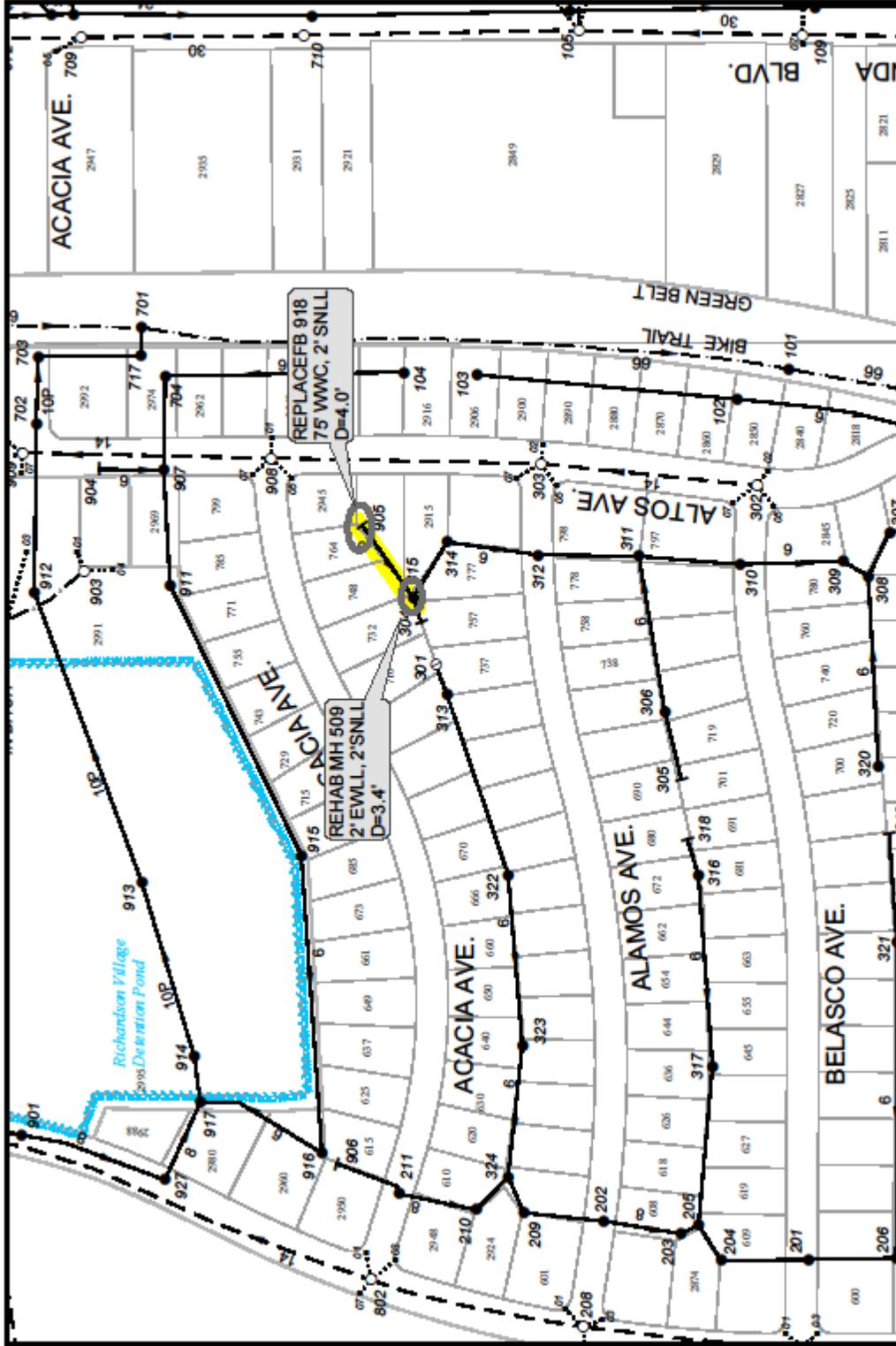
CONTRACTOR SHALL:

- LINE APPROX 1,205 LF OF 6-INCH SEWER MAIN
- INTERNALLY REINSTATE ALL LIVE SEWER SERVICES
- REHABILITATE MH 511, MH 514, MH 516, MH 624
- REMOVE & REPLACE FLUSHER BRANCHES: FB 507, FB 625, FB 626
- CONSTRUCT FLOW CHANNEL IN MH 513
- CONSTRUCT INSIDE DROP CONNECTION IN MH 514



**CIPP SEWER REHABILITATION - 2013
SAINT JOSEPH DR. AT FRUITRIDGE RD.**

APPROVED BY: B. GRANT NO SCALE
 DRAWN BY: M. MARSHALL DWG. NO.:1
 SEWER BOOK PAGE(S): MM16 115 of 244



CONTRACTOR SHALL: - LINE APPROX 120 LF OF 6-INCH SEWER MAIN - INTERNALLY REINSTATE ALL LIVE SEWER SERVICES
 - REHABILITATE MH 304
 - REPLACE FB 905

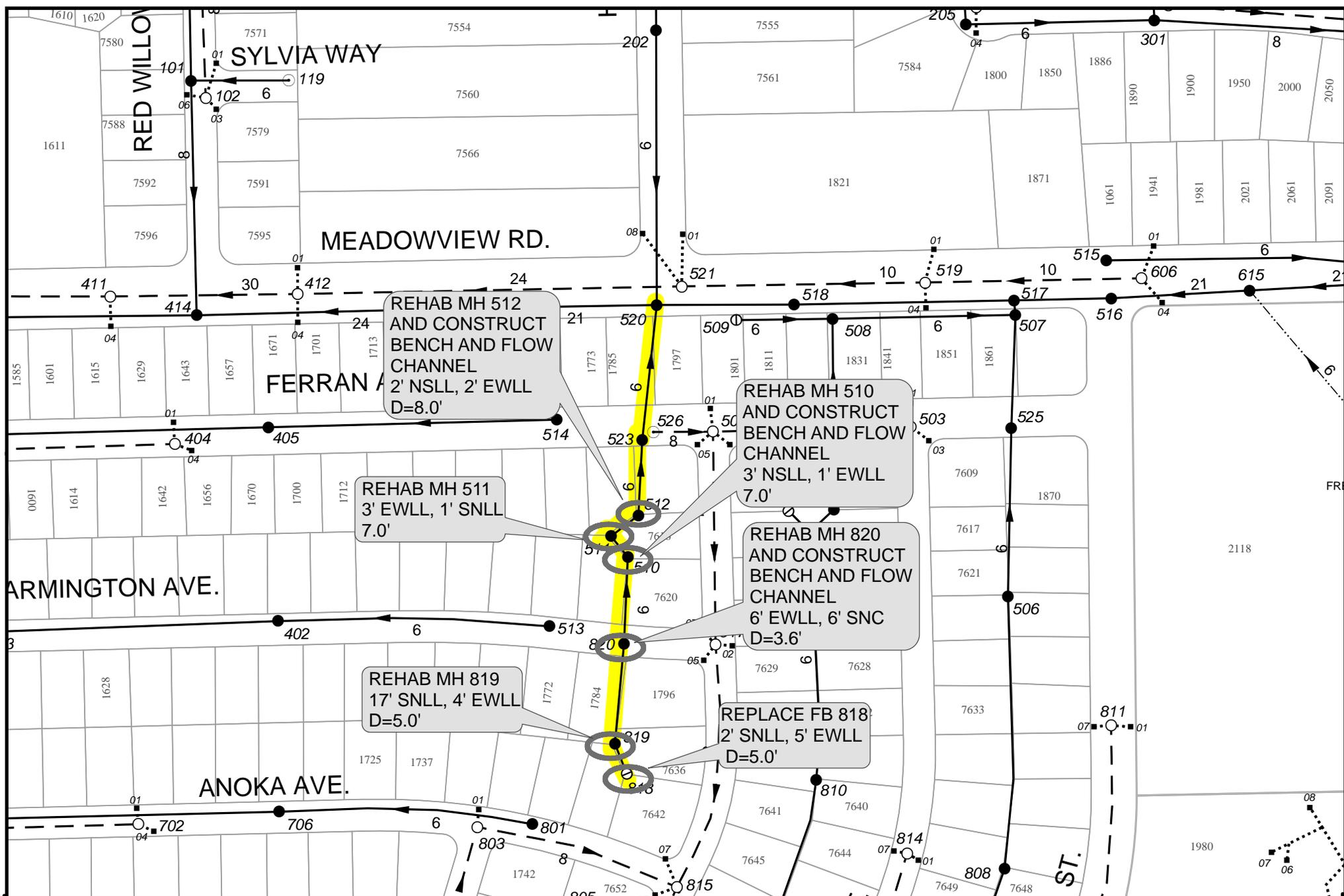


CITY OF SACRAMENTO
 DEPARTMENT
 OF UTILITIES



MISC SEWER REHAB - 2012
 ACACIA AVE/ ALAMOS AVE EASEMENT, ALTOS AVE

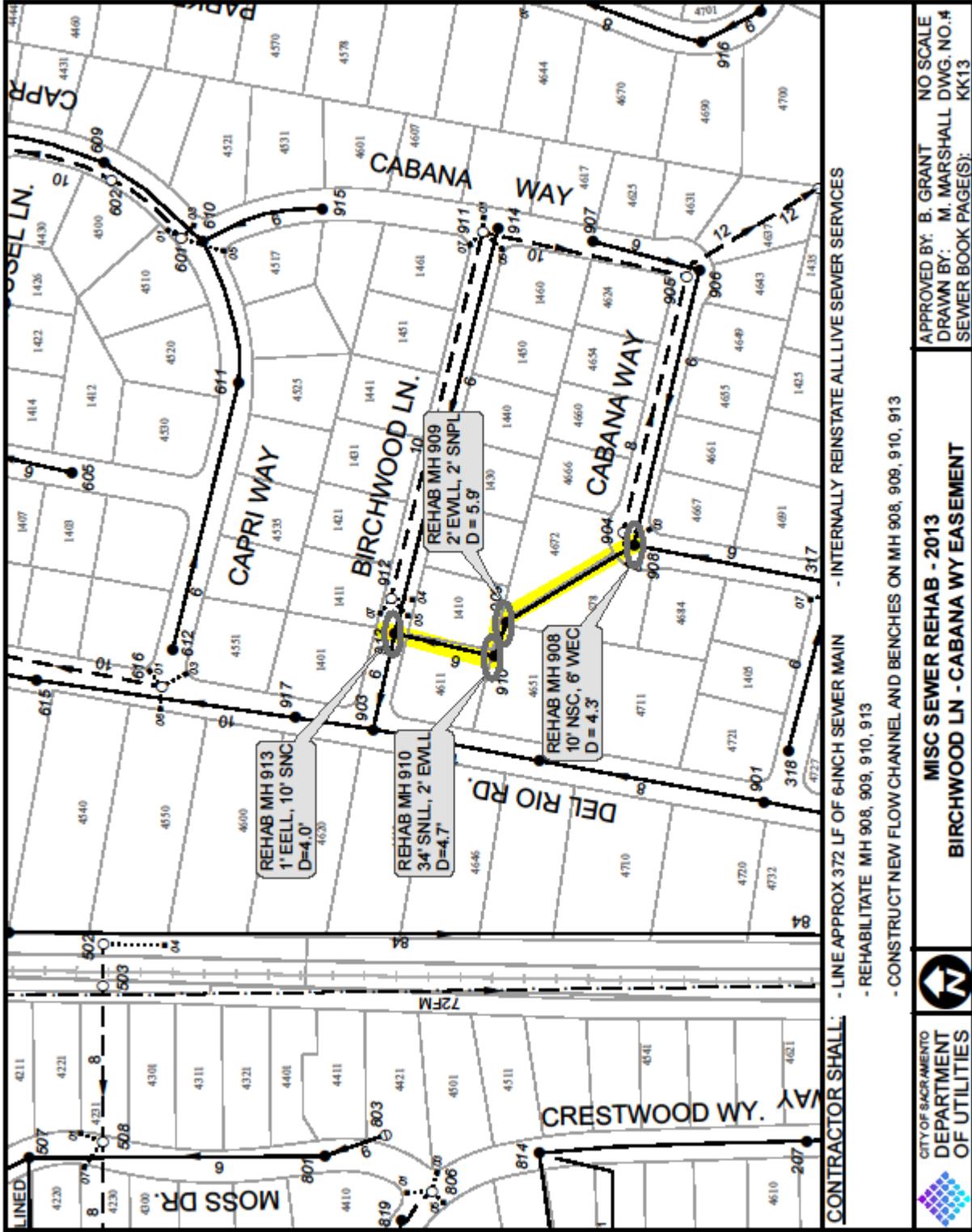
APPROVED BY: B. GRANT NO SCALE
 DRAWN BY: M. MARSHALL DWG. NO. 2
 SEWER BOOK PAGE(S): V18, U18

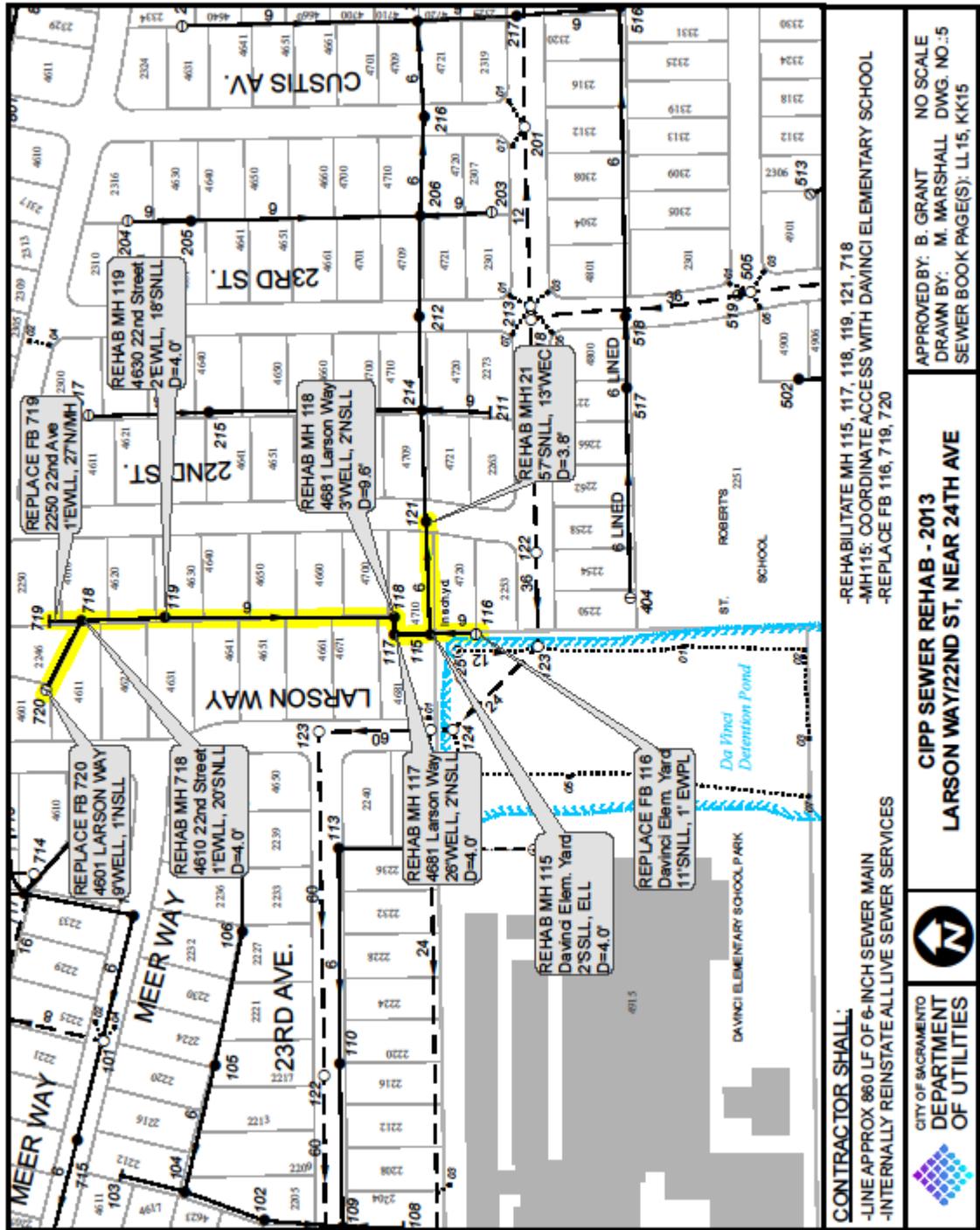


CONTRACTOR SHALL:

- LINE APPROX 650 LF OF 6-INCH SEWER MAIN
- REHABILITATE MH 510, 511, 512, 820, 819
- REPLACE FB 818
- INTERNALLY REINSTATE ALL LIVE SEWER SERVICES
- CONSTRUCT BENCH AND FLOW CHANNELS IN MH 820, 510, 512







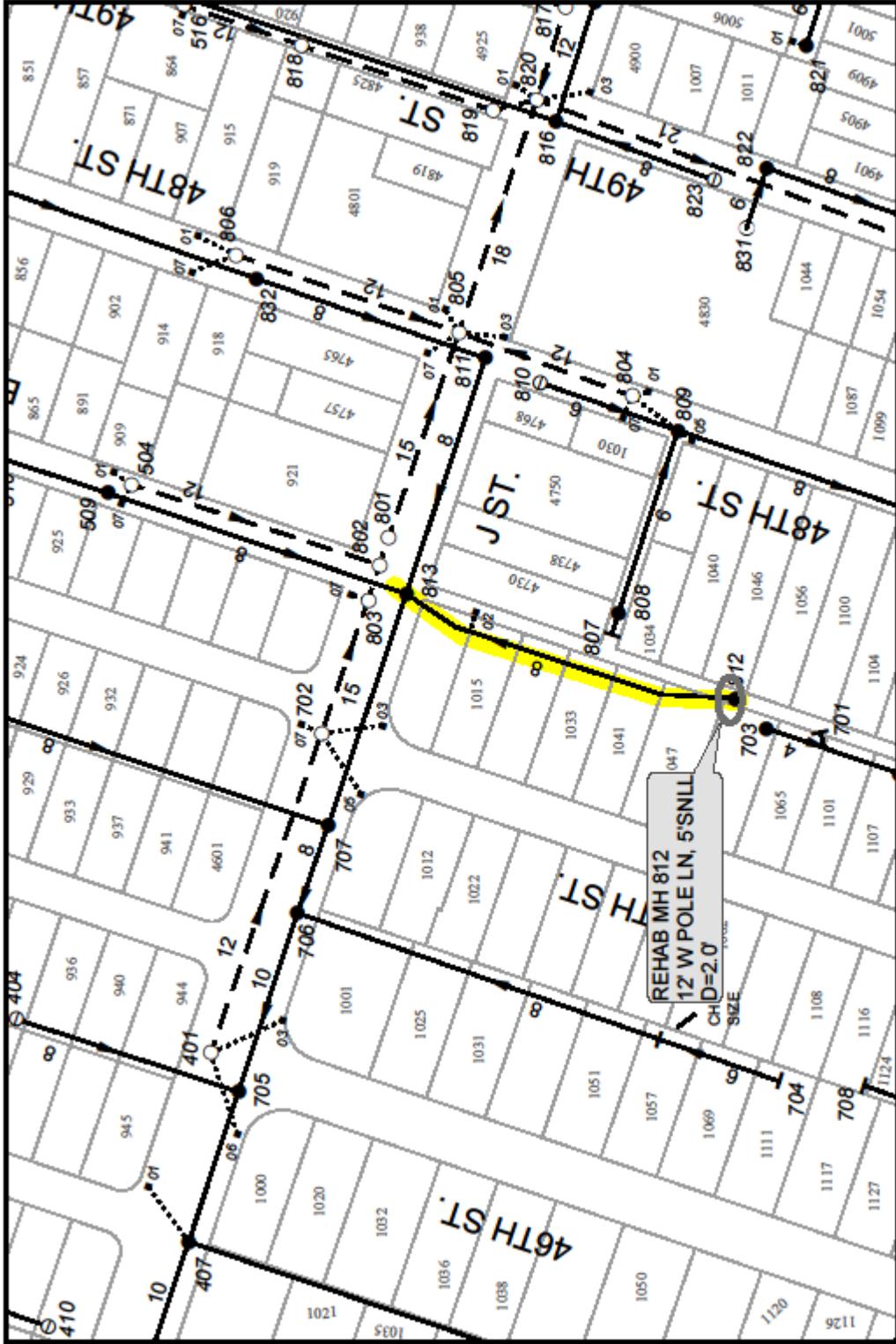
CONTRACTOR SHALL:
 -LINE APPROX 860 LF OF 6-INCH SEWER MAIN
 -INTERNALLY REINSTATE ALL LIVE SEWER SERVICES

REHABILITATE MH 115, 117, 118, 119, 121, 718
-MH115: COORDINATE ACCESS WITH DAVINCI ELEMENTARY SCHOOL
-REPLACE FB 116, 719, 720

**CITY OF SACRAMENTO
 DEPARTMENT
 OF UTILITIES**

APPROVED BY: B. GRANT NO SCALE
DRAWN BY: M. MARSHALL DWG. NO.: 5
SEWER BOOK PAGE(S): LL15, KK15

**CIPP SEWER REHAB - 2013
 LARSON WAY/22ND ST, NEAR 24TH AVE**



CONTRACTOR SHALL: - LINE APPROX 340 LF OF 8-INCH SEWER MAIN

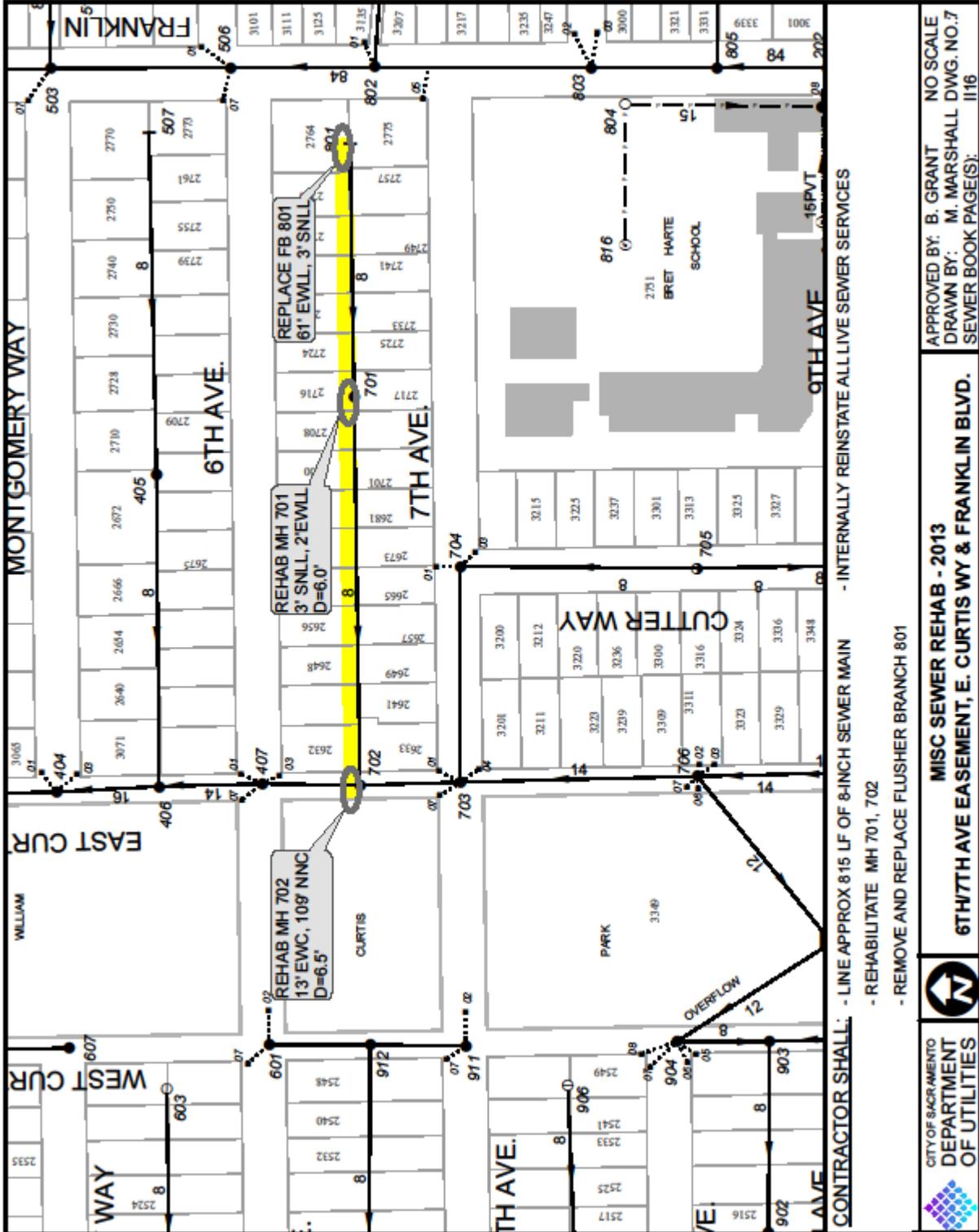
- REHABILITATE MH 812
- INTERNALLY REINSTATE ALL LIVE SEWER SERVICES

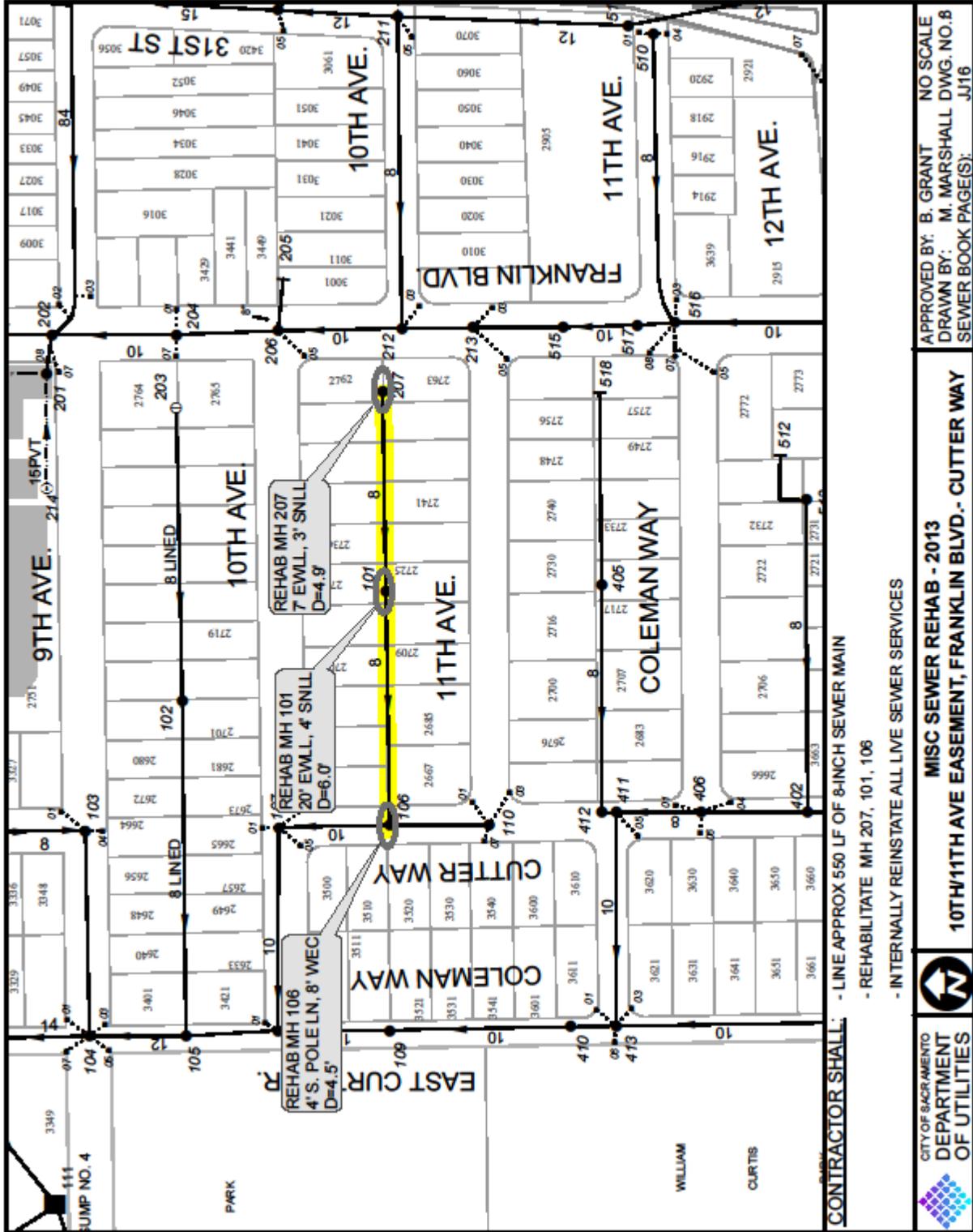


CITY OF SACRAMENTO
DEPARTMENT
OF UTILITIES

MISC SEWER REHAB - 2013
47TH ST/48TH ST EASEMENT AT J ST

APPROVED BY: B. GRANT NO SCALE
DRAWN BY: M. MARSHALL DWG. NO.: 6
SEWER BOOK PAGE(S): EE19



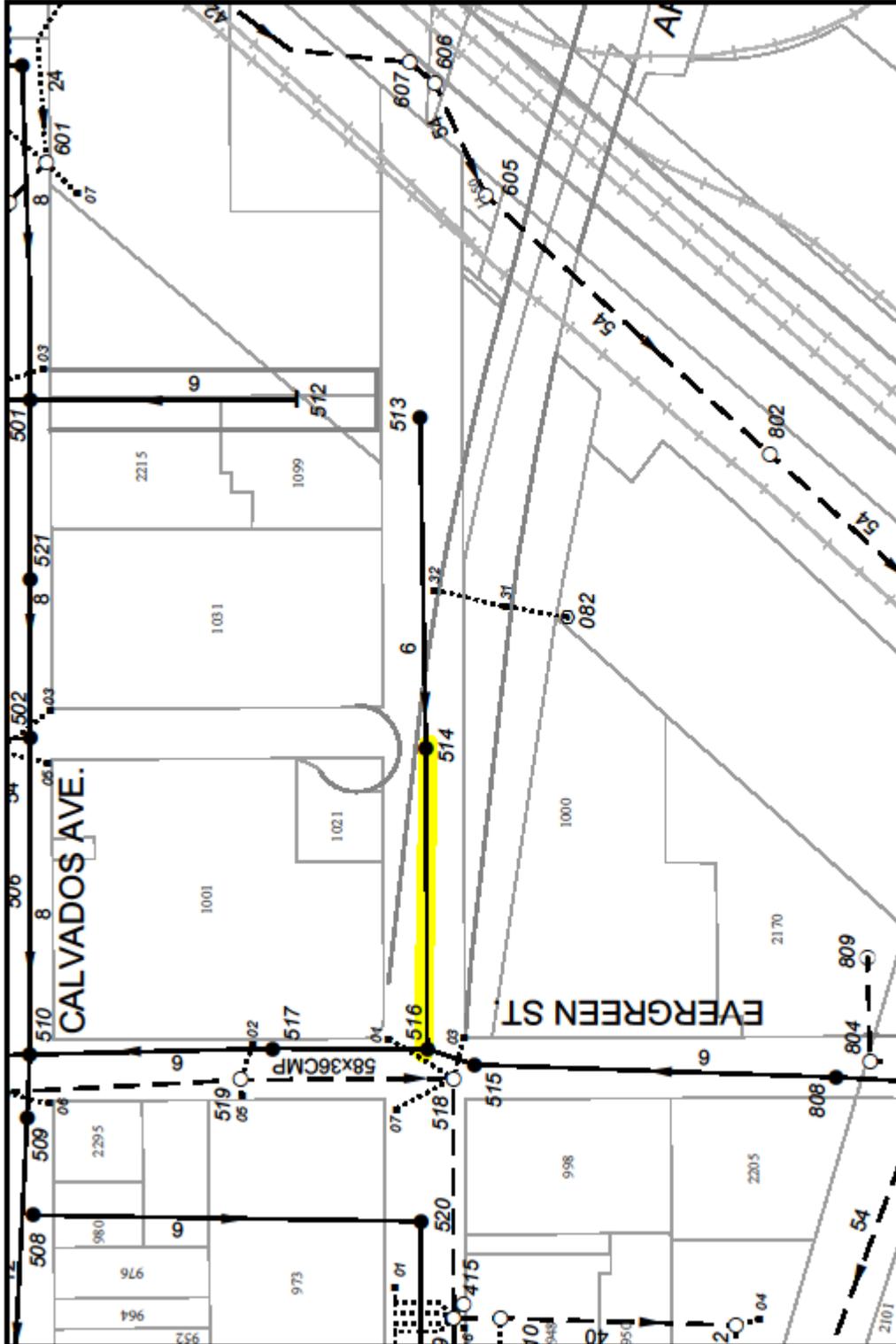


CONTRACTOR SHALL:
 - LINE APPROX 550 LF OF 8-INCH SEWER MAIN
 - REHABILITATE MH 207, 101, 106
 - INTERNALLY REINSTATE ALL LIVE SEWER SERVICES



10TH/11TH AVE EASEMENT, FRANKLIN BLVD.- CUTTER WAY
MISC SEWER REHAB - 2013

APPROVED BY: B. GRANT NO SCALE
 DRAWN BY: M. MARSHALL DWG. NO. 8
 SEWER BOOK PAGE(S): JJ16



CONTRACTOR SHALL:

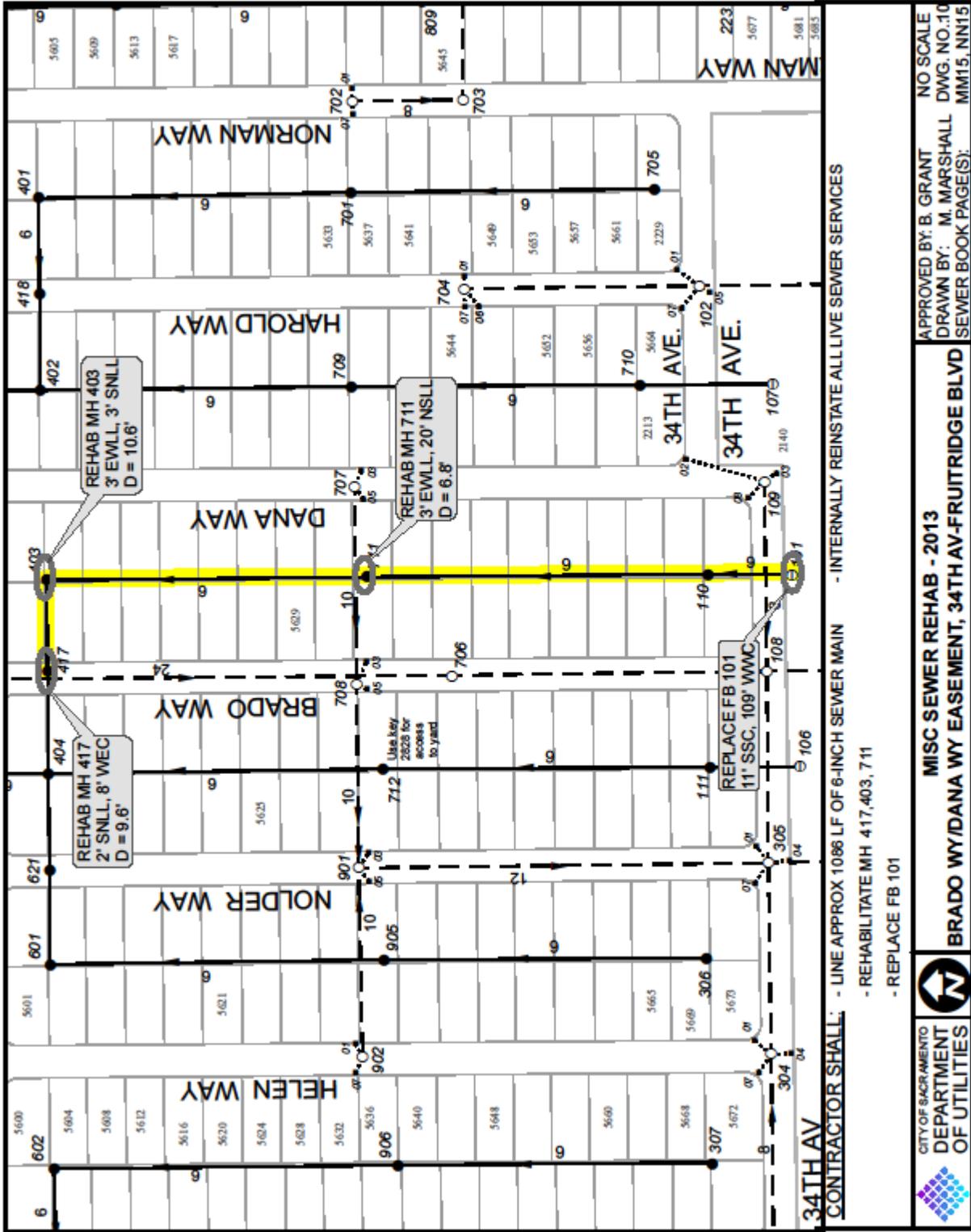
- LINE APPROX 332 LF OF 6-INCH SEWER MAIN
- INTERNALLY REINSTATE ALL LIVE SEWER SERVICES

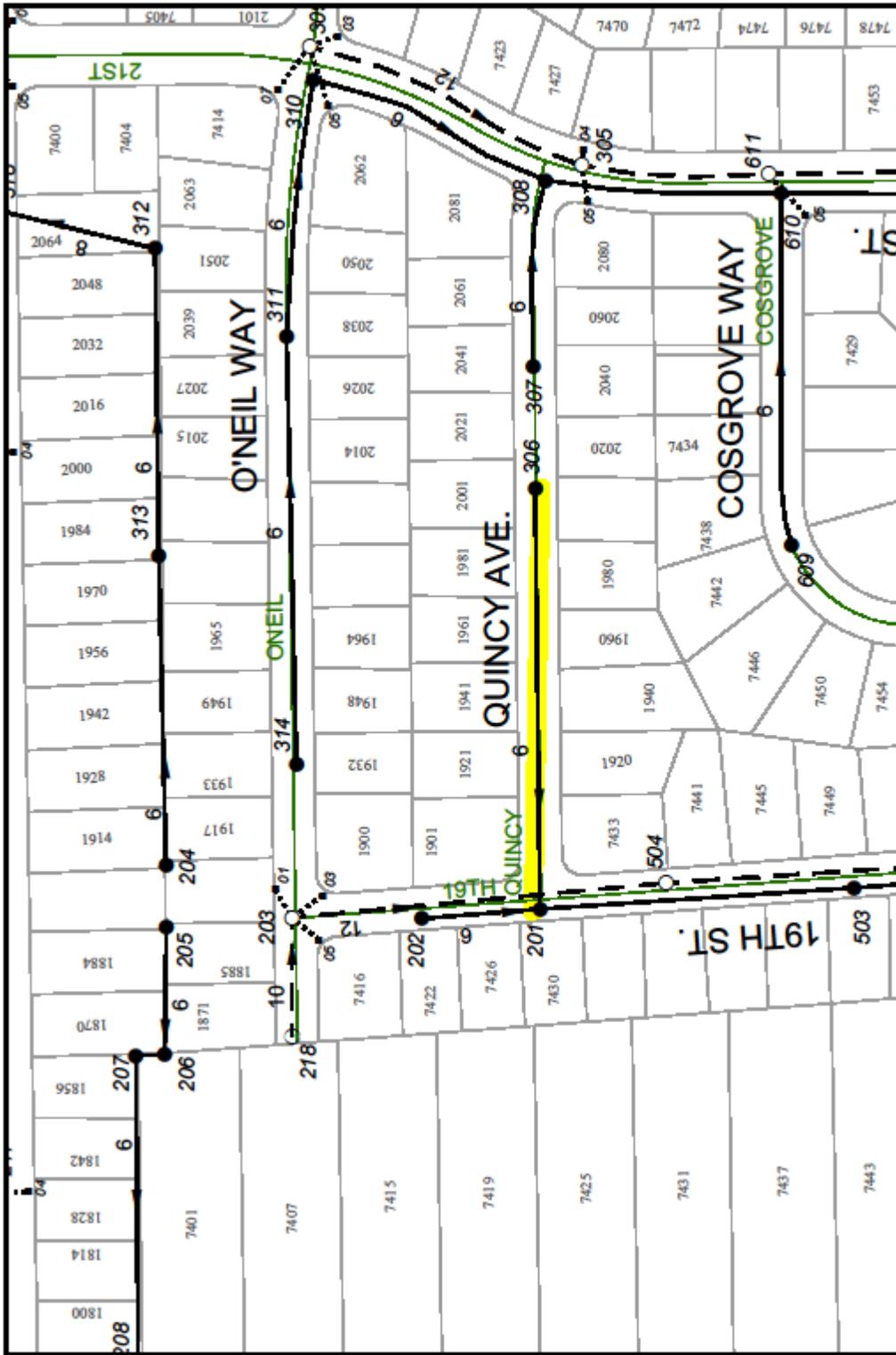


CITY OF SACRAMENTO
DEPARTMENT
OF UTILITIES

MISC SEWER REHAB - 2013
ARDEN WAY, EVERGREEN ST TO GREEN ST

APPROVED BY: B. GRANT NO SCALE
DRAWN BY: M. MARSHALL DWG. NO.: 9
SEWER BOOK PAGE(S): X19



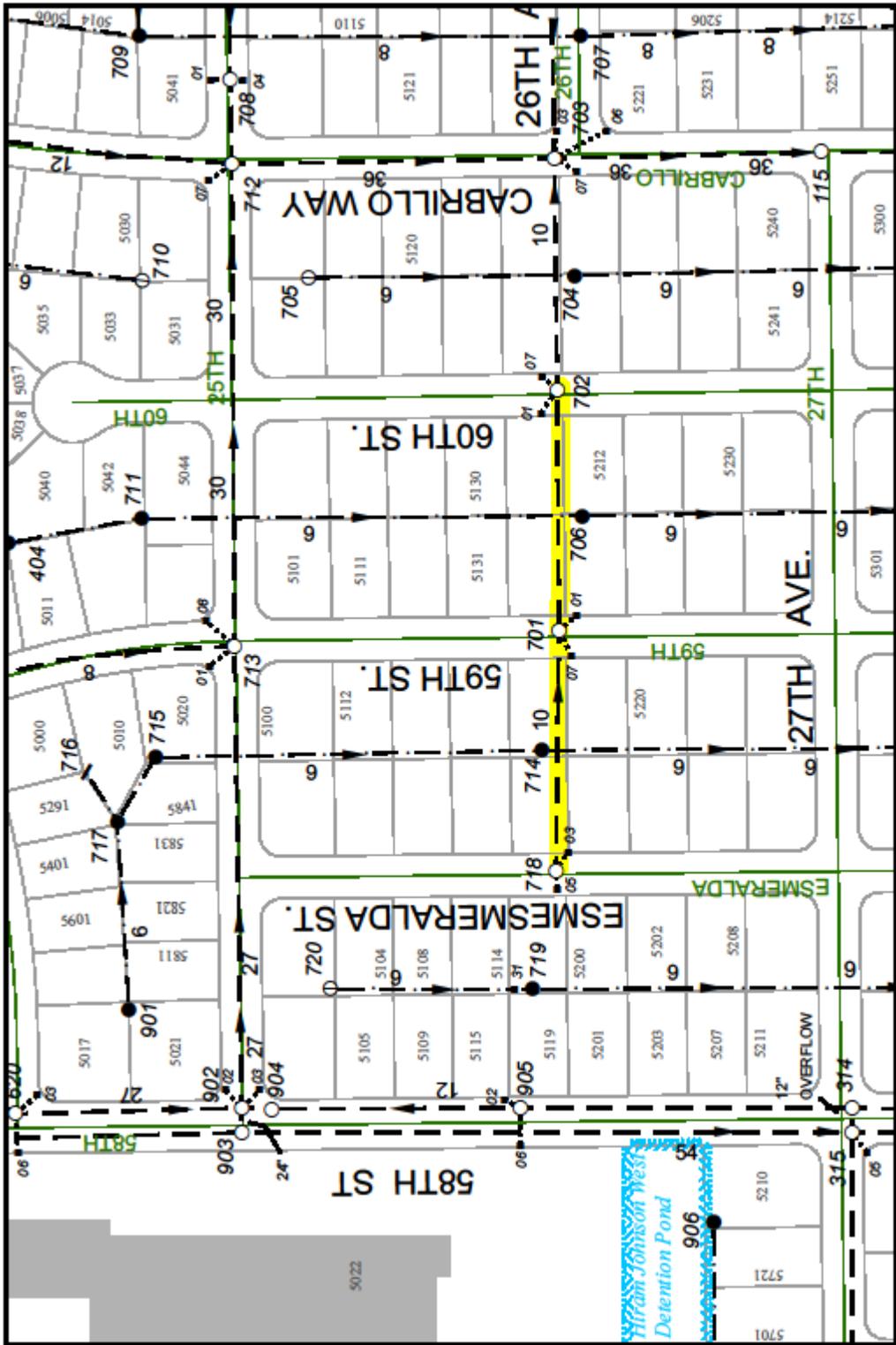


CONTRACTOR SHALL: - LINE APPROX 415 LF OF 6-INCH SEWER MAIN
 - INTERNALLY REINSTATE ALL LIVE SEWER SERVICES



MISC SEWER REHAB - 2013
QUINCY AVE, 19TH-21ST STREET

APPROVED BY: B. GRANT NO SCALE
 DRAWN BY: M. MARSHALL DWG. NO. 11
 SEWER BOOK PAGE(S): TT14

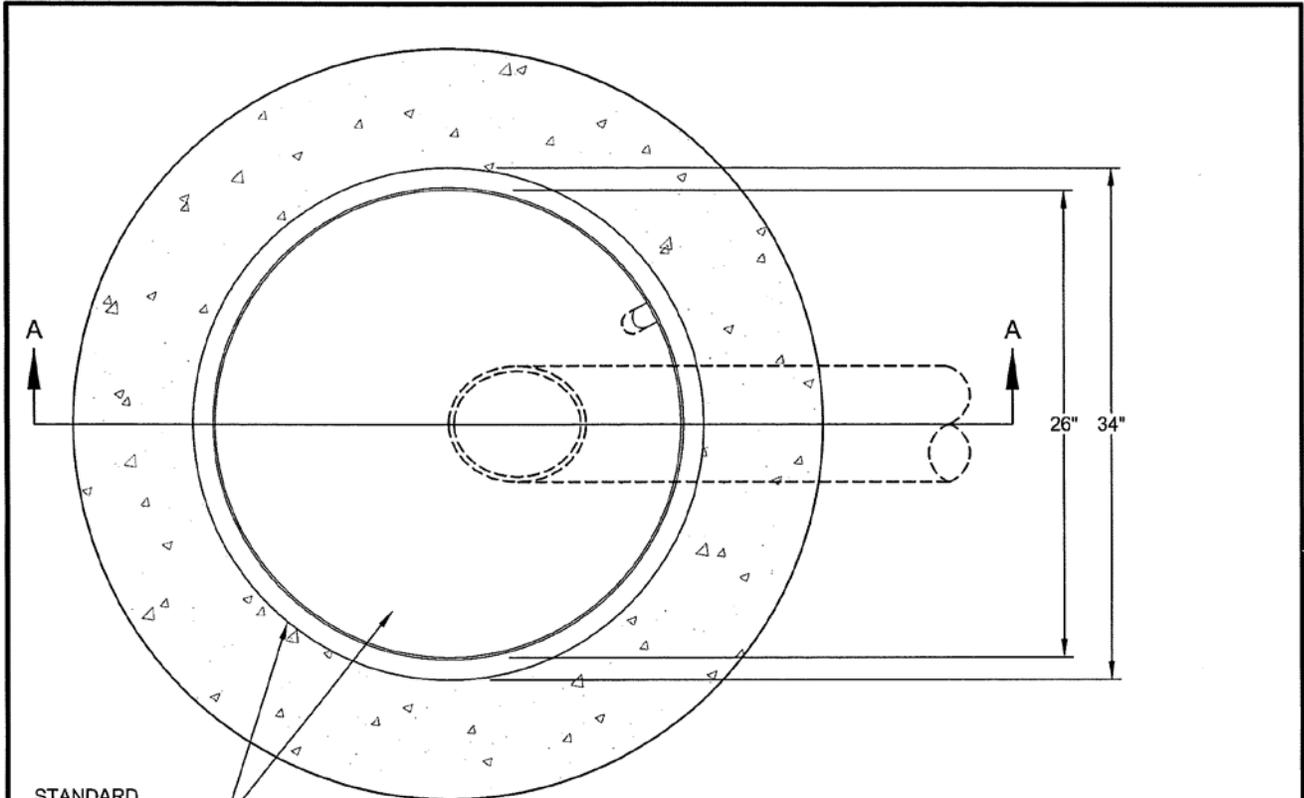


CONTRACTOR SHALL: - LINE APPROX 475 LF OF 10-INCH DRAINAGE MAIN
 - INTERNALLY REINSTATE ALL LIVE SEWER SERVICES

	MISC SEWER REHAB - 2013 25TH/27TH AVE EASEMENT, ESMERALDA ST TO 60TH ST	APPROVED BY: B. GRANT DRAWN BY: M. MARSHALL DWG. NO.: 12 SEWER BOOK PAGE(S): LL20
	NO SCALE	

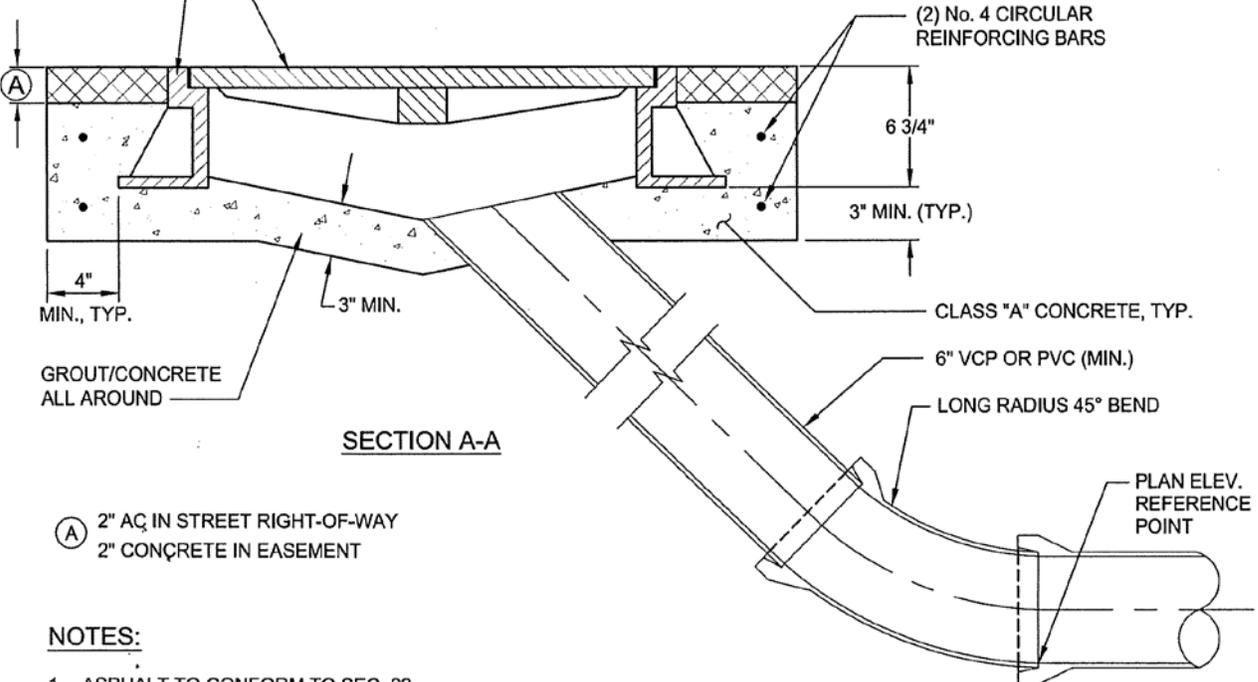
APPENDIX B - DETAILS

1. Flusher Branch Detail
2. Manhole Flow Channel and Bench Detail
3. Typical Backyard Easement Sewer Connection
4. Notification Letter – 2 Days
5. Notification Letter – 1 Week
6. Event Notification Form (SRCSD)



STANDARD
MANHOLE HEAD
1 & COVER A

PLAN



(2) No. 4 CIRCULAR
REINFORCING BARS

6 3/4"

3" MIN. (TYP.)

4"
MIN., TYP.

3" MIN.

CLASS "A" CONCRETE, TYP.

6" VCP OR PVC (MIN.)

LONG RADIUS 45° BEND

GROUT/CONCRETE
ALL AROUND

SECTION A-A

(A) 2" AC IN STREET RIGHT-OF-WAY
2" CONCRETE IN EASEMENT

NOTES:

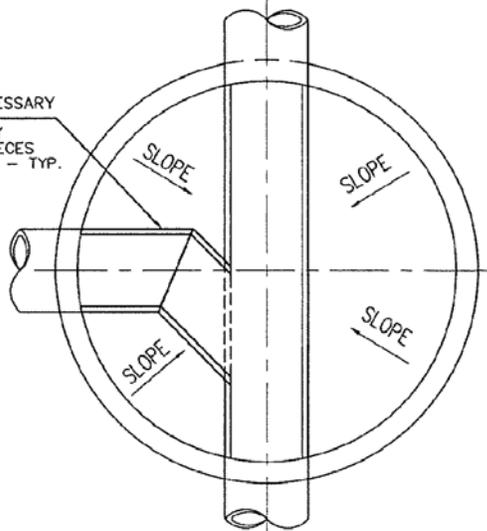
1. ASPHALT TO CONFORM TO SEC. 22.
3. COMPACT 12" OF THE MATERIAL UNDER THE MANHOLE HEAD TO 95% RELATIVE COMPACTION PER SECTION 26 OF STANDARD SPECIFICATION.
4. PIPE TO CONFORM TO SEC. 10 OF STANDARD SPECIFICATIONS.

REV.	DATE	DESCRIPTION

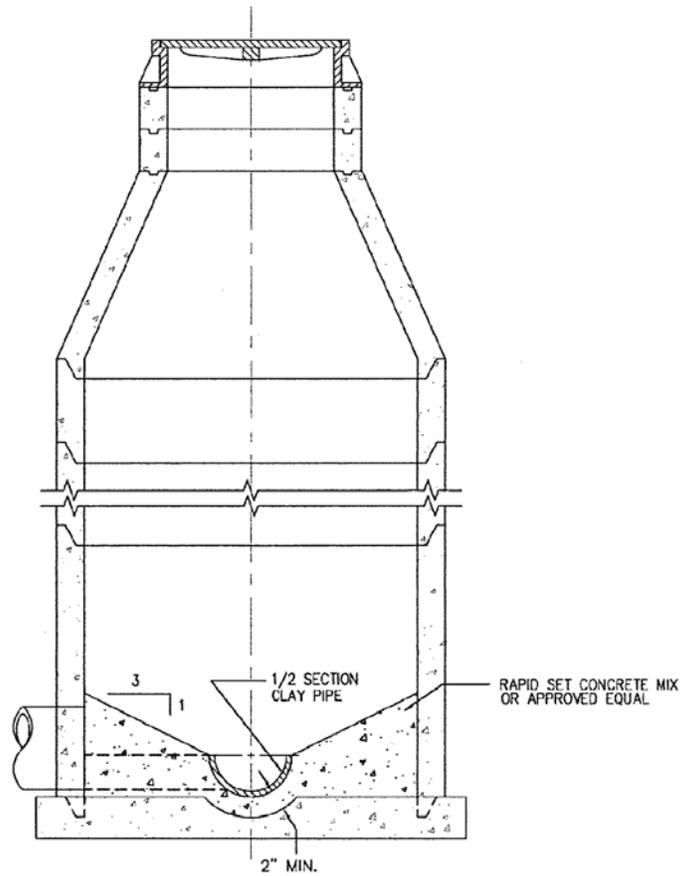
R:\Utilities\City_Std_Details\Sewer_Drainage\S_240_FlusherBranch.dwg

CITY OF SACRAMENTO DEPARTMENT OF UTILITIES	FLUSHER BRANCH	APPR'D BY: <i>DOB</i> NO SCALE DATE: MAY 2007 DWG. NO. S - 240
--	-----------------------	--

WHEN NECESSARY
90° BEND
FORMED BY
ANGLED PIECES
22.5° MAX. - TYP.



PLAN

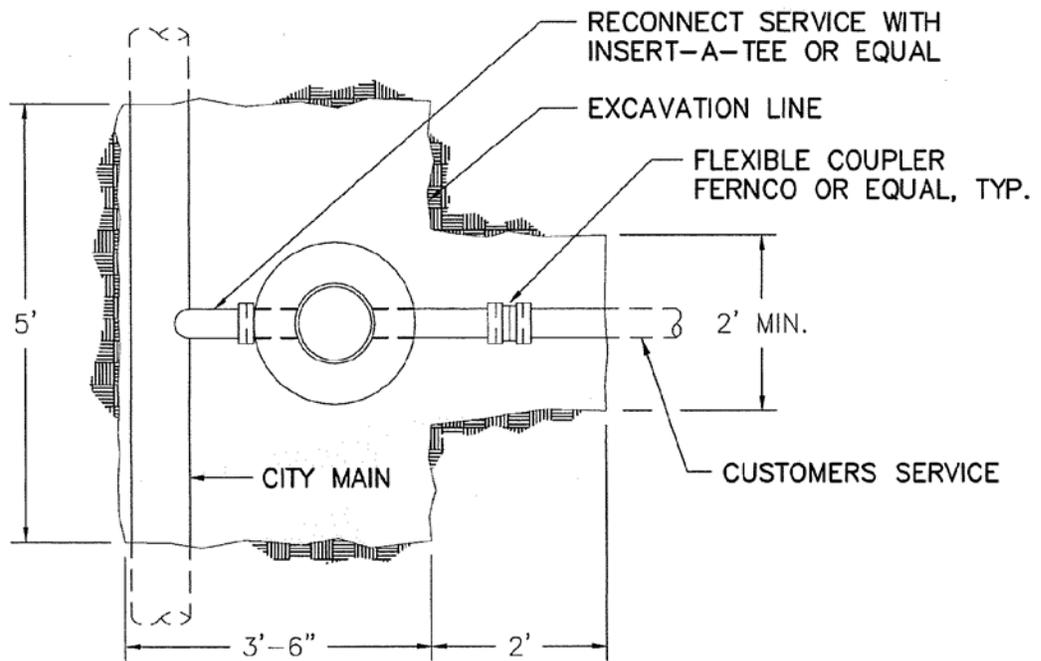


PROFILE

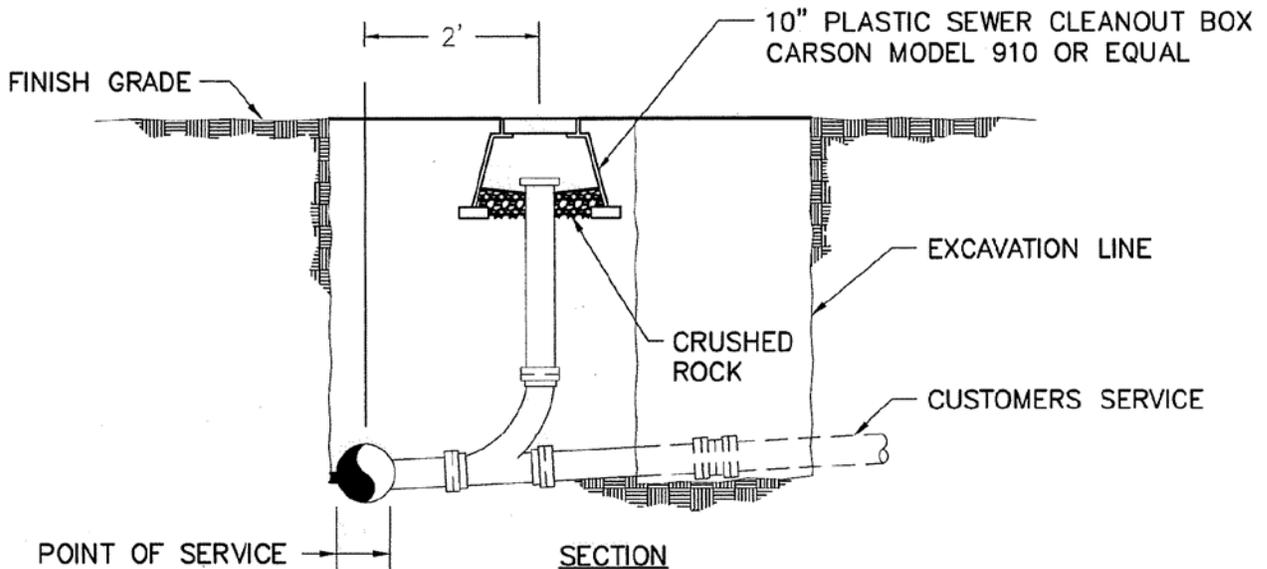
NOTES

1. WHERE LATERAL SEWERS CONNECT TO MANHOLES AT OR ABOVE THE SPRING LINE OF THE "FLOW THROUGH" MAIN, THE CONTRACTOR SHALL CONSTRUCT A CLAY CHANNEL IN THE BENCH FOR THE LATERAL SEWER. THIS CHANNEL SHALL DIRECT FLOWS IN THE DOWNSTREAM DIRECTION.
2. MANHOLE REPAIRS SHALL BE IN ACCORDANCE WITH STANDARD SPECIFICATION SECTION 25.

REV. No.	DATE:	DESCR.
CITY OF SACRAMENTO DEPARTMENT OF UTILITIES		
MANHOLE FLOW CHANNEL AND BENCH DETAIL		
APPROVED BY: _____		SCALE: NONE
DATE: AUG. 2000		PROJECT #: XG61



PLAN



SECTION

SEWER SERVICE – EXTERNAL REINSTATEMENT DETAIL

NOTES:

1. CONTRACTOR SHALL EXPOSE SEWER SERVICE TO BE REINSTATED EXTERNALLY BEFORE INSERTING LINER
2. ALL SERVICES EXTERNALLY REINSTATED SHALL HAVE CLEANOUTS CONSTRUCTED AS SHOWN
3. CLEANOUT CAPS SHALL BE WINGNUT PLUGS, CHERNE INDUST., OR EQUAL PROVIDE 3" CLEARANCE BETWEEN TOP OF CAP AND BOTTOM OF COVER



**DEPARTMENT
OF UTILITIES
CITY OF SACRAMENTO**

**BACKYARD EASEMENT
SEWER CONNECTION**

APPROVED BY: _____ SCALE: 1/2"=1'-0"
DATE: 02/15/00 DWG. NO. A-3.6

**Rehabilitating Sewer Main [Distribute min. 2 working days prior to beginning work]
(CONTRACTOR LETTERHEAD)**

Subject: CURED-IN-PLACE-PIPE SEWER REHABILITATION 2013 (X14130701)

Dear Resident,

The City of Sacramento, Department of Utilities, awarded a construction contract to our firm, **(Contractor)** to rehabilitate an existing sewer pipeline in your neighborhood. We will be doing work for the City for approximately **XX days/weeks**, but will more than likely be in your area for three to four days during this time. Our goal is to make as little disruption to you and your neighbors as possible.

We plan to work on the pipeline in your area on _____.
In order to effectively rehabilitate the sewer pipeline, we ask that you limit the amount of wastewater generated from your home by NOT using your washing machine, dishwasher, shower, toilets, etc between the hours of _____ and _____ on the days listed above.

General public and construction crew safety is of primary concern to us and we remind you to observe the construction signs. We realize this sewer rehabilitation project may be a temporary inconvenience and we will strive to minimize the impacts to the residents.

If you have any questions or problems, please contact any of the project representatives listed below:

Contractor Superintendent: Name, Phone Number (24 hrs/day, 7 days/wk)
City Inspector: Name, Phone Number
City Inspection Supervisor: Name, (916) xxx-xxxx
City Project Manager: Name, (916) 808-xxxx

Thank you for your cooperation on this important project.

Sincerely,
Contractor Representative

**Rehabilitating Sewer Main [Distribute min. 1 week prior to beginning work on a manhole or flusher branch located on a resident's property]
(CONTRACTOR LETTERHEAD)**

Subject: CURED-IN-PLACE-PIPE SEWER REHABILITATION 2013 (X14130701)

Dear Resident,

The City of Sacramento, Department of Utilities, awarded a construction contract to our firm, **(Contractor)** to rehabilitate existing sewer pipelines in your neighborhood. We will be doing work for the City for approximately **XX** weeks, but will more than likely be in your area for three to four days during this time. Our goal is to make as little disruption to you and your neighbors as possible.

Rehabilitation work will require access to the manhole located in your yard. We will need access to your yard several times over the course of this project and will notify you prior to each visit.

We plan to perform rehabilitation work in your yard on _____.

Please assist us by ensuring that on the day listed above that:

- Any Gate that may prohibit entrance to your property is unlocked, and
- That any pet you may own is restrained from the work area.

General public and construction crew safety is of primary concern to us and we remind you to observe the construction signs. We realize this sewer rehabilitation project will be a temporary inconvenience and we will strive to minimize the impacts to the residents.

If you have any questions or problems, please contact any of the project representatives listed below:

Contractor Superintendent: Name, Phone Number (24 hrs/day, 7 days/wk)

City Inspector: Name, Phone Number

City Inspection Supervisor: Name, (916) 808-xxxx

City Project Manager: Name, (916) 808-xxxx

Thank you for your cooperation on this important project.

Sincerely,

Contractor Representative

**Sacramento Regional County Sanitation District (SRCSD)
Wastewater Source Control Section**

**Collection System Operations Notice
Event Notification Form**

The intent of this form is to provide notification and effective communication of pertinent information for planned events for the collection system. Various routine and non-routine operational, maintenance, and construction activities performed within the collection system (such as chemical additions, large-scale cleaning, construction, start-ups, etc.) may have significant unanticipated impacts on the downstream collection system and Sacramento Regional Wastewater Treatment Plant (SRWTP). Thus, through the use of this notification process, collection system, pretreatment, and treatment plant staff can assist each other to reduce possible impacts and assure non-interruption of conveyance and treatment operations.

The following lists various examples of routine and non-routine collection system operation, maintenance, and construction activities along with a minimum notification timeline for each type of activity.

<u>Routine*</u> <u>Chemical** or Activity Has Been Approved for an Earlier Event</u> (7 days pre-notification for each event)	<u>Non-Routine*</u> <u>New Activity or Chemical Use</u> <u>(14 days pre-notification)</u>
Root or Pest Control, previously used chemical (mechanical does not require notification)	Root or Pest Control, first time chemical is used or 1 year has passed since last use
Crown Spraying	De-foaming
Fat/oil/grease enzyme or bacteria application	Pump Station return-to-service or cleanout, non-routine or with potential solids slug
Large Trunk (over 21" line), Force Main, or Interceptor debris cleaning or flushing, routine	Large Trunk (over 21" line), Force Main, or Interceptor debris cleaning or flushing, non-routine
	Line startup, trunk or interceptor
	Large chlorine or chemical additions
	Cured in place pipeline (CIPP) activity, >20,000 gallons per day
<i>*Routine is defined as a repeat operation with no changes that have happened within a year</i>	<i>**Non-routine is defined as happening for the first time or has not happened in over a year</i>
<i>**See Approved Products & Chemicals List</i>	

Complete the following form to provide notification of pending collection system activity to SRCSD's Wastewater Source Control Section (WSCS). As appropriate, provide copies of associated Material Safety Data Sheets (MSDS) and Product Information Sheets. Submit completed form to:

CSON Project Manager – Sabina Rynas
WSCS, Sacramento Regional County Sanitation District
Mail: 10060 Goethe Road, Sacramento, CA 95827
Phone: (916) 876-6522
Fax: (916) 854-9286
Email: rynass@sacsewer.com

Upon receipt of this form, the CSON Project Manager will contact you for more information, follow up, or response.

Submittal of this form does not constitute approval to perform this activity.

Submittal of this form does not constitute approval to perform this activity.

Information Type	Your Event Data
Event type (root, crown, pest control, etc.)	
Start date and time	
End date and time	
Contact agency	
Agency contact name	
Contact phone	
Contact email	
Job contact name	
Job contact cell phone	
Job contact office phone	
Location—manhole IDs, segments, street boundaries, etc.	
Project description and details	
Asset or Structure type (main or trunk line, service line, interceptor, pump station, manhole)	
Quantity of pipeline affected (number of pump stations or manholes, length of pipe, number of pipes, etc.)	
Pipe diameter or pump station capacity	
Product name, if applicable	
Active hazardous chemical(s) listed on MSDS	
Method of application, application rate (mixture ratio of chemical with water, gallons applied per application, daily rates)	
Maximum Volume of Product Use per Day	
Maximum Volume of Total Discharge per Day (including dilution water)	
Provide copy of MSDS, Product Information Sheets	<i>If this is a repeat event, an Approved Products & Chemicals List may already include your product and shorten our review time; otherwise, your chemical or product will be considered non-routine and require 14 days advance notice.</i>

WSCS Activity Review

Accepted by: _____

Date: _____

APPENDIX C – CCTV REPORTS

- St. Joseph Dr. at Fruitridge Rd Sewer Rehabilitation
- Acacia Ave/Alamos Ave Easement at Altos Ave Sewer Rehabilitation
- Armington Ave./Ferran Ave Easement at 18th St. Sewer Rehabilitation
- Birchwood Lane/Cabana Way Easement Sewer Rehabilitation
- Larson Way/22nd St Easement at 24th Ave Sewer Rehabilitation
- 47th St/48th St Easement at J St Sewer Rehabilitation
- 6th Ave/7th Ave Easement Sewer Rehabilitation - E. Curtis Way to Franklin Blvd.
- 10th Ave/11th Ave Easement Sewer Rehabilitation - E. Curtis Way to Cutter Way
- Arden Way Sewer Rehabilitation - Evergreen St to Green St
- Brado Way/Dana Way Easement Sewer Rehabilitation - 34th Av to Fruitridge Blvd.
- Quincy Ave Sewer Rehabilitation - 19th to 21st St
- 25th-27th Ave Easement Storm Drain Rehabilitation - Esmerelda St to 60th St

Location 1

St. Joseph Drive at Fruitridge Road

CCTV Reports

CUES, Inc.
 3600 Rio Vista Avenue
 Orlando, FL 32805
 Phone: 407-849-0190
 Fax: 407-425-1569



PACP Sewer Report

Operator: **MARK KEHOE** SUR_CERT_NO: **U9099330** SYSTEM_OWNER: **CITY OF SACRAMENTO** Survey Customer: DRAINAGE_AREA: **BASIN 119** SHEET_NUMBER: **1**

Work order no.: **155179** Mainline ID: **516MM16 507MM16** Start date/time: **2011/12/08 09:52** Address: **3050 ST JOSEPHS DR** City: **SACRAMENTO**

FURTHER_LOCATION_DETAILS Upstream node: **516MM16** Depth: GRADE_TO_INVE RIM_TO_GRADE

Downstream node: **507MM16** Depth: GRADE_TO_INVERT RIM_TO_GRADE Use of Sewer: **SS** Direction: **U** Flow Control: **N** Pipe height: **6**

Pipe width: Pipe shape: **C** Pipe type: **VCP** Ln. Method Joint distance: Asset length: **255.5** Surveyed footage: **255.5** Year laid: YEAR_REHABILITAT MEDIA_LABEL: **155179**

Reason: **A** Sewer Category Pre-Cleaning: **N** DATE_CLEANED Weather: **1** Surface: **C** Comments

Grade	Amount of Structural Defects	Structural			Amount of O&M Defects	O&M			Overall Pipe			
		Structural Segment Grade	Structural Pipe Rating	Structural Quick Rating		O&M Segment Grade	O&M Pipe Rating	O&M Quick Rating	Overall Pipe Rating	Overall Pipe Rating Index		
1	0	0	5	3121	2.5	5	29	3815	2.230769	34	2.266667	
2	1	2				0						0
3	1	3				8						24
4	0	0				0						0
5	0	0				0						0

CUES, Inc.
 3600 Rio Vista Avenue
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 Fax: 407-425-1569



Operator:
MARK KEHOE

SYSTEM_OWNER
CITY OF SACRAMENTO

Start date/time:
2011/12/08

Upstream node:
516MM16

Mainline ID:
516MM16 507MM16

SHEET_NUMBER
2

Distance (Feet) (Meters)	Video Ref.	Group/ Descriptor	Modifier/ Severity	Continuous Defect	S/M/L	Value Inches (mm)		%	Joint	Circumferential Location		Image Ref.	Family	Rating	Remarks
						1st	2nd			At/From	to				
41.7	237	TFA				4			J	9			CF		DAMAGED FOWLER TAP
53.4	288	TFA				4			J	9			CF		
78.6	333	RFJ							J	2	4		O&M	1	
87.6	357	RFJ							J	8			O&M	1	
98.7	382	RFJ							J	9	1		O&M	1	
102.0	401	TFA				4			J	10			CF		
103.1	418	RMJ						5	J	8	3		O&M	3	
111.9	445	RMJ						10	J	9	4		O&M	3	
115.1	476	RMJ		S1				5	J	8	1		O&M	3	
135.6	476	RMJ		F1				5	J	8	1		O&M	3	
139.7	539	RFJ							J	10			O&M	1	
142.1	559	TBA				4			J	10			CF		
188.0	633	TBA				4			J	10			CF		
188.5	662	FL							J	9			S	3	
213.2	706	RFJ							J	8	2		O&M	1	
223.4	743	TBA				4				10			CF		
249.1	806	RMJ						15	J	6	2		O&M	3	
249.8	835	FC							J	4	6		S	2	
253.5	877	RMJ						5	J	9	3		O&M	3	

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 Phone: 407-849-0190
 Fax: 407-425-1569



Operator: **MARK KEHOE** SYSTEM_OWNER: **CITY OF SACRAMENTO** Start date/time: **2011/12/08** Upstream node: **516MM16** Mainline ID: **516MM16 507MM16** SHEET_NUMBER: **3**

Distance (Feet) (Meters)	Video Ref.	Group/ Descriptor	Modifier/ Severity	Continuous Defect	S/M/L	Value Inches (mm)		Joint	Circumferential Location		Image Ref.	Family	Rating	Remarks
						1st	2nd		At/From	to				
253.9	901	TFA				4		J	9			CF		
255.5	928	ACOM										CF		UPSTREAM FLUSHER 516MM16 END OF RUN

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PACP Sewer Report

Operator: **EUGENE LESIUK** SUR_CERT_NO: _____ SYSTEM_OWNER: **CITY OF SACRAMENTO** Survey Customer: _____ DRAINAGE_AREA: **BASIN 119** SHEET_NUMBER: **1**

Work order no.: **68776** Mainline ID: **516MM16 513MM16** Start date/time: **2009/06/16 11:18** Address: **BASIN 119** City: **SACRAMENTO**

FURTHER_LOCATION_DETAILS Upstream node: **516MM16** Depth: _____ GRADE_TO_INVE: _____ RIM_TO_GRADE: _____

Downstream node: **513MM16** Depth: _____ GRADE_TO_INVERT: _____ RIM_TO_GRADE: _____ Use of Sewer: **SS** Direction: **U** Flow Control: _____ Pipe height: **6**

Pipe width: _____ Pipe shape: **C** Pipe type: **VCP** Ln. Method: _____ Joint distance: _____ Asset length: **93.0** Surveyed footage: **100.0** Year laid: _____ YEAR_REHABILITAT: _____ MEDIA_LABEL: _____

Reason: **PLUGGED MAIN SSO** Sewer Category: _____ Pre-Cleaning: _____ DATE_CLEANED: _____ Weather: **Dry** Surface: **C** Comments: **PIPE GOOD, GRADE FAIR, 50 % OF JOINTS HAVE HEAVY ROOT GROWTH. CAUSING SSO'S. WILL CIP. VERMIN IN MAIN COCKROACHES.**

Distance (feet) (Meters)	Video Ref.	Group/ Descriptor	Modifier/ Severity	Continuous Defect	Value		Joint	Circumferential Location		Image Ref.	Remarks
					S/M/L	%		1st	2nd		
10.0	191	Root-in-Joint						12	12		
13.1	219	Root-in-Joint						12	12		
22.4	258	Root-in-Joint						12	12		
25.3	283	Root-in-Joint						12	12		
28.3	305	Root-in-Joint						12	12		
31.7	330	Root-in-Joint						12	12		
33.6	365	Broken						12			small hole at 12, patched.
34.8	428	Root-in-Joint						12	12		
34.8	444	Vermin						3			

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Operator:
EUGENE LESIUK

SYSTEM_OWNER
CITY OF SACRAMENTO

Start date/time:
2009/06/16

Upstream node:
516MM16

Mainline ID:
516MM16 513MM16

SHEET_NUMBER
2

Distance (Feet) (Meters)	Video Ref.	Group/ Descriptor	Modifier/ Severity	Continuous Defect	S/M/L	Value Inches (mm)		%	Joint	Circumferential Location		Image Ref.	Remarks
						1st	2nd			At/From	to		
37.8	479	Root-in-Joint								9			
59.1	539	Vermin								9			
76.9	600	Vermin								3			
100.0	661	End of Pipe											

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PACP Sewer Report

Operator: **MARK KEHOE** SUR_CERT_NO: **U9099330** SYSTEM_OWNER: **CITY OF SACRAMENTO** Survey Customer: **BASIN 119** DRAINAGE_AREA: **BASIN 119** SHEET_NUMBER: **1**

Work order no.: **516MM16 513MM16** Mainline ID: **516MM16 513MM16** Start date/time: **2013/02/06 09:33** Address: **BASIN 119** City: **SACRAMENTO**

FURTHER_LOCATION_DETAILS Upstream node: **516MM16** Depth: GRADE_TO_INVE RIM_TO_GRADE

Downstream node: **513MM16** Depth: GRADE_TO_INVERT RIM_TO_GRADE Use of Sewer: **SS** Direction: **U** Flow Control: **N** Pipe height: **6**

Pipe width: **C** Pipe shape: **VCP** Pipe type: **VCP** Ln. Method Joint distance: Asset length: **93.0** Surveyed footage: **93.0** Year laid: YEAR_REHABILITAT MEDIA_LABEL: **187674**

Reason: **F** Sewer Category Pre-Cleaning: **J** DATE_CLEANED Weather: **6** Surface: **C** Comments

Distance (Feet) (Meters)	Video Ref.	Group/ Descriptor	Modifier/ Severity	Continuous Defect	S/M/L	Value		Joint	Circumferential Location		Image Ref.	Remarks
						Inches (mm)	%		At/From	to		
0.0	9	AMH										DOWNSTREAM MH 513MM16 START SURVEY
0.0	26	MWL					5					
22.0	148	RFJ	S1					J	7			DEFECT WANDERS
59.3	148	RFJ	F1					J	7			DEFECT WANDERS
91.0	393	LR					20					MAIN BENDS JUST OUTSIDE UPSTREAM MH 516MM16
93.0	470	AMH										UPSTREAM MH 516MM16 END SURVEY

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 Fax: 407-425-1569



PACP Sewer Report

Operator: **MARK KEHOE** SUR_CERT_NO: **U9099330** SYSTEM_OWNER: **CITY OF SACRAMENTO** Survey Customer: DRAINAGE_AREA: **BASIN 119** SHEET_NUMBER: **1**

Work order no.: Mainline ID: **513MM16 514MM16** Start date/time: **2013/02/06 09:45** Address: **BASIN 119** City: **SACRAMENTO**

FURTHER_LOCATION_DETAILS Upstream node: **513MM16** Depth: GRADE_TO_INVE RIM_TO_GRADE

Downstream node: **514MM16** Depth: GRADE_TO_INVERT RIM_TO_GRADE Use of Sewer: **SS** Direction: **D** Flow Control: **N** Pipe height: **6**

Pipe width: Pipe shape: **C** Pipe type: **VCP** Ln. Method Joint distance: Asset length: **26.0** Surveyed footage: **25.2** Year laid: YEAR_REHABILITAT MEDIA_LABEL: **187674**

Reason: **F** Sewer Category Pre-Cleaning: **J** DATE_CLEANED Weather: **1** Surface: **C** Comments

Grade	Amount of Structural Defects	Structural			Amount of O&M Defects	O&M			Overall Pipe		
		Structural Segment Grade	Structural Pipe Rating	Structural Quick Rating		O&M Segment Grade	O&M Pipe Rating	O&M Quick Rating	Overall Pipe Rating	Overall Pipe Rating Index	
1	0	0			0	0					
2	0	0			0	0					
3	0	0	0	0000	0	0	0	0000	0	0	0
4	0	0			0	0					
5	0	0			0	0					

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 Phone: 407-849-0190
 Fax: 407-425-1569



Operator: **MARK KEHOE** SYSTEM_OWNER: **CITY OF SACRAMENTO** Start date/time: **2013/02/06** Upstream node: **513MM16** Mainline ID: **513MM16 514MM16** SHEET_NUMBER: **2**

Distance (Feet) (Meters)	Video Ref.	Group/ Descriptor	Modifier/ Severity	Continuous Defect	S/M/L	Value Inches (mm)		%	Joint	Circumferential Location		Image Ref.	Family	Rating	Remarks
						1st	2nd			At/From	to				
0.0	1	AMH											CF		UPSTREAM MH 513MM16 START SURVEY
0.0	18	MWL						5							
25.2	142	AMH											CF		DOWNSTREAM MH 514MM16 END SURVEY

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PACP Sewer Report

Operator: MARK KEHOE		SUR_CERT_NO U9099330		SYSTEM_OWNER CITY OF SACRAMENTO		Survey Customer		DRAINAGE_AREA BASIN 119		SHEET_NUMBER 1		
Work order no.:		Mainline ID: 513MM16 511MM16		Start date/time: 2013/02/06 08:47		Address: BASIN 119		City: SACRAMENTO				
FURTHER_LOCATION_DETAILS						Upstream node: 513MM16		Depth:		GRADE_TO_INVE		RIM_TO_GRADE
Downstream node: 511MM16				Depth:		GRADE_TO_INVERT	RIM_TO_GRADE	Use of Sewer SS	Direction: U	Flow Control N	Pipe height: 6	
Pipe width:	Pipe shape: C	Pipe type: VCP	Ln. Method	Joint distance:	Asset length: 33.0	Surveyed footage: 32.8	Year laid:	YEAR_REHABILITAT	MEDIA_LABEL 187674			
Reason: F	Sewer Category	Pre-Cleaning J	DATE_CLEA	Weather: 1	Surface C	Comments						

Grade	Amount of Structural Defects	Structural			Amount of O&M Defects	O&M			Overall Pipe		
		Structural Segment Grade	Structural Pipe Rating	Structural Quick Rating		O&M Segment Grade	O&M Pipe Rating	O&M Quick Rating	O&M Pipe Rating Index	Overall Pipe Rating	Overall Pipe Rating Index
1	0	0			0	0					
2	0	0			0	0					
3	0	0	0	0000	1	3	3	3100	3	3	3
4	0	0			0	0					
5	0	0			0	0					

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 Phone: 407-849-0190
 Fax: 407-425-1569



Operator: **MARK KEHOE** SYSTEM_OWNER: **CITY OF SACRAMENTO** Start date/time: **2013/02/06** Upstream node: **513MM16** Mainline ID: **513MM16 511MM16** SHEET_NUMBER: **2**

Distance (Feet) (Meters)	Video Ref.	Group/ Descriptor	Modifier/ Severity	Continuous Defect	S/M/L	Value		%	Joint	Circumferential Location		Image Ref.	Family	Rating	Remarks
						1st	2nd			At/From	to				
0.0	3	AMH											CF		DOWNSTREAM MH 513MM16 START SURVEY
0.0	25	MWL						10							
5.0	85	RMJ						5	J	5	7		O&M	3	
32.8	319	AMH											CF		UPSTREAM MH 511MM16 END SURVEY

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PACP Sewer Report

Operator: MARK KEHOE		SUR_CERT_NO U9099330		SYSTEM_OWNER CITY OF SACRAMENTO		Survey Customer		DRAINAGE_AREA BASIN 119		SHEET_NUMBER 1			
Work order no.:		Mainline ID: 505MM16 511MM16		Start date/time: 2013/02/06 07:47		Address: BASIN 119		City: SACRAMENTO					
FURTHER_LOCATION_DETAILS						Upstream node: 505MM15		Depth:		GRADE_TO_INVE		RIM_TO_GRADE	
Downstream node: 511MM16				Depth:		GRADE_TO_INVERT		RIM_TO_GRADE		Use of Sewer SS	Direction: D	Flow Control N	Pipe height: 6
Pipe width:	Pipe shape: C	Pipe type: VCP	Ln. Method	Joint distance:		Asset length: 220.0	Surveyed footage: 219.5	Year laid:		YEAR_REHABILITAT	MEDIA_LABEL 187674		
Reason: F	Sewer Category	Pre-Cleaning J	DATE_CLEA	Weather: 6	Surface D	Comments							

Grade	Amount of Structural Defects	Structural			Amount of O&M Defects	O&M			Overall Pipe			
		Structural Segment Grade	Structural Pipe Rating	Structural Quick Rating		O&M Segment Grade	O&M Pipe Rating	O&M Quick Rating	Overall Pipe Rating	Overall Pipe Rating Index		
1	0	0			11	11						
2	0	0			0	0						
3	0	0	0	0000	3	9	20	331A	1.428571	20	1.428571	
4	0	0			0	0						
5	0	0			0	0						

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 Phone: 407-849-0190
 Fax: 407-425-1569



Operator: **MARK KEHOE** SYSTEM_OWNER: **CITY OF SACRAMENTO** Start date/time: **2013/02/06** Upstream node: **505MM15** Mainline ID: **505MM16 511MM16** SHEET_NUMBER: **2**

Distance (Feet) (Meters)	Video Ref.	Group/ Descriptor	Modifier/ Severity	Continuous Defect	Value		%	Joint	Circumferential Location		Image Ref.	Family	Rating	Remarks
					S/M/L	Inches (mm)			At/From	to				
0.0	1	AMH										CF		UPSTREAM MH 505MM16 START SURVEY
0.0	26	MWL					0							
66.0	127	TBA				4			10			CF		
66.0	137	RMC					25		10			O&M	3	
67.0	166	RPR										S		TAP REPAIR PVC
67.6	202	TFA				4			2			CF		
71.3	234	RMJ					10	J	6	9		O&M	3	
84.0	266	RFJ		S1				J	2	4		O&M	1	DEFECT WANDERS
110.7	347	TBA				4			10			CF		
110.7	356	RML					20		10			O&M	3	
113.4	383	TBA				4			1			CF		
137.0	266	RFJ		F1				J	2	4		O&M	1	DEFECT WANDERS
159.3	451	TBA				4			1			CF		
162.8	467	TBA				4			11			CF		
218.1	556	TBB				4			10			CF		
219.5	585	AMH										CF		DOWNSTREAM MH 511MM16 END SURVEY

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PACP Sewer Report

Operator: MARK KEHOE		SUR_CERT_NO U9099330		SYSTEM_OWNER CITY OF SACRAMENTO		Survey Customer		DRAINAGE_AREA BASIN 119		SHEET_NUMBER 1	
Work order no.:		Mainline ID: 626MM16 624MM16		Start date/time: 2013/02/06 09:06		Address: BASIN 119		City: SACRAMENTO			
FURTHER_LOCATION_DETAILS						Upstream node: 626MM16		Depth:		GRADE_TO_INVE RIM_TO_GRADE	
Downstream node: 624MM16				Depth:		GRADE_TO_INVERT RIM_TO_GRADE		Use of Sewer SS		Direction: U	
								Flow Control N		Pipe height: 6	
Pipe width:		Pipe shape: C		Pipe type: VCP		Ln. Method		Joint distance:		Asset length: 113.0	
								Surveyed footage: 112.6		Year laid:	
								YEAR_REHABILITAT		MEDIA_LABEL 187674	
Reason: F		Sewer Category		Pre-Cleaning N		DATE_CLEAVED		Weather: 6		Surface C	
Comments											

Grade	Amount of Structural Defects	Structural			O&M			Overall Pipe			
		Structural Segment Grade	Structural Pipe Rating	Structural Quick Rating	Structural Pipe Rating Index	O&M Segment Grade	O&M Pipe Rating	O&M Quick Rating	O&M Pipe Rating Index	Overall Pipe Rating	Overall Pipe Rating Index
1	0	0				0	0				
2	0	0				0	0				
3	0	0	0	0000	0	0	0	0000	0	0	0
4	0	0				0	0				
5	0	0				0	0				

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 Phone: 407-849-0190
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Operator: **MARK KEHOE** SYSTEM_OWNER: **CITY OF SACRAMENTO** Start date/time: **2013/02/06** Upstream node: **626MM16** Mainline ID: **626MM16 624MM16** SHEET_NUMBER: **2**

Distance (Feet) (Meters)	Video Ref.	Group/ Descriptor	Modifier/ Severity	Continuous Defect	S/M/L	Value Inches (mm)		%	Joint	Circumferential Location		Image Ref.	Family	Rating	Remarks
						1st	2nd			At/From	to				
0.0	2	AMH											CF		DOWNSTREAM MH 624MM16 START SURVEY
0.0	29	MWL						25							
110.5	177	TFA				6				9			CF		
112.6	264	ACOM											CF		UPSTREAM FLUSHER 626MM16 END SURVEY

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PACP Sewer Report

Operator: MARK KEHOE		SUR_CERT_NO U909933-0		SYSTEM_OWNER CITY OF SACRAMENTO		Survey Customer		DRAINAGE_AREA BASIN 119		SHEET_NUMBER 1			
Work order no.:		Mainline ID: 625MM16 624MM16		Start date/time: 2013/02/18 13:36		Address: BASIN 119		City: SACRAMENTO					
FURTHER_LOCATION_DETAILS						Upstream node: 625MM16		Depth:		GRADE_TO_INVE		RIM_TO_GRADE	
Downstream node: 624MM16				Depth:		GRADE_TO_INVERT		RIM_TO_GRADE		Use of Sewer SS	Direction: U	Flow Control N	Pipe height: 6
Pipe width:	Pipe shape: C	Pipe type: VCP	Ln. Method	Joint distance:		Asset length: 248.0	Surveyed footage: 247.5	Year laid:		YEAR_REHABILITAT	MEDIA_LABEL 187551		
Reason: A	Sewer Category	Pre-Cleaning J	DATE_CLEANED	Weather: 1	Surface D	Comments							

Grade	Amount of Structural Defects	Structural			Amount of O&M Defects	O&M			Overall Pipe Rating	Overall Pipe Rating Index
		Structural Segment Grade	Structural Pipe Rating	Structural Quick Rating		Structural Pipe Rating Index	O&M Segment Grade	O&M Pipe Rating		
1	0	0			0	0				
2	0	0			0	0				
3	0	0	0	0000	0	0	0	0000	0	0
4	0	0			0	0				
5	0	0			0	0				

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 Orlando, FL 32805
 Phone: 407-849-0190
 Fax: 407-425-1569



Operator:
 MARK KEHOE

SYSTEM_OWNER
 CITY OF SACRAMENTO

Start date/time:
 2013/02/18

Upstream node:
 625MM16

Mainline ID:
 625MM16 624MM16

SHEET_NUMBER
 2

Distance (Feet) (Meters)	Video Ref.	Group/ Descriptor	Modifier/ Severity	Continuous Defect	S/M/L	Value		%	Joint	Circumferential Location		Image Ref.	Family	Rating	Remarks
						1st	2nd			At/From	to				
0.0	1	AMH											CF		DOWNSTREAM MH 624MM16 START SURVEY
0.0	21	MWL						5							
6.0	72	TBA				4				11			CF		
54.6	202	TFA				4				2			CF		
55.2	220	TBA				4				11			CF		
74.3	257	TFA				4				3			CF		
108.1	315	TBA				4				11			CF		
147.9	379	TFA				4				3			CF		
153.6	401	RPR											S		TAP REPAIR PVC
154.7	422	TFA				4				9			CF		
240.3	579	TBA				4				11			CF		
246.6	598	ACOM											CF		UPSTREAM FLUSHER 625MM16 END SURVEY

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 Phone: 407-849-0190
 Fax: 407-425-1569



PACP Sewer Report

Operator: MARK KEHOE		SUR_CERT_NO U9099330		SYSTEM_OWNER CITY OF SACRAMENTO		Survey Customer		DRAINAGE_AREA BASIN 119		SHEET_NUMBER 1	
Work order no.:		Mainline ID: 624MM16 511MM16		Start date/time: 2013/02/06 08:55		Address: BASIN 119		City: SACRAMENTO			
FURTHER_LOCATION_DETAILS						Upstream node: 624MM16		Depth:		GRADE_TO_INVE RIM_TO_GRADE	
Downstream node: 511MM16		Depth:		GRADE_TO_INVERT RIM_TO_GRADE		Use of Sewer SS		Direction: U		Flow Control N Pipe height: 6	
Pipe width:		Pipe shape: C		Pipe type: VCP		Ln. Method		Joint distance:		Asset length: 220.0	
Reason: F		Sewer Category		Pre-Cleaning J		DATE_CLEANNED		Weather: 6		Surface C	
								Comments			
								YEAR_REHABILITAT		MEDIA_LABEL 187674	
								Year laid:			

Grade	Amount of Structural Defects	Structural			Amount of O&M Defects	O&M			Overall Pipe		
		Structural Segment Grade	Structural Pipe Rating	Structural Quick Rating		O&M Segment Grade	O&M Pipe Rating	O&M Quick Rating	Overall Pipe Rating	Overall Pipe Rating Index	
1	0	0			0	0					
2	0	0			0	0					
3	0	0	0	0000	0	0	0	0000	0	0	0
4	0	0			0	0					
5	0	0			0	0					

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Operator:
 MARK KEHOE

SYSTEM_OWNER
 CITY OF SACRAMENTO

Start date/time:
 2013/02/06

Upstream node:
 624MM16

Mainline ID:
 624MM16 511MM16

SHEET_NUMBER
 2

Distance (feet) (Meters)	Video Ref.	Group/ Descriptor	Modifier/ Severity	Continuous Defect	S/M/L	Value		%	Joint	Circumferential Location		Image Ref.	Family	Rating	Remarks
						1st	2nd			At/From	to				
0.0	2	AMH											CF		DOWNSTREAM MH 511MM16 START SURVEY
0.0	20	MWL						25							
220.1	459	AMH											CF		UPSTREAM MH 624MM16 END SURVEY

Location 2

Acacia Avenue/Alamos Avenue Easement at
Altos Avenue

CCTV Reports

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PACP Sewer Report

Operator: **GARY GRIFFIN** SUR_CERT_NO SYSTEM_OWNER Survey Customer DRAINAGE_AREA SHEET_NUMBER
1

Work order no.: **54123** Mainline ID: **905U18315V18** Start date/time: **2008/12/29 10:58** Address: **2931 ALTOS AVE.** City: **SACRAMENTO**

FURTHER_LOCATION_DETAILS Upstream node: **905U18** Depth: GRADE_TO_INVE RIM_TO_GRADE

Downstream node: **315V18** Depth: GRADE_TO_INVERT RIM_TO_GRADE Use of Sewer Direction: **U** Flow Control Pipe height: **6**

Pipe width: **6** Pipe shape: **C** Pipe type: **VCP** Ln. Method Joint distance: Asset length: **120.0** Surveyed footage: **117.4** Year laid: YEAR_REHABILITAT MEDIA_LABEL

Reason: **check condition** Sewer Category Pre-Cleaning DATE_CLEANED Weather: **Dry** Surface: **D** Comments

Distance (Feet) (Meters)	Video Ref.	Group/ Descriptor	Modifier/ Severity	Continuous Defect	S/M/L	Value		%	Joint	Circumferential Location		Image Ref.	Remarks
						1st	2nd			At/From	to		
8.3	307	Sag		S1									
17.2	366	Root-in-Joint										c69aeb46-fd1c-44b4-b0 d5-8258d619cc0.jpg	
20.2	395	Root-in-Joint										fd548175-b169-443a-9b 6-dd168eeda347.jpg	
23.2	307	Sag		F1									
27.4	501	Lateral								10			ROOTS IN SSL
31.6	545	Root-in-Joint											
44.0	654	Root-in-Joint											
46.3	693	Sag		S2									
46.3	718	Crack		S3									

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Operator:
GARY GRIFFIN

SYSTEM_OWNER

Start date/time:
2008/12/29

Upstream node:
905U18

Mainline ID:
905U18315V18

SHEET_NUMBER
2

Distance (Feet) (Meters)	Video Ref.	Group/ Descriptor	Modifier/ Severity	Continuous Defect	S/M/L	Value		%	Joint	Circumferential Location		Image Ref.	Remarks
						1st	2nd			At/From	to		
51.6	777	Camera Under Water		S4									
56.1	832	Root-in-Joint											
56.2	718	Crack		F3									
56.2	777	Camera Under Water		F4									
65.8	915	Root-in-Joint											
68.6	939	Root-in-Joint											
76.3	1042	Lateral								3		450b50d9-43-431f-a1ff-80ea7fecd483.jpg	HEAVY ROOTS
101.4	1347	Root-in-Joint											
101.5	693	Sag		F2									
104.0	1399	Root-in-Joint											
107.6	1435	Root-in-Joint											
110.5	1462	Root-in-Joint											
116.9	1512	Lateral								9		2264b2cd-a4ee-448c-b4fe-a86c8ce6ee.jpg	HEAVY ROOTS
117.4	1599	GC											END RUN AT F/B 905U18

Location 3

Armington Avenue/Ferran Avenue Easement at
18th Street

CCTV Reports

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PACP Sewer Report

Operator: Kevin Waller		SUR_CERT_NO U-909-9320		SYSTEM_OWNER		Survey Customer		DRAINAGE_AREA BASIN G354		SHEET_NUMBER 1									
Work order no.:		Mainline ID: 820UU14 510UU14		Start date/time: 2013/03/01 08:37		Address: 1785 ARMINGTON AVE		City: SACRAMENTO											
FURTHER_LOCATION_DETAILS						Upstream node: 820UU14		Depth:		GRADE_TO_INVE RIM_TO_GRADE									
Downstream node: 510UU14				Depth:		GRADE_TO_INVERT RIM_TO_GRADE		Use of Sewer SS		Direction: D		Flow Control N		Pipe height: 6					
Pipe width:		Pipe shape: C		Pipe type: VCP		Ln. Method		Joint distance:		Asset length: 98.0		Surveyed footage: 98.0		Year laid:		YEAR_REHABILITAT		MEDIA_LABEL 188809	
Reason: A		Sewer Category		Pre-Cleaning J		DATE_CLEANNED		Weather: 1		Surface D		Comments							

Grade	Amount of Structural Defects	Structural			O&M			Overall Pipe				
		Structural Segment Grade	Structural Pipe Rating	Structural Quick Rating	Structural Pipe Rating Index	Amount of O&M Defects	O&M Segment Grade	O&M Pipe Rating	O&M Quick Rating	O&M Pipe Rating Index	Overall Pipe Rating	Overall Pipe Rating Index
1	0	0			2	2						
2	0	0			17	34						
3	1	3	3	3100	0	0	36	2B12	1.894737	39	1.95	
4	0	0			0	0						
5	0	0			0	0						

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Operator: Kevin Waller SYSTEM_OWNER Start date/time: 2013/03/01 Upstream node: 820UU14 Mainline ID: 820UU14 510UU14 SHEET_NUMBER 2

Distance (Feet) (Meters)	Video Ref.	Group/ Descriptor	Modifier/ Severity	Continuous Defect	Value		%	Joint	Circumferential Location		Image Ref.	Family	Rating	Remarks
					S/M/L	Inches (mm)			1st	2nd				
0.0	27	AMH										CF		START OF RUN AT USMH 820UU14
0.0	71	MWL					5							
14.0	512	DAGS		S1			5	J	7	5		O&M	2	GREASE
18.8	594	TBA				4			10			CF		
54.9	670	CM						J	12	12		S	3	DUE TO TBA
55.4	700	TBA				4		J	2			CF		
86.2	823	RFJ		S2				J	7	5		O&M	1	ROOT
98.0	899	AMH										CF		END OF RUN AT DSMH 510UU14
98.0	512	DAGS		F1			5	J	7	5		O&M	2	GREASE
98.0	823	RFJ		F2				J	7	5		O&M	1	ROOT

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PACP Sewer Report

Operator: **Kevin Waller** SUR_CERT_NO: **U-909-9320** SYSTEM_OWNER: Survey Customer: DRAINAGE_AREA: **BASIN G354** SHEET_NUMBER: **1**

Work order no.: **510UU14 511UU14** Mainline ID: Start date/time: **2013/03/01 09:05** Address: **1785 ARMINGTON** City: **SACRAMENTO**

FURTHER_LOCATION_DETAILS Upstream node: **510UU14** Depth: GRADE_TO_INVE: RIM_TO_GRADE:

Downstream node: **511UU14** Depth: GRADE_TO_INVERT: RIM_TO_GRADE: Use of Sewer: **SS** Direction: **D** Flow Control: **N** Pipe height: **6**

Pipe width: Pipe shape: **C** Pipe type: **VCP** Ln. Method: Joint distance: Asset length: **29.0** Surveyed footage: **29.0** Year laid: YEAR_REHABILITAT: MEDIA_LABEL: **188809**

Reason: **F** Sewer Category: Pre-Cleaning: **J** DATE_CLEANED: Weather: **1** Surface: **D** Comments:

Grade	Amount of Structural Defects	Structural			O&M		O&M Pipe Rating	O&M Quick Rating	O&M Pipe Rating Index	Overall Pipe Rating	Overall Pipe Rating Index
		Structural Segment Grade	Structural Pipe Rating	Structural Quick Rating	Structural Pipe Rating Index	O&M Segment Grade					
1	0	0			0	0					
2	0	0			0	0					
3	0	0	0	0000	0	12	12	3400	3	12	3
4	0	0			0	0					
5	0	0			0	0					

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Operator: **Kevin Waller** SYSTEM_OWNER Start date/time: **2013/03/01** Upstream node: **510UU14** Mainline ID: **510UU14 511UU14** SHEET_NUMBER: **2**

Distance (Feet) (Meters)	Video Ref.	Group/ Descriptor	Modifier/ Severity	Continuous Defect	S/M/L	Value Inches (mm)		%	Joint	Circumferential Location		Image Ref.	Family	Rating	Remarks
						1st	2nd			At/From	to				
0.0	10	AMH											CF		START OF RUN AT USMH 510UU14
0.0	46	MWL						5							
3.1	63	RMJ	S1					25	J	7	5	Sewer, Truck #10898-NON-S SMP-510UU14-5 11UU14 RMJ at 3.1 ft (D).jpg	O&M	3	ROOTS
23.6	63	RMJ	F1					25	J	7	5	Sewer, Truck #10898-NON-S SMP-510UU14-5 11UU14 RMJ at 3.1 ft (D).jpg	O&M	3	ROOTS
29.0	490	AMH											CF		END OF RUN AT DSMH 511UU14

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PACP Sewer Report

Operator: MARK KEHOE	SUR_CERT_NO U9099330	SYSTEM_OWNER	Survey Customer	DRAINAGE_AREA BASIN G354	SHEET_NUMBER 1
Work order no.: 90712	Mainline ID: 511UU14 512UU14	Start date/time: 2010/02/23 07:48	Address: 1785 ARMINGTON AVE	City: SACRAMENTO	
FURTHER_LOCATION_DETAILS		Upstream node: 511UU14	Depth:	GRADE_TO_INVE	RIM_TO_GRADE
Downstream node: 512UU14	Depth:	GRADE_TO_INVERT	RIM_TO_GRADE	Use of Sewer SS	Direction: D
				Flow Control N	Pipe height: 6
Pipe width:	Pipe shape: C	Pipe type: VCP	Ln. Method	Joint distance:	Asset length: 43.0
					Surveyed footage: 37.0
					Year laid:
					YEAR_REHABILITAT
					MEDIA_LABEL WO#90712
Reason: A	Sewer Category	Pre-Cleaning H	DATE_CLEANED 2010/02/11	Weather: 1	Surface D
					Comments

Grade	Amount of Structural Defects	Structural			Amount of O&M Defects	O&M			Overall Pipe			
		Structural Segment Grade	Structural Pipe Rating	Structural Quick Rating		O&M Segment Grade	O&M Pipe Rating	O&M Quick Rating	Overall Pipe Rating	Overall Pipe Rating Index		
1	0	0	7	5121	3.5	2	2	20	3612	2.5	27	2.7
2	1	2				0	0					
3	0	0				6	18					
4	0	0				0	0					
5	1	5				0	0					

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Operator: MARK KEHOE SYSTEM_OWNER Start date/time: 2010/02/23 Upstream node: 511UU14 Mainline ID: 511UU14 512UU14 SHEET_NUMBER 2

Distance (Feet) (Meters)	Video Ref.	Group/ Descriptor	Modifier/ Severity	Continuous Defect	S/M/L	Value		%	Joint	Circumferential Location		Image Ref.	Family	Rating	Remarks
						1st	2nd			At/From	to				
1.4	262	RFJ							J	9	4		O&M	1	
6.8	313	RMJ						5	J	10	4		O&M	3	
13.0	365	RMJ						5	J	2	4		O&M	3	
17.0	406	RMJ						5	J	9	3		O&M	3	
21.2	437	RMJ						5	J	10	4		O&M	3	
25.2	462	RMJ						10	J	10	2		O&M	3	
28.9	493	RMJ						15	J	11	3		O&M	3	
33.0	519	RFJ							J	10	2		O&M	1	
36.6	563	FC							J	12	6		S	2	
36.9	3	MSA													UNABLE TO PROCEED PAST BROKEN SECTION OF MAIN, WILL WILL LOCATE AND MARK REPAIR AND SEND TO REPAIR SUPER- VISOR
37.0	608	HSV							J	6	10	431734bf-7059-4d08-b242-bfd0e936b629.jpg	S	5	

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PACP Sewer Report

Operator: **MARK KEHOE** SUR_CERT_NO: **U9099330** SYSTEM_OWNER: Survey Customer: DRAINAGE_AREA: **BASIN G354** SHEET_NUMBER: **1**

Work order no.: **90712** Mainline ID: **511UU14 512UU14** Start date/time: **2010/12/20 08:40** Address: **1785 ARMINGTON AVE** City: **SACRAMENTO**

FURTHER_LOCATION_DETAILS Upstream node: **511UU14** Depth: GRADE_TO_INVE: RIM_TO_GRADE:

Downstream node: **512UU14** Depth: GRADE_TO_INVERT: RIM_TO_GRADE: Use of Sewer: **SS** Direction: **D** Flow Control: **N** Pipe height: **6**

Pipe width: Pipe shape: **C** Pipe type: **VCP** Ln. Method: Joint distance: Asset length: **43.0** Surveyed footage: **37.1** Year laid: YEAR_REHABILITAT: MEDIA_LABEL: **WO#10712**

Reason: **A** Sewer Category: Pre-Cleaning: **N** DATE_CLEANED: Weather: **6** Surface: **D** Comments:

Grade	Amount of Structural Defects	Structural			O&M			Overall Pipe				
		Structural Segment Grade	Structural Pipe Rating	Structural Quick Rating	Structural Pipe Rating Index	O&M Segment Grade	O&M Pipe Rating	O&M Quick Rating	O&M Pipe Rating Index	Overall Pipe Rating	Overall Pipe Rating Index	
1	0	0			0	0						
2	1	2			7	14						
3	0	0	2	2100	2	7	21	47	4337	2.764706	49	2.722222
4	0	0				3	12					
5	0	0				0	0					

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Operator: MARK KEHOE SYSTEM_OWNER Start date/time: 2010/12/20 Upstream node: 511UU14 Mainline ID: 511UU14 512UU14 SHEET_NUMBER 2

Distance (Feet) (Meters)	Video Ref.	Group/ Descriptor	Modifier/ Severity	Continuous Defect	S/M/L	Value Inches (mm)		%	Joint	Circumferential Location		Image Ref.	Family	Rating	Remarks
						1st	2nd			At/From	to				
2.0	262	DAGS		S1				10		4	7		O&M	2	
2.0	303	RMJ						25	J	3	9		O&M	3	
4.8	411	RMJ						25	J	1	6		O&M	3	
8.5	475	RMJ						25	J	12	6		O&M	3	
12.6	529	RMJ						30	J	7	5		O&M	3	
16.7	601	RMJ						25	J	12	5		O&M	3	
20.5	651	RBJ						75	J	7	5		O&M	4	
24.6	713	RBJ						60	J	7	5		O&M	4	
28.6	760	RMJ						30	J	10	4		O&M	3	
32.7	828	RMJ						30	J	7	5		O&M	3	
36.2	898	FC							J	10	4		S	2	
36.6	935	RBJ						65	J	7	5		O&M	4	
36.7	3	MGO													ROOTS IN MAIN STOPPING CAMERA
37.1	262	DAGS		F1				10		4	7		O&M	2	

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PACP Sewer Report

Operator: Kevin Waller		SUR_CERT_NO U-909-9320		SYSTEM_OWNER		Survey Customer		DRAINAGE_AREA BASIN G354		SHEET_NUMBER 1			
Work order no.:		Mainline ID: 511UU14 512UU14		Start date/time: 2013/03/05 08:37		Address: 1785 ARMINGTON AVE		City: SACRAMENTO					
FURTHER_LOCATION_DETAILS						Upstream node: 511UU14		Depth:		GRADE_TO_INVE		RIM_TO_GRADE	
Downstream node: 512UU14		Depth:		GRADE_TO_INVERT		RIM_TO_GRADE		Use of Sewer SS		Direction: D		Flow Control N	Pipe height: 6
Pipe width:	Pipe shape: C	Pipe type: VCP	Ln. Method	Joint distance:	Asset length: 43.0	Surveyed footage: 43.0	Year laid:	YEAR_REHABILITAT		MEDIA_LABEL 188809			
Reason: F	Sewer Category	Pre-Cleaning J	DATE_CLEAVED	Weather: 1	Surface D	Comments							

Grade	Amount of Structural Defects	Structural			Amount of O&M Defects	O&M			Overall Pipe		
		Structural Segment Grade	Structural Pipe Rating	Structural Quick Rating		O&M Segment Grade	O&M Pipe Rating	O&M Quick Rating	Overall Pipe Rating	Overall Pipe Rating Index	
1	0	0			0	0					
2	0	0			0	0					
3	0	0	4	4100	0	0	0	0000	0	4	4
4	1	4			0	0					
5	0	0			0	0					

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Operator: **Kevin Waller** SYSTEM_OWNER
 Start date/time: **2013/03/05** Upstream node: **511UU14** Mainline ID: **511UU14 512UU14** SHEET_NUMBER: **2**

Distance (Feet) (Meters)	Video Ref.	Group/ Descriptor	Modifier/ Severity	Continuous Defect	S/M/L	Value Inches (mm)		%	Joint	Circumferential Location		Image Ref.	Family	Rating	Remarks	
						1st	2nd			At/From	to					
0.0	26	MWL						10								
39.3	2	FM								12	12		S	4		
43.0	807	AMH											CF			END OF RUN AT DSMH 512UU14

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PACP Sewer Report

Operator: Kevin Waller SUR_CERT_NO: U-909-9320 SYSTEM_OWNER: Survey Customer: DRAINAGE_AREA: BASIN G354 SHEET_NUMBER: 1

Work order no.: Mainline ID: 512UU14 523UU14 Start date/time: 2013/03/01 09:56 Address: 1785 ARMINGTON AVE City: SACRAMENTO

FURTHER_LOCATION_DETAILS Upstream node: 512UU14 Depth: GRADE_TO_INVE RIM_TO_GRADE

Downstream node: 523UU14 Depth: GRADE_TO_INVERT RIM_TO_GRADE Use of Sewer: SS Direction: U Flow Control: N Pipe height: 6

Pipe width: Pipe shape: C Pipe type: VCP Ln. Method Joint distance: Asset length: 103.1 Surveyed footage: 103.1 Year laid: YEAR_REHABILITAT MEDIA_LABEL: 188809

Reason: A Sewer Category Pre-Cleaning: J DATE_CLEANNED Weather: 1 Surface: D Comments

Grade	Amount of Structural Defects	Structural Segment Grade	Structural Pipe Rating	Structural Quick Rating	Structural Pipe Rating Index	Amount of O&M Defects	O&M Segment Grade	O&M			Overall Pipe	
								O&M Pipe Rating	O&M Quick Rating	O&M Pipe Rating Index	Overall Pipe Rating	Overall Pipe Rating Index
1	0	0	0	0000	0	13	13	13	1A00	1	13	1
2	0	0				0	0					
3	0	0				0	0					
4	0	0				0	0					
5	0	0				0	0					

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Operator: Kevin Waller SYSTEM_OWNER Start date/time: 2013/03/01 Upstream node: 512UU14 Mainline ID: 512UU14 523UU14 SHEET_NUMBER 2

Distance (Feet) (Meters)	Video Ref.	Group/ Descriptor	Modifier/ Severity	Continuous Defect	Value		%	Joint	Circumferential Location		Image Ref.	Family	Rating	Remarks
					S/M/L	Inches (mm)			At/From	to				
					1st	2nd								
0.0	1	AMH										CF		START OF RUN AT DSMH 523UU14
0.0	26	MWL					10							
13.9	359	RFJ						J	7	10		O&M	1	
25.8	394	RFJ	S1					J	7	5		O&M	1	ROOTS
48.8	470	TBA			4			J	2			CF		
70.6	394	RFJ	F1					J	7	5		O&M	1	ROOTS
90.3	533	RFJ	S2					J	7	5		O&M	1	ROOTS
103.1	603	AMH										CF		END OF RUN AT USMH 512UU14
103.1	533	RFJ	F2					J	7	5		O&M	1	ROOTS

Location 4

Birchwood Lane/Cabana Way Easement

CCTV Reports

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PACP Sewer Report

Operator: MARK KEHOE		SUR_CERT_NO U9099330		SYSTEM_OWNER CITY OF SACRAMENTO		Survey Customer		DRAINAGE_AREA BASIN 119		SHEET_NUMBER 1	
Work order no.:		Mainline ID: 909KK13 910KK13		Start date/time: 2012/11/07 10:08		Address: BASIN 119		City: SACRAMENTO			
FURTHER_LOCATION_DETAILS						Upstream node: 909KK13		Depth: 5.9		GRADE_TO_INVE RIM_TO_GRADE	
Downstream node: 910KK13		Depth:		GRADE_TO_INVERT		RIM_TO_GRADE		Use of Sewer SS		Direction: U	
								Flow Control N		Pipe height: 6	
Pipe width:	Pipe shape:	Pipe type:	Ln. Method	Joint distance:	Asset length:	Surveyed footage:	Year laid:	YEAR_REHABILITAT	MEDIA_LABEL		
F	C	VCP			33.0	33.0			181881		
Reason:	Sewer Category	Pre-Cleaning	DATE_CLEANED	Weather:	Surface	Comments					
F		J		1	D						

Grade	Amount of Structural Defects	Structural			O&M			Overall Pipe			
		Structural Segment Grade	Structural Pipe Rating	Structural Quick Rating	Structural Pipe Rating Index	O&M Segment Grade	O&M Pipe Rating	O&M Quick Rating	O&M Pipe Rating Index	Overall Pipe Rating	Overall Pipe Rating Index
1	0	0			0	0					
2	0	0			0	0					
3	0	0	0	0000	0	3	3	3100	3	3	3
4	0	0			0	0					
5	0	0			0	0					

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Operator:
 MARK KEHOE

SYSTEM_OWNER
 CITY OF SACRAMENTO

Start date/time:
 2012/11/07

Upstream node:
 909KK13

Mainline ID:
 909KK13 910KK13

SHEET_NUMBER
 2

Distance (Feet) (Meters)	Video Ref	Group/ Descriptor	Modifier/ Severity	Continuous Defect	S/M/L	Value Inches (mm)		%	Joint	Circumferential Location		Image Ref.	Family	Rating	Remarks
						1st	2nd			At/From	to				
0.0	10	AMH											CF		DOWNSTREAM MH 910KK13 START SURVEY
0.0	48	MWL						15							
5.3	211	MWL						30							
30.5	293	RMJ						10	J	10	2		O&M	3	
33.0	351	AMH											CF		UPSTREAM MH 909KK13 END SURVEY

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PACP Sewer Report

Operator: **MARK KEHOE** SUR_CERT_NO: **U9099330** SYSTEM_OWNER: **CITY OF SACRAMENTO** Survey Customer: DRAINAGE_AREA: **BASIN 119** SHEET_NUMBER: **1**

Work order no.: Mainline ID: **910KK13 913KK13** Start date/time: **2012/11/07 09:46** Address: **BASIN 119** City: **SACRAMENTO**

FURTHER_LOCATION_DETAILS Upstream node: **910KK13** Depth: GRADE_TO_INVE RIM_TO_GRADE

Downstream node: **913KK13** Depth: GRADE_TO_INVERT RIM_TO_GRADE Use of Sewer: **SS** Direction: **U** Flow Control: **N** Pipe height: **6**

Pipe width: Pipe shape: **C** Pipe type: **VCP** Ln. Method Joint distance: Asset length: **131.0** Surveyed footage: **130.8** Year laid: YEAR_REHABILITAT MEDIA_LABEL: **181881**

Reason: **F** Sewer Category Pre-Cleaning: **J** DATE_CLEANED: **2012/10/31** Weather: **1** Surface: **D** Comments

Distance (Feet) (Meters)	Video Ref.	Group/ Descriptor	Modifier/ Severity	Continuous Defect	S/M/L	Value		Joint	Circumferential Location		Image Ref.	Remarks
						Inches (mm)	%		At/From	to		
0.0	2	AMH										DOWNSTREAM MH 913KK13 START SURVEY
0.0	38	MWL					30					
66.7	429	CL						J	12			
67.5	445	TBA				4			12			
77.9	524	TBA				4			1			
84.3	574	RFJ						J	12			
105.5	674	RFJ						J	8	12		
130.8	759	AMH										UPSTREAM MH 910KK13 END SURVEY

Location 5

Larson Way/22nd Street Easement at 24th Avenue

CCTV Reports

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 Fax: 407-425-1569



PACP Sewer Report

Operator: MARK KEHOE		SUR_CERT_NO U9099330		SYSTEM_OWNER CITY OF SACRAMENTO		Survey Customer		DRAINAGE_AREA BASIN 119		SHEET_NUMBER 1		
Work order no.:		Mainline ID: 720KK15 718KK15		Start date/time: 2013/03/05 08:01		Address: BASIN 119		City: SACRAMENTO				
FURTHER_LOCATION_DETAILS						Upstream node: 720KK15		Depth:		GRADE_TO_INVE		RIM_TO_GRADE
Downstream node: 718KK15				Depth:		GRADE_TO_INVERT	RIM_TO_GRADE	Use of Sewer SS	Direction: U	Flow Control N	Pipe height: 6	
Pipe width:	Pipe shape: C	Pipe type: VCP	Ln. Method	Joint distance:	Asset length: 101.0	Surveyed footage: 100.4	Year laid:	YEAR_REHABILITAT	MEDIA_LABEL 189328			
Reason: F	Sewer Category	Pre-Cleaning J	DATE_CLEANED 2013/02/26	Weather: 1	Surface D	Comments						

Grade	Amount of Structural Defects	Structural			Amount of O&M Defects	O&M			Overall Pipe	
		Structural Segment Grade	Structural Pipe Rating	Structural Quick Rating		O&M Segment Grade	O&M Pipe Rating	O&M Quick Rating	Overall Pipe Rating	Overall Pipe Rating Index
1	0	0			1	1				
2	0	0			0	0				
3	0	0	0	0000	0	0	1	1100	1	5
4	0	0			0	0				
5	0	0			0	0				1.666667

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 Fax: 407-425-1569



Operator: **MARK KEHOE** SYSTEM_OWNER: **CITY OF SACRAMENTO** Start date/time: **2013/03/05** Upstream node: **720KK15** Mainline ID: **720KK15 718KK15** SHEET_NUMBER: **2**

Distance (Feet) (Meters)	Video Ref.	Group/ Descriptor	Modifier/ Severity	Continuous Defect	S/M/L	Value		%	Joint	Circumferential Location		Image Ref.	Family	Rating	Remarks
						1st	2nd			At/From	to				
0.0	6	AMH											CF		DOWNSTREAM MH 718KK15 START SURVEY
0.0	43	MWL						15							
6.0	131	MWLS		S1				30						2	
17.6	131	MWLS		F1				30						2	
42.0	284	RFJ							J	2			O&M	1	
65.4	358	TBA					4			9			CF		
85.6	409	TFA					4			3			CF		
97.8	456	TBA					4			12			CF		
100.3	497	ACOM											CF		UPSTREAM FLUSHER 720 KK15 END SURVEY

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PACP Sewer Report

Operator: MARK KEHOE		SUR_CERT_NO U9099330		SYSTEM_OWNER CITY OF SACRAMENTO		Survey Customer		DRAINAGE_AREA BASIN 119		SHEET_NUMBER 1			
Work order no.:		Mainline ID: 719KK15 718KK15		Start date/time: 2013/03/05 08:12		Address: BASIN 119		City: SACRAMENTO					
FURTHER_LOCATION_DETAILS						Upstream node: 719KK15		Depth:		GRADE_TO_INVE		RIM_TO_GRADE	
Downstream node: 718KK15				Depth:		GRADE_TO_INVERT		RIM_TO_GRADE		Use of Sewer SS	Direction: U	Flow Control N	Pipe height: 6
Pipe width:	Pipe shape: C	Pipe type: VCP	Ln. Method	Joint distance:	Asset length: 26.0	Surveyed footage: 25.9	Year laid:	YEAR_REHABILITAT	MEDIA_LABEL 189328				
Reason: F	Sewer Category	Pre-Cleaning J	DATE_CLEANED	Weather: 1	Surface D	Comments							

Grade	Amount of Structural Defects	Structural			Amount of O&M Defects	O&M Segment Grade	O&M			Overall Pipe Rating	Overall Pipe	
		Structural Segment Grade	Structural Pipe Rating	Structural Quick Rating			O&M Pipe Rating	O&M Quick Rating	O&M Pipe Rating Index		Overall Pipe Rating	Overall Pipe Rating Index
1	0	0			0	0						
2	0	0			0	0						
3	0	0	0	0000	0	0	0	0000	0	0	0	0
4	0	0			0	0						
5	0	0			0	0						

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 Fax: 407-425-1569



Operator:
 MARK KEHOE

SYSTEM_OWNER
 CITY OF SACRAMENTO

Start date/time:
 2013/03/05

Upstream node:
 719KK15

Mainline ID:
 719KK15 718KK15

SHEET_NUMBER
 2

Distance (Feet) (Meters)	Video Ref.	Group/ Descriptor	Modifier/ Severity	Continuous Defect	S/M/L	Value		%	Joint	Circumferential Location		Image Ref.	Family	Rating	Remarks
						Inches (mm)				At/From	to				
0.0	15	AMH											CF		DOWNSTREAM MH 718KK15 START SURVEY
0.0	35	MWL						15							
7.7	102	TBA				4				2			CF		
23.8	133	TBA				4				3			CF		
25.9	150	ACOM											CF		UPSTREAM FLUSHER 719KK15 END SURVEY

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PACP Sewer Report

Operator: MARK KEHOE		SUR_CERT_NO U9099330		SYSTEM_OWNER CITY OF SACRAMENTO		Survey Customer		DRAINAGE_AREA BASIN 119		SHEET_NUMBER 1			
Work order no.:		Mainline ID: 718KK15 119LL15		Start date/time: 2013/03/05 08:17		Address: BASIN 119		City: SACRAMENTO					
FURTHER_LOCATION_DETAILS						Upstream node: 718KK15		Depth:		GRADE_TO_INVE		RIM_TO_GRADE	
Downstream node: 119LL15				Depth:		GRADE_TO_INVERT		RIM_TO_GRADE		Use of Sewer SS	Direction: D	Flow Control N	Pipe height: 6
Pipe width:	Pipe shape: C	Pipe type: VCP	Ln. Method	Joint distance:		Asset length: 122.0		Surveyed footage: 121.3		Year laid:		YEAR_REHABILITAT	MEDIA_LABEL 189328
Reason: F	Sewer Category	Pre-Cleaning J	DATE_CLEANED	Weather: 1	Surface D	Comments							

Grade	Amount of Structural Defects	Structural			Amount of O&M Defects	O&M			Overall Pipe		
		Structural Segment Grade	Structural Pipe Rating	Structural Quick Rating		O&M Segment Grade	O&M Pipe Rating	O&M Quick Rating	Overall Pipe Rating	Overall Pipe Rating Index	
1	0	0			16	16					
2	0	0			0	0					
3	0	0	0	0000	1	3	19	311B	1.117647	19	1.117647
4	0	0			0	0					
5	0	0			0	0					

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 Orlando, FL 32805
 Phone: 407-849-0190
 Fax: 407-425-1569



Operator:
 MARK KEHOE

SYSTEM_OWNER
 CITY OF SACRAMENTO

Start date/time:
 2013/03/05

Upstream node:
 718KK15

Mainline ID:
 718KK15 119LL15

SHEET_NUMBER
 2

Distance (Feet) (Meters)	Video Ref.	Group/ Descriptor	Modifier/ Severity	Continuous Defect	Value		%	Joint	Circumferential Location		Image Ref.	Family	Rating	Remarks
					S/M/L	Inches (mm)			1st	2nd				
0.0	1	AMH										CF		UPSTREAM MH 718KK15 START SURVEY
0.0	23	MWL					10							
22.7	200	RFJ	S1					J	8	4		O&M	1	DEFECT WANDERS
51.3	259	TBA			4				3			CF		
51.3	268	RFC							3			O&M	1	
66.8	200	RFJ	F1					J	8	4		O&M	1	DEFECT WANDERS
74.3	309	TBA			4				11			CF		
74.3	318	RMC					30		11			O&M	3	
77.0	334	RFJ	S2					J	8	4		O&M	1	DEFECT WANDERS
90.2	334	RFJ	F2					J	8	4		O&M	1	DEFECT WANDERS
105.0	385	RFJ	S3					J	8	4		O&M	1	DEFECT WANDERS
121.3	426	AMH										CF		DOWNSTREAM MH 119LL15 END SURVEY
121.3	385	RFJ	F3					J	8	4		O&M	1	DEFECT WANDERS

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PACP Sewer Report

Operator: Gary Griffin		SUR_CERT_NO U-909-9329		SYSTEM_OWNER		Survey Customer		DRAINAGE_AREA BASIN 119		SHEET_NUMBER 1	
Work order no.: 105339		Mainline ID: 119KK15 120KK15		Start date/time: 2010/06/01 10:54		Address: 4112 23rd.st.		City: SACRAMENTO			
FURTHER_LOCATION_DETAILS						Upstream node: 119KK15		Depth:		GRADE_TO_INVE RIM_TO_GRADE	
Downstream node: 120KK15		Depth:		GRADE_TO_INVERT		RIM_TO_GRADE		Use of Sewer SS		Direction: D	
								Flow Control N		Pipe height: 6	
Pipe width:		Pipe shape: C		Pipe type: VCP		Ln. Method		Joint distance:		Asset length: 261.3	
										Surveyed footage: 261.3	
										Year laid:	
										YEAR_REHABILITAT	
										MEDIA_LABEL 105339	
Reason: F		Sewer Category		Pre-Cleaning J		DATE_CLEAVED		Weather: 1		Surface H	
										Comments	

Grade	Amount of Structural Defects	Structural			Amount of O&M Defects	O&M			Overall Pipe		
		Structural Segment Grade	Structural Pipe Rating	Structural Quick Rating		O&M Segment Grade	O&M Pipe Rating	O&M Quick Rating	Overall Pipe Rating	Overall Pipe Rating Index	
1	0	0			24	24					
2	0	0			0	0					
3	0	0	0	0000	0	0	24	1C00	1	24	1
4	0	0			0	0					
5	0	0			0	0					

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Operator: Gary Griffin SYSTEM_OWNER Start date/time: 2010/06/01 Upstream node: 119KK15 Mainline ID: 119KK15 120KK15 SHEET_NUMBER: 2

Distance (Feet) (Meters)	Video Ref.	Group/ Descriptor	Modifier/ Severity	Continuous Defect	Value		%	Joint	Circumferential Location		Image Ref.	Family	Rating	Remarks
					S/M/L	Inches (mm)			At/From	to				
						1st 2nd								
0.0	28	MWL					5							
0.0	48	RFJ		S1				J	7	4		O&M	1	
6.0	130	TBA				4		J	10			CF		
12.1	181	TBA				4			2			CF		
29.4	238	TBA				4			10			CF		
31.0	267	TFA				4		J	9			CF		
49.2	318	TBA				4		J	2			CF		
68.4	373	TBA				4			2			CF		
72.9	418	TBA				4			2			CF		
72.9	429	RFL							2			O&M	1	
80.2	459	TBA				4			10			CF		
90.9	48	RFJ		F1				J	7	4		O&M	1	
116.8	581	TBB				4		J	12			CF		
128.9	625	RFJ						J	3			O&M	1	
143.0	658	TBA				4			9			CF		
157.3	698	TFA				4		J	3			CF		
161.8	726	RFJ						J	3			O&M	1	
185.4	770	TBA				4			9			CF		
207.9	811	RFJ						J	10	2		O&M	1	

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Operator: Gary Griffin SYSTEM_OWNER: _____ Start date/time: 2010/06/01 Upstream node: 119KK15 Mainline ID: 119KK15 120KK15 SHEET_NUMBER: 3

Distance (Feet) (Meters)	Video Ref.	Group/ Descriptor	Modifier/ Severity	Continuous Defect	Value			Joint	Circumferential Location		Image Ref.	Family	Rating	Remarks	
					S/M/L	Inches (mm)			%	At/From					to
						1st	2nd								
211.6	837	TFC				4			J	12			CF		
217.5	919	TBA				4				2			CF		
225.3	1002	RFJ							J	8	3		O&M	1	
233.5	1042	TBA				4			J	9			CF		
246.4	1078	RFJ							J	12			O&M	1	
261.3	1119	AMH											CF		END RUN AT DSMH120KK15

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 Fax: 407-425-1569



PACP Sewer Report

Operator: MARK KEHOE		SUR_CERT_NO U9099330		SYSTEM_OWNER CITY OF SACRAMENTO		Survey Customer		DRAINAGE_AREA BASIN 119		SHEET_NUMBER 1			
Work order no.:		Mainline ID: 118LL15 117LL15		Start date/time: 2013/03/05 10:30		Address: BASIN 119		City: SACRAMENTO					
FURTHER_LOCATION_DETAILS						Upstream node: 118LL15		Depth:		GRADE_TO_INVE		RIM_TO_GRADE	
Downstream node: 117LL15				Depth:		GRADE_TO_INVERT		RIM_TO_GRADE		Use of Sewer SS	Direction: U	Flow Control N	Pipe height: 6
Pipe width:	Pipe shape: C	Pipe type: VCP	Ln. Method	Joint distance:	Asset length: 20.0	Surveyed footage: 20.0	Year laid:	YEAR_REHABILITAT	MEDIA_LABEL 189328				
Reason: F	Sewer Category	Pre-Cleaning J	DATE_CLEANED	Weather: 1	Surface D	Comments							

Grade	Amount of Structural Defects	Structural			O&M			Overall Pipe				
		Structural Segment Grade	Structural Pipe Rating	Structural Quick Rating	Structural Pipe Rating Index	O&M Segment Grade	O&M Pipe Rating	O&M Quick Rating	O&M Pipe Rating Index	Overall Pipe Rating	Overall Pipe Rating Index	
1	0	0	0	0000	0	0	0	12	3400	3	12	3
2	0	0				0	0					
3	0	0				4	12					
4	0	0				0	0					
5	0	0				0	0					

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Operator: **MARK KEHOE** SYSTEM_OWNER: **CITY OF SACRAMENTO** Start date/time: **2013/03/05** Upstream node: **118LL15** Mainline ID: **118LL15 117LL15** SHEET_NUMBER: **2**

Distance (Feet) (Meters)	Video Ref	Group/ Descriptor	Modifier/ Severity	Continuous Defect	Value			Joint	Circumferential Location		Image Ref.	Family	Rating	Remarks	
					S/M/L	Inches (mm)			%	At/From					to
						1st	2nd								
0.0	1	AMH									CF		DOWNSTREAM MH 117LL15 START SURVEY		
0.0	35	MWL					0								
0.0	70	RMJ	S1				10	J	8	4		O&M	3	DEFECT WANDERS	
20.0	120	AMH										CF		UPSTREAM MH 118LL15 END SURVEY	
20.0	70	RMJ	F1				10	J	8	4		O&M	3	DEFECT WANDERS	

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PACP Sewer Report

Operator: **MARK KEHOE** SUR_CERT_NO: **U9099330** SYSTEM_OWNER: **CITY OF SACRAMENTO** Survey Customer: DRAINAGE_AREA: **SUMP119** SHEET_NUMBER: **1**

Work order no.: Mainline ID: **117LL15 115LL15** Start date/time: **2013/03/05 09:49** Address: **4601 LARSON WAY** City: **SACRAMENTO**

FURTHER_LOCATION_DETAILS

Upstream node: **117LL15** Depth: GRADE_TO_INVE: RIM_TO_GRADE:

Downstream node: **115LL15** Depth: GRADE_TO_INVERT: RIM_TO_GRADE: Use of Sewer: **SS** Direction: **U** Flow Control: **N** Pipe height: **6**

Pipe width: Pipe shape: **C** Pipe type: **VCP** Ln. Method: Joint distance: Asset length: **42.0** Surveyed footage: **42.0** Year laid: YEAR_REHABILITAT: MEDIA_LABEL: **189328**

Reason: **F** Sewer Category: **Z** Pre-Cleaning: **J** DATE_CLEANED: Weather: **1** Surface: **D** Comments:

Grade	Amount of Structural Defects	Structural Segment Grade	Structural Pipe Rating	Structural Quick Rating	Structural Pipe Rating Index	Amount of O&M Defects	O&M Segment Grade	O&M			Overall Pipe	
								O&M Pipe Rating	O&M Quick Rating	O&M Pipe Rating Index	Overall Pipe Rating	Overall Pipe Rating Index
1	0	0	2	2100	2	0	0	24	3800	3	26	2.888889
2	1	2				0	0					
3	0	0				8	24					
4	0	0				0	0					
5	0	0				0	0					

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Operator: **MARK KEHOE** SYSTEM_OWNER: **CITY OF SACRAMENTO** Start date/time: **2013/03/05** Upstream node: **117LL15** Mainline ID: **117LL15 115LL15** SHEET_NUMBER: **2**

Distance (Feet) (Meters)	Video Ref.	Group/ Descriptor	Modifier/ Severity	Continuous Defect	Value		%	Joint	Circumferential Location		Image Ref.	Family	Rating	Remarks
					S/M/L	Inches (mm)			1st	2nd				
0.0	1	AMH										CF		DOWNSTREAM MH 115LL15 START SURVEY
0.0	20	MWL					15							
0.0	45	RMJ		S1			5	J	8	4		O&M	3	DEFECT WANDERS
10.3	101	JOL			L							S	2	
11.8	125	TFA				4			9			CF		
42.0	199	AMH										CF		UPSTREAM MH 117LL15 END SURVEY
42.0	45	RMJ		F1			5	J	8	4		O&M	3	DEFECT WANDERS

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PACP Sewer Report

Operator: MARK KEHOE		SUR_CERT_NO U9099330		SYSTEM_OWNER CITY OF SACRAMENTO		Survey Customer		DRAINAGE_AREA BASIN 119		SHEET_NUMBER 1			
Work order no.:		Mainline ID: 115LL15 121LL15		Start date/time: 2013/03/05 09:26		Address: BASIN 119		City: SACRAMENTO					
FURTHER_LOCATION_DETAILS						Upstream node: 115LL15		Depth:		GRADE_TO_INVE		RIM_TO_GRADE	
Downstream node: 121LL15		Depth:		GRADE_TO_INVERT		RIM_TO_GRADE		Use of Sewer SS		Direction: U		Flow Control N	Pipe height: 6
Pipe width:	Pipe shape: C	Pipe type: VCP	Ln. Method	Joint distance:	Asset length: 154.0	Surveyed footage: 155.6	Year laid:	YEAR_REHABILITAT	MEDIA_LABEL 189328				
Reason: F	Sewer Category	Pre-Cleaning J	DATE_CLEANED	Weather: 1	Surface D	Comments							

Grade	Amount of Structural Defects	Structural			O&M			Overall Pipe				
		Structural Segment Grade	Structural Pipe Rating	Structural Quick Rating	Structural Pipe Rating Index	O&M Segment Grade	O&M Pipe Rating	O&M Quick Rating	O&M Pipe Rating Index	Overall Pipe Rating	Overall Pipe Rating Index	
1	0	0	0	0000	0	26	26	26	1D00	1	26	1
2	0	0				0	0					
3	0	0				0	0					
4	0	0				0	0					
5	0	0				0	0					

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Operator: MARK KEHOE SYSTEM_OWNER: CITY OF SACRAMENTO Start date/time: 2013/03/05 Upstream node: 115LL15 Mainline ID: 115LL15 121LL15 SHEET_NUMBER: 2

Distance (Feet) (Meters)	Video Ref.	Group/ Descriptor	Modifier/ Severity	Continuous Defect	S/M/L	Value		%	Joint	Circumferential Location		Image Ref.	Family	Rating	Remarks
						Inches (mm) 1st	2nd			At/From	to				
0.0	0	AMH											CF		DOWNSTREAM MH 121LL15 START SURVEY
0.0	39	MWL						10							
26.3	178	RFJ		S1					J	10			O&M	1	DEFECT WANDERS
65.4	314	TBA				4				12			CF		
88.2	368	TBA				4				11			CF		
153.9	501	AMH											CF		UPSTREAM MH 115LL15 END SURVEY
153.9	178	RFJ		F1					J	10			O&M	1	DEFECT WANDERS

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PACP Sewer Report

Operator: MARK KEHOE		SUR_CERT_NO U9099330		SYSTEM_OWNER CITY OF SACRAMENTO		Survey Customer		DRAINAGE_AREA BASIN 119		SHEET_NUMBER 1		
Work order no.:		Mainline ID: 116LL15 115LL15		Start date/time: 2013/03/05 09:37		Address: BASIN 119		City: SACRAMENTO				
FURTHER_LOCATION_DETAILS						Upstream node: 116LL15		Depth:		GRADE_TO_INVE		RIM_TO_GRADE
Downstream node: 115LL15				Depth:		GRADE_TO_INVERT	RIM_TO_GRADE	Use of Sewer SS	Direction: U	Flow Control N	Pipe height: 6	
Pipe width:	Pipe shape: C	Pipe type: VCP	Ln. Method	Joint distance:	Asset length: 52.0	Surveyed footage: 51.2	Year laid:	YEAR_REHABILITAT	MEDIA_LABEL 189328			
Reason: F	Sewer Category	Pre-Cleaning J	DATE_CLEAVED	Weather: 1	Surface D	Comments						

Grade	Amount of Structural Defects	Structural			O&M			Overall Pipe				
		Structural Segment Grade	Structural Pipe Rating	Structural Quick Rating	Structural Pipe Rating Index	Amount of O&M Defects	O&M Segment Grade	O&M Pipe Rating	O&M Quick Rating	O&M Pipe Rating Index	Overall Pipe Rating	Overall Pipe Rating Index
1	0	0				0	0					
2	0	0				0	0					
3	1	3	3	3100	3	8	24	24	3800	3	27	3
4	0	0				0	0					
5	0	0				0	0					

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 Orlando, FL 32805
 Phone: 407-849-0190
 Fax: 407-425-1569



Operator:
 MARK KEHOE

SYSTEM_OWNER
 CITY OF SACRAMENTO

Start date/time:
 2013/03/05

Upstream node:
 116LL15

Mainline ID:
 116LL15 115LL15

SHEET_NUMBER
 2

Distance (feet) (Meters)	Video Ref.	Group/ Descriptor	Modifier/ Severity	Continuous Defect	S/M/L	Value		%	Joint	Circumferential Location		Image Ref.	Family	Rating	Remarks
						1st	2nd			At/From	to				
0.0	47	AMH											CF		DOWNSTREAM MH 115LL15 START SURVEY
0.0	68	MWL						15							
0.1	21	RMJ	S1					5	J	8	4		O&M	3	DEFECT WANDERS
9.9	234	FL							J	4			S	3	
36.2	290	RMJ						30	J	2	10		O&M	3	
36.2	21	RMJ	F1					5	J	8	4		O&M	3	DEFECT WANDERS
51.2	392	AMH											CF		UPSTREAM FLUSHER 116LL15 END SURVEY

Location 6

47th Street/48th Street Easement at J Street

CCTV Reports

CUES, Inc.
 3600 Rio Vista Avenue
 Orlando, FL 32805
 Phone: 407-849-0190
 Fax: 407-425-1569



PACP Sewer Report

Operator: ANDY UPTON		SUR_CERT_NO		SYSTEM_OWNER SAC		Survey Customer		DRAINAGE_AREA CS353		SHEET_NUMBER 1			
Work order no.: 72930	Mainline ID: 812EE19 813EE19	Start date/time: 2009/07/21 10:50		Address: 4730 J STREET			City: SAC						
FURTHER_LOCATION_DETAILS						Upstream node: 812EE19		Depth:		GRADE_TO_INVE		RIM_TO_GRADE	
Downstream node: 813EE19		Depth:		GRADE_TO_INVERT		RIM_TO_GRADE		Use of Sewer CB		Direction: U		Flow Control	Pipe height: 8
Pipe width: 8	Pipe shape: C	Pipe type: VCP	Ln. Method	Joint distance:	Asset length: 339.7	Surveyed footage: 56.0	Year laid:	YEAR_REHABILITAT	MEDIA_LABEL				
Reason: check condition	Sewer Category B	Pre-Cleaning	DATE_CLEAVED	Weather: Dry	Surface H	Comments							

Grade	Amount of Structural Defects	Structural			O&M			Overall Pipe			
		Structural Segment Grade	Structural Pipe Rating	Structural Quick Rating	O&M Segment Grade	O&M Pipe Rating	O&M Quick Rating	Overall Pipe Rating	Overall Pipe Rating Index		
1	0	0			0	0					
2	0	0			0	0					
3	0	0	0	0000	0	0	0	0000	0	0	0
4	0	0			0	0					
5	0	0			0	0					

Location 6

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Operator: **ANDY UPTON** SYSTEM_OWNER: **SAC** Start date/time: **2009/07/21** Upstream node: **812EE19** Mainline ID: **812EE19 813EE19** SHEET_NUMBER: **2**

Distance (Feet) (Meters)	Video Ref.	Group/ Descriptor	Modifier/ Severity	Continuous Defect	S/M/L	Value		Joint	Circumferential Location		Image Ref.	Family	Rating	Remarks	
						Inches (mm)	%		At/From	to					
						1st	2nd								
20.4	214	Crack		S1					12						
22.3	214	Crack		F1					12						
34.6	283	Crack		S2							c76a91eb-ce61-4914-953c-263c7d3aef3c0.jpg				
37.4	283	Crack		F2							c76a91eb-ce61-4914-953c-263c7d3aef3c0.jpg				
54.4	463	Lateral Abandoned - sealed							3						
56.0	507	Lateral							9						

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PACP Sewer Report

Operator: **Andy Upton** SUR_CERT_NO: **U-909-9331** SYSTEM_OWNER: **SAC** Survey Customer: DRAINAGE_AREA: **CS353** SHEET_NUMBER: **1**

Work order no.: **91027** Mainline ID: **812EE19 813EE19** Start date/time: **2010/01/26 10:46** Address: **4730 J STREET** City: **SAC**

FURTHER_LOCATION_DETAILS Upstream node: **812EE19** Depth: GRADE_TO_INVE RIM_TO_GRADE

Downstream node: **813EE19** Depth: GRADE_TO_INVERT RIM_TO_GRADE Use of Sewer: **CB** Direction: **U** Flow Control: **N** Pipe height: **8**

Pipe width: **8** Pipe shape: **C** Pipe type: **VCP** Ln. Method Joint distance: Asset length: **339.7** Surveyed footage: **133.0** Year laid: YEAR_REHABILITAT MEDIA_LABEL: **91027**

Reason: **B** Sewer Category: **B** Pre-Cleaning: **N** DATE_CLEANNED Weather: **6** Surface: **H** Comments

Grade	Amount of Structural Defects	Structural				O&M					Overall Pipe	
		Structural Segment Grade	Structural Pipe Rating	Structural Quick Rating	Structural Pipe Rating Index	Amount of O&M Defects	O&M Segment Grade	O&M Pipe Rating	O&M Quick Rating	O&M Pipe Rating Index	Overall Pipe Rating	Overall Pipe Rating Index
1	0	0	14	5133	3.5	1	1	7	3211	2.333333	21	3
2	0	0				0	0					
3	3	9				2	6					
4	0	0				0	0					
5	1	5				0	0					

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Operator: Andy Upton SYSTEM_OWNER: SAC Start date/time: 2010/01/26 Upstream node: 812EE19 Mainline ID: 812EE19 813EE19 SHEET_NUMBER: 2

Distance (Feet) (Meters)	Video Ref.	Group/ Descriptor	Modifier/ Severity	Continuous Defect	S/M/L	Value		%	Joint	Circumferential Location		Image Ref.	Family	Rating	Remarks	
						1st	2nd			At/From	to					
3.0	52	MMC														TO PVC
11.0	222	MMC														TO CLAY
23.0	504	H								3		bdfb9820-525e-41da-b5e0-a571e57a35f10.jpg	S	3		this is at a joint
34.1	771	MMC														to pvc
38.0	832	MMC														to clay
54.8	901	TFB				6				3			CF			
56.2	946	TBA				4				9			CF			
69.2	1070	TBA				4				3			CF			
72.2	1106	RFJ							J	9			O&M	1		
90.7	1203	CM		S1						12	5	815ce28a-a231-4a1b-833b-bb57d0d09a880.jpg	S	3		
95.5	1516	TFA				6				3			CF			
98.8	1203	CM		F1						12	5	815ce28a-a231-4a1b-833b-bb57d0d09a880.jpg	S	3		
112.4	41	TFA				6				9			CF			DI
116.9	85	RMJ		S2				10	J	9	3		O&M	3		
128.6	85	RMJ		F2				10	J	9	3		O&M	3		
129.5	187	HVV								12	5	3c37e32b-ba30-4193-9620-f88432ceb880.jpg	S	5		
133.0	93	MGO										4453d45b-74ad-4231-9ca9-2cad78b99e0.jpg				CAN NOT GET BY HOLE IN MAIN.

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PACP Sewer Report

Operator: **Andy Upton** SUR_CERT_NO: **u-909-9331** SYSTEM_OWNER: **SAC** Survey Customer: DRAINAGE_AREA: **CS353** SHEET_NUMBER: **1**

Work order no.: **91027** Mainline ID: **812EE19 813EE19** Start date/time: **2010/02/10 12:24** Address: **4730 J STREET** City: **SAC**

FURTHER_LOCATION_DETAILS Upstream node: **812EE19** Depth: GRADE_TO_INVE: RIM_TO_GRADE:

Downstream node: **813EE19** Depth: GRADE_TO_INVERT: RIM_TO_GRADE: Use of Sewer: **CB** Direction: **U** Flow Control: **N** Pipe height: **8**

Pipe width: **8** Pipe shape: **C** Pipe type: **VCP** Ln. Method: Joint distance: Asset length: **339.7** Surveyed footage: **339.7** Year laid: YEAR_REHABILITAT: MEDIA_LABEL: **wo#91027**

Reason: **A** Sewer Category: **B** Pre-Cleaning: **N** DATE_CLEAVED: Weather: **1** Surface: **H** Comments:

Grade	Amount of Structural Defects	Structural			O&M			Overall Pipe				
		Structural Segment Grade	Structural Pipe Rating	Structural Quick Rating	Structural Pipe Rating Index	O&M Segment Grade	O&M Pipe Rating	O&M Quick Rating	O&M Pipe Rating Index	Overall Pipe Rating	Overall Pipe Rating Index	
1	0	0	8	4200	4	14	14	35	371A	1.666667	43	1.869565
2	0	0				0	0					
3	0	0				7	21					
4	2	8				0	0					
5	0	0				0	0					

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 3600 Rio Vista Avenue
 Orlando, FL 32805
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Operator: **Andy Upton** SYSTEM_OWNER: **SAC** Start date/time: **2010/02/10** Upstream node: **812EE19** Mainline ID: **812EE19 813EE19** SHEET_NUMBER: **2**

Distance (Feet) (Meters)	Video Ref.	Group/ Descriptor	Modifier/ Severity	Continuous Defect	S/M/L	Value Inches (mm)		%	Joint	Circumferential Location		Image Ref.	Family	Rating	Remarks	
						1st	2nd			At/From	to					
2.4	106	MMC														TO PVC
4.9	144	MMC														TP CLAY
28.4	205	MMC														TO PVC
32.7	241	MMC														TO CLAY
49.8	284	TFC				6				3			CF			
51.2	304	TBA				4				9			CF			
63.6	342	TBA				4				3			CF			
82.9	384	RFJ							J	4			O&M	1		
85.4	401	FM		S1						10	5	1a29aeb0-15e-495d-a292-cab1fffc93d10.jpg	S	4		
90.4	440	TFA				4				3			CF			
95.3	401	FM		F1						10	5	1a29aeb0-15e-495d-a292-cab1fffc93d10.jpg	S	4		
107.1	495	TFA				8				9			CF			THIS IS A DI
112.1	526	RMJ		S2				20	J	9	3	60a71352-4d3f-4f5e-88c-ae7162d932a0.jpg	O&M	3		
124.3	580	MMC														TO PVC
130.5	613	MMC														TO CLAY
130.5	526	RMJ		F2				20	J	9	3	60a71352-4d3f-4f5e-88c-ae7162d932a0.jpg	O&M	3		
161.0	707	TBA				4				9			CF			
162.2	728	TFA				4				3			CF			

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Operator: Andy Upton SYSTEM_OWNER: SAC Start date/time: 2010/02/10 Upstream node: 812EE19 Mainline ID: 812EE19 813EE19 SHEET_NUMBER: 3

Distance (Feet) (Meters)	Video Ref	Group/ Descriptor	Modifier/ Severity	Continuous Defect	Valve		%	Joint	Circumferential Location		Image Ref	Family	Rating	Remarks
					S/M/L	Inches (mm)			At/From	to				
167.6	758	RFJ						J	4			O&M	1	
171.6	785	RFJ		S3				J	2			O&M	1	
179.4	785	RFJ		F3				J	2			O&M	1	
195.5	877	TFA				4			3			CF		
209.4	924	TFA				4			3			CF		
216.4	956	RMJ		S4			30	J	9	3		O&M	3	
228.9	956	RMJ		F4			30	J	9	3		O&M	3	
263.4	1059	TFA				6			3			CF		
276.9	1100	RFJ		S5				J	9		808aaf0a-604e-4cbf-9d92-39b3cacb4b40.jpg	O&M	1	
288.1	1141	TFC				6			3			CF		
291.1	1170	RFJ						J	9	3		O&M	1	
310.0	1245	TBA				4			3			CF		ROOTS AT TAP
320.0	1100	RFJ		F5				J	9		808aaf0a-604e-4cbf-9d92-39b3cacb4b40.jpg	O&M	1	
339.7	1424	AMH										CF		END RUN AT USMH813EE9

Location 7

6th Avenue/7th Avenue Easement, E. Curtis Way
to Franklin Boulevard

CCTV Reports

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PACP Sewer Report

Operator: **EUGENE LESIUK** SUR_CERT_NO: _____ SYSTEM_OWNER: _____ Survey Customer: _____ DRAINAGE_AREA: _____ SHEET_NUMBER: **1**

Work order no.: **64401** Mainline ID: **701III16 702II16** Start date/time: **2009/05/28 09:01** Address: **2673 7 TH. AVE.** City: **SACRAMENTO**

FURTHER_LOCATION_DETAILS: _____ Upstream node: **701III16** Depth: _____ GRADE_TO_INVE: _____ RIM_TO_GRADE: _____

Downstream node: **702II16** Depth: _____ GRADE_TO_INVERT: _____ RIM_TO_GRADE: _____ Use of Sewer: _____ Direction: **U** Flow Control: _____ Pipe height: **8**

Pipe width: _____ Pipe shape: **Circular** Pipe type: **Clay** Ln. Method: _____ Joint distance: _____ Asset length: **488.5** Surveyed footage: **107.7** Year laid: _____ YEAR_REHABILITAT: _____ MEDIA_LABEL: _____

Reason: **PLUGGED MAIN SSO** Sewer Category: _____ Pre-Cleaning: _____ DATE_CLEANED: _____ Weather: **Dry** Surface: **Woodland** Comments: _____

Distance (Feet) (Meters)	Video Ref.	Group/ Descriptor	Modifier/ Severity	Continuous Defect	S/M/L	Value Inches (mm)		%	Joint	Circumferential Location		Image Ref.	Remarks
						1st	2nd			At/From	to		
45.2	562	Lateral								1			LIVE
55.0	684	Lateral								11			LIVE
57.3	714	Lateral								2			
90.1	851	Root-in-Joint								12	12		
99.2	886	Lateral								11			LIVE
101.3	920	Lateral								1			
107.7	955	Lateral								2			LIVE #3 ROOTS

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PACP Sewer Report

Operator: EUGENE LESIUK	SUR_CERT_NO	SYSTEM_OWNER	Survey Customer	DRAINAGE_AREA	SHEET_NUMBER 1
Work order no.: 64401	Mainline ID: 701III16 702II16	Start date/time: 2009/06/03 09:25	Address: 2673 7 TH. AVE.	City: SACRAMENTO	
FURTHER_LOCATION_DETAILS			Upstream node: 701III16	Depth:	GRADE_TO_INVE RIM_TO_GRADE
Downstream node: 702II16	Depth:	GRADE_TO_INVERT	RIM_TO_GRADE	Use of Sewer	Direction: U
Pipe width:	Pipe shape: Circular	Pipe type: Clay	Ln. Method	Joint distance:	Flow Control
Reason: PLUGGED MAIN SSO	Sewer Category	Pre-Cleaning	DATE_CLEANED	Weather: Dry	Surface: Woodland
				Asset length: 488.5	Surveyed footage: 488.5
				Year laid:	YEAR_REHABILITAT MEDIA_LABEL
					Pipe height: 8
				Comments JOINTS OF MAIN 60% HEAVY ROOT GROWTH CAUSING SSO'S. PIPE FAIRLY GOOD, GRADE FAIR, SEVERAL TAPS HAVE ROOT GROWTH. CIP TO HAVE MAIN REPLACED AND TAPS AND SERVICES REPLACED TO PL.	

Distance (Feet) (Meters)	Video Ref.	Group/ Descriptor	Modifier/ Severity	Continuous Defect	S/M/L	Value		Joint	Circumferential Location		Image Ref.	Remarks
						Inches (mm)	%		AV/From	to		
18.6	125	Sag							6			ENDS
45.8	189	Lateral							12			LIVE
55.7	234	Lateral							9			DRIPPING
57.7	259	Lateral							2			
99.5	337	Lateral							10			RUNNING
101.8	366	Lateral							2			
107.8	404	Lateral							1			LIVE, 4 ROOTS
160.0	526	Lateral							10			LIVE
162.3	558	Lateral							2			RUNNING

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Operator:
EUGENE LESIUK

SYSTEM_OWNER

Start date/time:
2009/06/03

Upstream node:
701II16

Mainline ID:
701II16 702II16

SHEET_NUMBER
2

Distance (Feet) (Meters)	Video Ref.	Group/ Descriptor	Modifier/ Severity	Continuous Defect	S/M/L	Value		%	Joint	Circumferential Location		Image Ref.	Remarks
						1st	2nd			At/From	to		
185.4	612	Root-in-Joint								12	12	de5d94e1-59b1-4535-9254-3f2b5e27b80.jpg	LARGE ROOT MASS.
209.9	727	Lateral								10			LIVE-4 ROOTS
211.8	763	Lateral								2			LIVE? PACKED WITH ROOTS,
212.1	816	Sag								6			STARTS
214.2	852	Lateral								12			DRIPPING,3 ROOTS
231.2	934	Sag								6			ENDS
250.8	1003	Lateral								12			RUNNING-BOOT RIPPED OUT.
262.4	1055	Lateral								10			
264.1	1081	Lateral								2			LIVE
306.7	1165	Sag								6			STARTS
309.7	1190	Lateral								3			LIVE
311.3	1239	Lateral								11			RUNNING
312.7	1272	Lateral								2			
323.3	1311	Lateral								3			LIVE
327.3	1335	Sag								6			ENDS
363.1	1407	Lateral								9			LIVE
364.8	1432	Lateral								2			LIVE
400.5	1542	Lateral								11			LIVE

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Operator:
EUGENE LESIUK

SYSTEM_OWNER

Start date/time:
2009/06/03

Upstream node:
701II16

Mainline ID:
701II16 702II16

SHEET_NUMBER
3

Distance (Feet) (Meters)	Video Ref.	Group/ Descriptor	Modifier/ Severity	Continuous Defect	S/M/L	Value		Joint	Circumferential Location		Image Ref.	Remarks
						Inches (mm)	%		At/From	to		
						1st	2nd					
411.7	1582	Lateral							10			
413.6	1600	Lateral							2			
418.0	1626	Lateral							2			LIVE
422.4	1651	Root-in-Joint							12	12		
442.3	1695	Lateral							1			LIVE-PACKED WITH ROOTS
459.8	1761	Lateral							1			PATCHED-ABANDONED
461.1	1802	Lateral							1			PATCHED-ABANDONED
461.5	1842	Lateral							10			LIVE-4 ROOTS
463.9	1875	Lateral							2			
488.5	1984	End of Pipe										

Location 8

10th Avenue/11th Avenue Easement, E. Curtis
Way to Cutter Way

CCTV Reports

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PACP Sewer Report

Operator: Kevin Waller		SUR_CERT_NO U-909-9320		SYSTEM_OWNER		Survey Customer		DRAINAGE_AREA BASIN CS352		SHEET_NUMBER 1		
Work order no.: 164366		Mainline ID: 101JJ16 106JJ16		Start date/time: 2012/04/18 08:44		Address: 2708 10TH AVE		City: SACRAMENTO				
FURTHER_LOCATION_DETAILS						Upstream node: 101JJ16		Depth:		GRADE_TO_INVE		RIM_TO_GRADE
Downstream node: 106JJ16				Depth:		GRADE_TO_INVERT	RIM_TO_GRADE	Use of Sewer CB	Direction: U	Flow Control N	Pipe height: 8	
Pipe width:	Pipe shape: C	Pipe type: VCP	Ln. Method	Joint distance:	Asset length: 299.5	Surveyed footage: 299.5	Year laid:	YEAR_REHABILITAT	MEDIA_LABEL 164366			
Reason: A	Sewer Category	Pre-Cleaning N	DATE_CLEA	Weather: 1	Surface D	Comments						

Grade	Amount of Structural Defects	Structural			O&M			Overall Pipe				
		Structural Segment Grade	Structural Pipe Rating	Structural Quick Rating	Structural Pipe Rating Index	O&M Segment Grade	O&M Pipe Rating	D&M Quick Rating	O&M Pipe Rating Index	Overall Pipe Rating	Overall Pipe Rating Index	
1	2	2	10	5131	2.5	33	33	69	2B1E	1.352941	79	1.436364
2	0	0				18	36					
3	1	3				0	0					
4	0	0				0	0					
5	1	5				0	0					

Operator: Kevin Waller SYSTEM_OWNER Start date/time: 2012/04/18 Upstream node: 101JJ16 Mainline ID: 101JJ16 106JJ16 SHEET_NUMBER 2

Distance (Feet) (Meters)	Video Ref.	Group/ Descriptor	Modifier/ Severity	Continuous Defect	Value		%	Joint	Circumferential Location		Image Ref.	Family	Rating	Remarks
					S/M/L	Inches (mm)			1st	2nd				
0.0	153	MWL					5							
0.5	190	CC						J	12	12		S	1	
24.2	337	TFC				4		J	10			CF		
26.3	364	TFC				4		J	2			CF		
56.0	446	CC						J	3	6		S	1	
58.4	468	TBA				4		J	11			CF		
62.9	509	TBA				4			2			CF		
66.0	541	RFJ						J	7	10		O&M	1	
72.5	585	RFJ	S1					J	7	5		O&M	1	
75.1	619	TBA				4			10			CF		ROOTS COMING FROM INSIDE TAP
77.4	679	TFC				4		J	10			CF		
79.5	705	TFC				4		J	2			CF		
84.3	736	DAGS	S2				5	J	9	3		O&M	2	
115.6	736	DAGS	F2				5	J	9	3		O&M	2	
130.8	830	TFC				4		J	10			CF		
132.7	856	MMC												CLAY TO PVC
135.0	882	TBA				4		J	2			CF		
136.3	901	MMC												PVC TO CLAY
149.9	936	MMC												CLAY TO PVC

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Operator: Kevin Waller SYSTEM_OWNER Start date/time: 2012/04/18 Upstream node: 101JJ16 Mainline ID: 101JJ16 106JJ16 SHEET_NUMBER 3

Distance (Feet) (Meters)	Video Ref.	Group/ Descriptor	Modifier/ Severity	Continuous Defect	Value		%	Joint	Circumferential Location		Image Ref.	Family	Rating	Remarks
					S/M/L	Inches (mm)			1st	2nd				
150.9	966	TFA				4		J	9			CF		
152.4	988	MMC									568e2578-5613-41ea-a6e7-3889579f1269.jpg			PVC TO CLAY
165.0	1934	MSA												SURVEY ABANDONED DO TO HEAVY ROOTS.
165.0	585	RFJ	F1					J	7	5		O&M	1	
169.5	14	RFJ						J	7	5		O&M	1	
186.0	63	TFC				4		J	10			CF		
186.4	151	LFD	S3					J	12	12	b6e847-526-4d46-9d62-80705d184541.jpg	S	3	
186.8	189	HVV						J	1	2		S	5	
191.7	151	LFD	F3					J	12	12	b6e847-526-4d46-9d62-80705d184541.jpg	S	3	
192.6	347	TFC				4		J	2			CF		
208.3	396	TBA				4			10			CF		
239.2	459	TFC				4		J	9			CF		
240.1	484	RFJ	S4					J	7	5		O&M	1	
240.1	505	DAGS	S5				5	J	12	12		O&M	2	
241.4	531	TFC				4		J	3			CF		
246.1	572	TBA				4		J	10			CF		
292.1	766	TFC				4		J	11			CF		

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Operator: Kevin Waller SYSTEM_OWNER Start date/time: 2012/04/18 Upstream node: 101JJ16 Mainline ID: 101JJ16 106JJ16 SHEET_NUMBER 4

Distance (Feet) (Meters)	Video Ref.	Group/ Descriptor	Modifier/ Severity	Continuous Defect	S/M/L	Value Inches (mm)		%	Joint	Circumferential Location		Image Ref.	Family	Rating	Remarks
						1st	2nd			At/From	to				
294.2	799	TFC				4			J	2			CF		
299.5	875	AMH											CF		END OF RUN AT USMH 101JJ16
299.5	484	RFJ		F4					J	7	5		O&M	1	
299.5	505	DAGS		F5				5	J	12	12		O&M	2	

Location 9

Arden Way, Evergreen Street to Green Street

CCTV Reports

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PACP Sewer Report

Operator: MARK KEHOE		SUR_CERT_NO U9099330		SYSTEM_OWNER CITY OF SACRAMENTO		Survey Customer		DRAINAGE_AREA BASIN G305		SHEET_NUMBER 1			
Work order no.: 173666		Mainline ID: 514X19 516X19		Start date/time: 2012/08/02 09:09		Address: BASIN G305		City: SACRAMENTO					
FURTHER_LOCATION_DETAILS						Upstream node: 514X19		Depth:		GRADE_TO_INVE		RIM_TO_GRADE	
Downstream node: 516X19				Depth:		GRADE_TO_INVERT		RIM_TO_GRADE		Use of Sewer SS	Direction: D	Flow Control N	Pipe height: 6
Pipe width:	Pipe shape:	Pipe type:	Ln. Method	Joint distance:		Asset length: 332.0	Surveyed footage: 331.8	Year laid:		YEAR_REHABILITAT	MEDIA_LABEL 173666		
Reason: F	Sewer Category	Pre-Cleaning	DATE_CLEANED	Weather: 1	Surface D	Comments							

Grade	Amount of Structural Defects	Structural Segment Grade	Structural Pipe Rating	Structural Quick Rating	Structural Pipe Rating Index	Amount of O&M Defects	O&M Segment Grade	O&M			Overall Pipe	
								O&M Pipe Rating	O&M Quick Rating	O&M Pipe Rating Index	Overall Pipe Rating	Overall Pipe Rating Index
1	0	0	10	5200	5	0	0	0	0000	0	10	5
2	0	0				0	0					
3	0	0				0	0					
4	0	0				0	0					
5	2	10				0	0					

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Operator:
 MARK KEHOE

SYSTEM_OWNER
 CITY OF SACRAMENTO

Start date/time:
 2012/08/02

Upstream node:
 514X19

Mainline ID:
 514X19 516X19

SHEET_NUMBER
 2

Distance (Feet) (Meters)	Video Ref.	Group/ Descriptor	Modifier/ Severity	Continuous Defect	S/M/L	Value		%	Joint	Circumferential Location		Image Ref.	Family	Rating	Remarks	
						1st	2nd			At/From	to					
0.0	4	AMH											CF		UPSTREAM MH 514X19 START SURVEY	
0.0	24	MWL						0								
25.1	36	TFA				4			J	12			CF			
69.4	115	TFA				4			J	12			CF			
156.3	301	HSV								10		Sewer, Truck #10899-SSMP-5 14X19-516X19 HSV at 156.3 ft (D).jpg	S	5	HOLE APPEARS TO BE UNDER SIDEWALK AND GUARDRAIL AREA ON BRIDGE OVER TRACKS ON ARDEN WAY	
158.0	428	HSV								1	3	Sewer, Truck #10899-SSMP-5 14X19-516X19 HSV at 158 ft (D).jpg	S	5	HOLE APPEARS TO BE UNDER SIDEWALK AND GUARDRAIL AREA ON BRIDGE OVER TRACKS ON ARDEN WAY	
331.8	881	AMH											CF		DOWNSTREAM MH 516X19 END SURVEY	

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PACP Sewer Report

Operator: MARK KEHOE		SUR_CERT_NO U9099330		SYSTEM_OWNER CITY OF SACRAMENTO		Survey Customer		DRAINAGE_AREA BASIN 119		SHEET_NUMBER 1			
Work order no.:		Mainline ID: 711MM15 403MM15		Start date/time: 2012/09/15 09:48		Address: BASIN 119		City: SACRAMENTO					
FURTHER_LOCATION_DETAILS						Upstream node: 711MM15		Depth:		GRADE_TO_INVE		RIM_TO_GRADE	
Downstream node: 403MM15		Depth:		GRADE_TO_INVERT		RIM_TO_GRADE		Use of Sewer SS		Direction: D		Flow Control N	Pipe height: 6
Pipe width:	Pipe shape: C	Pipe type: VCP	Ln. Method	Joint distance:	Asset length: 433.0	Surveyed footage: 19.3	Year laid:	YEAR_REHABILITAT		MEDIA_LABEL 176078			
Reason: F	Sewer Category	Pre-Cleaning J	DATE_CLEANED	Weather: 1	Surface D	Comments							

Grade	Amount of Structural Defects	Structural			O&M			Overall Pipe				
		Structural Segment Grade	Structural Pipe Rating	Structural Quick Rating	Structural Pipe Rating Index	O&M Segment Grade	O&M Pipe Rating	O&M Quick Rating	O&M Pipe Rating Index	Overall Pipe Rating	Overall Pipe Rating Index	
1	0	0	8	4200	4	0	0	15	3500	3	26	3.25
2	0	0				0	0					
3	0	0				5	15					
4	2	8				0	0					
5	0	0				0	0					

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Operator: **MARK KEHOE** SYSTEM_OWNER: **CITY OF SACRAMENTO** Start date/time: **2012/09/15** Upstream node: **711MM15** Mainline ID: **711MM15 403MM15** SHEET_NUMBER: **2**

Distance (Feet) (Meters)	Video Ref.	Group/ Descriptor	Modifier/ Severity	Continuous Defect	S/M/L	Value Inches (mm)		%	Joint	Circumferential Location		Image Ref.	Family	Rating	Remarks
						1st	2nd			At/From	to				
0.0	1	AMH											CF		UPSTREAM MH 711MM15 START SURVEY
0.0	19	MWL						5							
0.0	41	RMJ						5	J	12			O&M	3	
4.1	72	RMJ		S1				10	J	8	4		O&M	3	MEDIUM ROOTS
18.7	138	TBI				4	1.5			12			CF	3	
19.3	217	OBI						20		12			O&M	3	LARGE ROCK IN FRACTURE IN MAIN
19.3	306	D						5				Sewer, Truck #10899-SSMP-7 11MM15-403MM 15 D at 19.3 ft (D).jpg	S	4	
19.3	364	FH2								3			S	4	
19.3	388	MSA													DEFORMED PIPE STOPPING CAMERA
19.3	72	RMJ		F1				10	J	8	4		O&M	3	MEDIUM ROOTS

Location 10

Brado Way/Dana Way Easement, 34th Avenue to
Fruitridge Boulevard

CCTV Reports

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PACP Sewer Report

Operator: **MARK KEHOE** SUR_CERT_NO: **U9099330** SYSTEM_OWNER: **CITY OF SACRAMENTO** Survey Customer: DRAINAGE_AREA: **BASIN 119** SHEET_NUMBER: **1**

Work order no.: Mainline ID: **101NN15 110NN15** Start date/time: **2012/09/15 08:12** Address: **BASIN 119** City: **SACRAMENTO**

FURTHER_LOCATION_DETAILS Upstream node: **101NN15** Depth: GRADE_TO_INVE RIM_TO_GRADE

Downstream node: **110NN15** Depth: GRADE_TO_INVERT RIM_TO_GRADE Use of Sewer: **SS** Direction: **U** Flow Control: **N** Pipe height: **6**

Pipe width: Pipe shape: **C** Pipe type: **VCP** Ln. Method Joint distance: Asset length: **95.0** Surveyed footage: **95.0** Year laid: YEAR_REHABILITAT MEDIA_LABEL: **176978**

Reason: **F** Sewer Category Pre-Cleaning: **J** DATE_CLEANED: **2012/08/27** Weather: **1** Surface: **D** Comments

Grade	Amount of Structural Defects	Structural			O&M			Overall Pipe			
		Structural Segment Grade	Structural Pipe Rating	Structural Quick Rating	Structural Pipe Rating Index	O&M Segment Grade	O&M Pipe Rating	O&M Quick Rating	O&M Pipe Rating Index	Overall Pipe Rating	Overall Pipe Rating Index
1	0	0	0	0000	0	0	0	2	2100	2	2
2	0	0				1	2				
3	0	0				0	0				
4	0	0				0	0				
5	0	0				0	0				

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Operator: **MARK KEHOE** SYSTEM_OWNER: **CITY OF SACRAMENTO** Start date/time: **2012/09/15** Upstream node: **101NN15** Mainline ID: **101NN15 110NN15** SHEET_NUMBER: **2**

Distance (Feet) (Meters)	Video Ref	Group/ Descriptor	Modifier/ Severity	Continuous Defect	S/M/L	Value Inches (mm)		%	Joint	Circumferential Location		Image Ref.	Family	Rating	Remarks
						1st	2nd			At/From	to				
0.0	23	AMH											CF		DOWNSTREAM MH 110NN15 START SURVEY
0.0	71	MWL						5							
89.1	610	DSF						10		5	7		O&M	2	FINE DEPOSITS
95.0	755	ACOM											CF		UPSTREAM FLUSHER 101NN15 END SURVEY

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PACP Sewer Report

Operator: MARK KEHOE		SUR_CERT_NO U9099330		SYSTEM_OWNER CITY OF SACRAMENTO		Survey Customer		DRAINAGE_AREA BASIN 119		SHEET_NUMBER 1			
Work order no.:		Mainline ID: 110NN15 711MM15		Start date/time: 2012/09/15 08:29		Address: BASIN 119		City: SACRAMENTO					
FURTHER_LOCATION_DETAILS						Upstream node: 110NN15		Depth:		GRADE_TO_INVE		RIM_TO_GRADE	
Downstream node: 711MM15		Depth:		GRADE_TO_INVERT		RIM_TO_GRADE		Use of Sewer SS		Direction: D		Flow Control N	Pipe height: 6
Pipe width:	Pipe shape: C	Pipe type: VCP	Ln. Method	Joint distance:	Asset length: 439.0	Surveyed footage: 438.8	Year laid:	YEAR_REHABILITAT	MEDIA_LABEL 176978				
Reason: F	Sewer Category	Pre-Cleaning J	DATE_CLEANNED	Weather: 1	Surface D	Comments							

Grade	Amount of Structural Defects	Structural			O&M			Overall Pipe				
		Structural Segment Grade	Structural Pipe Rating	Structural Quick Rating	Structural Pipe Rating Index	O&M Segment Grade	O&M Pipe Rating	O&M Quick Rating	O&M Pipe Rating Index	Overall Pipe Rating	Overall Pipe Rating Index	
1	0	0	0	0000	0	15	15	45	322A	1.551724	45	1.551724
2	0	0				12	24					
3	0	0				2	6					
4	0	0				0	0					
5	0	0				0	0					

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Operator: **MARK KEHOE** SYSTEM_OWNER: **CITY OF SACRAMENTO** Start date/time: **2012/09/15** Upstream node: **110NN15** Mainline ID: **110NN15 711MM15** SHEET_NUMBER: **2**

Distance (Feet) (Meters)	Video Ref.	Group/ Descriptor	Modifier/ Severity	Continuous Defect	Value		%	Joint	Circumferential Location		Image Ref.	Family	Rating	Remarks
					S/M/L	Inches (mm)			1st	2nd				
0.0	1	AMH										CF		UPSTREAM MH 110NN15 START SURVEY
0.0	22	MWL					5							
37.1	341	DAGS		S1			5		7	5		O&M	2	GREASE
40.9	16	TBA				4		J	12			CF		
43.1	40	TBA				4		J	12			CF		
54.6	75	RFJ		S2				J	9	3		O&M	1	FINE ROOTS
61.6	108	DAGS		S3			10		9	3		O&M	2	GREASE
61.6	341	DAGS		F1			5		7	5		O&M	2	GREASE
88.5	194	TBA				4			12			CF		HEAVY ROOTS IN SERVICE
89.6	240	TBA				4			12			CF		HEAVY ROOTS IN SERVICE
95.3	108	DAGS		F3			10		9	3		O&M	2	GREASE
105.8	75	RFJ		F2				J	9	3		O&M	1	FINE ROOTS
134.0	350	TBA				4			12			CF		
135.8	366	TBA				4			12			CF		
176.2	452	TBA				4			12			CF		
177.9	466	TBA				4			12			CF		
197.9	503	MWL					15							
242.9	595	TBA				4			12			CF		

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Operator: **MARK KEHOE** SYSTEM_OWNER: **CITY OF SACRAMENTO** Start date/time: **2012/09/15** Upstream node: **110NN15** Mainline ID: **110NN15 711MM15** SHEET_NUMBER: **3**

Distance (Feet) (Meters)	Video Ref.	Group/ Descriptor	Modifier/ Severity	Continuous Defect	S/M/L	Value Inches (mm)		%	Joint	Circumferential Location		Image Ref.	Family	Rating	Remarks
						1st	2nd			At/From	to				
244.8	614	TBA				4				12			CF		
252.6	648	MWL						5							
287.4	722	RPR											S		PVC
289.7	766	TFA				4			J	12			CF		
290.2	817	TFA				4			J	12			CF		
312.5	898	RFJ		S4					J	8	4		O&M	1	FINE ROOTS
333.6	898	RFJ		F4					J	8	4		O&M	1	FINE ROOTS
341.5	971	TB				4			J	12			CF		
342.6	991	TBA				4				12			CF		
396.9	1082	TBA				4			J	12			CF		ROOTS IN SERVICE
398.2	1113	TBA				4			J	12			CF		
406.5	1139	RFJ							J	12	3		O&M	1	
419.2	1170	TFA				4			J	9			CF		
426.6	1205	RMJ		S5				10	J	8	4		O&M	3	MEDIUM ROOTS
438.8	1251	AMH											CF		DOWNSTREAM MH 711MM15 END SURVEY
438.8	1205	RMJ		F5				10	J	8	4		O&M	3	MEDIUM ROOTS

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PACP Sewer Report

Operator: **EUGENE LESIUK** SUR_CERT_NO: SYSTEM_OWNER: Survey Customer: DRAINAGE_AREA: SHEET_NUMBER: **1**

Work order no.: **62069** Mainline ID: **403MM15 417MM15** Start date/time: **2009/03/24 11:38** Address: **5605 BRADD** City: **SACRAMENTO**

FURTHER_LOCATION_DETAILS: Upstream node: **403MM15** Depth: GRADE_TO_INVE: RIM_TO_GRADE:

Downstream node: **417MM15** Depth: GRADE_TO_INVERT: RIM_TO_GRADE: Use of Sewer: Direction: **U** Flow Control: Pipe height: **6**

Pipe width: Pipe shape: **Circular** Pipe type: **Clay** Ln. Method: Joint distance: Asset length: **117.0** Surveyed footage: **116.5** Year laid: YEAR_REHABILITAT: MEDIA_LABEL:

Reason: **PLUGGED MAIN SSO** Sewer Category: Pre-Cleaning: DATE_CLEANED: Weather: **Dry** Surface: **Woodland** Comments: **PIPE GOOD, GRADE FAIR. JOINTS SHOT 75% OF JOINTS HAVE HEAVY ROOT GROWTH. REPLACE MAIN AND ONE SERVICE LINE.**

Distance (Feet) (Meters)	Video Ref.	Group/ Descriptor	Modifier/ Severity	Continuous Defect	S/M/L	Value		%	Joint	Circumferential Location		Image Ref.	Remarks
						1st	2nd			At/From	to		
7.0	0	Root-in-Joint								12	12		
11.1		Root-in-Joint								12	12		
11.1		Root-in-Joint								12	12		
14.2	12	Root-in-Joint								12	12		
17.1	34	Root-in-Joint								12	12		
23.3	63	Root-in-Joint								12	12		
26.3	85	Root-in-Joint								12	12		
29.3	108	Root-in-Joint								12	12		
29.3	122	Grease								12			

Operator:
EUGENE LESIUK

SYSTEM_OWNER

Start date/time:
2009/03/24

Upstream node:
403MM15

Mainline ID:
403MM15 417MM15

SHEET_NUMBER
2

Distance (Feet) (Meters)	Video Ref.	Group/ Descriptor	Modifier/ Severity	Continuous Defect	S/M/L	Value		Joint	Circumferential Location		Image Ref.	Remarks
						Inches (mm)	%		At/From	to		
						1st	2nd					
32.4	144	Root-in-Joint							12	12		
35.5	173	Root-in-Joint							12	12		
35.5	188	Grease							7	5		
41.6	229	Root-in-Joint							12	12		
41.6	246	Grease										CONT.
47.8	282	Root-in-Joint							12	12		
54.0	325	Root-in-Joint							12	12		
57.0	347	Root-in-Joint							12	12		
63.2	376	Root-in-Joint							12	12		
66.1	397	Root-in-Joint							12	12		
69.2	421	Root-in-Joint							12	12		
72.2	446	Root-in-Joint							12	12		
75.0	488	Lateral							12			4 INCH RUNNING
78.4	521	Root-in-Joint							12	12		
78.4	536	Grease							7	5		
81.4	564	Root-in-Joint							10	2		
90.8	603	Grease							7	5		
97.0	633	Root-in-Joint							12	12		

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Operator:
EUGENE LESIUK

SYSTEM_OWNER

Start date/time:
2009/03/24

Upstream node:
403MM15

Mainline ID:
403MM15 417MM15

SHEET_NUMBER
3

Distance (Feet) (Meters)	Video Ref.	Group/ Descriptor	Modifier/ Severity	Continuous Defect	S/M/L	Value		Joint	Circumferential Location		Image Ref.	Remarks
						Inches (mm)	%		At/From	to		
						1st	2nd					
103.1	662	Root-in-Joint							12	12		
116.5	738	End of Pipe										JOINTS IN MAIN SHOT,HEAVY ROOT GROWTH IN 75% OF JOINTS.CAUSING GREASE BUILDUP AND SSO'S.PIPE GOOD,GRADE FAIR.

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PACP Sewer Report

Operator: **MARK KEHOE** SUR_CERT_NO: **U9099330** SYSTEM_OWNER: **CITY OF SACRAMENTO** Survey Customer: DRAINAGE_AREA: **BASIN 119** SHEET_NUMBER: **1**

Work order no.: **178523** Mainline ID: **711MM15 403MM15** Start date/time: **2012/09/15 10:53** Address: **BASIN 119** City: **SACRAMENTO**

FURTHER_LOCATION_DETAILS Upstream node: **711MM15** Depth: GRADE_TO_INVE RIM_TO_GRADE

Downstream node: **403MM15** Depth: GRADE_TO_INVERT RIM_TO_GRADE Use of Sewer: **SS** Direction: **U** Flow Control: **N** Pipe height: **6**

Pipe width: Pipe shape: **C** Pipe type: **VCP** Ln. Method Joint distance: Asset length: **433.0** Surveyed footage: **413.6** Year laid: YEAR_REHABILITAT MEDIA_LABEL: **176978**

Reason: **F** Sewer Category Pre-Cleaning: **J** DATE_CLEANED Weather: **1** Surface: **D** Comments

Grade	Amount of Structural Defects	Structural Segment Grade	Structural Pipe Rating	Structural Quick Rating	Structural Pipe Rating Index	Amount of O&M Defects	O&M Segment Grade	O&M			Overall Pipe	
								O&M Pipe Rating	O&M Quick Rating	O&M Pipe Rating Index	Overall Pipe Rating	Overall Pipe Rating Index
1	0	0	14	4132	2.8	60	60	77	4131	1.149254	91	1.263889
2	2	4				5	10					
3	2	6				1	3					
4	1	4				1	4					
5	0	0				0	0					

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Operator:
 MARK KEHOE

SYSTEM_OWNER
 CITY OF SACRAMENTO

Start date/time:
 2012/09/15

Upstream node:
 711MM15

Mainline ID:
 711MM15 403MM15

SHEET_NUMBER
 2

Distance (Feet) (Meters)	Video Ref.	Group/ Descriptor	Modifier/ Severity	Continuous Defect	Value		Joint	Circumferential Location		Image Ref.	Family	Rating	Remarks
					S/M/L	Inches (mm) 1st 2nd		%	At/From				
0.0	2	AMH									CF		DOWNSTREAM MH 403MM15 START SURVEY
0.0	56	MWL							15				
2.0	200	TBA				4			12		CF		
18.7	340	TBA				4		J	12		CF		
19.5	364	TBA				4		J	12		CF		
27.0	402	DAGS	S1						3	8	O&M	2	GREASE
51.5	503	RFJ						J	8	4	O&M	1	
51.5	402	DAGS	F1						3	8	O&M	2	GREASE
56.5	542	TBA				4			12		CF		HEAVY ROOTS IN SERVICE
56.5	566	CL						J	12		S	2	
56.5	585	TBA				4		J	12		CF		
64.1	623	MWL											
67.6	654	RMJ						J	9	3	O&M	3	
88.9	700	RFJ	S2					J	8	4	O&M	1	FINE ROOTS
114.5	764	CL						J	12		S	2	
114.9	781	TBA				4			12		CF		
115.8	797	TBA				4		J	12		CF		
161.9	897	TBA				4			12		CF		

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Operator:
 MARK KEHOE

SYSTEM_OWNER
 CITY OF SACRAMENTO

Start date/time:
 2012/09/15

Upstream node:
 711MM15

Mainline ID:
 711MM15 403MM15

SHEET_NUMBER
 3

Distance (Feet) (Meters)	Video Ref.	Group/ Descriptor	Modifier/ Severity	Continuous Defect	Value		%	Joint	Circumferential Location		Image Ref.	Family	Rating	Remarks
					S/M/L	Inches (mm)			1st	2nd				
162.8	913	TBA				4			12			CF		
228.6	1026	TBA				4		J	12			CF		
229.4	1043	TBA				4		J	12			CF		
269.0	1124	TBA				4		J	12			CF		
269.9	1139	TBA				4			12			CF		
313.7	1229	TBA				4			12			CF		
314.3	1241	TBA				4			12			CF		
360.5	700	RFJ		F2				J	8	4		O&M	1	FINE ROOTS
380.4	1465	TBA				4			12			CF		
380.9	1489	FL						J	12			S	3	
381.4	1504	TBA				4		J	12			CF		
381.5	1525	FS							12	6		S	3	
390.5	1563	RFJ		S3				J	8	4		O&M	1	FINE ROOTS
412.5	1628	FM						J	12	12		S	4	SAME AREA AS FROM UPSTREAM MH
413.6	1680	TBA				4			12		Sewer, Truck #10899-SSMP-7 11MM15-403MM 15 TBA at 413.6 ft (U).jpg	CF		
413.6	1712	OBR					25		12	3		O&M	4	

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 Fax: 407-425-1569



Operator:
 MARK KEHOE

SYSTEM_OWNER
 CITY OF SACRAMENTO

Start date/time:
 2012/09/15

Upstream node:
 711MM15

Mainline ID:
 711MM15 403MM15

SHEET_NUMBER
 4

Distance (Feet) (Meters)	Video Ref.	Group/ Descriptor	Modifier/ Severity	Continuous Defect	S/M/L	Value Inches (mm)		%	Joint	Circumferential Location		Image Ref.	Family	Rating	Remarks	
						1st	2nd			At/From	to					
413.6	1730	MSA														ROCK BLOCKING CAMERA SAME BLOCKAGE AS FROM UPSTREAM MH SURVEY COMPLETE
413.6	1563	RFJ		F3					J	8	4		O&M	1		FINE ROOTS

Location 11

Quincy Avenue, 19th Street to 21st Street

CCTV Reports

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PACP Sewer Report

Surveyor's name: Kevin Waller		Surveyor's certificate No: U-909-9320		System owner:		Survey Customer		Drainage area: BASIN G354		Sheet number: 1			
Work order:		Pipeline segment ref: 202TT14 201TT14		Start date/time: 2012/12/07 10:08		Location (street name and number): 7416 19TH ST			Locality: SACRAMENTO				
Further location details:						Upstream manhole No: 202TT14		Rim to invert:		Grade to invert:		Rim to grade:	
Downstream manhole No: 201TT14				Rim to invert:		Grade to invert:		Rim to grade:		Use of sewer: SS	Direction: D	Flow control: N	Height: 6
Width:	Shape: C	Material: VCP	Ln. method:	Pipe joint length:	Total length: 167.1	Length surveyed: 167.1	Year laid:	Year rehabilitated:	Media label: 184483				
Purpose: F	Sewer category:	Pre-cleaning J	Date cleaned:	Weather: 1	Location code: C	Additional info:							

Grade	Amount of Structural Defects	Structural			O&M		Overall Pipe					
		Structural Segment Grade	Structural Pipe Rating	Structural Quick Rating	Structural Pipe Rating Index	Amount of O&M Defects	O&M Segment Grade	O&M Pipe Rating	O&M Quick Rating	O&M Pipe Rating Index	Overall Pipe Rating	Overall Pipe Rating Index
1	0	0				27	27					
2	0	0				29	58					
3	0	0	0	0000	0	0	0	85	2D1D	1.517857	85	1.517857
4	0	0				0	0					
5	0	0				0	0					

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Surveyor's name:
 Kevin Waller

System owner:

Start date/time:
 2012/12/07

Upstream manhole No:
 202TT14

Pipeline segment ref:
 202TT14 201TT14

Sheet number:
 2

Distance (Feet) (Meters)	Video Ref.	Group/ Descriptor	Modifier/ Severity	Continuous Defect	Value		%	Joint	Circumferential Location		Image Ref.	Family	Rating	Remarks
					S/M/L	Inches (mm)			1st	2nd				
0.0	3	AMH										CF		START OF RUN AT USMH 202TT14
0.0	21	MWL					20							
1.4	65	DAGS		S1			0	J	9	3		O&M	2	GREASE
1.6	99	RFJ		S2				J	7	5	Sewer, Truck #10898-NON-S SMP-202TT14-2 01TT14 RFJ at 1.6 ft (D).jpg	O&M	1	ROOTS
94.0	924	TFA				4		J	9			CF		
94.0	938	RTL					50		6	12	Sewer, Truck #10898-NON-S SMP-202TT14-2 01TT14 RTL at 94 ft (D).jpg	O&M	2	
112.3	1025	TFA				4		J	3			CF		
112.3	1035	RTL					50		9	3	Sewer, Truck #10898-NON-S SMP-202TT14-2 01TT14 RTL at 112.3 ft (D).jpg	O&M	2	
135.0	65	DAGS		F1			0	J	9	3		O&M	2	GREASE
135.1	99	RFJ		F2				J	7	5	Sewer, Truck #10898-NON-S SMP-202TT14-2 01TT14 RFJ at 1.6 ft (D).jpg	O&M	1	ROOTS
167.1	1185	AMH										CF		END OF RUN AT DSMH 201TT14

Location 12

25th-27th Avenue Easement, Esmerelda Street to
60th Street

CCTV Reports

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PACP Sewer Report

Operator: Rory Mc Donagh		SUR_CERT_NO 9318		SYSTEM_OWNER SACTO		Survey Customer		DRAINAGE_AREA SOUTH		SHEET_NUMBER 1	
Work order no.: 86589		Mainline ID: 718LL20 701LL20		Start date/time: 2012/06/25 09:40		Address: 5119 ESMERALDA STREET		City: SACTO			
FURTHER_LOCATION_DETAILS						Upstream node: 718LL20		Depth:		GRADE_TO_INVE RIM_TO_GRADE	
Downstream node: 701LL20				Depth:		GRADE_TO_INVERT RIM_TO_GRADE		Use of Sewer		Direction: U Flow Control N Pipe height: 10	
Pipe width: 10		Pipe shape: C		Pipe type: VCP		Ln. Method		Joint distance:		Asset length: 236.6	
Reason: F		Sewer Category		Pre-Cleaning J		DATE_CLEAVED		Weather: 1		Surface B	
								Comments			

Grade	Amount of Structural Defects	Structural			Amount of O&M Defects	O&M			Overall Pipe		
		Structural Segment Grade	Structural Pipe Rating	Structural Quick Rating		O&M Segment Grade	O&M Pipe Rating	O&M Quick Rating	Overall Pipe Rating	Overall Pipe Rating Index	
1	3	3	3	1300	20	20	26	321C	1.181818	29	1.16
2	0	0			0	0					
3	0	0			2	6					
4	0	0			0	0					
5	0	0			0	0					

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Operator:
 Rory Mc Donagh

SYSTEM_OWNER
 SACTO

Start date/time:
 2012/06/25

Upstream node:
 718LL20

Mainline ID:
 718LL20 701LL20

SHEET_NUMBER
 2

Distance (Feet) (Meters)	Video Ref.	Group/ Descriptor	Modifier/ Severity	Continuous Defect	Value		%	Joint	Circumferential Location		Image Ref.	Family	Rating	Remarks	
					S/M/L	Inches (mm)			At/From	to					
					1st	2nd									
4.2	113	RFJ						J	3		Drainage, Truck #10811-718LL2 0-718LL20 RFJ at 4.2 ft (U).jpg	O&M	1		
12.1	154	RFJ						J	5		Drainage, Truck #10811-718LL2 0-718LL20 RFJ at 12.1 ft (U).jpg	O&M	1		
20.7	201	RFJ						J	9		Drainage, Truck #10811-718LL2 0-718LL20 RFJ at 20.7 ft (U).jpg	O&M	1		
23.9	270	RFJ						J	8		Drainage, Truck #10811-718LL2 0-718LL20 RFJ at 23.9 ft (U).jpg	O&M	1		
25.0	301	CC							8	10	Drainage, Truck #10811-718LL2 0-718LL20 CC at 25 ft (U).jpg	S	1		
32.7	380	CC							8	1	Drainage, Truck #10811-718LL2 0-718LL20 CC at 32.7 ft (U).jpg	S	1		
56.6	433	RFJ						J	3	5	Drainage, Truck #10811-718LL2 0-718LL20 RFJ at 56.6 ft (U).jpg	O&M	1		
81.0	504	RFJ						J	8		Drainage, Truck #10811-718LL2 0-718LL20 RFJ at 81 ft (U).jpg	O&M	1		
84.9	529	RFJ						J	5		Drainage, Truck #10811-718LL2 0-718LL20 RFJ at 84.9 ft (U).jpg	O&M	1		
101.3	583	RFJ						J	4		Drainage, Truck #10811-718LL2 0-718LL20 RFJ at 101.3 ft (U).jpg	O&M	1		

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Operator: Rory Mc Donagh SYSTEM_OWNER: SACTO Start date/time: 2012/06/25 Upstream node: 718LL20 Mainline ID: 718LL20 701LL20 SHEET_NUMBER: 3

Distance (Feet) (Meters)	Video Ref.	Group/ Descriptor	Modifier/ Severity	Continuous Defect	S/M/L	Value		%	Joint	Circumferential Location		Image Ref.	Family	Rating	Remarks
						1st	2nd			At/From	to				
121.9	692	CC								6	12	Drainage, Truck #10811-718LL2 0-718LL20 CC at 121.9 ft (U).jpg	S	1	
129.8	725	RFJ							J	4		Drainage, Truck #10811-718LL2 0-718LL20 RFJ at 129.8 ft (U).jpg	O&M	1	
138.0	766	RFJ							J	9		Drainage, Truck #10811-718LL2 0-718LL20 RFJ at 138 ft (U).jpg	O&M	1	
153.6	806	RFJ							J	9	2	Drainage, Truck #10811-718LL2 0-718LL20 RFJ at 153.6 ft (U).jpg	O&M	1	
158.1	835	RFJ							J	4	9	Drainage, Truck #10811-718LL2 0-718LL20 RFJ at 158.1 ft (U).jpg	O&M	1	
162.2	873	RFJ							J	1	7	Drainage, Truck #10811-718LL2 0-718LL20 RFJ at 162.2 ft (U).jpg	O&M	1	
166.4	909	RFJ							J	4	7	Drainage, Truck #10811-718LL2 0-718LL20 RFJ at 166.4 ft (U).jpg	O&M	1	
168.9	946	RMJ						10	J	2	7	Drainage, Truck #10811-718LL2 0-718LL20 RMJ at 168.9 ft (U).jpg	O&M	3	
178.2	1029	RFJ							J	9	8	Drainage, Truck #10811-718LL2 0-718LL20 RFJ at 178.2 ft (U).jpg	O&M	1	

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Operator: Rory Mc Donagh SYSTEM_OWNER: SACTO Start date/time: 2012/06/25 Upstream node: 718LL20 Mainline ID: 718LL20 701LL20 SHEET_NUMBER: 4

Distance (Feet) (Meters)	Video Ref.	Group/ Descriptor	Modifier/ Severity	Continuous Defect	S/M/L	Value		Joint	Circumferential Location		Image Ref.	Family	Rating	Remarks	
						Inches (mm)	%		At/From	to					
						1st	2nd								
182.1	1071	RFJ						J	8	9	Drainage, Truck #10811-718LL20-718LL20 RFJ at 182.1 ft (U).jpg	O&M	1		
190.2	1113	RFJ						J	5	8	Drainage, Truck #10811-718LL20-718LL20 RFJ at 190.2 ft (U).jpg	O&M	1		
194.3	1140	RFJ						J	7	9	Drainage, Truck #10811-718LL20-718LL20 RFJ at 194.3 ft (U).jpg	O&M	1		
202.6	1188	RFJ						J	9	1	Drainage, Truck #10811-718LL20-718LL20 RFJ at 202.6 ft (U).jpg	O&M	1		
206.0	1243	RMJ					5	J	4	10	Drainage, Truck #10811-718LL20-718LL20 RMJ at 206 ft (U).jpg	O&M	3		
215.2	1290	RFJ						J	4		Drainage, Truck #10811-718LL20-718LL20 RFJ at 215.2 ft (U).jpg	O&M	1		
236.6	1394	AMH									Drainage, Truck #10811-718LL20-718LL20 AMH at 236.6 ft (U).jpg	CF		END MH 718LL20	

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PACP Sewer Report

Operator: Rory Mc Donagh		SUR_CERT_NO 9318		SYSTEM_OWNER SACTO		Survey Customer		DRAINAGE_AREA SOUTH		SHEET_NUMBER 1		
Work order no.: 86589		Mainline ID: 701LL20 702LL20		Start date/time: 2012/06/25 10:15		Address: 5119 ESMERALDA STREET		City: SACTO				
FURTHER_LOCATION_DETAILS						Upstream node: 701LL20		Depth:		GRADE_TO_INVE		RIM_TO_GRADE
Downstream node: 702LL20				Depth:		GRADE_TO_INVERT	RIM_TO_GRADE	Use of Sewer	Direction: D	Flow Control N	Pipe height: 10	
Pipe width: 10	Pipe shape: C	Pipe type: VCP	Ln. Method	Joint distance:	Asset length: 233.6	Surveyed footage: 233.9	Year laid:	YEAR_REHABILITAT	MEDIA_LABEL DVD			
Reason: F	Sewer Category	Pre-Cleaning J	DATE_CLEANED	Weather: 1	Surface B	Comments						

Grade	Amount of Structural Defects	Structural			Amount of O&M Defects	O&M			Overall Pipe			
		Structural Segment Grade	Structural Pipe Rating	Structural Quick Rating		O&M Segment Grade	O&M Pipe Rating	O&M Quick Rating	Overall Pipe Rating	Overall Pipe Rating Index		
1	0	0	8	5131	4	45	45	51	321H	1.085106	59	1.204082
2	0	0				0	0					
3	1	3				2	6					
4	0	0				0	0					
5	1	5				0	0					

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Operator:
 Rory Mc Donagh

SYSTEM_OWNER
 SACTO

Start date/time:
 2012/06/25

Upstream node:
 701LL20

Mainline ID:
 701LL20 702LL20

SHEET_NUMBER
 2

Distance (feet) (Meters)	Video Ref.	Group/ Descriptor	Modifier/ Severity	Continuous Defect	S/M/L	Value		Joint	Circumferential Location		Image Ref.	Family	Rating	Remarks
						Inches (mm)	%		At/From	to				
0.0	57	RFJ						J	4		Drainage, Truck #10811-701LL2 0-702LL20 RFJ at 0 ft (D).jpg	O&M	1	
1.1	86	RFJ						J	4	8		O&M	1	
4.7	207	RFJ						J	4		Drainage, Truck #10811-701LL2 0-702LL20 RFJ at 4.7 ft (D).jpg	O&M	1	
8.0	236	RFJ		S1				J	12			O&M	1	
38.1	347	H							6		Drainage, Truck #10811-701LL2 0-702LL20 H at 38.1 ft (D)0.jpg	S	3	MISSING PIPE
38.1	236	RFJ		F1				J	12			O&M	1	
41.5	442	RMJ					5	J	3	10	Drainage, Truck #10811-701LL2 0-702LL20 RMJ at 41.5 ft (D).jpg	O&M	3	
44.8	475	RMJ					50	J	10	6	Drainage, Truck #10811-701LL2 0-702LL20 RMJ at 44.8 ft (D).jpg	O&M	3	
49.0	541	RFJ		S2				J	12			O&M	1	
70.7	676	HSV							6	8	Drainage, Truck #10811-701LL2 0-702LL20 HSV at 70.7 ft (D).jpg	S	5	
70.7	541	RFJ		F2				J	12			O&M	1	
74.5	855	RFJ		S3				J	12		Drainage, Truck #10811-701LL2 0-702LL20 RFJ at 74.5 ft (D).jpg	O&M	1	

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Operator: **Rory Mc Donagh** SYSTEM_OWNER: **SACTO** Start date/time: **2012/06/25** Upstream node: **701LL20** Mainline ID: **701LL20 702LL20** SHEET_NUMBER: **3**

Distance (Feet) (Meters)	Video Ref.	Group/ Descriptor	Modifier/ Severity	Continuous Defect	S/M/L	Value		%	Joint	Circumferential Location		Image Ref.	Family	Rating	Remarks
						1st	2nd			At/From	to				
233.9	1170	AMH										Drainage, Truck #10811-701LL2 0-702LL20 AMH at 233.9 ft (D).jpg	CF		END MH 702LL20
233.9	855	RFJ	F3						J	12		Drainage, Truck #10811-701LL2 0-702LL20 RFJ at 74.5 ft (D).jpg	O&M	1	

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PACP Sewer Report

Operator: Rory Mc Donagh		SUR_CERT_NO 9318		SYSTEM_OWNER SACTO		Survey Customer		DRAINAGE_AREA SOUTH		SHEET_NUMBER 1	
Work order no.: 171574		Mainline ID: 701LL20 702LL20		Start date/time: 2012/12/14 09:14		Address: 5119 ESMERALDA STREET		City: SACTO			
FURTHER_LOCATION_DETAILS						Upstream node: 701LL20		Depth:		GRADE_TO_INVE RIM_TO_GRADE	
Downstream node: 702LL20				Depth:		GRADE_TO_INVERT RIM_TO_GRADE		Use of Sewer		Direction: Flow Control Pipe height: D N 10	
Pipe width: 10		Pipe shape: C		Pipe type: VCP		Ln. Method		Joint distance:		Asset length: Surveeyed footage: Year laid: YEAR_REHABILITAT MEDIA_LABEL 233.6 231.2	
Reason: F		Sewer Category		Pre-Cleaning J		DATE_CLEANE		Weather: 1		Surface B	
Comments											

Grade	Amount of Structural Defects	Structural			Amount of O&M Defects	O&M Segment Grade	O&M			Overall Pipe	
		Structural Segment Grade	Structural Pipe Rating	Structural Quick Rating			Structural Pipe Rating Index	O&M Pipe Rating	O&M Quick Rating	O&M Pipe Rating Index	Overall Pipe Rating
1	0	0			0	0					
2	0	0			0	0					
3	0	0	10	5200	0	0	0	0000	0	10	5
4	0	0			0	0					
5	2	10			0	0					

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Operator: Rory Mc Donagh SYSTEM_OWNER: SACTO Start date/time: 2012/12/14 Upstream node: 701LL20 Mainline ID: 701LL20 702LL20 SHEET_NUMBER: 2

Distance (Feet) (Meters)	Video Ref.	Group/ Descriptor	Modifier/ Severity	Continuous Defect	S/M/L	Value		Joint	Circumferential Location		Image Ref.	Family	Rating	Remarks
						Inches (mm)	%		At/From	to				
0.0		AMH									Drainage, Truck #10811-701LL20-702LL20 AMH at 0 ft (D).jpg	CF		START MH 701LL20
0.0		MWL					0				Drainage, Truck #10811-701LL20-702LL20 MWL at 0 ft (D).jpg			
37.1		BSV							5	7	Drainage, Truck #10811-701LL20-702LL20 BSV at 37.1 ft (D).jpg	S	5	
46.2	137	BVV							5	7	Drainage, Truck #10811-701LL20-702LL20 BVV at 46.2 ft (D).jpg	S	5	
69.4	355	AMH									Drainage, Truck #10811-701LL20-702LL20 BSV at 69.4 ft (D).jpg	CF		END MH 702LL20

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PACP Sewer Report

Operator: Rory Mc Donagh		SUR_CERT_NO 9318		SYSTEM_OWNER SACTO		Survey Customer		DRAINAGE_AREA SOUTH		SHEET_NUMBER 1			
Work order no.:	Mainline ID:	Start date/time:		Address:		City:							
171574	701LL20 702LL20	2013/04/12 10:16		5119 ESMERALDA STREET		SACTO							
FURTHER_LOCATION_DETAILS						Upstream node: 701LL20		Depth:		GRADE_TO_INVE		RIM_TO_GRADE	
Downstream node: 702LL20		Depth:		GRADE_TO_INVERT		RIM_TO_GRADE		Use of Sewer		Direction:		Flow Control	Pipe height:
										D		N	10
Pipe width:	Pipe shape:	Pipe type:	Ln. Method	Joint distance:	Asset length:	Surveyed footage:	Year laid:	YEAR_REHABILITAT	MEDIA_LABEL				
10	C	VCP			233.6	233.6			DVD				
Reason:	Sewer Category	Pre-Cleaning	DATE_CLEAVED	Weather:	Surface	Comments							
A		N		1	B	FARRETT LOCATE BROKEN 10 INCH CLAY MAIN							

Grade	Amount of Structural Defects	Structural			Amount of O&M Defects	O&M			Overall Pipe Rating	Overall Pipe Rating Index		
		Structural Segment Grade	Structural Pipe Rating	Structural Quick Rating		O&M Segment Grade	O&M Pipe Rating	O&M Quick Rating				
1	1	1	14	5231	3.5	29	29	29	1D00	1	43	1.30303
2	0	0				0	0					
3	1	3				0	0					
4	0	0				0	0					
5	2	10				0	0					

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Operator: Rory Mc Donagh SYSTEM_OWNER: SACTO Start date/time: 2013/04/12 Upstream node: 701LL20 Mainline ID: 701LL20 702LL20 SHEET_NUMBER: 2

Distance (Feet) (Meters)	Video Ref.	Group/ Descriptor	Modifier/ Severity	Continuous Defect	Value		%	Joint	Circumferential Location		Image Ref.	Family	Rating	Remarks
					S/M/L	Inches (mm)			At/From	to				
					1st	2nd								
0.0	7	AMH									Drainage, Truck #10811-701LL2 0-702LL20 AMH at 0 ft (D).jpg	CF		START MH 701LL20
0.0	101	MWL					0				Drainage, Truck #10811-701LL2 0-702LL20 MWL at 0 ft (D).jpg			
26.6	316	CC							5	8	Drainage, Truck #10811-701LL2 0-702LL20 CC at 26.6 ft (D).jpg	S	1	MAIN REPAIR STARTS HERE
38.4	394	HSV							6		Drainage, Truck #10811-701LL2 0-702LL20 HSV at 38.4 ft (D).jpg	S	5	
46.5	464	HSV							5	7	Drainage, Truck #10811-701LL2 0-702LL20 HSV at 46.5 ft (D).jpg	S	5	
71.0	572	CM							5	11	Drainage, Truck #10811-701LL2 0-702LL20 CM at 71 ft (D).jpg	S	3	
75.4	708	MGO									Drainage, Truck #10811-701LL2 0-702LL20 MGO at 75.4 ft (D).jpg			END OF REPAIR
81.8	754	RFJ						J	12	7	Drainage, Truck #10811-701LL2 0-702LL20 RFJ at 81.8 ft (D).jpg	O&M	1	
85.8	785	RFJ		S1				J	12		Drainage, Truck #10811-701LL2 0-702LL20 RFJ at 85.8 ft (D).jpg	O&M	1	
225.4	785	RFJ		F1				J	12		Drainage, Truck #10811-701LL2 0-702LL20 RFJ at 85.8 ft (D).jpg	O&M	1	

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Operator: Rory Mc Donagh SYSTEM_OWNER: SACTO Start date/time: 2013/04/12 Upstream node: 701LL20 Mainline ID: 701LL20 702LL20 SHEET_NUMBER: 3

Distance (Feet) (Meters)	Video Ref.	Group/ Descriptor	Modifier/ Severity	Continuous Defect	S/M/L	Value Inches (mm)		%	Joint	Circumferential Location		Image Ref.	Family	Rating	Remarks
						1st	2nd			At/From	to				
233.6	1133	AMH										Drainage, Truck #10811-701LL2 0-702LL20 AMH at 233.6 ft (D).jpg	CF		END MH 702LL20