

Meeting Date: 7/29/2014

Report Type: Consent

Report ID: 2014-00516

Title: Contract: 7th Street Sewer Replacement P to K Street Project (Reviewed 7/22/14)

Location: District 4

Recommendation: 1) Pass a Resolution readopting the Addendum to the Environmental Impact Report for the Combined Sewer System Rehabilitation and Improvement Plan - Downtown Combined Sewer Upsizing Project including the 7th Street Sewer Replacement Project P to K Street; and 2) pass a Motion a) approving the contract plans and specifications for the project; and b) awarding the contract to Steve P. Rados, Inc., for an amount not to exceed \$4,576,410.

Contact: Bill Busath, Engineering & Water Resources Manager, (916) 808-1434; Brett Grant, Supervising Engineer, (916) 808-1413, Department of Utilities

Presenter: None

Department: Department Of Utilities

Division: Cip Engineering

Dept ID: 14001321

Attachments:

- 1-Description/Analysis
- 2-Background
- 3-Location Map (Project)
- 4-Location Map (Area)
- 5-Resolution
- 6-Agreement

City Attorney Review

Approved as to Form
Joe Robinson
7/24/2014 9:31:06 AM

Approvals/Acknowledgements

Department Director or Designee: Dave Brent - 7/23/2014 11:11:31 AM

Description/Analysis

Issue Detail: The 7th Street Sewer Replacement, P to K Street, project will construct approximately seven blocks (3,200 lineal feet) of combined sewer pipeline. It will replace deteriorated portions of the Combined Sewer System (CSS), add in-line storage to reduce flooding in the surrounding and upstream portions of the CSS, and continue the Downtown Sewer Upsizing Project, a major component of the long-term CSS Improvement Program. This program is mandated by the City's National Pollution Discharge Elimination System permit, which regulates the City's operation of the CSS.

Policy Considerations: The requested action is in conformance with City Code Chapter 3.60, Articles I and III, which provides that the City Council may award competitively bid contracts to the lowest responsible bidder.

Economic Impacts: The project is expected to create 18.31 total jobs (10.53 direct jobs and 7.78 jobs through indirect and induced activities) and create \$2,825,635.71 in total economic output (\$1,781,019.79 of direct output and another \$1,044,615.92 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 proposed project falls within the scope of the environmental impact report (EIR) prepared for the City's Combined Sewer System Rehabilitation and Improvement Plan (SCH: 96082013) that was certified by the City Council in March 1997 (Resolution No. 97-123) and amended with an Addendum adopted by City Council in June 2013 (Resolution No. 2013-0186). The mitigation monitoring program that was adopted at that time will apply to the proposed project. The proposed project is also consistent with the 2030 General Plan. Ongoing improvements to the City's utility infrastructure, including the combined sewer system, are contemplated in the general plan and Master EIR certified by the City Council in March 2009 (Resolution No. 2009-130).

The Community Development Department (CDD), Environmental Planning Services Division, has reviewed the proposed project for compliance with the requirements of the California Environmental Quality Act (CEQA), and has determined that the project was evaluated in the Addendum that updated the EIR. The proposed project would not result in new significant environmental effects or a substantial increase in the severity of previously identified effects considered in the certified EIR. Pursuant to CEQA Guidelines Section 15162, a subsequent EIR is not required. This report recommends passage of the attached Resolution re-adopting the Addendum.

The Addendum, the EIR for the City's Combined Sewer System Rehabilitation and Improvement Plan, the Resolution (No. 97-123) certifying the EIR, and the Resolution (No. 2013-0186) adopting the Addendum to the certified EIR are available at the CDD's webpage at:

<http://portal.cityofsacramento.org/Community-Development/Planning/Environmental/Impact-Reports>

Sustainability: The project is consistent with the City's Sustainability Master Plan by improving infrastructure reliability, which will reduce energy-intensive maintenance efforts.

Commission/Committee Action: Not Applicable

Rationale for Recommendation: The project was publicly advertised. Six bids were received and opened on June 18, 2014. The low bidder was Steve P. Rados, Inc., submitting a bid of \$4,576,410. Staff recommends contract award to Steve P. Rados, Inc., as the lowest responsive and responsible bidder. The bids are summarized below:

Contractor	Bid Amount	Variance from Engineer's Estimate
Steve Rados Inc.	\$ 4,576,410.00	4%
Mountain Cascade	\$ 4,649,649.00	5%
T & S Construction, Inc.	\$ 4,665,236.00	6%
Preston Pipelines	\$ 4,936,075.00	12%
McGuire and Hester	\$ 6,125,925.00	39%
Florez Paving	\$ 6,207,017.70	40%

The original Engineer's construction estimate was \$4,267,000. Bid Addendum No.4 added additional asphalt overlay work and increased the construction estimate by \$153,000. The revised Engineer's construction estimate is \$4,420,000.

Financial Considerations: The construction contract is for an amount not to exceed \$4,576,410, and the total project cost is estimated to be \$6,207,000. The project is part of the Combined Sewer System Capital Upgrade Project (CSS Project X14010000). There is sufficient funding in the CSS Project to award the construction contract and complete the project.

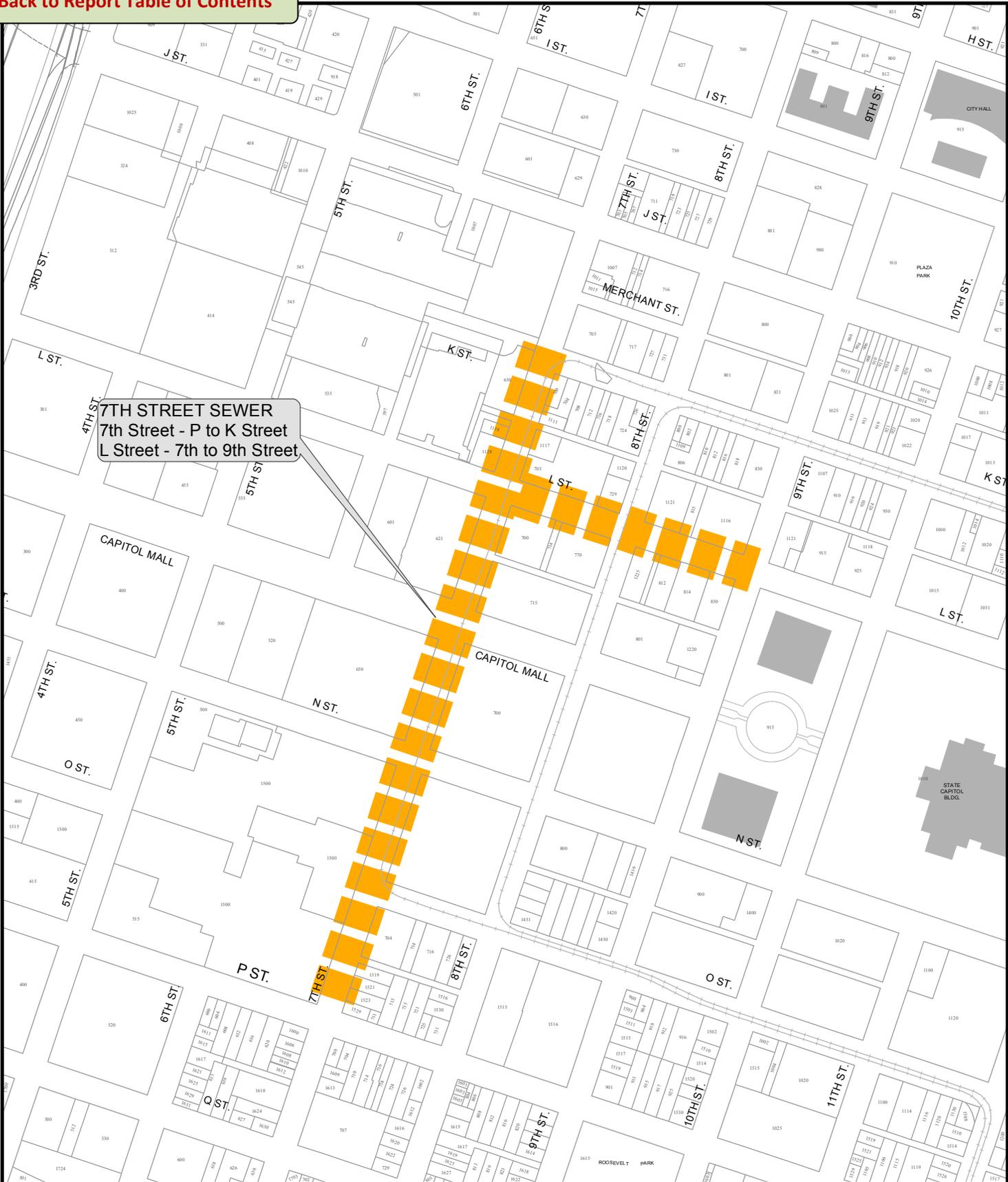
Local Business Enterprise (LBE): Steve P. Rados, Inc. exceeds the minimum 5% LBE participation level with a proposed LBE participation level of 7.2%.

Background

The 7th Street Sewer project includes the construction of approximately 2,920 linear feet of 72-inch, 60-inch and 48-inch diameter pipeline in 7th Street from P to K Street, and along L Street from 7th to 9th Street. This project is a part of the Downtown Sewer Upsizing Program and when completed, will help to reduce flooding of the combined sewer system (CSS) in the Downtown Area of Sacramento.

In 1996 the State Regional Water Quality Control Board (Board) and City Council approved the Combined Sewer System Improvement Program (CSSIP). The CSSIP was developed to determine the best approach to reduce discharges to the Sacramento River and flooding in the City's CSS. Past projects completed through the program include the upgrade and upsizing of Sumps 1/1A and 2/2A, conversion of Pioneer Reservoir to a primary treatment facility, the replacement and upsizing of numerous pipes within the collection system, and the construction of several in-line and off-line storage facilities, all designed to reduce surcharging and flooding in the system during rain events.

A major component of the CSSIP is the Downtown Sewer Upsizing Program (DSUP). Figure 1 shows the DSUP, which constitutes a network of upsized pipelines that connect to an upsized and improved pump station (Sump1/1A). When completed, the DSUP will significantly reduce flooding in the downtown area. The 7th Street project will connect to a recently completed portion of the DSUP at 7th and P Street and will allow planned upstream projects to be designed and constructed in order to complete the program.



PROJECT SCOPE:
7th Street - Construct 2900 LF of pipeline (1640 LF - 72", 800 LF - 60", 460 LF - 54")

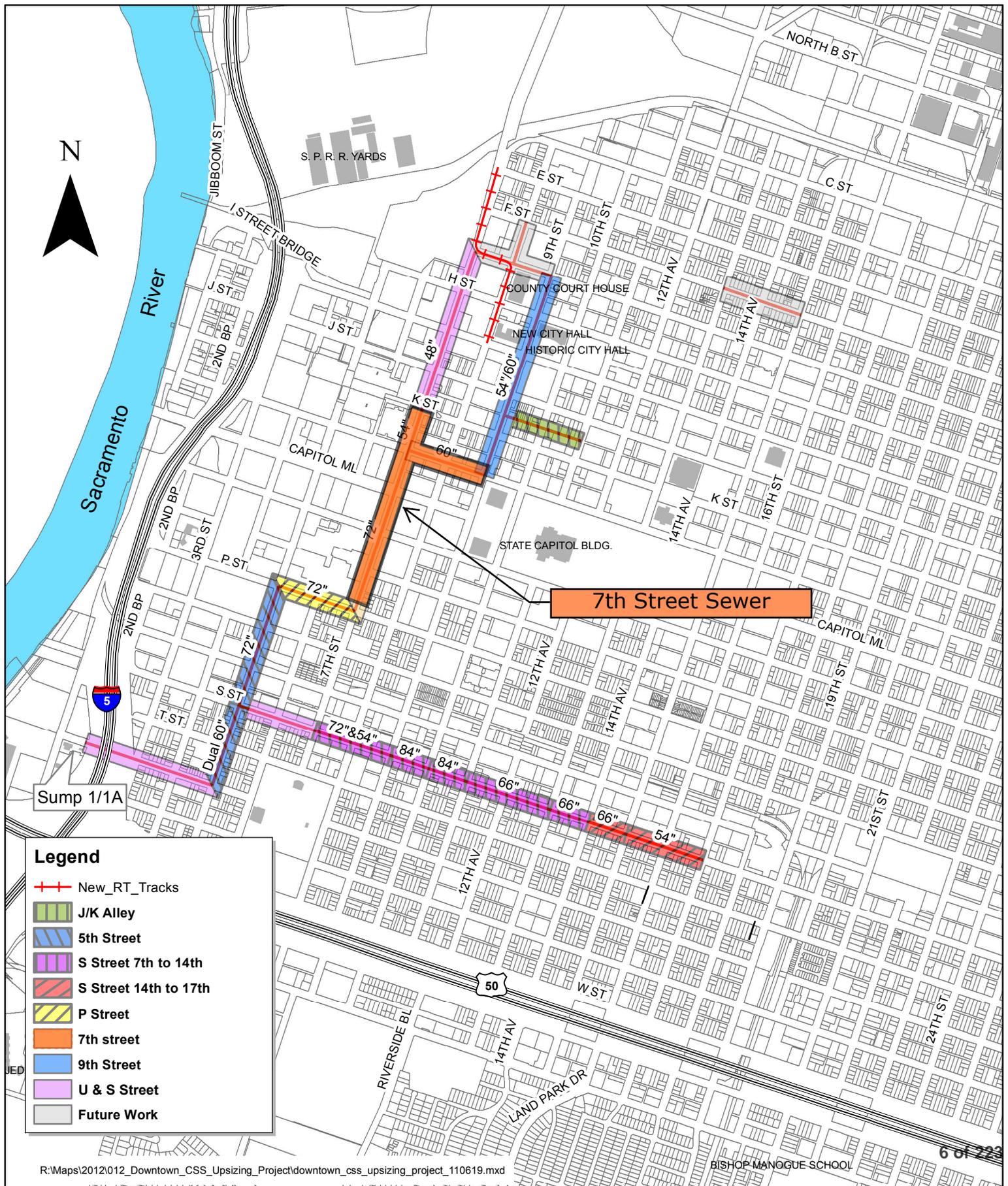


7th Street Sewer Project Location Map

APPROVED BY: B. GRANT
DRAWN BY: D. MATHISON
SEWER BOOK PAGE(S):

NO SCALE
DWG. NO.: 1
5 of 223

DOWNTOWN COMBINED SEWERS UPSIZING PROJECT



7th Street Sewer

Legend

- + + New_RT_Tracks
- J/K Alley
- 5th Street
- S Street 7th to 14th
- S Street 14th to 17th
- P Street
- 7th street
- 9th Street
- U & S Street
- Future Work

RESOLUTION NO. 2014-

Adopted by the Sacramento City Council

RE-ADOPTING THE ADDENDUM TO THE ENVIRONMENTAL IMPACT REPORT FOR THE CITY OF SACRAMENTO COMBINED SEWER SYSTEM REHABILITATION AND IMPROVEMENT PLAN – DOWNTOWN COMBINED SEWER UPSIZING PROJECT INCLUDING THE 7TH STREET SEWER REPLACEMENT P TO K STREET PROJECT

BACKGROUND

- A. On **July 29, 2014**, the City Council conducted a public meeting for which notice was given and received and considered evidence concerning the 7th Street Sewer Replacement P to K Street Project.

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

Section 1. The City Council finds as follows:

A. On March 11, 1997, pursuant to the California Environmental Quality Act (Public Resources Code §21000 *et seq.* (“CEQA”), the CEQA Guidelines (14 California Code of Regulations §15000 *et seq.*), and the City of Sacramento environmental guidelines, the City Council certified an environmental impact report (EIR) and, having reviewed and considered the information contained in the EIR, adopted findings of fact and findings of overriding consideration, adopted a mitigation monitoring program, and approved the City of Sacramento Combined Sewer System Rehabilitation and Improvement Plan (Project).

B. On June 11, 2013, pursuant to CEQA, the CEQA Guidelines, and the City of Sacramento environmental guidelines, the City Council adopted an Addendum to the EIR, specifically for the P Street Sewer Improvements 5th to 7th Street Project. The Addendum also included evaluation of the 7th Street from P to K and the L Street from 7th to 9th Street projects.

C. The 7th Street Sewer Replacement P to K Street Project (Project Modification) proposes to modify the previously approved Project by replacing deteriorated portions of the Combined Sewer System (CSS), add in-line storage to reduce flooding in the surrounding and upstream portions of the CSS, and continue the Downtown Sewer Upsizing Program, a major component of the

long-term CSS Improvement Program. This program is mandated by the City's National Pollution Discharge Elimination System permit, which regulates the City's operation of the CSS.

D. Staff has determined that the proposed changes to the original Project do not require the preparation of a subsequent EIR. The Addendum to the previously certified EIR that has been prepared is adequate to evaluate the Project Modification.

Section 2. The City Council has reviewed and considered the information contained in the previously certified EIR and adopted Addendum for the Project, the previously adopted findings of fact and findings of overriding consideration, and all oral and documentary evidence received during the hearing on the Project Modification. The City Council finds that the previously certified EIR and the Addendum constitute an adequate, accurate, objective, and complete review of the proposed Project Modification and finds that no additional environmental review is required based on the reasons set forth below:

A. No substantial changes are proposed by the Project Modification that will require major revisions of the previously certified EIR due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects;

B. No substantial changes have occurred with respect to the circumstances under which the Project Modification will be undertaken which will require major revisions to the previously certified EIR due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects;

C. No new information of substantial importance has been found that shows any of the following:

1. The Project Modification will have one or more significant effects not discussed in the previously certified EIR and adopted Addendum;
2. Significant effects previously examined will be substantially more severe than shown in the previously certified EIR and adopted Addendum;
3. Mitigation measures previously found to be infeasible would in fact be feasible and would substantially reduce one or more significant effects of the Project Modification; or
4. Mitigation measures which are considerably different from those analyzed in the previously certified EIR would substantially reduce one or more significant effects on the environment.

Section 3. Based on its review of the previously certified EIR and adopted Addendum for the Project, the previously adopted findings of fact and findings of overriding consideration, and all oral and documentary evidence received during the hearing on the Project Modification, the City Council finds that the EIR and Addendum reflect the City Council's independent judgment and analysis, certifies the EIR and the Addendum for the Project Modification, and readopts the findings of fact and findings of overriding considerations.

Section 4. The mitigation monitoring plan for the adopted for the Project remains applicable for the Project Modification, and the mitigation measures shall be implemented and monitored as set forth in the program, based on the following findings of fact:

A. The mitigation monitoring plan has been adopted and implemented as part of the Project;

B. The Addendum to the EIR does not include any new mitigation measures, and has not eliminated or modified any of the mitigation measures included in the mitigation monitoring program;

C. The mitigation monitoring plan meets the requirements of CEQA Section 21081.6 and the CEQA Guidelines section 15091.

Section 5. Upon approval of the Project Modification, the City Manager shall file or cause to be filed a Notice of Determination with the Sacramento County Clerk and, if the project requires a discretionary approval from any state agency, with the State Office of Planning and Research, pursuant to section 21152(a) of the Public Resources Code and the State EIR Guidelines adopted pursuant thereto.

Section 6. Pursuant to Guidelines section 15091(e), the documents and other materials that constitute the record of proceedings upon which the City Council has based its decision, including the EIR and Addendum, are located in and may be obtained from, the Office of the City Clerk at 915 I Street, Sacramento, California. The City Clerk is the custodian of records for all matters before the City Council.

Table of Contents:

Exhibit A: Resolution No. 2013-0186 including Resolution No. 97-123 and MMP

RESOLUTION NO. 2013-0186

Adopted by the Sacramento City Council

June 11, 2013

ADOPTING ADDENDUM TO ENVIRONMENTAL IMPACT REPORT, RE-ADOPTING FINDINGS OF FACT AND STATEMENT OF OVERRIDING CONSIDERATIONS, AND ADOPTING MITIGATION MONITORING PLAN FOR THE P STREET SEWER IMPROVEMENTS 5TH TO 7TH STREET PROJECT

BACKGROUND

- A. On June 11, 2013, the City Council conducted a public meeting and received and considered evidence concerning the P Street Sewer Improvements 5th to 7th Street Project.

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

Section 1. The City Council finds as follows:

- A. On March 11, 1997, pursuant to the California Environmental Quality Act (Public Resources Code §21000 *et seq.* ("CEQA"), the CEQA Guidelines (14 California Code of Regulations §15000 *et seq.*), and the City of Sacramento environmental guidelines, the City Council certified an environmental impact report (EIR) and, having reviewed and considered the information contained in the EIR, adopted the findings of fact and statement of overriding considerations, adopted a mitigation monitoring plan, and approved the City of Sacramento Combined Sewer System Rehabilitation and Improvement Plan (Project).
- B. The P Street Sewer Improvements 5th to 7th Street Project (Project Modification) proposes to modify the previously approved Project by replacing deteriorated portions of the Combined Sewer System (CSS), add in-line storage to reduce flooding in the surrounding and upstream portions of the CSS, and continue the Downtown Sewer Upsizing Project, a major

component of the long-term CSS Improvement Program. This program is mandated by the City's National Pollution Discharge Elimination System permit, which regulates the City's operation of the CSS.

- C. The initial study on the Project Modification determined that the proposed changes to the original Project did not require the preparation of a subsequent EIR. An addendum to the previously certified EIR was then prepared to address the modification to the Project.

Section 2. The City Council has reviewed and considered the information contained in the previously certified EIR for the Project, the previously adopted findings of fact and statement of overriding considerations, the addendum, and all oral and documentary evidence received during the public meeting on the Project Modification. The City Council finds that the previously certified EIR and the addendum constitute an adequate, accurate, objective, and complete review of the proposed Project Modification and finds that no additional environmental review is required based on the reasons set forth below:

- A. No substantial changes are proposed by the Project Modification that will require major revisions of the previously certified EIR due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects;
- B. No substantial changes have occurred with respect to the circumstances under which the Project Modification will be undertaken which will require major revisions to the previously certified EIR due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects;
- C. No new information of substantial importance has been found that shows any of the following:
 - 1. The Project Modification will have one or more significant effects not discussed in the previously certified EIR;

2. Significant effects previously examined will be substantially more severe than shown in the previously certified EIR;
3. Mitigation measures previously found to be infeasible would in fact be feasible and would substantially reduce one or more significant effects of the Project Modification; or
4. Mitigation measures which are considerably different from those analyzed in the previously certified EIR would substantially reduce one or more significant effects on the environment.

Section 3. Based on its review of the previously certified EIR for the Project, the previously adopted findings of fact and statement of overriding considerations, the addendum, and all oral and documentary evidence received during the public meeting on the Project Modification, the City Council finds that the EIR and addendum reflect the City Council's independent judgment and analysis, adopts the addendum for the Project Modification, and readopts the findings of fact and statement of overriding considerations.

Section 4. The mitigation monitoring plan for the Project is adopted for the Project Modification, and the mitigation measures shall be implemented and monitored as set forth in the plan, based on the following findings of fact:

- A. The mitigation monitoring plan has been adopted and implemented as part of the Project;
- B. The addendum to the EIR does not include any new mitigation measures, and has not eliminated or modified any of the mitigation measures included in the mitigation monitoring plan;
- C. The mitigation monitoring plan meets the requirements of CEQA Section 21081.6 and the CEQA Guidelines section 15091.

Section 5. Upon approval of the Project Modification, the City Manager shall file or cause to be filed a Notice of Determination with the Sacramento County Clerk and, if the project requires a discretionary approval from

any state agency, with the State Office of Planning and Research, pursuant to section 21152(a) of the Public Resources Code and the State EIR Guidelines adopted pursuant thereto.

Section 6. Pursuant to Guidelines section 15091(e), the documents and other materials that constitute the record of proceedings upon which the City Council has based its decision are located in and may be obtained from, the Office of the City Clerk at 915 I Street, Sacramento, California. The City Clerk is the custodian of records for all matters before the City Council.

Section 7. Exhibit A is made a part of this Resolution.

Table of Contents:

Exhibit A: Resolution No. 97-123, including Findings of Fact and Statement of Overriding Considerations and Mitigation Monitoring Plan

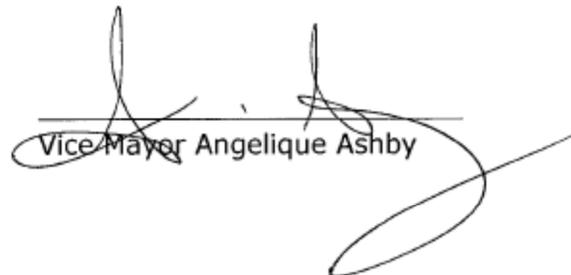
Adopted by the City of Sacramento City Council on June 11, 2013 by the following vote:

Ayes: Councilmembers Ashby, Cohn, Fong, Hansen, McCarty, Pannell, Schenirer, Warren and Mayor Johnson

Noes: None

Abstain: None

Absent: None


Vice Mayor Angelique Ashby

Attest:


Shirley Concolino, City Clerk

RESOLUTION NO. 97-123

ADOPTED BY THE SACRAMENTO CITY COUNCIL

MAR 11 1997

ON DATE OF _____

**CERTIFICATION OF THE COMBINED SEWER SYSTEM ENVIRONMENTAL
IMPACT REPORT, ADOPTION OF THE FINDINGS OF FACT AND
STATEMENT OF OVERRIDING CONSIDERATIONS, ADOPTION OF THE
MITIGATION MONITORING PLAN (PN: XM41), TRANSFER FUNDS, AND
ADOPTION OF SPECIFICATIONS AND AWARD OF PROCUREMENT
CONTRACTS FOR SUMP 1/1A, PIONEER RESERVOIR PROJECT (PN: XM23)**

The City Council the City of Sacramento does hereby find, determine, and resolve as follows:

1. The City Council finds that the Final Environmental Impact Report (herein FEIR) for the proposed Combined Sewer System Rehabilitation and Improvement Plan which consists of the Draft Environmental Impact Report and Final Environmental Impact Report, has been completed in accordance with the requirements of the California Environmental Quality Act (CEQA), the State CEQA Guidelines, and the Sacramento Local Environmental Procedures.
2. The City Council certifies that the FEIR was prepared, published, circulated and reviewed in accordance with the requirements of CEQA, the State CEQA Guidelines, and the Sacramento Local Environmental Procedures, and constitutes an adequate, accurate, objective, and complete Final Environmental Impact Report in accordance with the requirements of CEQA, the State CEQA Guidelines, and the Sacramento Local Environmental Procedures.
3. The City Council certifies that the FEIR has been presented to it and that the City Council has reviewed it and considered the information contained therein prior to acting on the proposed project.

FOR CITY CLERK USE ONLY

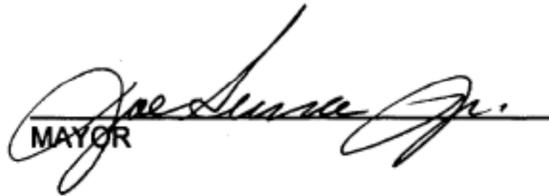
RESOLUTION NO. 97-123
DATE ADOPTED: MAR 11 1997

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4. The City Council hereby adopts the attached Findings of Fact and Statement of Overriding Considerations and a Mitigation Monitoring Plan to require all reasonably feasible mitigation measures be implemented.
5. Funds in the amount of \$400,000 are transferred from the Combined Sewer System Reserve to the Sump 1/1A, Pioneer Reservoir Project as follows:

414-500-XD42-4414:	(\$100,000)
414-500-XM23-4630:	\$100,000
425-500-XD42-4414:	(\$300,000)
425-500-XM23-4630:	\$300,000

6. Adoption of Specifications and Award of:
 - A. Bid No. 1733, Engine Powered Standby Generator, the total amount of \$196,937.87 to Tenco Tractor, Inc.
 - B. Bid No. 1734, Electrical Switchgear, Motor Control Center, and Variable Frequency Drive Equipment, in the total amount of \$190,863.16 to Platt Electric Supply, Inc.


MAYOR

ATTEST:


CITY CLERK

FOR CITY CLERK USE ONLY

RESOLUTION NO. 97-123

DATE ADOPTED: MAR 11 1997

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CITY OF SACRAMENTO

SEWER

COMBINED SEWER SYS RESERVE

PROJECT#:	XD42
FY Initiated:	94/95

Location
City Wide

Council District:
 Citywide 1 2 3 4 5 6 7 8

Neighborhood Area:
 Citywide NA1 NA2 NA3 NA4

Planning Area:
 N/A Citywide PA1 PA2 PA3 PA4 PA5 PA6 PA7 PA8 PA9 PA10 PA11

Project Description
Reserve to accumulate resources for the combined sewer system rehabilitation.

Project Objectives
To accumulate funding from current resources in excess of operations and capital improvement requirements in order to minimize future rate increases for the combined sewer system rehabilitation.

Existing Situation
The City faces substantial outlays in future years for capital improvement construction on the combined sewer system. Appropriations for that construction are now being accumulated in this project.

Operating Budget Impact
None

Amended	Fund Source	Budget through 6/96	Estimated Balance 6/96	Five Year Funding				
				1996-97	1997-98	1998-99	1999-00	2000-01
	Sewer	1,747,423	1,747,423	0	0	0	0	0
	Drainage	9,708,591	9,708,591	0	0	0	0	0
07/02/96	Drainage	0	0	-210,000	0	0	0	0
07/02/96	Sewer	0	0	-70,000	0	0	0	0
07/02/96	Sewer	0	0	-200,000	0	0	0	0
07/02/96	Drainage	0	0	-600,000	0	0	0	0
07/02/96	Sewer	0	0	-68,487	0	0	0	0
07/02/96	Drainage	0	0	-205,459	0	0	0	0
08/13/96	Drainage	0	0	-45,000	0	0	0	0
08/13/96	Sewer	0	0	-15,000	0	0	0	0
07/12/96	Sewer	0	0	-27,500	0	0	0	0
07/12/96	Drainage	0	0	-82,500	0	0	0	0
07/12/96	Drainage	0	0	-15,000	0	0	0	0
08/22/96	Sewer	0	0	-6,250	0	0	0	0
08/22/96	Drainage	0	0	-18,750	0	0	0	0
09/24/96	Sewer	0	0	-44,750	0	0	0	0
09/24/96	Drainage	0	0	-134,250	0	0	0	0
1/28/97	Sewer	0	0	-303,625	0	0	0	0
1/28/97	Drainage	0	0	-910,875	0	0	0	0
2/04/97	Sewer	0	0	-260,000	0	0	0	0
2/04/97	Drainage	0	0	-780,000	0	0	0	0
2/04/97	Sewer	0	0	-125,000	0	0	0	0
2/04/97	Drainage	0	0	-375,000	0	0	0	0
2/18/97	Sewer	0	0	-60,000	0	0	0	0



1996-2001 CAPITAL IMPROVEMENT PROGRAM

CITY OF SACRAMENTO			SEWER						
2/18/97	Drainage		0	0	-180,000	0	0	0	0
3/11/97	Sewer		0	0	-100,000	0	0	0	0
3/11/97	Drainage		0	0	-300,000	0	0	0	0
2/11/97	Drainage		0	0	10,000,000	0	0	0	0
TOTAL			11,456,014	11,456,014	4,862,554	0	0	0	0



1996-2001 CAPITAL IMPROVEMENT PROGRAM

II - 41.1

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COMBINED SEWER SYS RESERVE

Project #: XD42

Additional Project Comments

Transferred to XD41: Sewer - 70,000; Drainage - 210,000
Transferred to XM23: Sewer - 200,000; Drainage - 600,000
Transferred to TM61: Sewer - 68,847; Drainage - 205,459
Transferred to XM04: Sewer - 27,500; Drainage - 82,500
Transferred to XM05: Sewer - 15,000; Drainage - 45,000
Transferred to WC61: Sewer - 0; Drainage - 15,000
Transferred to XD43: Sewer - 6,250; Drainage - 18,750 8/22/96
Transferred to XM07: Sewer - 44,750; Drainage - 134,250, 9/24/96
Transferred to XD91: Sewer - 303,625; Drainage - 910,875; approved 1/28/97
Transferred to XM23: Sewer - 49,234; Drainage - 147,703, 1/14/97
Transferred to XM24: Sewer - 260,000; Drainage - 780,000, approved 2/4/97
Transferred to XD41: Sewer - 125,000; Drainage - 375,000 approved 2/4/97
Transferred to XM23: Sewer - 60,000; Drainage - 180,000; approved 2/18/97
Transferred from fund balance: Drainage - 10,000,000; approved 2/11/97 (midyear review)
Transferred to XM23: Sewer - 100,000; Drainage - 300,000; approved 3/11/97



1996-2001 CAPITAL IMPROVEMENT PROGRAM

II - 41.1

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CITY OF SACRAMENTO **SEWER**

SUMP 1/1A, PIONEER RESERV

PROJECT#: XM23
 FY Initiated: 96/97

Location
 Sump 1/1a, Pioneer Reservoir, U & Front St.

Council District:
 Citywide 1 2 3 4 5 6 7 8

Neighborhood Area:
 Citywide NA1 NA2 NA3 NA4

Planning Area:
 N / A Citywide PA1 PA2 PA3 PA4 PA5 PA6 PA7 PA8 PA9 PA10 PA11

Project Description
 Provide engineering design services for rehabilitation and improvement of Sump 1, Sump 1A, and Pioneer Reservoir. Design will include the construction of a model of the pumping station to determine the optimum size of the pumps.

Project Objectives
 To complete rehabilitation and improvements to address outflows from the combined sewer system.

Existing Situation
 In June 1990 the Regional Water Quality Control Board issued a Cease and Desist Order requiring the City to eliminate outflows from the Combined Sewer System. A preliminary design report recommended specific rehabilitation and improvement items for Sump 1/1A and Pioneer Reservoir.

Operating Budget Impact
 None

Amended	Fund Source	Budget through 6/96	Estimated Balance 6/96	Five Year Funding				
				1996-97	1997-98	1998-99	1999-00	2000-01
07/02/97	Sewer	0	0	200,000	0	0	0	0
07/02/97	Drainage	0	0	600,000	0	0	0	0
02/18/97	Sewer	0	0	60,000	0	0	0	0
02/18/97	Drainage	0	0	180,000	0	0	0	0
01/14/97	Sewer	0	0	49,234	0	0	0	0
01/14/97	Drainage	0	0	147,703	0	0	0	0
03/11/97	Sewer	0	0	100,000	0	0	0	0
03/11/97	Drainage	0	0	300,000	0	0	0	0
TOTAL		0	0	1,636,937	0	0	0	0



1996-2001 CAPITAL IMPROVEMENT PROGRAM

Attachment 1

**CEQA STATEMENT OF FINDINGS OF FACT
AND
STATEMENT OF OVERRIDING CONSIDERATIONS**

FOR

COMBINED SEWER SYSTEM EIR (XD41)
(State Clearinghouse Number 96082013)

Prepared By:

City of Sacramento Planning Services Division,
Environmental Section
March 11, 1997

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Resolution No. 2013-0186 including Resolution No. 97-123 and MMP

A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF SACRAMENTO
CERTIFYING THE FINAL ENVIRONMENTAL IMPACT REPORT FOR THE
PROPOSED COMBINED SEWER SYSTEM PROJECT

The City Council of the City of Sacramento does hereby find, determine, and resolve as follows:

I. CEQA FINDINGS

1. The City Council finds that the Environmental Impact Report for the Proposed Combined Sewer System Project (herein EIR) which consists of the Draft Environmental Impact Report and Final EIR Response to Comments have been completed in accordance with the requirements of the California Environmental Quality Act (CEQA), the State CEQA Guidelines and the Sacramento Local Environmental Procedures.
2. The City Council certifies that the EIR was prepared, published, circulated and reviewed in accordance with the requirements of CEQA, the State CEQA Guidelines and the Sacramento Local Environmental Procedures, and constitutes an adequate, accurate, objective and complete Final Environmental Impact Report in accordance with the requirements of CEQA, the State CEQA Guidelines and the Sacramento Local Environmental Procedures.
3. The City Council certifies that the EIR has been presented to it and that the City Council has reviewed it and considered the information contained therein prior to acting on the proposed project.
4. The City Council hereby adopts the attached Findings of Fact and Statement of Overriding Considerations and a Mitigation Monitoring Program to require all feasible mitigation measures be implemented.

II. PROCEDURAL FINDINGS

1. The City of Sacramento caused an Environmental Impact Report ("EIR") on the Project to be prepared pursuant to the California Environmental Quality Act, Public Resources Code, Section 21000 et seq. (CEQA), the CEQA Guidelines, Code of California Regulations, Title XIV, Section 15000 et seq., and the City of Sacramento environmental guidelines.
2. A Notice of Preparation of the draft EIR was filed with the Office of Planning and Research on August 6, 1996.
3. A Notice of Completion (NOC) and copies of the draft EIR were distributed to the State Clearinghouse on November 8, 1996, to those public agencies which have jurisdiction by law with respect to the Project and to other interested parties and agencies. The comments of such persons and agencies were sought.
4. An official forty-five (45) day public review period for the Draft EIR was established by the State Clearinghouse. It began on November 8, 1996 and ended on December 23, 1997.
5. A Letter of Availability was distributed to all responsible and trustee agencies and interested groups, organizations, and individuals on November 8, 1996. The Letter of Availability stated that the City of Sacramento had completed the Draft EIR and that copies were available at the City of Sacramento,

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Department of Planning and Development, Environmental Services Division, 1231 I Street, Sacramento, California 95814. The letter also indicated that the official forty-five day public review period for the Draft EIR would end on December 23, 1996.

6. Following closure of the public comment period, the Draft EIR was supplemented to incorporate comments received and the City's responses to said comments.
7. Following notice duly and regularly given as required by law, and all interested parties expressing a desire to comment thereon or object thereto having been heard, the EIR and comments and responses thereto having been considered, the City Council makes the following determinations:
 - A. The EIR consists of the Draft EIR and Final EIR Responses to Comments.
 - B. The EIR was prepared and completed in compliance with CEQA.
8. The following information is incorporated by reference and made part of the record supporting these findings:
 - A. The Draft EIR and Final EIR and all documents relied upon or incorporated by reference including:
 - City of Sacramento General Plan, City of Sacramento, January, 1988
 - Draft Environmental Impact Report City of Sacramento General Plan Update, City of Sacramento, March, 1987
 - Land Use Planning Policy Within the 100-Year Floodplain in the City and County of Sacramento Final EIR (M89-054), City of Sacramento, February 6, 1990
 - Findings of Fact/Statement of Overriding Considerations for the Land Use Planning Policy Within the 100-Year Floodplain in the City and County of Sacramento, City of Sacramento, February 6, 1990
 - Findings of Fact and Statement of Overriding Considerations for the Adoption of the Sacramento General Plan Update, City of Sacramento, 1988
 - Central City Community Plan, City of Sacramento, May 15, 1980.
 - Design and Procedures Manual and Improvement Standards, City of Sacramento, Department of Public Works, September 1, 1990.
 - Zoning Ordinance, City of Sacramento, Revised July 1994.
 - B. The Mitigation Monitoring Plan dated March 1997.
 - C. Testimony, documentary evidence and all correspondence submitted or delivered to the City in connection with the City Council hearing on this project and associated EIR.

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- D. All staff reports, memoranda, maps, letters, minutes of meetings and other documents relied upon or prepared by City staff relating to the project including but not limited to City of Sacramento General Plan and the draft and final Environmental Impact Report for the City of Sacramento General Plan Update.

**FINDINGS OF FACT AND STATEMENT OF OVERRIDING CONSIDERATIONS REGARDING
THE ENVIRONMENTAL IMPACT REPORT FOR THE PROPOSED COMBINED SEWER
SYSTEM.**

The Environmental Impact Report prepared in compliance with the California Environmental Quality Act, evaluates the potentially significant and significant adverse environmental impacts which could result from adoption of the project or alternatives to the project.

Because the EIR indicates the implementation of the project (or project alternatives) would result in certain unavoidable adverse impacts, the City is required under CEQA, and the State and City guidelines adopted pursuant thereto, to make certain findings with respect to these impacts. The required findings appear in the following sections of this document. This document lists all identified potentially significant and significant impacts of the project. Each of the potentially significant or significant impacts found to be unavoidable is considered acceptable by the City Council based on a determination that the benefits of the project (listed in the Statement of Overriding Considerations, section VII) outweigh the risks of the potentially significant environmental effects of the project.

I. IMPACTS AND MITIGATION MEASURES

A. SIGNIFICANT IMPACTS WHICH CAN BE AVOIDED

Finding - As authorized by Public Resources Code Section 21081 and Title 14, California Code of Regulations, Sections 15091, 15092, and 15093, the City finds that changes or alterations have been required in, or incorporated into, the Project which mitigate or avoid the significant environmental impacts listed below, as identified in the EIR.

These findings are supported by substantial evidence in the record of proceedings before the City as stated below.

1. Cultural Resources (7.4-1 Subsurface Prehistoric Resources (Phase 1))

a. Significant Impact

1. Implementation of Phase 1 of the CSS Plan could result in the discovery of unknown subsurface prehistoric resources or portions of known prehistoric resources during project excavation. Although the likelihood for the occurrence of subsurface resources is quite low, the possibility for such a discovery does exist. Cultural resources exposed during construction, excavation, or related project activities could be damaged, destroyed, or removed from their cultural context.

b. Facts in Support of Finding

The significant effect listed above will be reduced to a less than significant level with the following mitigation measure:

Mitigation Measure 7.4-1

1. An archeological monitor shall be retained to oversee any subsurface work occurring in the immediate vicinity of the six recorded prehistoric sites. A confidential map with the locations of these sites will be on file with the Project Manager or other appropriate individual, who will arrange to have the monitor present for the areas deemed sensitive. The areas monitored as well as the remainder of the construction shall be subject to the conditions below.

In the event of the discovery of any subsurface archeological artifact, feature or deposit during construction activities, work within 100 feet of the find shall be halted, and an archeologist will be contacted for an in-field evaluation.

If the resource is determined to be significant, an appropriate plan for resource preservation or site excavation must be developed and implemented.

If bone is found that appears to be human, work within 100 feet of the find shall be halted, and the Sacramento County Coroner must be contacted. If the remains are determined to be of Native American origin, the Coroner shall notify the Native American Heritage Commission (NAHC). The NAHC shall determine the "most likely descendant", who will work to develop a plan for the area of the finding. Construction work shall remain halted in the vicinity of the discovery until the plan can be implemented.

2. Cultural Resources (7.4-6 Subsurface Prehistoric Resources (Phase 2))

a. Significant Impact

1. Implementation of Phase 2 could result in the discovery of unknown subsurface prehistoric resources or portions of the known prehistoric resources during project excavation for underground storage facilities at UCDCMC, UPR or other sites not identified. Although the likelihood for the occurrence of subsurface resources is quite low, the possibility for such a discovery does exist. Cultural resources exposed during construction, excavation, or other related project activities could be damaged, destroyed, or removed from their cultural context.

b. Facts in Support of Finding

The significant effect listed above will be reduced to a less than significant level with the following mitigation measures:

1. Implement Mitigation Measure 7.4-1.

B. SIGNIFICANT IMPACTS WHICH CANNOT BE AVOIDED

Finding - The City finds that, where feasible, changes or alterations have been required in, or incorporated into, the Project which reduce the significant environmental impacts listed below as identified in the EIR. However, specific economic, social, or other considerations make infeasible mitigation measures or project alternatives to reduce the following impacts to a less-than-significant level. This finding is supported by evidence in the record of the proceeding before the City including the draft and final EIR prepared for this project and the General Plan for the City of Sacramento and the associated EIR.

1. Cultural Resources (7.4-5 Historic Structure--Sewers (Phase 1 and Phase 2))

a. Significant Impact

1. Implementation of Phase 1 would result in the replacement of the sewer system for public health and safety reasons (see Project Description, page 4-17 and 4-27). Since the sewers are between 80 and 100 years old, exceeding the 45 year criterion established by the SHPO, they are potentially eligible for the National Register of Historic Places under criterion A, as they "are associated with events that have made a significant contribution to the broad patterns of our history," so that replacement of the sewers would be considered a significant impact. The oldest sewers are located in the downtown area and most of the City's original sewers were constructed of brick. As mentioned earlier, the achievements of the nineteenth century created sewer systems that are still in use today in downtown Sacramento. The invention of large glazed drains, brick sewers and cast iron pipes made possible the conveyance and disposal of sewage. Similarly, under CEQA and California Register criteria, these resources could be considered an important resource under criterion C, as potentially the last surviving example of their kind.

b. Facts in Support of Finding

The impacts will be reduced to the extent feasible with the following mitigation measures identified in the EIR and incorporated into the Project. The mitigation measures will reduce the magnitude of the impacts, but would not make the impacts less than significant.

1. The City of Sacramento shall document the history of the construction of the sewer system, and record the physical extent, condition and appearance of the extant portions of the early system to determine its historical significance.

2. Cultural Resources (7.4-8 Cumulative Loss of Cultural Resources)

a. Significant Impact

1. As urban development increases throughout the Sacramento General Plan Update (SGPU) Area, prehistoric sites and artifacts may be unearthed and damaged or destroyed. Historical sites and structures may be destroyed to make room for new development. Even if cultural resources are adequately recorded, removal and/or destruction from their place of origin reduces their value as resources. As stated above, the extent of cultural resources in the project area is not fully known, and damage or destruction of such resources can be mitigated on a project-specific basis. However, any loss of cultural resources associated with the proposed project would contribute to a region-wide impact that cannot be remedied.

b. Facts in Support of Finding

The impacts will be reduced to the extent feasible with the following mitigation measures identified in the EIR and incorporated into the Project. The mitigation measures will reduce the magnitude of the impacts, but would not make the impacts less than significant.

1. Implement Mitigation Measure 7.4-1.

3. Water Quality (7.2-5 Cumulative mercury loading in Sacramento River (Phase 1 and Phase 2))

a. Significant Impact

1. Mercury levels and sources in the Sacramento River Watershed have been under study by a number of researchers in recent years. This research has indicated that primary sources of mercury into the Sacramento River include inorganic mercury deposits introduced through gold mining activities in the upper watershed, natural mercury (cinnabar) deposits in the Coast Ranges, mercury in sediments trapped behind dams, mercury in sediments in the stream and river bottoms, and atmospheric deposition. Discharges associated with urban development (e.g., upstream wastewater treatment plants and

stormwater runoff) also contribute to mercury levels in the Sacramento River.

Future urban development within the Sacramento River Watershed could continue to contribute to mercury levels in the Sacramento River. This would continue to adversely affect receiving water quality and limit the River's ability to support its designated beneficial uses, which include municipal, agriculture, recreation, and fish and wildlife habitat.

As described in Impact 7.2-4, mercury-related impacts associated with implementation of the proposed project or its alternatives were found to be less than significant because mercury exceedances occur under existing conditions. It was also determined that none of the alternatives could independently nor in combination achieve an overall reduction in mercury levels in the Sacramento River such that the water quality objective would no longer be exceeded, given the diffuse and varied nature of the sources of mercury in the Sacramento River Watershed.

Regional efforts to address Sacramento River water quality problems include the establishment of the Sacramento River Toxic Pollutant Control Program (Program). A work plan was submitted by the SRCSD to the EPA and was approved in September 1996. The plan describes a regional approach to identifying the causes, effects, and extent of pollution within the Sacramento River, and to formulate an implementable program to prevent, reduce, and eliminate the pollution. Mercury was specifically identified in the work plan as one of several pollutants that would be studied and managed under the program.¹ A number of key federal and State and local public agencies (including the City of Sacramento), private businesses and industries, water districts, and agricultural stakeholders are participating in the Program through establishment of a Coordinated Resource Management and Planning (CRMP) Group. The CRMP Group will address major policy-level issues regarding water quality management in the Sacramento River basin.

As stated above, the CSS would be required to comply with any WDRs issued by the CVRWQCB and the joint NPDES Municipal Stormwater Permit (in the case of the Sewer Separation Alternative), thus ensuring that the CSS's contribution to mercury in the Sacramento River would not increase nor exacerbate the mercury problem. Regulatory requirements similar to those applicable to the

CSS also apply to many other jurisdictions and operations within the Sacramento River Watershed.

Even with implementation of specific mercury-control measures, if any, that could be developed by the City or by the Sacramento River Toxic Pollutant Control Program, the City cannot guarantee that other sources of mercury associated with existing or planned development in other areas in the Sacramento River Watershed would not increase or continue to contribute to mercury levels in the Sacramento River because compliance falls within other jurisdictions to enforce and monitor.

b. Facts in Support of Finding

There are no feasible mitigation measures that will reduce the magnitude of the impacts described above.

II. ALTERNATIVES

CEQA mandates that every EIR evaluate a no-project alternative. Alternatives provide a basis of comparison to the Proposed Project in terms of beneficial, significant, and unavoidable impacts. This comparative analysis is used to determine the most feasible for implementation.

1. No Project Alternative

The No Project Alternative does not include the outflow, local flood or CSO control improvements identified in the CSS Improvement and Rehabilitation Plan, dated July 1995. Under this alternative, the CSS would remain as presently functioning. Any changes to the CSS are purely rehabilitative in nature and consist solely of the rehabilitation items identified in the CSS Plan. This alternative will be the baseline by which the proposed project and other alternatives are measured. It is assumed that implementation of this alternative would result in a permanent CDO and may cause a moratorium on new development within the CSS service area and possibly major fines.

Finding

- A. Selection of the "No-Project" Alternative would not meet the following project objectives:
1. Reduce or eliminate outflows that are considered a possible threat to public health.
 2. Reduce and improve the quality of the CSS overflows to the Sacramento River where they are considered a potential threat to the beneficial uses of the receiving waters and the "fishable/swimming" goals of the Federal Clean Water Act.
 3. Comply with the requirements of the U.S. Environmental Protection Agency's (EPA) "Combined System Overflow Control Policy", "Nine Minimum Controls", the National Pollution Discharge Elimination System (NPDES) Permit, and the Clean Water Act.
 4. Reduce neighborhood street flooding problems where it is economically feasible to do so.
- B. Selection of the "No-Project" Alternative would result in a reinstatement of the Cease and Desist Order from the Regional Water Quality Control Board.
- C. Selection of the "No-Project" alternative would not attain the Sacramento General Plan's goals and policies related to improving the overall quality of life in Sacramento.

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- D. Selection of the "No-Project" Alternative would not fulfill Policy 11 of the General Plan related to the provision of adequate public services in existing developed areas.
- E. Selection of the "No Project" Alternative would not fulfill a mitigation measure in the City's General Plan EIR which requires the reconstruction of local drainage facilities.

2. **Sewer Separation Alternative (Alternative B)**

This alternative would include the construction of a new sanitary sewer system in the CSS service area and conversion of the existing CSS pipelines to a storm drainage system conveying only storm water runoff. It should be noted that the new sanitary sewer system does not meet the project objective of providing an improved level of local flood control for the existing CSS area. The Separate Sanitary Sewer Alternative includes only a minor flood control upgrade beyond the capacity of the existing system. The existing system provides flood control to a 2-year event in most areas. Under this alternative, CSOs are reduced or eliminated and flood control is slightly improved by removing the sewage portion of flow from the conveyance system. This alternative also reduces outflows.

Finding

- A. Selection of the Sewer Separation Alternative would not involve major capacity upgrades to the existing CSS pipelines; therefore, flood control is only slightly improved over the existing system.
- B. Selection of the Sewer Separation Alternative would result in all stormwater being discharged to the Sacramento River without disinfection.

III. STATEMENT OF OVERRIDING CONSIDERATIONS

Notwithstanding disclosure of the significant impacts and the accompanying mitigation, the City has determined pursuant to Section 15093 of the CEQA Guidelines that the benefits of the project as described in the EIR, and as conditioned by the Council, outweigh the adverse impacts, and the proposed project shall be approved.

With reference to the above findings and in recognition of those facts which are included in the record, the City has determined that the proposed project would contribute to environmental impacts which are considered significant and adverse, as disclosed in the EIR prepared for the proposed project.

The City has examined a range of reasonable alternatives to the project. Based on this examination, the City has determined that none of these alternatives meets the project objectives.

The City specifically finds, and therefore makes this Statement of Overriding Considerations, that all significant effects on the environment of the Proposed Project have been eliminated or substantially lessened where feasible. Furthermore, the City finds and determines has determined that any remaining significant effects on the environment found to be unavoidable are acceptable due to the overriding considerations described below:

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- A. Implementation of the Proposed Project will attain the following important objectives:
 - 1. Reduce or eliminate outflows that are considered a possible threat to public health.
 - 2. Reduce and improve the quality of the CSS overflows to the Sacramento River where they are considered a potential threat to the beneficial uses of the receiving waters and the "fishable/swimming" goals of the Federal Clean Water Act.
 - 3. Comply with the requirements of the U.S. Environmental Protection Agency's (EPA) "Combined System Overflow Control Policy", "Nine Minimum Controls", the National Pollution Discharge Elimination System (NPDES) Permit, and the Clean Water Act.
 - 4. Reduce neighborhood street flooding problems where it is economically feasible to do so.
- B. Implementation of the Proposed Project would comply with the Regional Water Quality Control Board's requirements for rescinding the Cease and Desist Order.
- C. Implementation of the Proposed Project will attain the Sacramento General Plan's goals and policies related to improving the overall quality of life in Sacramento.
- D. Implementation of the Proposed Project will fulfill Policy 11 of the General Plan related to the provision of adequate public services in existing developed areas.
- E. Implementation of the Proposed Project will fulfill a mitigation measure in the City's General Plan EIR which requires the reconstruction of local drainage facilities.

Attachment 2

MITIGATION MONITORING PLAN
FOR
COMBINED SEWER SYSTEM PROJECT
ENVIRONMENTAL IMPACT REPORT

Prepared By:
City of Sacramento Planning Services Division

Date:
March 11, 1997

Adopted By:
City of Sacramento City Council

Date:

Attest:

City Clerk

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**CITY OF SACRAMENTO
MITIGATION MONITORING PLAN**

This Mitigation Monitoring Plan (Plan) has been required by and prepared for the Department of Planning and Development, Environmental Services Division, 1231 I Street, Suite 300, Sacramento, CA 95814, (916) 264-7600, pursuant to CEQA Guidelines Section 21081.

SECTION 1: PROJECT IDENTIFICATION

Project Name and/or File Number: Combined Sewer System Project (XD41)

Applicant - Name: City of Sacramento
Utilities Department

Address: 5770 Freeport Boulevard, Ste. 100
Sacramento, CA 95822

Project Location / Project Description:

The CSS Rehabilitation and Improvement Plan is divided into two phases. Phase 1 includes specific modifications to existing Pump Station 1/1A, Pump Station 2, Pioneer Reservoir and rehabilitation and replacement of portions of the existing underground collection/piping system. Phase 2, while more programmatic in its definition, would involve designing and constructing a combination of facilities including underground storage structures, upsized sewers and sewer replacement. Rehabilitation and replacement of the CSS system would continue during Phase 2.

The primary objective of Phase 1 is to implement project-specific improvements and rehabilitation to the CSS that would assure operating reliability and reduce street flooding in the CSS service area. These improvements would be implemented over the first five years of the Plan. This initial phase involves the two existing Pump Stations (stations 1/1A, 2) since the Pumping Stations are responsible for pumping all CSS wastewater for treatment and disposal. Without the operating reliability of the Pumping Stations, the system could fail and result in flooding and severe outflows. However, increasing Pump Station capacities alone cannot address these issues. It is also necessary to modify Pioneer Reservoir, which would decrease the number and volume of CSOs to the Sacramento River. In addition, since the capacity of the system would be increased, the underground piping system must also be improved. Portions of the piping system are over 100 years old and have structural defects

including cracked pipes, corrosion, deteriorated and missing grout at pipe joints, and root intrusion that can clog sewers and limit hydraulic capacity.

The objective of Phase 2 is to design and construct facilities to alleviate flooding and outflows to local areas. At this time, the combination of facilities needed is unknown. Therefore, these components are evaluated at a more general, programmatic level than Phase 1.

SECTION 2: GENERAL INFORMATION

The project as approved includes the mitigation measures adopted as part of the Findings of Fact for this Project. The intent of the Plan is to prescribe and enforce a means for properly and successfully implementing the mitigation measures as identified within the Environmental Impact Report (EIR) for this project. Unless otherwise noted, the cost of implementing the mitigation measures as prescribed by this Plan shall be funded by the project applicant.

SECTION 3: MITIGATION MONITORING PLAN

This section describes all adopted mitigation measures, identifies the entity responsible for monitoring the implementation of the measures and the procedures for such monitoring. The measures are identified in accordance with their number in the associated Draft and Final EIR to allow easy reference to the impact discussion for which the mitigation measure has been developed.

CULTURAL RESOURCES

Mitigation

7.4-1 Subsurface Prehistoric Resources (Phase 1)

An archeological monitor shall be retained to oversee any subsurface work occurring in the immediate vicinity of the six recorded prehistoric sites. A confidential map with the locations of these sites will be on file with the Project Manager or other appropriate individual, who will arrange to have the monitor present for the areas deemed sensitive. The areas monitored as well as the remainder of the construction shall be subject to the conditions below.

In the event of the discovery of any subsurface archeological artifact, feature or deposit during construction activities, work within 100 feet of the find

shall be halted, and an archeologist will be contacted for an in-field evaluation.

If the resource is determined to be significant, an appropriate plan for resource preservation or site excavation must be developed and implemented.

If bone is found that appears to be human, work within 100 feet of the find shall be halted, and the Sacramento County Coroner must be contacted. If the remains are determined to be of Native American origin, the Coroner shall notify the Native American Heritage Commission (NAHC). The NAHC shall determine the "most likely descendant", who will work to develop a plan for the area of the finding. Construction work shall remain halted in the vicinity of the discovery until the plan can be implemented.

Entities Responsible for Ensuring Compliance:

The City of Sacramento, Department of Planning and Development
The City of Sacramento, Utilities Department

Monitoring Program:

If subsurface archaeological or historical remains (including unusual amounts of bones, stones, or shells) are discovered during excavation or construction at the site, work shall stop immediately and a qualified archaeologist and a representative of the Native American Heritage Commission shall be consulted to develop, if necessary, further mitigation measures to reduce any archaeological impact to a less-than-significant level before construction continues.

Site inspections by the Utilities Department shall watch for any potential archaeological resources during site visits. A City contact person shall be notified in case of an archaeological discovery. The Utilities Department shall attach this requirement to the approved construction plans and include this measure as a random inspection item on the Special Conditions Attachment.

Mitigation

7.4-5 Historic Structure--Sewers (Phase 1 and Phase 2)

The City of Sacramento shall document the history of the construction of the sewer system, and record the physical extent, condition and appearance of the extant portions of the early system to determine its historical significance.

Entities Responsible for Ensuring Compliance:

The City of Sacramento, Utilities Department
The City of Sacramento, Planning and Development Department

Monitoring Program:

The City's Utilities Department is responsible for documenting the history of the construction of the brick sewer system. To date, the Utilities Department has developed a video of the underground brick sewer system as well as a written record of the system. This work has been conducted to comply with the State Section 106 Requirements. The final recordation of the brick sewer system, approved by the State Environmental Protection Agency, shall be filed with the City's Historic Preservation Officer in the Planning and Development Department.

Attachment 3

**BID TABULATION SHEET FOR BID NO. 1733-
ENGINE POWERED STANDBY GENERATOR**

<u>Bidders</u>	<u>Terms</u>	<u>1% Local Tax Preference</u>	<u>5% M/WBE Preference</u>	<u>Total Bid (Includes Tax on Materials Only)</u>
Tenco Tractor, Inc.	Net - 30	N/A	No	<u>\$196,937.87⁽¹⁾</u>
Sierra Power Products	Net - 30	N/A	No	\$197,286.38 ⁽¹⁾

⁽¹⁾Amount adjusted due to mathematical error.

Total Award of Contract To: Tenco Tractor, Inc.
3850 Channel Drive
West Sacramento, CA 95691

Original Estimated Cost: \$250,000.00

Using Department: Utilities

Total Bid Amount: \$196,937.87

Due Date: December 11, 1996

Total Amount of Contract: \$196,937.87 (Includes Tax on Materials Only)

<u>Total No. of Bids Solicited</u>	<u>No. of M/WBE Bids Solicited</u>	<u>No. of M/WBE Responses</u>	<u>Award to M/WBE Vendor?</u>
9	0	0	No

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**BID TABULATION SHEET FOR
 BID NO. 1734 - ELECTRICAL SWITCHGEAR, MOTOR CONTROL CENTER
 AND VARIABLE FREQUENCY DRIVE EQUIPMENT**

<u>Bidder</u>	<u>Item No.</u>	<u>Sub-Total</u>	<u>M/WBE</u>	<u>1% Local Tax Preference</u>	<u>Prompt Payment Discount</u>	<u>Net Bid</u>
TESCO Controls	All	\$262,090.00	No	<\$2620.90>	1%/10	\$259,469.10
Universal Wholesale Elec.	All	\$201,102.00	No	No	N-30	\$201,102.00
Graybar Electric	All	\$254,515.00	No	<\$2545.15>	1.5%/20 <\$3817.73>	\$248,152.12
Platt Electric Supply	All	\$177,491.00	No	<\$1774.91>	2%/10	<u>\$175,716.09</u>
Shawnee Electric	All	\$268,090.00	No	No	.5%/20 <\$1340.45>	\$266,749.55

Attachment 4

Total Award of Contract To: Platt Electric Supply
 1037 West North Market Blvd.
 Sacramento, CA 95834

Original Estimated Cost: \$440,000.00

Using Department: Utilities

Total Net Bid Amount: \$175,716.09

Due Date: January 8, 1997

Total Amount of Contract: \$190,863.16 (Includes Tax on Materials Only)

<u>Total No. of Bids Solicited</u>	<u>No. of M/WBE Bids Solicited</u>	<u>No. of M/WBE Responses</u>	<u>Award to M/WBE Vendor?</u>
31	18	0	No

ENGINEERING SERVICES DIVISION

CONTRACT SPECIFICATIONS
FOR

7TH STREET SEWER REPLACEMENT, P TO K STREET

PN: X14010063

B14141321022

Engineer's Estimate: 4,267,000

***Non-Mandatory Pre-Bid Site Walk: Thursday, May 22, 2014, @ 10:30 AM
Pre-Bid Location: SE corner of 7th Street & L Street, Sacramento, CA 95814***

For Pre-Bid Information Call:

Dale Mathison
Associate Civil Engineer
(916) 808-1911

No Separate Plans

Bid to be received before 2:00 PM
June 18, 2014
City Hall, Office of the City Clerk
915 I Street, 5th Floor
Sacramento, CA 95814

LBE PROGRAM PARTICIPATION

For information on meeting the City of Sacramento's Local Business Enterprise (LBE) 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>

**7TH STREET SEWER REPLACEMENT, P TO K STREET
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SPECIAL PROVISIONS

LBE INFORMATION

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

For information on meeting the City of Sacramento's Local Business Enterprise (LBE) 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, 5th Floor, up to the hour of 2:00 p.m. on **June 18, 2014** and opened at and read after 2:00 p.m. on **June 18, 2014**, or as soon thereafter as business allows, in the Hearing Room, 2nd Floor Room, in Historic City Hall, for construction of:

**7TH STREET SEWER REPLACEMENT, P TO K STREET
(PN: X14010063) (B14141321022)**

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
7TH STREET SEWER REPLACEMENT, P TO K STREET
(PN: X14010063) (B14141321022)**

LBE CERTIFICATIONS ARE DUE BY THE CLOSE OF BUSINESS TWO DAYS AFTER BID OPENING to:

Dale Mathison, Department of Utilities, Engineering Services Division
1395 35th Avenue, Sacramento, CA 95822

Phone: (916) 808-1911 / Fax: (916) 808-1497/Email: DMathison@cityofsacramento.org

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 the Labor Compliance Officer at (916) 808-4011.

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, 5th 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 **June 18, 2014**, at the Office of the City Clerk, New City Hall, at 915 I Street, 5th Floor, Sacramento, California and opened at 2:00 PM, or as soon thereafter as business allows, on **June 18, 2014**, 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

**7TH STREET SEWER REPLACEMENT, P TO K STREET
(PN: X14010063) (B14141321022)**

in the City and County of Sacramento, California.

TOTAL BID: _____ (\$_____).

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

Item No.	Description	Estimated Quantity	Unit	Unit Price	Total
1	Mobilization	1	LS	\$_____	\$_____
2	Preconstruction Photographs	1	LS	\$_____	\$_____
3	Utility to Pothole	12	EA	\$_____	\$_____
4	Existing Sewer Pipe to Remove, 72-Inch Pipe to Place	1635	LF	\$_____	\$_____
5	60-Inch Sewer Pipe to Construct	430	LF	\$_____	\$_____
6	Existing Sewer Pipe to Remove, 48-Inch Sewer Pipe to Place	85	LF	\$_____	\$_____
7	72-Inch 12.5-Degree Bend to Construct	1	EA	\$_____	\$_____
8	60-Inch 90-Degree Bend to Construct	1	EA	\$_____	\$_____
9	48-Inch CS Pipe to Bore & Jack	385	LF	\$_____	\$_____
10	60-Inch CS Pipe to Bore & Jack	381	LF	\$_____	\$_____
11	Jacking Pit to Construct	2	EA	\$_____	\$_____
12	Receiving Pit to Construct	3	EA	\$_____	\$_____
13	24-Inch Transition CS Pipe to Construct	40	LF	\$_____	\$_____
14	Point Repairs	40	LF	\$_____	\$_____
15	24-Inch CIPP Liner to Install	245	LF	\$_____	\$_____
16	Laterals to Reinstate Internally	6	EA	\$_____	\$_____

Item No.	Description	Estimated Quantity	Unit	Unit Price	Total
17	12-Inch CS Pipe to Construct	18	LF	\$ _____	\$ _____
18	8-Inch Drain Lead to Relocate	60	LF	\$ _____	\$ _____
19	36-Inch CS Pipe to Abandon	30	LF	\$ _____	\$ _____
20	24-Inch CS Pipe to Abandon	450	LF	\$ _____	\$ _____
21	Inverted Siphon to Construct	1	EA	\$ _____	\$ _____
22	Junction Structure to Construct	1	EA	\$ _____	\$ _____
23	Existing Manhole to Remove, Saddle Manhole to Construct	12	EA	\$ _____	\$ _____
24	Saddle Manhole to Construct	3	EA	\$ _____	\$ _____
25	Existing Manhole to Remove	2	EA	\$ _____	\$ _____
26	Manhole to Abandon or Remove	6	EA	\$ _____	\$ _____
27	Manhole No. 3 to Construct	2	EA	\$ _____	\$ _____
28	Modified Type "B" Drain Inlet to Install	11	EA	\$ _____	\$ _____
29	10-Inch Drain Lead to Install	490	LF	\$ _____	\$ _____
30	Drain Lead to Abandon	370	LF	\$ _____	\$ _____
31	8-Inch Water Main to Relocate	1	EA	\$ _____	\$ _____
32	Existing Sewer Service to Replace	25	EA	\$ _____	\$ _____
33	Pipe Ends to Plug	95	EA	\$ _____	\$ _____
34	Substandard Water Service to Replace	8	EA	\$ _____	\$ _____
35	Unsuitable Material, Removal and Replacement	1270	TON	\$ _____	\$ _____
36	CCTV Inspection	3590	LF	\$ _____	\$ _____
37	Unmarked Utility Crossings	35	EA	\$ _____	\$ _____
38	Fiber Optic Vault to Construct	1	EA	\$ _____	\$ _____
39	Fiber Optic Pull Box to Construct	1	EA	\$ _____	\$ _____
40	1 ¼" Fiber Optic Conduit to Construct	50	LF	\$ _____	\$ _____
41	2" Fiber Optic Conduit to Construct	245	LF	\$ _____	\$ _____
42	2 ½" Fiber Optic Conduit to Construct	50	LF	\$ _____	\$ _____
43	3" Fiber Optic Conduit to Construct	160	LF	\$ _____	\$ _____
44	Asphalt Overlay to Place	1,015	TON	\$ _____	\$ _____

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 (100) 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 **six hundred dollars (\$600.00) 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

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 ZIIP 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: X14010063 (B14141321022)

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, for which Proposals are to be opened by the Office of the City Clerk, Historic City Hall, Hearing Room, 2nd Floor, 915 I Street, Sacramento, California, on **June 18, 2014**, for the Work specifically described as follows:

7TH STREET SEWER REPLACEMENT, P TO K STREET
(PN: X14010063) (B14141321022)

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 _____, 2014.

PRINCIPAL Seal
By: _____

Title

SURETY Seal
By _____

Title

Agent Name and Address

Agent Phone #

Surety Phone #

California License #


SACRAMENTO
Subcontractor and Local Business Enterprise (LBE)
Participation Verification Form
For Public Projects Over \$100,000

THIS FORM MUST BE SUBMITTED WITH THE SEALED BID PROPOSAL

To be eligible for award of this contract, the bidder shall list all subcontractors who perform work, labor, or render service in an amount in excess of one-half of 1 percent of the total bid amount. In the case of bids for the construction of streets and highways, including bridges, subcontractors whose subcontract value exceeds one-half of 1 percent of the total bid or ten thousand dollars (\$10,000), whichever is greater, shall be listed. In addition, the bidder shall list any business entity used to attain the 5% LBE requirement. Estimated dollar values shall be provided for all work/services/supplies listed. The inclusion of false information or the omission of required information will render the bid non-responsive.

Prime Contractor Name: _____ Address: _____
 Bid Amount: _____ Is Prime Contractor a LBE? Yes ___ No ___ Total LBE Participation %: _____ Date: _____

Business Entity Name/Address/Contact Person/Telephone/Email	Sub-contractor license number	Indicate LBE (subject to verification)	Describe Exact Type of Work/Services/Supplies to be provided to complete contract	Estimated Dollar Value of Work/Services/Supplies to be Performed or Provided	Percentage of Prime Contract	For Office Use Only (calculation)

I hereby certify that each subcontractor listed on this Subcontractor and LBE Participation Verification Form has been notified that it has been listed and has consented in writing to its name being submitted for this contract. Additionally, I certify that I shall notify each business entity listed on this Form, in writing, if the award is granted to my firm, and I shall make all documentation relevant to subcontractor and LBE participation available to the City of Sacramento upon request. I further certify that all information contained in this Form is true and correct and I acknowledge that the City will rely on the truth of the information in awarding the contract.

PRINCIPAL OF FIRM:

 (Signature)

 (Title)

 (Date)

COPY AND ATTACH ADDITIONAL SHEETS AS NECESSARY

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.

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	
Project #	
LBE	

Please Submit To:

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

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:

- 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.
Electronic version is available at
- c) <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

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

**LOCAL BUSINESS ENTERPRISE (LBE)
PARTICIPATION REQUIREMENTS
FOR PUBLIC PROJECTS OF \$100,000 OR MORE**
(City Contracts no Federal Funds Used)

I. LBE PARTICIPATION REQUIREMENT

On April 3, 2012, the Sacramento City Council adopted a Local Business Enterprise (LBE) Preference Program to provide enhanced opportunities for the participation of local business enterprises (LBEs) in the City's contracting and procurement activities. On November 19, 2013, the City Council increased the LBE preference percentage and authorized City departments to require minimum LBE participation levels in specific contracts. Under City Code section 3.60.270, when the bid specifications for a City contract establish a minimum participation level for LBEs, no bidder on the contract shall be considered responsive unless its bid meets the minimum LBE participation level required by the bid specifications.

The City has established **a minimum 5% participation level for LBEs on this contract.** Pursuant to City Code Section 3.60.270, no bidder on this contract shall be considered responsive unless its bid meets or exceeds this minimum participation level.

Bidder and any other business entity listed on the LBE forms submitted shall comply with all applicable laws relating to licensing, permitting, and payment of taxes and fees in the City of Sacramento or County of Sacramento; and shall not be in arrears to the City of Sacramento or County of Sacramento, upon award of a contract.

II. LBE QUALIFICATION

- A. A LBE designated in the bid must be qualified as a LBE prior to the time set for submission of bids.
- B. Local Business Enterprise means a business enterprise, including but not limited to, a sole proprietorship, partnership, limited liability company, corporation, or other business entity that has a legitimate business presence in the City or unincorporated county of Sacramento. Proof of legitimate business presence in the City or unincorporated county of Sacramento shall include:
 - 1. Having a current City of Sacramento Business Operation Tax or County of Sacramento Business License for at least twelve (12) consecutive months prior to submission of bid; and
 - 2. Having either of the following types of offices or workspace operating legally within the City or unincorporated county of Sacramento for at least twelve (12) consecutive months prior to submission of bid:
 - a. The LBE's principle business office or workspace; or
 - b. The LBE's regional, branch or satellite office with at least one full time employee located in the City or unincorporated county of Sacramento.

- C. A LBE must provide a physical address for the basis of location. This excludes P.O. Box addresses.
- D. A LBE must provide a current copy of the City of Sacramento Business Operations Tax Certificate or County of Sacramento Business License.

III. DETERMINATION OF LBE PARTICIPATION LEVEL

- A. LBE Participation: The percentage of LBE participation is determined based on the dollar value of the work to be performed or supplies to be furnished by certified LBEs designated in the bidder's Subcontractor and LBE Participation Verification Form, relative to the total dollar amount of the bid.
- B. Participation Credit: To receive credit for participation:(1) a LBE 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 actually perform, manage, or supervise the work without subcontracting or otherwise shifting any portion of the work to another subcontractor; and (2) a LBE supplier must furnish 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. Suppliers: Credit for a LBE 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, LBE suppliers must be listed on the bidder's Subcontractor and LBE Participation Verification Form.
- D. Subcontractors (including truckers): To receive credit for a LBE subcontractor, the subcontractor must be listed on the bidder's Subcontractor and LBE Participation Verification Form.
 - Truckers: Credit for a LBE 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. LBE REQUIREMENTS FOR CONTRACTOR

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

- B. Performance of LBE Subcontractors and Suppliers: The LBEs 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 LBE fails to execute a written contract based upon the general terms, conditions, plans, and specifications for the project.
 2. The listed LBE becomes bankrupt or insolvent.
 3. The listed LBE subcontractor fails to meet the bond requirements of the Contractor.
 4. The work performed or the materials/equipment/supplies provided by the listed LBE are unsatisfactory or are not in accordance with the plans and specifications, or the listed LBE fails to perform its contractual obligations.
 5. It would be in the best interest of the City.
- C. Subcontractor Substitution: No substitution of a LBE subcontractor shall be made at any time without compliance with the Subletting and Subcontracting Fair Practices Act. If a LBE subcontractor is unable to perform successfully and is to be replaced, the Contractor shall make reasonable efforts to replace the original LBE subcontractor with another verified LBE subcontractor. The new LBE subcontractor must be verified at the time of substitution.
- 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 LBEs in substantial compliance with the LBE 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 LBE(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. Local Business Enterprise (LBE): A business enterprise, including but not limited to, a sole proprietorship, partnership, limited liability company, corporation, or any other business entity that has a legitimate business presence in the City of Sacramento or unincorporated county of Sacramento.
- B. Contractor: The sole proprietorship, partnership, limited liability company, corporation, or any other business entity entering into a contract with the City of Sacramento.
- C. 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.
- D. Supplier: The sole proprietorship, partnership, limited liability company, corporation, or other business entity to provide materials, equipment, or supplies necessary for performance of the work.
- E. Proposal: Any response to a City solicitation for Proposals or Qualifications.
- F. Bid: Any response to a City solicitation for bids.

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 Local Business Enterprise (LBE) 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:

7TH STREET SEWER REPLACEMENT, P TO K STREET (PN: X14010063)

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 (100) 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 **six hundred dollars (\$600.00) for each calendar day** 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 – City of Sacramento

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:

7TH STREET SEWER REPLACEMENT, P TO K STREET
(PN: X14010063) (B14141321022)

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 _____, 2014.

(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: _____

CITY OF SACRAMENTO
PAYMENT BOND
Department of Utilities

Bond No: _____
Premium: _____
Page 1 of 1

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:

7TH STREET SEWER REPLACEMENT, P TO K STREET
(PN: X14010063) (B14141321022)

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 _____ 2014.

(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) ▶ _____	
	Exemptions (see instructions): Exempt payee code (if any) _____ Exemption from FATCA reporting code (if any) _____	
	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), and
4. The FATCA code(s) entered on this form (if any) indicating that I am exempt from FATCA reporting is correct.

Certification instructions. You must cross out item 2 above if you have been notified by the IRS that you are currently subject to backup withholding because you have failed to report all interest and dividends on your tax return. For real estate transactions, item 2 does not apply. For mortgage interest paid, acquisition or abandonment of secured property, cancellation of debt, contributions to an individual retirement arrangement (IRA), and generally, payments other than interest and dividends, you are not required to sign the certification, but you must provide your correct TIN. See the instructions on page 3.

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

General Instructions

Section references are to the Internal Revenue Code unless otherwise noted.
Future developments. The IRS has created a page on www.irs.gov for information about Form W-9, at www.irs.gov/w9. Information about any future developments affecting Form W-9 (such as legislation enacted after we release it) will be posted on that page.

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, payments made to you in settlement of payment card and third party network transactions, 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, and

4. Certify that FATCA code(s) entered on this form (if any) indicating that you are exempt from the FATCA reporting, is correct.

Note. If you are a U.S. person and a requester gives you a form other than Form W-9 to request your TIN, you must use the requester's form if it is substantially similar to this Form W-9.

Definition of a U.S. person. For federal tax purposes, you are considered a U.S. person if you are:

- An individual who is a U.S. citizen or U.S. resident alien,
- A partnership, corporation, company, or association created or organized in the United States or under the laws of the United States,
- An estate (other than a foreign estate), or
- A domestic trust (as defined in Regulations section 301.7701-7).

Special rules for partnerships. Partnerships that conduct a trade or business in the United States are generally required to pay a withholding tax under section 1446 on any foreign partners' share of effectively connected taxable income from such business. Further, in certain cases where a Form W-9 has not been received, the rules under section 1446 require a partnership to presume that a partner is a foreign person, and pay the section 1446 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 section 1446 withholding on your share of partnership income.

2014 Withholding Exemption Certificate**590**

The payee completes this form and submits it to the withholding agent.

Withholding Agent (Type or print)

Name _____

Payee

Name _____

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

Address (apt./ste., room, PO Box, or PMB no.) _____

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

State _____

ZIP Code _____

Exemption Reason

Check only one reason box below that applies to the payee.

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

 Individuals — Certification of Residency:

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

 Corporations:

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

 Partnerships or limited liability companies (LLCs):

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

 Tax-Exempt Entities:

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

 Insurance Companies, Individual Retirement Arrangements (IRAs), or Qualified Pension/Profit Sharing Plans:

The entity is an insurance company, IRA, or a federally qualified pension or profit-sharing plan.

 California Trusts:

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

 Estates — Certification of Residency of Deceased Person:

I am the executor of the above-named person's estate or trust. The decedent was a California resident at the time of death. The estate will file a California fiduciary tax return.

 Nonmilitary Spouse of a Military Servicemember:

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

CERTIFICATE OF PAYEE: Payee must complete and sign below.

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) _____ Telephone (____) _____

Payee's signature ► _____ Date _____

SPECIAL PROVISIONS

CITY OF SACRAMENTO
SPECIAL PROVISIONS
FOR
7TH STREET SEWER REPLACEMENT, P TO K STREET
(X14010063)

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**SPECIAL PROVISIONS
FOR
7TH STREET SEWER REPLACEMENT, P TO K STREET
(X14010063)**

SECTION 1 – GENERAL CONSTRUCTION REQUIREMENTS

1.01 Location, Scope of Work

These Special Provisions cover in general, the reconstruction and construction of combined sewer facilities along 7th Street from P to K Street and along L Street from 7th to 9th Street. The work to be performed consists of constructing 72-inch, 60-inch and 48-inch combined sewer pipeline using both open-cut and bore-and-jack construction methods, constructing manholes, a junction structure, an inverted siphon, drain inlets, sewer services, and other associated work. The Contractor shall provide all labor, materials, tools and equipment, and shall perform all work necessary to complete the subject project in place and make all required connections to the combined sewer system as shown on the Plans and as specified herein.

1.02 Specifications

The work to be performed under this contract shall be done in accordance with the Special Provisions contained herein. In these Special Provisions, reference is made to the Standard Specifications of the City of Sacramento, adopted June 2007 and including addenda, referred to herein as "Standard Specifications". The general requirements of this contract shall be governed by these Special Provisions first, followed by Sections 1 through 8 of the Standard Specifications. Other standards or specifications specified in these Special Provisions govern only the applicable technical specifications.

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

Questions from bidder's concerning the interpretation of any portion of the contract documents may be directed to Dale Mathison of the City of Sacramento, Department of Utilities, 1395 35th Ave, Sacramento, California, 95822, phone (916) 808-1911. Interpretation, where necessary, will be made by the City in the form of an addendum to the contract documents and, when issued, will be sent as promptly as is practicable to all parties to whom the bid documents have been issued. All such addenda shall become part of the contract.

It shall also be the bidder's responsibility to call to the attention of the Engineer any missing pages or drawings in the contract documents including the addenda. These items shall be brought to the attention of the Engineer at least 7 calendar days prior to the bid opening date.

1.06 Proof of Compliance with Contract

In order that the Engineer may determine whether the Contractor has complied with the requirements of the contract documents not readily 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. Winterization/wet weather plan
3. Pipe installation plan
4. Bore & Jack Plans including entrance & exit pit design
5. Concrete and Asphalt mix design (manholes and paving)
6. Record drawings (upon completion of work)
7. Traffic control plan
8. Water quality control plan
9. Proposed pipe material and fittings, including bore & jack pipe
10. Manholes
11. Junction structure
12. Clean out assembly
13. Temporary diversion, bypass, or impoundment of flows (submit 10 days prior to starting work)
14. Dewatering plan (if necessary)
15. CIPP Lining work:
 - a. Manufacturer's Certification that liner materials and resin material are in compliance with the required application, specifications, codes, and standards referenced herein.
 - b. CIPP Documentation of the licensing and training certifications from the manufacturer for the foreman and installer who will perform the actual lining

- process.
 - c. Submittal of manufacturer's installation instructions and procedures for sewer main lining materials.
 - d. Remote lateral reinstatement tool.
 - e. Remote pipeline locating device.
 - f. Liner thickness calculations.
 - g. Bypass pumping plan.
 - h. Liner end seal material specification and installation instructions.
16. Water services and water main materials
 17. Public notification plan
 18. Any other items

All submittals shall be reviewed and approved prior to starting work unless otherwise approved by the Engineer.

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. Contractor shall keep one copy of the approved Traffic Control Plan and the Water Quality Control Plan at the construction site at all times.

1.08 Project Sign

Prior to beginning any onsite work the contractor shall install a total of 5 project signs. The signs shall be supplied by the City and are approximately 30-inches by 54-inches. Location and height of sign installation shall be as directed by the Engineer. Two signs shall be installed on posts along L Street, at 9th Street and at 8th Street. One sign shall be installed on 7th Street at K Street. Two signs shall be attached to barricades and used along 7th Street as the work progresses from P to K Street.

In general, signs installed on posts shall be installed a minimum of seven (7) feet and maximum of ten (10) feet above surrounding grade. If acceptable to the Engineer an existing sign post may be used, otherwise, the Contractor shall be required to install a new post. Each sign and post installed by the Contractor shall be removed at the end of the project and the sign returned to the City.

Barricade signs used along 7th Street shall be clearly visible by the public and not obstructed by construction equipment. In addition, the contractor shall supply and utilize a changeable message sign throughout the project to notify the public of street closures as needed and directed by the engineer.

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.

Contractor shall plan to attend regular weekly construction coordination meetings throughout the duration of the construction work and shall anticipate 1 to 1-1/2 hours each meeting.

The Contractor will be allowed to close 7th Street between P and L Street one block at a time to complete construction for this project. Work along 7th Street between L and K Street shall be coordinated with the Engineer. Work in L Street shall maintain a minimum of 1 lane of traffic on weekends and nights and 2 lanes of traffic on weekdays at all times.

Working hours in 7th Street, including work within the 1 block closure zone, shall be weekdays 8:30 a.m. to 4:00 p.m. And upon approval, night work shall be performed from 7:00 p.m. to 6:00 a.m.

Working hours in L Street shall be weekends 7:00 a.m. to 6:00 p.m. and night work from 7:00 p.m. to 6:00 a.m. Weekday work will only be allowed if 2 lanes of traffic are maintained through the construction site. Weekday working hours are from 8:30 a.m. to 3:00 p.m. Night work and/or weekend work is required for bore & jack work and for other work under the light rail tracks as shall be coordinated with Sacramento Regional Transit (RT).

Weekend and night work, where approved, will be performed in accordance with Section 7-4 of the Standard Specifications and shall comply with the noise ordinance in Chapter 8.68 of the Sacramento City Code.

1.11 Record Drawings

The Contractor shall maintain a neat and accurate marked set of record drawings showing the final locations and layout of piping and conduit; structures; and other facilities. Drawings shall be kept current weekly, with all work instructions and change orders, and construction adjustments. Installed cleanouts shall be dimensioned to the nearest property line or be assigned stations to the nearest foot. 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. Pipe material shall be added to drawing, if not denoted on contract drawings. Prior to acceptance of the work, the Contractor shall deliver to the Engineer one (1) set of neatly marked record drawings accurately showing the information required above.

Record drawings shall be submitted and approved by the Engineer in accordance with "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. **PVC pipe manufactured by JM Pipe or PW Eagle Pipe will not be allowed.**

1.13 Permits

The Contractor is required to obtain and comply with provisions of a track warrant from Sacramento Regional Transit (RT) for any work within 10 feet of the RT light rail track and for bore & jack operations along 7th from L to K Street and along L Street from 7th to 8th Street. Contractor shall complete all training as required by RT. Contact Sharon Fultz (916-556-0308, sfultz@sacrt.com) for track warrant and training information. See Appendix B for RT Permit Application.

COORDINATION AND COOPERATION WITH RT LIGHT RAIL OPERATIONS

The construction of this Project will be coordinated with revenue service operations of Sacramento Light Rail Transit System (RT Light Rail Operations). RT Light Rail Operations operating conditions are in effect and light rail vehicles (LRVs) will be in revenue service daily from approximately 4:00 a.m. continuous until approximately 1:00 a.m. the next day, seven days a week. LRVs generally run at 15-minute intervals, each direction, with the exception of evening hours and weekend mornings, which are scheduled for 30-minute intervals each direction. Unscheduled trains may run from 4:00 AM to 1:00 AM for training, maintenance, or train staging. Contractor must obtain and have the responsibility to be familiar with the current "Daily RT Light Rail Operations Light Rail Schedule" and any revisions issued during the term of this Contract.

Contractor will cause all Work to be performed with regard to time, place and manner so that RT Light Rail Operations scheduled revenue service is not disrupted unless expressly provided otherwise herein. All work performed by Contractor or its subcontractors of any tier in the vicinity of the existing LRT track and facilities must be in accordance with RT Light Rail Operations Instructions for Track Warrants. It is Contractor's/subcontractor's responsibility to apply for and secure the Track Warrant and/or Red Tag for each and every shift of Limited or Full Access construction, as defined below. If Contractor fails to comply with this requirement, and/or if Contractor or its subcontractors of any tier violate the terms of the Track Warrants and/or Red Tags, RT will issue a Stop Work Order to Contractor in the areas affected. The Stop Work Order will be in effect until such time as a Track Warrant or Red Tag is secured and/or the violation is corrected. Any delays or costs associated with this requirement must be borne by Contractor.

During hours of revenue service, Contractor and/or its subcontractors of any tier will be allowed Limited Access to any track area with RT Light Rail Operations revenue service operations through the Project site. Limited Access construction is defined as work to be

performed within 10' of the nearest rail of the operating track, or any work that includes equipment capable of coming in contact with the overhead catenary system. Limited Access construction must be coordinated daily with RT Light Rail Operations through the Track Warrant procedure.

During the hours when RT Light Rail Schedule Revenue Operations is not in operation, approximately 1:00 a.m. to 4:00 a.m. daily, unscheduled trains may run for training, maintenance, or train staging. Contractor and/or its subcontractors of any tier will be permitted Full Access to the existing track and facilities in the construction area through Track Warrant or Red Tag procedures. Any Work performed on existing track structure and facilities during Full Access will be restored by Contractor to complete operating conditions prior to resumption of scheduled revenue service. Full Access will be coordinated each and every time with RT Light Rail Operations through Track Warrant and Red Tag procedures.

Contractor and its subcontractors, regardless of tier, must not perform any Work that will require an unscheduled disruption of service at any time. All Work must be performed with sufficient labor, materials, and standby equipment to ensure that unscheduled service disruptions do not occur. Contractor must submit a Work Plan detailing hours of work, construction methods and activities for RT's approval. The Work Plan must indicate the means to ensure conformance to this special condition. Contractor must not do any Work until Contractor receives written approval of the Work Plan from RT.

All communications and/or correspondence relating to inspection and coordination between Contractor and RT Light Rail Operations must be given as set out in Article 5 of the Contract, Notices, unless otherwise specifically authorized by the RT AGM of Engineering and Construction. In the event of such authorization, Contractor must keep said RT AGM informed, in writing, of all such communications and their content. RT Light Rail Operations staff will communicate directly with Contractor if conditions deemed to be an emergency exist. Under emergency conditions, life or property must be in immediate danger of loss. Should an emergency condition occur, Contractor must follow the directions of the RT Light Rail Operations staff without hesitation.

The application for issuance of Track Warrants and Red Tags must be coordinated directly between Contractor and RT Light Rail Operations staff. Contractor must maintain the Track Warrant or Red Tag documentation at the work site. Failure to produce the required documentation when requested will result in the cessation of Work until the documentation is produced. No exceptions will be allowed, and time for completion will not be extended if Work is stopped for the foregoing reason.

Red Tags will be provided by RT at a cost of \$750.00 per Red Tag. The cost for the Red Tag must be paid at the time of submitting the application for the Red Tag. Contractor must call Michael Cormiae, Wayside Maintenance Superintendent at (916) 556-0461 to arrange for the Red Tag permit. Red Tags will only be given for the hours between 1:00 a.m. and 4:00 a.m. Application for a Red Tag must be made at least 7 calendar days prior to the date requested.

DISCHARGE PERMIT FROM REGIONAL SAN

The Contractor is required to obtain a Wastewater Discharge Permit from the Sacramento Regional County Sanitation District (Regional San) for any temporary groundwater dewatering required for this project. Contractor shall comply with the provisions set forth in the permit and is responsible for costs associated with the permit. Approximate costs include a \$400 permit fee and disposal cost of \$370 per million gallons of groundwater discharge. Contractor shall contact the Wastewater Source Control Section of Regional San at (916) 875-6470.

The following are several possible scenarios in the case of temporary discharge of groundwater:

GAC Filtration and LEL Monitoring

If the groundwater is treated via granular activated carbon (GAC) filtration and monitored using a Lower Explosive Limit (LEL) monitor, sampling would be required to show that treatment was successful, but discharge would be allowed without waiting for lab results.

Without treatment, the following would apply:

Unknown pollutant concentration

The contractor shall take a sample, submit the lab results to Regional San, and wait for authorization by Regional San before discharging.

Known/Expected pollutant concentration

- If pollutant concentrations are below Regional San limits, discharge would be allowed without treatment. Sampling would be required upon startup, but discharge would be allowed without waiting for lab results.
- If concentrations are higher than Regional San limits, the groundwater would need to be treated via GAC filtration and monitored using LEL monitor. Sampling would be required to show that treatment was successful, but discharge would be allowed without waiting for lab results.

Pollutant concentration information can be found by looking up specific monitoring well data and depths. Refer to geotracker.waterboards.ca.gov for monitoring well data.

Potential Regional San permit limits include the following:

PARAMETER	DAILY MAXIMUM (mg/L)
1,1,1-Trichloroethane	1.55
1,1,2-Trichloroethane	0.50
1,1-Dichloroethane (1,1-DCA)	0.5
1,1-Dichloroethylene (1,1-DCE)	0.6
Acenaphthene	0.416
Anthracene	7.68
Benzene	0.13

PARAMETER	DAILY MAXIMUM (mg/L)
Benzo(a)pyrene	0.02
Carbon tetrachloride	0.03
Chloroform	0.41
cis-1,2-Dichloroethylene	0.6
Ethylbenzene	1.59
Fluoranthene	0.24
Fluorene	1.04
Methyl tert-butyl ether (MTBE)	0.5
Methylene chloride (dichloromethane)	0.5
Naphthalene	0.136
Pyrene	0.768
Tetrachloroethylene (PCE)	0.53
Toluene (1.36)	1.36
Total Petroleum Hydrocarbon—Diesel	100
trans-1,2-Dichloroethylene	0.28
Trichloroethylene (TCE)	0.5
Vinyl chloride	0.004

Contractor is notified that Sabina Rynas at Regional San handles the Regional San Temporary Discharge Permit program; her contact info is rynasS@sacsewer.com or (916) 876-6522.

1.14 Permanent Survey Monuments

The Contractor is responsible for verifying that arrangements have been made for preserving and/or perpetuating all permanent survey monuments affected by the work, in accordance with Section 5-6 of the Standard Specifications.

1.15 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.

1.16 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.

1.17 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.

1.18 Payment

Full compensation for furnishing all labor, materials, tools, equipment and incidentals and for doing all work involved in performing and complying with these General Requirement items shall be considered as included in the prices paid for in the various contract bid items the Contractor deems appropriate and no additional compensation will be allowed.

END OF SECTION

SECTION 2– PUBLIC CONVENIENCE & PROTECTION OF EXISTING CONDITIONS

2.01 Public Right-of-Way and Easements

All water, sewer & drainage pipe and appurtenances constructed as part of this project are to be placed within public street rights-of-way and easements. The Contractor shall confine his or her operations within the limits of existing street right-of-way or easements as much as practicable.

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.

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 is hereby notified that 7th Street, 8th Street, P Street, Capitol Mall, and K Street were historic streetcar routes. No additional payment will be made if abandoned rail facilities are encountered during construction.

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

Prior to cutting pavement, Contractor shall notify Underground Service Alert (USA) (800-227-2600) per Section 6-19 of these Standard Specifications and shall bring to the Engineer's attention any possible conflicts. The Contractor is expected to "pothole" existing underground utilities and submit information a minimum of ten (10) working days in advance of starting construction 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 and not directly in conflict with the proposed pipeline facilities, 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 project alignment during the course of construction and shall minimize impacts to the residents and business owners.

The Contractor shall coordinate construction activity with public access to adjacent parking garages and businesses within the street closure zone. The Contractor shall also coordinate sewer construction activity and traffic control measures with the Entertainment and Sports Center (ESC) demolition and construction activity planned at the two square block area bounded by 5th, 7th, J and L Streets. Contractor shall contact the ESC contractor 48 hours prior to the start of construction: Matt Hiser at Turner Construction, (916) 201-3489. The cost of coordination shall be included in those bid items the Contractor deems appropriate.

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 is notified that many of the existing mains to be replaced are combined sewer (CS) mains that convey storm drainage and sanitary sewer flows and as such are subject to rapid fluctuations in flows during wet weather. The Contractor shall be responsible for maintaining existing sewer flows until new sewer improvements are complete and functioning. The cut sewer services shall be replaced or repaired by 5:00 PM of the same day, and shall be constructed per Standard Drawings S-260 & S-265.

The Contractor shall be responsible for maintaining existing drainage flow until the final completion of the project. The Contractor shall submit winterization plans prior to beginning construction. Winterizations plans shall be executed for the project if construction along 7th Street from P to K Street is not substantially complete prior to October 31 or predicted wet weather of 3 consecutive days, whichever comes first. The Contractor may restart construction work if dry weather is predicted for a minimum of 7 days, and work is approved by the Engineer.

Contractor shall make every effort to complete the construction work prior to the fall 2014 rainy season. The Contractor shall prioritize the work along 7th Street from P to K Street because it replaces existing CS pipelines requiring conveyance of fluctuating storm drainage flows from storm events. The proposed L Street CS main does not replace an existing pipeline and will not convey existing storm drainage or sewer flows until it reaches 9th Street and is connected to the existing CS system.

No additional compensation will be paid to the Contractor for maintenance of existing facilities; the cost of this work shall be included in the various contract items of work.

2.05 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.

2.07 Handling and Removal of Hazardous or Contaminated Materials

In the event hazardous or contaminated materials are encountered at the site for which separate handling or removal provisions have not been made in these Special Provisions, the Contractor shall stop work on that item, contact the Engineer and schedule his 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 assure his personnel observe proper safety precautions when working in these areas.

The Contractor shall not allow any wastewater to discharge from sewage collection systems onto adjacent lands or waters. In case of accidental discharge, the Contractor shall be responsible for containment, immediate cleanup and disposal at his own expense to the full satisfaction of the Engineer. Where containment is not possible, adequate disinfection shall be provided by the Contractor at his expense as directed by the Engineer or agency with jurisdiction. If, in the opinion of the Engineer, the Contractor fails to adequately follow the above guidelines, he will make arrangements to have the work done by others, and have the cost charged to the Contractor.

2.09 Public Notification of Work

The Contractor shall notify property owners and/or 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.

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 traffic control / detour 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, traffic delineation, and traffic detour shall conform to the provisions of Section 6-10 of the Standard Specifications.

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 Contractor shall submit separate traffic control plans for each bore and jack/tunnel pipe installation operation for review and approval. The traffic control plan shall also include name and business address of Contractor and a statement that the Contractor will comply with City's noise ordinance.

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 follow the City ordinance Chapter 12.20, and perform the following requirements 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 plate and temporary surfacing plans shall be submitted to the Engineer for review and approval prior to using trench plates for more than three (3) calendar days in one location and temporary surfacing for more than five (5) calendar days in one location.
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. Access to buildings and existing parking areas 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. Contractor shall coordinate with the parking garage at the southwest corner of 7th and L Street to provide access to the parking garage, as their sole entrance to and exit from the parking garage is located along 7th Street just south of L Street.
6. Provide for pedestrian traffic at all times except where closures are approved in advance by the Engineer.
7. Operation of Sacramento Regional Transit's light rail system shall operate at all times during construction unless arrangements have been previously made.
8. Weekend and night work, as approved, shall be performed in accordance with Section 7-4 of the Standard Specifications and shall comply with the noise ordinance in Chapter 8.68 of the Sacramento City Code.
9. Contractor is notified that planned & scheduled events in downtown Sacramento may conflict with planned construction work, including weekend and night work. Construction work shall be halted until the event has completed. Contractor is hereby notified that any costs incurred by the Contractor for construction delays caused by downtown events shall be borne solely by the Contractor and will not be passed on to the City. The Contractor will not be charged working days during any days work is shut down by a conflicting special event.

The following is a list of scheduled events, known at the time of construction advertisement, near the proposed work that may or may not impact construction:

- “Thursday Capitol Mall Farmers Market”
Date/Time: Every Thurs. 10:00 a.m. to 2:00 p.m. beginning in June 2014
Location: Capitol Mall, 5th to 7th Street.
- “Shriner’s Capitol Concours d’Elegance Car Show”
Date/Time: Sat 8/23/2014 – 10:00 a.m. to 5:00 p.m.,
Location: Capitol Mall, 8th to 9th Street; 9th Street, N to L Street.
- “Run to Remember 5k”
Date/Time: Sun 9/7/2014 – 9:00 a.m. to 11:00 a.m.
Location: Capitol Mall, 3rd to 7th Street
- “Robot Run Live”
Date/Time: Sat. 9/20/2014 – Time TBD
Location: Capitol Mall (unknown extent)
- “2014 Sacramento Walk Now for Autism Speaks”
Date/Time: Sun. 9/21/2014 – 10:30 a.m. to 12:00 noon
Location: Capitol Mall, Tower Bridge to 8th Street
- “Farm-to-Fork Festival”
Date/Time: Sat. 9/27/2014 – 11:00 a.m. to 5:00 p.m.
Location: Capitol Mall, 3rd to 7th Street
- “Sacramento Out of the Darkness Community Walk”
Date/Time: Sat. 10/4/2014 – 8:30 a.m. to 12:00 noon
Location: Capitol Mall (unknown extent)
- “Century Ride”
Date/Time: Sat. 10/25/2014 – Time TBD
Location: Capitol Mall (unknown extent)
- “Run Because You Can, Runnin’ for Rhett”
Date/Time: Sun. 11/2/2014 – 6:30 a.m. to 12:00 noon
Location: Crocker Park, Capitol Mall (unknown extent)

10. For work in 7th Street, P to L Street:

- 7th Street P to L Street, excluding the right-of-way occupied by all cross streets, may be closed to traffic one city block at a time during approved work hours. At least one (1) lane of traffic in each direction shall be maintained at all times in the cross streets P, O, N, Capitol Mall. Two (2) lanes of traffic shall be maintained in L Street, and two (2) lanes of traffic on all remaining portions of 7th Street outside the one block closure. A minimum of five (5) working days notice shall be given to property owners in advance of closure. Access to properties affected by street closure shall be determined five days prior to beginning of closure.
- Working hours in 7th Street, including work within the 1 block closure zone, shall be weekdays 7:00 a.m. to 4:00 p.m. Night work will not be allowed between P and N Street. If approved by the City, night work hours shall be

from 7:00 p.m. to 7:00 a.m.

11. For work in 7th Street, L to K Street:
 - Full closure of 7th Street from L to K Street will be allowed. (RT light rail operations shall not be impeded.)
 - Work is shall be continuous (or two 10 hour shifts). Contractor shall maintain 2 lanes of traffic in L Street through the 7th Street intersection during weekdays and weekends, and maintain a minimum of 1 lane night (7 p.m. to 7 a.m.).
 - Work shall begin on a Friday and continue until completion.
12. For work in L Street:
 - Working hours in L Street shall be from 7:00 p.m. to 3:00 p.m. the next day on weekdays and weekends. In other words, work shall be continuous except in the late afternoon from 3:00 p.m. to 7:00 p.m.
 - During working hours, Contractor shall maintain one lane along the south side of L Street at all times. When work is stopped from 3:00 p.m. to 7:00 p.m. an additional lane along the north side of L Street shall be maintained to provide two lanes of through traffic.
 - Intersection work at 7th and L Street and 9th and L Street shall be performed on weekends. Weekend work hours shall begin Friday at 7:00 p.m. and end Monday at 6:00 a.m.
13. 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.
14. At times when work is not in progress, the entire roadway shall be open to the public for pedestrian and vehicular traffic, except for approved jacking and receiving pits during the bore & jack operation. All jacking and receiving pits as shown on the plans do not need to be opened to traffic except for the receiving pit in the 7th & L Street intersection. This pit shall be plated to maintain two lanes of traffic on 7th Street through the 7th/L Street intersection during the L Street jack and bore work to cross under the 7th Street light rail tracks. The 7th & L Street intersection receiving pit may be uncovered during weekend and night work. For the 7th Street bore & jack work, both jacking and receiving pits may remain open/uncovered until the bore and jack work is complete. All pits shall be protected with K-rail, fencing, and other devices necessary to safeguard the general public and the work when they are open and uncovered.

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, 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;
Anticipated duration of street closure.

2.11 Removal of Street Parking

In locations where the Contractor's operations require removal of on-street parking, such removal shall be in accordance with Section 6-18 of the Standard Specifications. Failure to comply with this section will prevent the City from towing vehicles parked in the proposed work area.

Contractor shall submit an application to reserve/remove on-street parking at least ten (10) working days prior to closure. Prior submitting an application, contact the City on-street parking division to estimate parking closure fees. See the following website link for further details:

<http://portal.cityofsacramento.org/Public-Works/Parking-Services/Meters/Reservations>.

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.

END OF SECTION

SECTION 3 – GENERAL SEWER CONSTRUCTION REQUIREMENTS

3.01 Trench Excavation and Backfill

Trench excavation and backfill in all streets shall meet the applicable requirements of Sections 10, 14 and 26, and Standard Detail T-80 of the Standard Specifications and these Special Provisions. If specified in these Special Provisions, pipe shall be backfilled using Controlled Density Fill (CDF), in accordance with Section 10-16 of the Standard Specifications, and as directed by the Engineer. Slurry cement backfill will not be allowed.

When the Engineer approves shallow placement of drain inlet leads requiring protective measures, all work associated with protective measures shall be considered as extra and paid per Section 8 of the Standard Specifications.

3.02 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.

Contractor shall note that potholing and soil boring work found varying AC thickness (6" to 16") along 7th Street and L Street and a concrete layer ranging from 4-inches to 8-inches thick underneath the AC layer along L Street. Contractor shall assume L Street and 9th Street have an average AC thickness of 10" with an underlying concrete layer with an average thickness of 6" (including the L & 7th Street intersection). The Contractor shall assume 7th Street from P to L Street has an average AC thickness of 8", 7th street from L to K has an average AC thickness of 10", and the concrete intersection of 7th & K Street has an average concrete thickness of 10". The Contractor shall install a minimum pavement structural section of 6-inches of AC over 18-inches of AB for all asphalt roadway surface restoration. Concrete surface restoration at the K/7th Street intersection shall match existing thickness and repair shall extend to the nearest tooled construction joints.

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.

3.03 Temporary Paving

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

3.04 Flow Control

Flow Control is a method or set of methods used to adjust the flow in a sewer system to allow for replacement, placement, repair, inspection, and maintenance of the sewer system. This item is accomplished by either blocking or plugging the incoming pipelines to restrict flow and/or through the use of pumps to bypass flow around the work area until the work is complete.

Per Section 13 of the Standard Specifications, the Contractor shall furnish all materials, labor, equipment, power, maintenance, etc. to implement the necessary flow control system and control or divert the flow around and/or through the work area for the duration of the work. The design and installation of the necessary system(s), as well as the operation of a temporary bypass pumping system (if necessary) shall be the Contractor's responsibility.

The Contractor shall submit a flow control plan to the Engineer for approval a minimum of ten (10) working days prior to controlling flows and shall not begin work until an approved plan is on file with the Engineer. As a minimum, the flow control plan shall include the following:

- a. Detailed procedures for handling peak estimated flows
- b. Schedule for controlling flow at different stages of the construction
- c. Operation plan
- d. Emergency procedures
- e. Drawing of plug(s), bypass pump and discharge pipeline locations (if necessary)
- f. Bypass pump sizes, capacities, number of each size to be on site, and power equipment (if necessary)
- g. Bypass pipeline sizes and material types (if necessary)
- h. Bypass pipeline locations and/or road crossing details (if necessary).

The dry weather flows (DWF's) presented in the table below were estimated from the City's hydraulic model of the existing combined sewer system and should be considered an estimate. It is possible that minimum and peak DWF's at the time of construction could vary from those presented in the table. For estimating, sizing and planning purposes, the bidder should assume that the DWF's could vary ± 15 percent. A map of the combined sewer collection system for the project area is in Appendix A to further aid the bidder in his flow control system design.

Pipe Size	MH No.	Location	Min. DWF	Peak DWF	Data Source
48"	419CC14	7 th & J/K Alley	0.144 cfs	0.368 cfs	InfoWorks Model
30"	418DD14	7 th & O/P Alley	0.198 cfs	0.526 cfs	InfoWorks Model
24"	812CC14	9 th & L Street	0.026 cfs	0.173 cfs	InfoWorks Model

Plugging or Blocking

If the contractor elects to temporarily plug or block the existing combined sewer system pipes, the following conditions presented herein shall be included in the flow control plan and implemented during construction. Adverse surcharging must be avoided.

- a. Temporary plugs shall be so designed that all or any portion of the flow can be released.
- b. The contractor shall monitor the water level in the impounded system no less than every 15 minutes for the first hour, and every hour thereafter. Observations shall be documented. Immediate action shall be taken to avoid surcharging onto City streets.
- c. Temporary plugs shall be removed and the flow restored to normal at the end of each working day. If downstream work is not or cannot be completed during the workday, then the Contractor shall provide, operate and maintain a bypass pumping system per these Special Provisions on a 24 hour basis. Flow shall be restored by removing the plugs in an order that permits flow to slowly return to normal without surcharging or causing other disturbances downstream.
- d. Temporary plugs for pipe diameters 24-inches and smaller shall be mechanical plugs with rubber gaskets or pneumatic plugs with rubber boots. The Contractor shall provide details for temporary plugs to be placed in pipes larger than 24-inches in diameter for approval by the Engineer.
- e. All temporary plugs shall be removed if rainfall is forecasted for Sacramento as likely (over 40% probability) within 24 hours by the National Weather Service or if otherwise directed by the DOU.

Pumping and Bypassing

If the contractor elects to pump and bypass flows or if temporary plugging is not feasible because downstream work is not or cannot be completed during the workday, then the Contractor shall provide, operate and maintain a bypass pumping system provided the conditions presented herein are included in the flow control plan and implemented during construction.

- a. The contractor shall obtain approval and secure all permits for placement of temporary bypass pumping system and pipeline within public right-of-way.
- b. The Contractor shall be responsible for furnishing the necessary equipment, power, labor, and supervision to set up and operate the pumping and bypassing system in order to maintain existing flows and services. All equipment shall be operated in a manner to keep the pump noise to a minimum and in accordance with the City noise ordinance. Electric pumps or diesel silent pack pumps shall be used. No other type of pump will be acceptable without prior approval of the Project Engineer.

- c. Pumped sewage or combined sewage shall be in an enclosed pipe that is adequately protected from traffic, and shall be redirected into the combined sewer system or alternatively into an enclosed tank for hauling to the regional wastewater treatment plant. Dumping or free flow of sewage on private or public property, gutters, streets, sidewalks, or into storm sewers is prohibited.
- d. Bypass pumps shall be fully automatic, self-priming units that do not require use of foot valves or vacuum pumps in priming system. Pumps shall be of open impeller design with ability to pump minimum 3-inch diameter solids. Pumps shall be able to run dry for long periods of time to accommodate the cyclical nature of flows. A standby pump, one of each size, shall be available on site.
- e. The Contractor shall provide the necessary stop/start controls for each pump.
- f. The Contractor shall include one stand-by pump for each size to be maintained on site. Back-up pumps shall be on-line and isolated from the primary system by a valve.
- g. In order to prevent the accidental spillage of flows, all discharge systems shall be temporarily constructed of a secure, tight, leak free discharge pipe. Aluminum "irrigation" type piping or glued PVC pipe will not be allowed.
- h. The Contractor shall be responsible for continuity of the sewer service to each facility connected to the section of sewer main during the execution of the work, and shall also bypass the main sewer flow around the pipe to be replaced, or into adjacent sewers
- i. The pumps and the bypass lines shall be of adequate capacity and size to handle all flows without backup to private property.
- j. The Contractor shall perform leakage tests of the bypass pumping discharge piping using clean water prior to operation.
- k. The Contractor shall inspect the bypass pumping system no less than once every 2 hours to ensure that the system is working correctly. The Contractor shall ensure that the temporary pumping system is properly maintained and a responsible operator shall be on hand at all times when the pumps are operating.
- l. Before the bypass pumping system is dismantled, either to be moved to the next location or at the completion of the work, discharge sewage remaining in the bypass discharge pipeline and pumping equipment into the working combined sewer.
- m. Upon completion of the bypass pumping operation, disturbed areas shall be cleaned and restored to a condition which is at least equal to or better than the condition which existed prior to the start of work.

- n. All temporary plugs and the bypass pumping system shall be removed if rainfall is forecasted for Sacramento as likely (over 40% probability) within 24 hours by the National Weather Service or if otherwise directed by the DOU.

Precaution and Performance Requirements

Whenever flows in a sewer line are blocked, plugged or bypassed, sufficient precautions shall be taken to protect the combined sewer lines from damage that might be inflicted by excessive sewer surcharging. Further precautions shall be taken to ensure that flow control operations do not cause flooding or damage to public or private property being served by the combined sewers involved. The Contractor shall be responsible for damages to private or public property that may result from the flow control operations. The Contractor shall be responsible for any violations of laws, regulations or permits and shall indemnify and hold the City harmless from any and all damages, including but not limited to fines, penalties and law suits which arise from such violations.

It is essential that the combined sewer service have no interruption through the duration of the work. If the storage capacity of the upstream combined sewer main(s) is not adequate to store the flow during the duration of the work or if the sewer main is to be shut down for a period greater than 10 hours, then the Contractor shall provide adequate bypass pumping so that there is no interruption in the flow through the duration of the work. Therefore, the Contractor shall provide, maintain and operate all temporary facilities such as dams, plugs, pumping equipment (both primary and back-up units) as necessary to intercept the flow before it impacts the work area, carry it past the work area and return it to the existing combined sewer system downstream of the work.

Discharge of sewage onto private or public property, gutters, streets, sidewalks or storm drains shall not be permitted.

3.05 Closed Circuit Television Inspection of Installed Pipes

All newly-constructed pipes shall be inspected by the Contractor utilizing a remote closed circuit in-line television (CCTV) camera. The CCTV inspections shall be conducted after all utilities have been installed and backfill compaction has been completed, but prior to final paving.

Contractor shall also clean pipe as necessary to remove standing water and to remove solids, debris, grease or grit from the entire circumference of the pipe between manholes or access points within the project limits.

The Contractor shall notify the Engineer two (2) working days in advance of the anticipated date of the CCTV inspection so that the Engineer may observe the flow control, cleaning and CCTV inspection operations. It shall be the Contractor's responsibility to coordinate the CCTV inspection with the Engineer.

Perform all CCTV inspection in accordance with NASSCO's Pipeline Assessment Certification Program (PACP). All construction features, observations, and defects shall be identified, coded and scored per PACP guidelines and documented on the inspection video and report. CCTV inspections shall be conducted entirely in digital format and shall be recorded in MPG or AVI format written to DVD or flash drive 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 the CCTV video, PACP CCTV Reports, and the unmodified PACP database. The database shall contain PACP scoring for each inspection observation and defect and shall be compatible with the City's current version of 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 or flash drive 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.

Work not following these Special Provisions may be rejected for payment and the Contractor may be required to re-do the work

3.06 Closed Circuit Television Inspection of CIPP Lined Pipes

An internal CCTV inspection shall be performed by the Contractor after the sewer cleaning operation and 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 or flash drive) 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 disk 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 or flash drive 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 or flash drive, 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 or flash drive 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 disk 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 disk 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 disk. Each individual pipeline video segment shall be identifiable on the disk and data file.

Payment for cleaning and pre- and post-lining CCTV Inspection of CIPP lined pipes shall be as included in the CIPP Liner to Install bid item of the Proposal.

3.07 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, 916-768-8604, or 916-808-6368) 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.

3.08 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.

3.09 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 Mobilization

Mobilization shall consist of preparatory work and operations, including, but not limited to, those necessary for the movement of personnel, equipment, supplies, and incidentals to the project site; and for all other work and operations which must be performed or costs incurred prior to beginning work on the various contract items on the project site. The compensation for mobilization shall not exceed 10 percent of the total amount of all remaining bid items.

Payment for mobilization shall be on a lump sum basis and shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals, and for performing all work necessary to complete this item.

Item No. 2 Preconstruction Photographs

This item shall conform to Section 11 of the Standard Specifications.

Payment for preconstruction photographs shall be at the contract lump sum price bid and shall include full compensation for furnishing all labor, materials, tools and equipment, and for performing all work necessary to complete this item.

Item No. 3 Utility to Pothole

Prior to construction, the Contractor shall contact Underground Service Alert (U.S.A.) to field locate and mark at the surface, existing utilities within the project area. Prior to onsite construction, the Contractor shall pothole utilities as shown on the plans, at each proposed jacking and receiving pit, and at locations mutually agreed upon by the Contractor and Engineer that may be in conflict with or may be disturbed by the proposed work. The Contractor shall propose additional potholing locations to the City for review. Existing potholed utility information shown on the plans shall be assumed to provide accurate information of the potholed utility at that location only. The City makes no guarantee that the potholed underground utility remains at the same alignment and depth away from the pothole location.

A representative from the City shall be onsite during the pothole operations. The Contractor shall submit pothole information to the Engineer a minimum of 10 days prior to beginning construction.

The following information shall be collected for each pothole: 1) brief description of location, stationing, and alignment (e.g. parallel or perpendicular to pipeline) 2) asphalt thickness, 3) size and type of utility, and 4) depth of utility infrastructure measured from finished grade to the top of utility. Where duct banks or concrete encased utilities are encountered, the top and bottom depths from finished grade shall be collected and included with the above information.

Surface restoration within proposed trench width shall be temporary paving per these Special Provisions and City Standard Specifications. If pothole excavation falls outside of proposed

pipeline trench width, permanent paving shall be performed per the Pavement Cutting and Surface Restoration section of these Special Provisions.

The estimated quantity of potholes shown on the plans is for bidding purposes only and the exact quantity performed in the field may vary. There shall be no deviation in the unit price for any change between the bid quantity and final quantity performed in the field.

Payment shall be at the unit price bid for each pothole completed and shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals and for performing all work necessary to complete this item in place including pavement cutting and removal, excavation, backfilling, and repaving or other surface restoration.

Item No. 4 Existing Sewer Pipe to Remove, 72-inch Pipe to Place

Item No. 5 60-inch Sewer Pipe to Construct

Item No. 6 48-inch Sewer Pipe to Construct

Item No. 7 72-inch 12.5-Degree Bend to Construct

Item No. 8 60-inch 90-Degree Bend to Construct

Where shown on the Plans and as directed by the Engineer, all combined sewer pipe and fittings shall be provided, handled, installed, and backfilled in accordance with the Plans, pipe manufacturers recommendations, and shall as a minimum, conform to Sections 10 and 26 of the Standard Specifications. Information regarding pipe material and pipe installation shall be submitted for approval in accordance with these Special Provisions. Only Glass-Fiber-Reinforced Thermosetting-Resin (GFRTR), CPHDPE, and/or RCP combined sewer pipe will be accepted for use on this project. Pipe diameters shall be nominal inside diameter (ID) unless otherwise specified in these Special Provisions.

Only one type of pipe shall be used between manholes. The existing stub shown on the plans at Sta. 1+47 on 7th Street near P Street is a 72-inch nominal outside diameter (OD) class 36 USCPS Flowtite™ fiberglass pipe. Therefore, the new 72-inch pipe between Sta 1+47 and the proposed manhole at Sta. 2+69.73 shall match inside diameters and shall be a 72-inch nominal OD Class 36 fiberglass pipe, per ASTM D3262, meeting the criteria presented herein for GFRTR combined sewer pipe. At the connection to the existing 72-inch pipe, Contractor shall construct a reinforced concrete collar per City Standard Specifications Detail S-320 if the proposed pipe is not from the same manufacturer as the existing pipe and shall include this work in this bid item. Any of the approved combined sewer pipe materials may be used upstream of the manhole at Sta 2+69.73.

Prior to the start of work, the contractor shall provide a detailed pipe installation plan showing pipe types and locations to the Engineer. Any deviation in the plan thereafter shall not be allowed unless approved in advance by the Engineer.

Removal and disposal of the existing concrete closure collar (Sta. 2+89), internal bulkhead (Sta. 2+69.73), and 24-inch PVC main between the closure collar and bulkhead, shall be included in the cost of this item.

Sewer pipe connections to manholes shall be included in this item unless otherwise indicated in these Special Provisions. In addition, Contractor shall connect existing live sewer services to the new combined sewer main in accordance with these Special Provisions and include this work in the cost of this item.

Existing pipe shall be removed at such places as shown on the Plans or as designated by the Engineer in accordance with Section 13 of the Standard Specifications and these Special Provisions. All removed pipes or portions thereof shall be disposed of by the Contractor. Payment for removal and disposal of existing pipe shall be included in these items.

Unless otherwise approved, all pipes shall have bell and spigot joints with elastomeric gaskets providing a water tight seal. Tests for leakage may be required at specified joints per Section 26-10 of the Standard Specifications, per ASTM designations as assigned by the manufacturer (ASTM C1103, etc.), or as determined by the Engineer. Performance of leakage testing shall be at the Contractors expense.

Where shown on the Plans, combined sewer pipe shall conform to the following specifications:

Glass-Fiber-Reinforced Thermosetting-Resin Pipe (GFRTR)

GFRTR pipe shall conform to Sections 10, 14 and 26 of the Standard Specifications and meet the requirements of ASTM D3262 Class 36. Pipe diameters specified for all pipe shall be nominal inside diameter (ID) pipe per ASTM D3262 except the most downstream pipe segment from approximate Sta. 1+47 to 2+69.73 which shall be nominal outside diameter (OD) pipe to match the existing downstream pipe. Pipe shall be field connected with fiberglass sleeve couplings that utilize elastomeric sealing gaskets made of EDPM rubber compound conforming to the requirements of ASTM D4161.

For all GFRTR pipe and fittings, the minimum pipe stiffness at 3% deflection from the base I.D. shall be 36 PSI according to ASTM test D2412. A maximum deflection of 5% from the base I.D. will be allowed within 96 hours after placement of the backfill. A maximum deflection of 5% from the base I.D. will be allowed within 6 months after placement of the backfill. Deflection testing shall be performed on all flexible pipe and fittings per Section 26-10-5 of the Standard Specifications.

Closed Profile High Density Polyethylene (CPHDPE)

CPHDPE pipe shall meet the requirements of ASTM F894 for closed profile pipe. The pipe shall have a minimum ring stiffness constant (RSC) of 160 as defined by ASTM F894. As a minimum, the interior of the pipe shall be a light color, such as white, grey or green, and approved by the Engineer. The exterior of the pipe may also be a light color provided the pipe is protected from UV light during shipping and storage.

Joints between pipes and fittings shall be prepared and assembled in the field by the pipe manufacturer's recommended 'joining technicians' using appropriate extrusion welding procedures. Each individual performing welding shall be acknowledged by the manufacturer as having the necessary skills to undertake the work.

For all CPHDPE pipe and fittings, the minimum ring stiffness constant at 3% deflection from the base I.D. shall be at least 144 lb./ft. when tested in accordance with ASTM F894. A maximum deflection of 5% from the base I.D. will be allowed within 96 hours after placement of the backfill. A maximum deflection of 7½% from the base I.D. will be allowed within 6 months after placement of the backfill. Deflection testing shall be performed on all flexible pipe and fittings per Section 26-10-5 of the Standard Specifications.

Reinforced Concrete Pipe (RCP)

Reinforced concrete pipe and fittings shall be constructed and conform to the applicable provisions of Sections 10, 14 and 26 of the Standard Specifications, ASTM C76, and ASTM C443 as modified herein.

Joints shall be rubber double-gasket joints conforming to ASTM C443 using a bell and spigot joint.

Strength requirements for RCP in these special provisions are indicated by the D-loads shown on the drawings that will produce a 0.01-inch crack. Pipe shall be designed in accordance with the design provisions contained in ASTM C655. Regardless of the basis of design, three representative samples of not less than 5 feet in length of each size and design of pipe shall be load tested prior to production to verify design strength. The Contractor shall notify the Engineer at least 48 hours prior to the load tests.

Cement shall be ASTM C150, type II.

Aggregates shall be calcareous, resulting in a concrete mix yielding a finished product with an alkalinity equivalent (as CaCO_3) of at least 80 percent when tested in accordance with procedure described herein.

All pipe testing and in-plant inspection shall be performed prior to delivery of the site of the work. Testing shall include but shall not necessarily be limited to taking and testing of concrete cylinders, pipe cores, and material specifications. All testing shall be done by the Contractor. Payment for testing shall be included in the unit price bid per lineal foot for each size of combined sewer pipe.

In-plant inspection will be conducted by the Engineer to determine conformance with these specifications. Special attention will be given to the placement of reinforcement, manufacturing procedure, and curing. The inspection by the Engineer will complement testing and quality control procedures necessary to produce the specified product. The Contractor shall notify the Engineer 48 hours in advance of all required testing.

The following tests shall be the basis of pipe acceptance:

Item	Material	Test	Number of Tests	Test Method (Standard)
1	Concrete	Compression	Minimum of 5 cylinders per day's production.	ASTM C 76 and ASTM C 497
2	Concrete	Calcium Carbonate Equivalent	Minimum of 1 sample per day's production. (Two tests per sample.)	See following specification for details.
3	Pipe	D-Load test to design strength	One randomly selected sample of not less than 5 feet in length of each size and design of pipe per week or lot.	ASTM C497

4	Pipe	Absorption	Minimum of 1 per week's production.	Paragraph 11.9 of ASTM C 76, except absorption shall be <input type="checkbox"/> 6%.
5	Pipe	Steel Placement	Minimum of 1 per week or lot.	ASTM C42

Titration tests shall be conducted on representative samples of the calcareous aggregate concrete to determine if it complies with the minimum requirements for total alkalinity of 80 percent, expressed as CaCO₃.

The test specimen of concrete shall be analyzed 7 or more days after the concrete was poured. The concrete cylinder broken to establish the 7-day compressive strength of the concrete may be used for this purpose. The date of pouring as well as the date of testing shall be recorded. A representative sample weighing at least one kilogram shall be crushed until 100 percent will pass a No. 4 screen. The sample shall be quartered, and then divided in half, to obtain approximately 125 grams. This sample shall then be dried in an oven for four hours at a temperature of between 100 and 110 degrees Centigrade. After drying, the sample shall be ground so that it will all pass a 100 mesh screen.

Weigh one gram of the sample and place into a 500 milliliter Erlenmeyer flask, and add 100 milliliters of water. Place a funnel in the neck of the flask to minimize spray losses, and slowly add 40 milliliters of water, and titrate with standardized, carbonate-free NaOH solution.

The end point pH should be between 6.8 and 7.8. If the pH is first brought up to 7.8, it will sink to a lower value because of hydrolysis reactions with the mixture. More NaOH must be added until the pH stays above 6.8 for two minutes, but not above 7.8.

Calculate the net acid consumption in milliequivalents per gram as follows:

$$\text{m.e./g.} = \frac{(\text{N of HCL} \times \text{ml of HCL}) - (\text{N of NaOH} \times \text{ml of NaOH})}{\text{weight of the sample in grams}}$$

The percent calcium carbonate equivalent is five x milliequivalents per gram.

Two tests shall be run on each sample received, using the same ground and dried specimen for the source of material for each test. The results of each individual test shall be reported, but the final result of the sample of concrete shall be the average of the two tests.

The nominal requirements for calcium carbonate equivalent shall be 80 percent. The concrete will be considered acceptable if the average calcium carbonate equivalent for any period covering five successive determinations (10 tests) is equal to or greater than 80 percent and if no individual determination is less than 77 percent. Once five determinations have been run, the average for successive determinations shall be a running average, obtained by adding each new determination while dropping the oldest. If the five determination average at any time falls below 80 percent, the produced pipe shall be unacceptable on each day that the determination was below 80 percent but will be subject to acceptance by retesting. Similarly, if any single determination falls below 77 per cent, regardless of the five determination average, the pipe produced on that day shall be unacceptable, subject to acceptance by retesting. The individual acceptance rules must be independently fulfilled. Rejection of pipe for any reason does not eliminate it from its proper inclusion in calculating each five determination average.

When any lot of pipe is declared unacceptable, the Contractor may cull the pipe, eliminating those sections he desires not to include as part of the contract, suitably labeling them so that they will not be shipped to the job. Of the remainder, the Engineer shall select three representative sections from the pipe produced each day. The Contractor shall core drill a hole approximately 2 inches in diameter through the interior wall to the depth of reinforcing of each selected section. These cores shall be crushed and tested for their calcium carbonate equivalent as hereinbefore specified. If the determinations on the three cores representing one day's production average 80 percent or higher, the pipe poured on that day will be considered acceptable in respect to calcium carbonate.

Payment shall be at the unit price bid per lineal foot of proposed combined sewer main installed and shall include full compensation for furnishing all labor, materials, tools, equipment and incidentals and for doing all work necessary to complete this item in place including pavement cutting and removal; trenching; shoring; furnishing and placing pipe; backfilling; removing existing pipe, concrete closure collar, & bulkhead; connecting sewer pipe to manholes; removing inside drop connections; flow control, dewatering, testing, tree preservation, and repaving or other surface restoration.

Item No. 9 48-inch CS Pipe to Bore & Jack

Item No. 10 60-inch CS Pipe to Bore & Jack

Where shown on the Plans and as directed by the Engineer, Contractor shall bore and jack a 48-inch and 60-inch diameter combined sewer (CS) jacking pipe. Bore and jack pipe installation shall be single-pass, direct jacking installation. Bore and Jack work underneath and alongside the Regional Transit (RT) light rail tracks shall be coordinated with RT and will require an RT track warrant. All combined sewer pipe and fittings shall be provided, handled, installed, and backfilled in accordance with the Plans, pipe manufacturers recommendations, and shall as a minimum, conform to Sections 10, 26, and 37 of the Standard Specifications. The maximum direct jacking length of 100' as stated in Section 37 of the City Standard Specifications does not apply to this project. Information regarding pipe material and pipe installation shall be submitted for approval in accordance with these Special Provisions. Only Glass-Fiber-Reinforced Thermosetting-Resin (GFRTR) and/or RCP combined sewer pipe will be accepted for bore and jack installation on this project.

This item covers boring and jacking the CS pipe at the locations indicated on the Plans to the lines, grades and details given. The Contractor is encouraged to evaluate the proposed bore & jack installation plan and pit locations. If desired, Contractor shall propose a revised installation plan to the Engineer for review and approval. Installation of pipe shall also meet the applicable requirements of the construction Safety Orders of the State of California Department of Industrial Relations and Division of Occupational Safety and Health.

Pipe shall be installed by dry boring and jacking or tunneling, as dictated by existing soil conditions. Some boring may require water to lubricate cutter and pipe, and under such conditions, is considered dry boring. Only workers experienced in tunneling or boring and jacking operations shall be used in performing the work.

CONTRACTOR QUALIFICATIONS

The contractor performing the bore and jack work must demonstrate previous successful experience in installation of similar size (≥ 42 " diameter gravity pipeline) and length (≥ 350

LF) of single-pass direct pipe jacking work. **Qualifications shall be submitted with the Contractors bid package.**

Prior to proceeding with the work, Contractor shall submit to the Engineer for review and approval, a written description of the materials, equipment, method, and sequence of operations proposed to be used to furnish and install the direct jack pipe, including the pipe grades.

Contractor shall also provide detail drawings and structural calculations to the Engineer indicating the materials and methods to be used to shore the excavated jacking and receiving pits signed by a civil or structural engineer licensed by the State of California. Approval of the proposed method by the Engineer shall not relieve Contractor of the full responsibility of making a satisfactory installation meeting the criteria set forth herein and on the plans.

Excavation for the boring operation shall be the minimum necessary to satisfactorily complete the work. Contractor shall use extreme care in shoring the jacking and receiving pits so as to insure the stability of adjacent improvements and structures and to protect workmen. Payment for constructing jacking and receiving pits shall be paid under separate bid item.

Pipe material shall be either GFRTR Pipe or RCP. Joints for the pipe shall provide for a watertight installation. The Contractor shall be fully responsible for any or all damage arising from subsidence or any other disturbance due to any boring and jacking operation.

A. Glass-Fiber-Reinforced Thermosetting-Resin Pipe (GFRTR)

GFRTR pipe shall conform to Sections 10, 14, 26, and 37 of the Standard Specifications and meet the requirements of ASTM D3262. Pipe diameters specified shall be nominal inside diameter (ID) pipe. The pipe shall be designed to handle the jacking loads and the Contractor shall control jacking loads within the safe limits for the pipe. Minimum wall thickness, measured at the bottom of the spigot gasket groove at the thinnest wall cross-section shall be determined by the Contractor consistent with his operation and the maximum jacking load. Pipe joints shall be flush bell-spigot joints that utilize elastomeric sealing gaskets, designed to handle jacking forces and conforming to the requirements of ASTM D4161. It shall be the Contractor's responsibility to provide stress transfer across the joints which is capable of resisting the jacking forces involved.

GFRTR PIPE MANUFACTURER'S QUALIFICATIONS

The manufacturer of jacking pipe shall have a minimum of 5 years' experience in the manufacturing of large diameter jacking pipe and shall have provided 48-inch or larger jacking pipe on at least 3 projects in the last seven years. Submit list of projects for which jacking pipe, 48-inch diameter or larger, was manufactured within the last 7 years and include references (owner, engineer, contractor) with contact information.

For all GFRTR pipe and fittings, the minimum pipe stiffness when tested in accordance with ASTM D2412 shall normally be 140 psi. A maximum deflection of 3% from the base I.D. will be allowed within 96 hours after placement of the backfill. A maximum deflection of 3% from the base I.D. will be allowed within 6 months after placement of the backfill. Deflection testing shall be performed on all flexible pipe and fittings per Section 26-10-5 of the Standard Specifications.

B. Reinforced Concrete Pipe (RCP)

Reinforced concrete pipe shall conform to the applicable provisions of Sections 10, 14, 26, and 37 of the Standard Specifications, ASTM C76, and ASTM C443 as modified herein. The design of such pipe is based upon superimposed loads and not upon the load which may be placed upon the pipe as a result of jacking operations. Any increase in pipe strength in order to withstand jacking loads shall be the responsibility of the Contractor.

Reinforced concrete pipe to be bored and jacked directly shall be RCP Class V flush bell pipe with double-rubber gasket joints, or with fiberglass reinforced epoxy collar, or approved equal type for installation of combined drainage/sewer facilities. The pipe must be designed to safely bear all loads imposed by jacking in addition to the design D-loads.

All reinforced steel for jacking pipe shall be double circular cages, with additional longitudinal bars for each cage. A cushion material of plywood or hardwood spacers shall be placed in the joints between adjacent pipe sections being jacked in order to distribute the jacking load uniformly throughout the entire pipe length and avoid radial gasket pressures which may overstress the pipe sockets or grooves.

Strength requirements for RCP in these special provisions are indicated by the D-loads shown on the drawings that will produce a 0.01-inch crack. Pipe shall be designed in accordance with the design provisions contained in ASTM C655. Regardless of the basis of design, three representative samples of not less than 5 feet in length of each size and design of pipe shall be load tested prior to production to verify design strength. The Contractor shall notify the Engineer at least 48 hours prior to the load tests.

Cement shall be ASTM C150, type II.

Aggregates shall be calcareous, resulting in a concrete mix yielding a finished product with an alkalinity equivalent (as CaCO₃) of at least 80 percent when tested in accordance with procedure described herein.

All pipe testing and in-plant inspection shall be performed prior to delivery of the site of the work. Testing shall include but shall not necessarily be limited to taking and testing of concrete cylinders, pipe cores, and material specifications. All testing shall be done by the Contractor. Payment for testing shall be included in the unit price bid per lineal foot for each size of combined sewer pipe.

In-plant inspection will be conducted by the Engineer to determine conformance with these specifications. Special attention will be given to the placement of reinforcement, manufacturing procedure, and curing. The inspection by the Engineer will complement testing and quality control procedures necessary to produce the specified product. The Contractor shall notify the Engineer 48 hours in advance of all required testing.

The following tests shall be the basis of pipe acceptance:

Item	Material	Test	Number of Tests	Test Method (Standard)
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1	Concrete	Compression	Minimum of 5 cylinders per day's production.	ASTM C 76 and ASTM C 497
2	Concrete	Calcium Carbonate Equivalent	Minimum of 1 sample per day's production. (Two tests per sample.)	See following specification for details.
3	Pipe	D-Load test to design strength	One randomly selected sample of not less than 5 feet in length of each size and design of pipe per week or lot.	ASTM C497
4	Pipe	Absorption	Minimum of 1 per week's production.	Paragraph 11.9 of ASTM C 76, except absorption shall be \leq 6%.
5	Pipe	Steel Placement	Minimum of 1 per week or lot.	ASTM C42

Titration tests shall be conducted on representative samples of the calcareous aggregate concrete to determine if it complies with the minimum requirements for total alkalinity of 80 percent, expressed as CaCO₃.

The test specimen of concrete shall be analyzed 7 or more days after the concrete was poured. The concrete cylinder broken to establish the 7-day compressive strength of the concrete may be used for this purpose. The date of pouring as well as the date of testing shall be recorded. A representative sample weighing at least one kilogram shall be crushed until 100 percent will pass a No. 4 screen. The sample shall be quartered, and then divided in half, to obtain approximately 125 grams. This sample shall then be dried in an oven for four hours at a temperature of between 100 and 110 degrees Centigrade. After drying, the sample shall be ground so that it will all pass a 100 mesh screen.

Weigh one gram of the sample and place into a 500 milliliter Erlenmeyer flask, and add 100 milliliters of water. Place a funnel in the neck of the flask to minimize spray losses, and slowly add 40 milliliters of water, and titrate with standardized, carbonate-free NaOH solution.

The end point pH should be between 6.8 and 7.8. If the pH is first brought up to 7.8, it will sink to a lower value because of hydrolysis reactions with the mixture. More NaOH must be added until the pH stays above 6.8 for two minutes, but not above 7.8.

Calculate the net acid consumption in milliequivalents per gram as follows:

$$\text{m.e./g.} = \frac{(\text{N of HCL} \times \text{ml of HCL}) - (\text{N of NaOH} \times \text{ml of NaOH})}{\text{weight of the sample in grams}}$$

The percent calcium carbonate equivalent is five x milliequivalents per gram.

Two tests shall be run on each sample received, using the same ground and dried specimen for the source of material for each test. The results of each individual test shall be reported, but the final result of the sample of concrete shall be the average of the two tests.

The nominal requirements for calcium carbonate equivalent shall be 80 percent. The concrete will be considered acceptable if the average calcium carbonate equivalent for any period covering five successive determinations (10 tests) is equal to or greater than 80 percent and if

no individual determination is less than 77 percent. Once five determinations have been run, the average for successive determinations shall be a running average, obtained by adding each new determination while dropping the oldest. If the five determination average at any time falls below 80 percent, the produced pipe shall be unacceptable on each day that the determination was below 80 percent but will be subject to acceptance by retesting. Similarly, if any single determination falls below 77 per cent, regardless of the five determination average, the pipe produced on that day shall be unacceptable, subject to acceptance by retesting. The individual acceptance rules must be independently fulfilled. Rejection of pipe for any reason does not eliminate it from its proper inclusion in calculating each five determination average.

When any lot of pipe is declared unacceptable, the Contractor may cull the pipe, eliminating those sections he desires not to include as part of the contract, suitably labeling them so that they will not be shipped to the job. Of the remainder, the Engineer shall select three representative sections from the pipe produced each day. The Contractor shall core drill a hole approximately 2 inches in diameter through the interior wall to the depth of reinforcing of each selected section. These cores shall be crushed and tested for their calcium carbonate equivalent as hereinbefore specified. If the determinations on the three cores representing one day's production average 80 percent or higher, the pipe poured on that day will be considered acceptable in respect to calcium carbonate.

Installation of Pipe

The jacking pit shall be of sufficient size to provide ample working space for soil removal and room for the jacking head; jacks; jacking frame; reaction blocks and one or two sections of pipe. Guide rails shall be accurately set and anchored in the bottom of the pit so that the pipe, while being jacked, will be guided along the prescribed line and grade within the tolerances allowed. A jacking head shall be used to protect the end of the pipe and to maintain equal pressure around the circumference of the pipe.

The leading section of pipe shall be equipped with a jacking head securely anchored thereto to prevent any wobble or variation in alignment during the jacking operation. Deviation from design line and grade shall not exceed 0.2 foot for line and 0.10 foot for grade per 100 feet of pipe length.

The driving ends of the pipe shall be properly protected against spalling and other damage, and intermediate joints shall be similarly protected by the installation of sufficient gearing shims to properly distribute the jacking stresses. Any section of pipe showing signs of failure shall be removed and replaced with a new section of pipe which is adequate to carry the loads imposed upon it. Reinforced concrete pipe shall have double rubber gasket joints.

Bore and Jack operations shall be done simultaneously, with continuous installation (or as continuous as possible), until pipe is installed.

Excavation or tunneling for the subsequent accommodation of the pipe shall have a diameter of not more than 0.1 foot greater than the outside diameter of the respective pipe and shall be performed by dry bore methods. All excavated material shall be removed from the pipe as excavation progresses, and no accumulation of such material within the pipe will be permitted.

Contractor shall perform a preconstruction survey of the light rail tracks at each crossing (L Street bore and jack) and along the 7th Street tracks between L and K Street. Contractor shall

record horizontal coordinates and elevations. During the bore and jack pipe installation, the Contractor shall monitor movement of the existing light rail tracks on a daily basis and provide results to the Engineer. Contractor shall stop operations if movement exceeds ¼ inch and immediately notify the Engineer.

Upon completion of the jacking operation, the Contractor shall, at his expense, pressure grout all voids around the outside of the pipe.

Grouting equipment and material shall be on the work site before jacking operations and drilling of grout holes are completed in order that grouting around the jacked pipe may be started immediately after the jacking operations have finished. The increments for grout holes shall be eight (8) foot staggered and located 22-1/2 degrees from the vertical axis of the pipe. Pressure shall not exceed five (5) PSI for a duration sufficient to fill all voids.

Payment shall be at the unit price bid per lineal foot of proposed combined sewer main installed by boring and jacking and shall include full compensation for furnishing all labor, materials, tools, equipment and incidentals and for doing all work necessary to complete this item in place including furnishing and installing pipe, grouting, flow control, surface monitoring, testing, obtaining necessary permits, tree preservation, and surface restoration.

Item No. 11 Jacking Pit to Construct

Item No. 12 Receiving Pit to Construct

Where shown on the plans, jacking pits and receiving pits shall be constructed. Contractor is encouraged to evaluate the proposed bore and jack operation and modify the pit locations if desired. Any revision to the proposed bore and jack operation shall be submitted to the Engineer for review and approval. This item includes all work necessary to construct jacking and receiving pits prior to beginning the boring and jacking operation. This item also includes deconstructing the pits to allow for direct bury pipe installation.

Design of the jacking/receiving pits and required bearing loads to resist jacking forces is the responsibility of the Contractor. Contractor shall also provide detail drawings and structural calculations to the Engineer indicating the materials and methods to be used to shore the excavated jacking and receiving pits signed by a civil or structural engineer licensed by the State of California. Approval of the proposed method by the Engineer shall not relieve Contractor of the full responsibility of making a satisfactory installation meeting the criteria set forth herein and on the plans.

Excavation for the boring operation shall be the minimum necessary to satisfactorily complete the work. Contractor shall use extreme care in shoring the jacking and receiving pits so as to insure the stability of adjacent improvements and structures and to protect workmen. Contractor shall provide complete groundwater control for excavations at all times, inspect pit excavations daily to check safety and structural integrity of support system. Open excavations shall conform to all federal, state, and local requirements.

Contractor shall cut and remove existing combined sewer and storm drain pipelines that conflict with the jacking and receiving pits, bypass existing flows, and replace removed pipeline as necessary to complete the bore and jack work. Costs to cut, remove, bypass, and reinstall

combined sewer or storm drain pipe shall be paid as part of this item.

Contractor shall confirm the location of all known existing utilities prior to the start of jacking/receiving pit excavation, shall notify the Engineer no less than seven (7) working days before beginning pit excavation, and shall install barricades, fencing, gates, lights and signs as necessary around the pits and staging areas to provide for public safety. For pits constructed parallel to the Sacramento Regional Transit (RT) light rail tracks on 7th Street, a physical and visual barrier shall be installed a minimum distance of 6 feet from centerline of the tracks.

Pits along L Street shall be plated to allow for vehicular traffic while boring and jacking work is not in progress.

Payment shall be at the unit price bid per jacking pit or receiving pit constructed and shall include full compensation for furnishing all labor, materials, tools, equipment and incidentals and for doing all work necessary to complete this item in place including pavement cutting and removal, pit excavation, trenching, shoring, installing safety measures, backfilling, flow control, dewatering, testing, and repaving or other surface restoration.

Item No. 13 24-inch Transition CS Pipe to Construct

Where shown on the plans, Contractor shall construct a 24-inch diameter pipeline to transition between the existing 24-inch CS main in 9th Street and the proposed 60-inch CS pipe end at 9th and L Street. VCP or PVC combination sewer pipe and fittings shall be provided and placed in accordance with the Plans, manufacturer's recommendations, and as directed by the Engineer, and shall conform to Sections 10 and 26 of the Standard Specifications. Pipe material and installation information shall be submitted for approval in accordance with these Special Provisions.

Prior to completing construction of the 24-inch transition CS pipe, the Contractor shall coordinate with the Engineer to obtain survey data for the location and invert elevation of the upstream end of the 60-inch CS main and the downstream end of the existing 24-inch CS main.

Only one type of pipe shall be used between the existing 24-inch CS main and the proposed 60-inch CS pipe stub. Prior to the start of work, the Contractor shall submit a plan showing type of pipe and locations to the Engineer. Any deviation in the plan thereafter shall not be allowed unless approved in advance by the Engineer.

The Contractor shall re-connect any existing sewer services from the old 24-inch CS main to new 60-inch CS main in accordance with these Special Provisions and include this work in the cost of this item.

The Contractor shall construct a concrete collar at the connection to the existing 24-inch CS main and shall construct a cement slurry plug/bulkhead at the connection to the proposed 60-inch CS pipe stub. The concrete collar shall be constructed per standard drawing S-320 except that reinforcing steel is not required.

Existing pipe shall be removed at such places as shown on the Plans, as needed to facilitate

construction, or as designated by the Engineer in accordance with Section 13 of the Standard Specifications and these Special Provisions. All removed pipes or portions thereof shall be disposed of by the Contractor. Payment for removal and disposal of existing pipe shall be included in this item.

Unless otherwise approved, all pipes shall have bell and spigot joints with elastomeric gaskets providing a water tight seal. Tests for leakage will be required per Section 26-10 of the Standard Specifications.

For all flexible pipe and fittings, the minimum pipe stiffness at 5% deflection shall be 46 PSI according to ASTM test D2412. Flexible pipe joints shall be in accordance with ASTM D3212. All flexible conduits shall be tested with a mandrel 5% smaller than the average inside diameter of the pipe placed no sooner than 96 hours after placement of the backfill. Mandrel tests may be performed by the City after a six (6) month period of time at which time a maximum deflection of 7-1/2% from the base I.D. will be allowed. The mandrel used shall be the PHOS PVC Sewer Pipe Deflection Gauge or other deflection gauge approved by the Engineer.

After mandrel testing and in order to insure proper placement, all sewer pipes placed shall be CCTV inspected by the Contractor utilizing a robotic CCTV camera device as specified elsewhere in these Special Provisions.

Where shown on the Plans, combined sewer pipe shall conform to the following specifications:

Vitrified Clay Pipe (VCP)

VCP and fittings shall be constructed to the details shown on the Plans and shall conform to the applicable provisions of Section 10, Section 14 and Section 26 of the Standard Specifications.

Poly Vinyl Chloride (PVC) Pipe

PVC gravity sewer pipe and fittings shall be constructed to the details on the Plans and shall conform to Sections 10, 14, and 26 of the Standard Specifications and these Special provisions. PVC gravity sewer pipe and fittings shall conform to ASTM D3034 and ASTM F679 and shall be SDR 35 with Elastomeric - Gasket joints providing a watertight seal. PVC pipe manufactured by JM Pipe or PW Eagle Pipe will not be allowed.

Payment shall be at the unit price bid per lineal foot of proposed combined sewer main installed and shall include full compensation for furnishing all labor, materials, tools, equipment and incidentals and for doing all work necessary to complete this item in place including pavement cutting and removal, trenching, furnishing and placing pipe, backfilling, removing or abandoning existing pipe, connecting sewer pipe to manholes, removing inside drop connections, testing, and repaving or other surface restoration.

Item No. 14 Point Repairs

This item shall include all work required to replace (point repair) the existing 24-inch pipe to be CIPP lined, specifically between the proposed saddle manhole at Sta 17+11.80 and the existing manhole at Sta. 17+40.24 (as needed) and any other pipe identified as requiring point repair. 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 control, 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 two working days' notice. Replacement pipe diameter and materials shall match the existing pipe. We anticipate the existing pipe is entirely VCP. The Contractor shall remove the existing pipe to the nearest joint beyond the area of distressed pipe. The replaced section of pipe shall provide a smooth transition from the existing pipe to the new pipe.

VCP and fittings shall be constructed to the details shown on the Plans and shall conform to the applicable provisions of Section 10, Section 14 and Section 26 of the Standard Specifications. Trenching and backfill for sewer pipe shall conform to DWG No. T-80A included in Appendix B of these Special Provisions. If the sewer pipe is replaced in areas not covered by pavement; the pavement section shown on DWG No. T-80A shall be replaced with at least 2 feet of job excavated native soil compacted to at least 90% relative compaction in accordance with ASTM D1557. Handling and installation of sewer pipe shall be done in accordance with the guidelines set forth by the manufacturer and approved by the Engineer. Information regarding pipe material and pipe installation shall be submitted for approval in accordance with these Special Provisions. Unless otherwise approved, all pipes shall have bell and spigot joints with elastomeric gaskets providing a water tight seal. All removed pipes or portions thereof shall be disposed of by the Contractor. Payment for removal and disposal of existing pipe shall be included in this item.

If a sewer service lateral connects to the section of main being replaced, the Contractor shall core a new service connection at the appropriate location in the replacement section of main to facilitate reconnection of the service. The existing sewer service shall be reconstructed per City Standards and paid as part of this bid item. For each lateral reconstruction performed within a point repair section, 1.5 feet will be added to the overall point repair length.

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. If no point repairs are deemed necessary for CIPP lining work, this item shall be deleted.

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. Payment shall include full compensation for all materials, labor, equipment, and supplies necessary to complete this item in place.

Item No. 15 24-inch CIPP Liner to Install

This item covers, in general, the work necessary to furnish and install complete cured-in-place pipe (CIPP) liners. This specification covers the work necessary to furnish and install, complete in place, cured-in-place pipe (CIPP) at the locations shown on the Plans. The Contractor shall CIPP line the existing 24-inch RCP combined sewer pipe from the proposed saddle manhole at Sta 17+11.80 to the existing manhole at Sta. 19+58.71. The Contractor shall provide all materials, labor, equipment, and services necessary for bypass pumping (flow control) of sewage flows, repairing protruding laterals, installing the CIPP liner, and, after completion, CCTV inspection and testing of completed CIPP liner pipe system.

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

CONTRACTOR QUALIFICATIONS

The contractor who is performing the CIPP lining work (prime or sub-contractor) must demonstrate previous successful experience in installation of similar size 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 flow control plans for review and approval by the Engineer at least ten (10) working days prior to installation of CIPP liners. Flow control shall be performed in accordance with Section 3.04 of these Special Provisions. The Contractor shall not commence flow control operations until the flow control plans are approved. The Contractor shall notify the Engineer 24 hours prior to commencing with the flow control/bypass pumping operation. The flow control plan shall include an emergency response plan to be followed in the event of a failure of the flow control system.

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

MATERIALS

Materials, installation procedures, and the final product shall meet or exceed the CIPP Manufacturer's requirements and requirements of ASTM F1216 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.

PREPARATION

A. Flow Control

All flow control required to temporarily divert, bypass, or impound flows carried by the existing sewer through or around the construction operations within the limits of this project shall be performed in accordance with Section 3.04 of these Special Provisions.

B. Cleaning, Preparation and Inspection of Existing Sewer

Initial cleaning and television inspection of combined sewer segments to be lined is included in this item. 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, debris and grease buildup. 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 or other obstructions prevent the CCTV inspection or CIPP lining from proceeding, the contractor shall remove the obstructions and make all repairs necessary, as approved by the Engineer, in order to proceed. 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 Section 3.04 titled Closed Circuit Television (CCTV) Inspection of Pipes of these Special Provisions.

Cleaning, preparation and inspection of existing sewers shall conform to and shall be included in this item 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 AND CURING

CIPP installation shall be in accordance with ASTM F-1216, Section 7 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 shall fully extend the liner to the termination point and inflate and firmly press/adhere the liner to the pipe wall.
- 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. 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.
- 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 and curing time. This log must be available for review at any time by the Project Construction Engineer.
- 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.
- 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 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. Any annular space along the springline of the existing channel and the cut liner shall be filled and sealed.

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 F1216, Section 8, Inspection Practices.

Delamination testing shall be performed according to 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 CCTV the installed liner after existing services have been reconnected and manhole work has been completed. The CCTV shall be performed in accordance with Section 3.04 of these Special Provisions. At each lateral, the Contractor shall pan and tilt camera as necessary to show a perpendicular view of the reinstatement.

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

C. Inspection

It is the objective of the City that liners be continuous over the entire length of an insertion run between two manholes or access points and shall be reasonably free from visual defects. 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 1/2"	Trim/Grind flush with liner wall	No deduction, assuming adequate thickness is achieved
Bubbles, blisters, dimples, lumps, lifts, or foreign inclusions	Repair if exceeds 1/2"	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, pinholes, burst, or collapsed CIPP	Repair all	Remove and Replace entire pipe within reach or remove liner within pipe reach and re-line at City's discretion.	No deduction, assuming a proper remove and 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.

If wrinkles meet or are less than the tolerance criteria specified in Table 1 but are frequent, as defined and determined by the City, within a liner reach so as to cause backwater in the rehabilitated pipe and/or create maintenance problems, the pipe reach 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.

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. 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, all cleaning and CCTV inspections and re-inspections (pre- and post-lining), non-hazardous waste disposal, video

DVDs and reports, trimming of protruding laterals, flow control, sealing at manholes, testing, cleaning and all other work required to complete these items in place.

Item No. 16 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. 17 12-inch CS Pipe to Construct

The Contractor shall install 12-inch CS pipe from the proposed manhole at Sta. 21+82.83 and shall connect to the existing 12-inch CS pipe entering the east side of the existing manhole located between the rails of the Regional Transit (RT) light rail tracks (Sta. 21+83.81). The Contractor shall abandon the existing manhole between the tracks and restore the surface to match existing as part of this bid item. This work shall result in a continuous 12-inch CS sewer pipe from the east side of the light rail tracks to the proposed manhole on the proposed 48-inch pipe. Only one type of pipe shall be used for this work.

Where shown on the Plans and as directed by the Engineer, all combined sewer pipe and fittings shall be provided, handled, installed, and backfilled. PVC combination sewer pipe and fittings shall be provided and placed in accordance with the Plans, pipe manufacturers recommendations, and as directed by the Engineer, and shall as a minimum, conform to Sections 10 and 26 of the Standard Specifications. Information regarding pipe material and pipe installation method shall be submitted for approval in accordance with these Special

Provisions.

Work to install this main and connect to the existing 12-inch main at the manhole between the RT rails shall be coordinated with RT. Contractor is notified that all work to core into the existing MH located between the rails and connect to the existing 12-inch CS main will be limited to hours when the light rail trains are not in service (approx. 12:00 midnight – 3:30 a.m.) Allowable working hours shall be confirmed with RT officials. The cost of coordination with RT and compliance with RT standards shall be included in the cost of this item.

Sewer pipe connections to manholes shall be included in this item unless otherwise indicated in these Special Provisions. Contractor shall connect existing live sewer services to new sewer pipe in accordance with these Special Provisions and include this work in the cost of this item.

Unless otherwise approved, all pipes shall have bell and spigot joints with elastomeric gaskets providing a water tight seal. Tests for leakage will be required per Section 26-10 of the Standard Specifications.

For all flexible pipe and fittings, the minimum pipe stiffness at 5% deflection shall be 46 PSI according to ASTM test D2412. Flexible pipe joints shall be in accordance with ASTM D3212. All flexible conduits shall be tested with a mandrel 5% smaller than the average inside diameter of the pipe placed no sooner than 96 hours after placement of the backfill. Mandrel tests may be performed by the City after a six (6) month period of time at which time a maximum deflection of 7-1/2% from the base I.D. will be allowed. The mandrel used shall be the PHOS PVC Sewer Pipe Deflection Gauge or other deflection gauge approved by the Engineer.

After mandrel testing and in order to insure proper placement, all sewer pipes placed shall be CCTV inspected by the Contractor utilizing a robotic CCTV camera device as specified elsewhere in these Special Provisions.

Where shown on the Plans, combined sewer pipe shall conform to the following specifications:

Poly Vinyl Chloride (PVC) Pipe

PVC gravity sewer pipe and fittings shall be constructed to the details on the Plans and shall conform to Sections 10, 14, and 26 of the Standard Specifications and these Special provisions. PVC gravity sewer pipe and fittings shall conform to ASTM D3034 and ASTM F679 and shall be SDR 35 with Elastomeric - Gasket joints providing a watertight seal. PVC pipe manufactured by JM Pipe or PW Eagle Pipe will not be allowed.

Payment shall be at the unit price bid per lineal foot of proposed combined sewer main installed and shall include full compensation for furnishing all labor, materials, tools, equipment and incidentals and for doing all work necessary to complete this item in place including pavement cutting and removal, trenching, trenchless installation, furnishing and placing pipe, backfilling, removing or abandoning existing pipe, connecting sewer pipe to manholes, removing inside drop connections, testing, and repaving or other surface restoration.

Item No. 18 8-inch Drain Lead to Relocate

Where shown on the Plans, 8-inch diameter drain inlet leads and fittings shall be reconstructed per the details on the Plans and shall conform to Sections 10, 14, and 26 of the Standard Specifications and these Special provisions.

This bid item is intended for the following two locations:

1. The existing 8-inch drain lead at Sta. 12+84 on 7th Street at the southern side of east-bound Capitol Mall shall be relocated and raised to avoid conflict with the proposed 72-inch CS pipe as shown on the plans and as directed by the engineer. The new pipe shall be placed at a minimum slope of 0.0025 ft/ft and shall be constructed from existing storm drain MH 734 (Sta 12+88.47 to the drain inlet. The drain inlet shall also be replaced with a Modified Type B Drain Inlet. Work to construct the new Drain Inlet and abandon the existing drain lead shall be paid for and constructed per separate bid items: "Modified Type B Drain Inlet to Construct," and "Drain Lead to Abandon."
2. The existing 8-inch drain lead connecting to the east side of MH 412 on 7th Street at K Street shall be abandoned and reconstructed to connect to the existing storm drain MH 418 as shown on the plans. Contractor shall pothole the existing RT electrical facility prior to relocation to confirm feasibility of relocating the drain lead. Work to abandon the existing drain lead and pothole the existing RT facility shall be paid for and constructed per separate bid items: "Drain Lead to Abandon" and "Utility to Pothole."

All new pipe shall be polyvinyl chloride (PVC). PVC gravity sewer pipe and fittings shall conform to ASTM D3034 and shall be SDR 35 with elastomeric gasket joints providing a watertight seal per ASTM D3212. Minimum pipe stiffness at 5% deflection shall be 46 PSI according to ASTM test D2412.

C-900 PVC for pipe and fittings shall be utilized for any pipe that has less than eighteen (18) inches of cover between the top of the installed pipe and the finish grade. If the depth of cover is less than twelve (12) inches, the Contractor shall encase pipe with controlled density fill as specified elsewhere in these Special Provisions. When the Engineer approves shallow placement of drain inlet leads requiring protective measures proposed by Contractor, all work associated with protective measures shall be considered as extra and paid per Section 8 of the Standard Specifications.

Drain lead and drain service connections to manholes shall be included in this item unless otherwise indicated in these Special Provisions.

When connecting to a manhole:

- A. The Contractor shall install a flexible joint (bell and spigot or flexible coupling) a horizontal distance of 18 inches to 24 inches from the wall of the manhole.
- B. All connections to the manholes not cast as part of the base shall be made by use of a coring machine and a NPC "Kor-N-Seal Cavity O-Ring" or approved equal flexible watertight coupling. The incoming pipe shall be cut, and the space between the inserted pipe and the

seal shall be grouted smooth.

This item shall include the removal and/or abandonment of existing drain leads and/or drainage services unless specified otherwise. Contractor shall remove pipe that is less than two (2) feet from the finished surface. Such drain lead pipes that are lower than the aforementioned shall, at the option of the contractor, be removed or shall be filled and plugged completely with Control Density Fill (CDF) that meets the requirements of Section 10-16 of the Standard Specifications. All pipe removed shall become the property of the Contractor and disposed of away from the project site.

It shall be the Contractor's responsibility to determine the final vertical alignment by means of locating potential conflicts prior to construction of the drain lead, or coring of the manhole. No deflections will be allowed in the lead unless otherwise approved by the Engineer. Unless otherwise stated herein, no additional compensation shall be paid to the Contractor for potholing, or altering drain inlet or lead elevations.

Payment shall be at the unit price bid per lineal foot of 8-inch drain lead constructed and shall include full compensation for furnishing all labor, materials, equipment and incidentals to complete this item in place including pavement cutting and removal, trenching, furnishing and placing pipe, backfilling, removing or abandoning existing pipe, testing, tree preservation, and repaving or other surface restoration.

Item No. 19 36-inch CS pipe to Abandon

Item No. 20 24-inch CS pipe to Abandon

Contractor shall abandon 36-inch and 24-inch combined sewer (CS) pipe where shown on the Plans, as directed by the Engineer, and in accordance with Sections 12 and 13 of the Standard Specifications. The 24- and 36-inch pipe shall be abandoned by plugging each end per Section 13-3 of the Standard Specifications and completely filling the abandoned portion with Controlled Density Fill (CDF), Ready Mixed Flowable Fill (RFF) as listed in Section 10-16 of the Standard Specifications.

Prior to abandonment, Contractor shall determine if any live sewer services are connected to the main to be abandoned. Contractor shall provide CCTV data or other documentation confirming the presence or absence of live service connections. Prior to abandoning the main, contractor shall reconnect live services to the new main. Reconnection of these sewer services shall be paid for as extra work per City Standard Specifications.

Payment shall be at the unit price bid per LF of pipe abandoned and shall include full compensation for all labor, materials, tools, equipment and incidentals necessary to abandon the pipe in place.

Item No. 21 Inverted Siphon to Construct

An inverted siphon, consisting of two No. 4 manholes and 30-inch and 36-inch diameter storm drainage pipe, shall be constructed as shown on the Plans and in conformance with these Special Provisions.

Manholes shall conform to Section 25 and 38 of the Standard Specifications. The vertical face of the eccentric cone shall be parallel to flow and away from traffic and as directed by the Engineer.

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 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 shall be performed by the Contractor in accordance with Section 25-3.

Pipe shall be Reinforced Concrete Pipe (RCP) Class III or Class IV, Closed Profile Polyvinyl Chloride (CPPVC), Polyvinyl Chloride (PVC), or Fiberglass pipe and shall be placed in accordance with the Plans, manufacturers recommendations, and as directed by the Engineer, and shall conform to Sections 10, 14, and 26 of the Standard Specifications and these Special Provisions. Information regarding pipe material and pipe installation shall be submitted for approval in accordance with these Special Provisions. Pipe and joints shall pass the requirements of Section 26-10 of the Standard Specifications.

Only one type of pipe shall be used between manholes. Prior to the start of work, the Contractor shall submit a plan showing types of pipe and locations to the Engineer. Any deviation in the plan thereafter shall not be allowed unless approved in advance by the Engineer. The pipe between the two manholes of the inverted siphon shall be backfilled with CDF up to the spring line of the proposed 72-inch CS main as shown on sheet 8 (C-7) of the Plans.

Contractor shall re-connect existing pipes to manhole in accordance with these Special Provisions, and include this work in the cost of this item. Pipe connections shall be made by use of a corning machine and a "Cor-N-Seal" or approved equal flexible water tight coupling. The pipe shall be cut, and the space between the inserted pipe and the seal shall be grouted smooth. In addition, a flexible joint (bell and spigot, or flexible coupling) shall be installed a horizontal distance of 18 inches to 24 inches from the wall of the manhole.

Existing pipe shall be removed at such places as shown on the Plans or as designated by the Engineer in accordance with Section 13 of the Standard Specifications and these Special Provisions. All removed pipes or portions thereof shall be disposed of by the Contractor.

Contractor shall take all reasonable precaution to avoid any concrete rubble from falling into

the existing collection system. In the event that concrete or any other material does fall into the system, Contractor shall clean the system and remove all foreign material caused by the work of this contract.

For all flexible pipe and fittings, the minimum pipe stiffness at 5% deflection shall be 46 PSI according to ASTM D2412. Flexible pipe joints shall be in accordance with ASTM D3212. All flexible conduits shall be tested with a mandrel 5% smaller than the average inside diameter of the pipe placed no sooner than 96 hours after placement of the backfill. Mandrel tests may be performed by the City after a six (6) month period of time at which time a maximum deflection of 7½% from the base inside diameter will be allowed. The mandrel used shall be the PHOS PVC Sewer Pipe Deflection Gauge or other deflection gauge approved by the Engineer.

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 Inverted Siphon constructed and shall include full compensation for furnishing all labor, materials, tools, equipment and incidentals, including necessary excavation, shoring, dewatering, flow control, removal and disposal of existing manhole, subgrade preparation and backfill, testing, tree preservation, and repaving or other surface restoration, and for doing all work involved to complete the inverted siphon as shown on the approved details, as specified in these Special Provisions and as directed by the Engineer..

Item No. 22 Junction Structure to Construct

This item shall consist of designing and constructing a precast or cast-in-place concrete junction structure, maintenance holes, and appurtenances according to these Special Provisions, Sections 10, 14, 20, 21 and 25 of the Standard Specifications, and in general accordance with the conceptual junction structure details shown on Drawing No. 8 of the Plans.

The design and construction of the junction structure shall include as a minimum the following:

- Portland cement concrete, Class "B" shall be used with a minimum compressive strength of 4,000 psi at 28 days. The maximum water to cement ratio shall be 0.5.
- Aggregates shall be calcareous resulting in a concrete mix yielding a finished product with an alkalinity equivalent (as CaCO₃) of at least 80 percent when tested in accordance with ASTM C602. As an alternative to using calcareous aggregate in the concrete mix, the interior of the junction structure shall be coated with an epoxy resin, such as Raven 405 manufactured by Raven Lining Systems, Inc.; Sewer Guard HBS100 Epoxy Liner as manufactured by ChemRex, Inc.; or approved equivalent with equal or better strength, hardness, density and other physical characteristics. The epoxy shall be applied to a minimum thickness of 125 mils and in accordance with the manufacturer's instructions and criteria. The exposed interior concrete of the junction structure shall be sand blasted prior to application of the epoxy coating. Epoxy resin

coatings shall be installed by factory trained and approved application technicians. Application technicians shall have a minimum of one (1) year field experience with the application of the epoxy coating.

- The reinforcing steel shall be grade 60 in conformance with Section 10-23 of the Standard Specifications.
- Type A clean crushed rock shall be placed as a base under the junction structure to a minimum depth of six (6) inches. The crushed rock base shall extend laterally a minimum of twelve (12) inches beyond the outside footprint of the junction structure and shall be thoroughly wet and tamped until a firm, unyielding condition is achieved as determined by the Engineer. Prior to placement of the crushed rock, the exposed soils should be moisture conditioned as necessary and compacted to at least 90 percent relative compaction.
- The junction structure shall support HS-20 traffic loading and all other conditions of placement. The top surface of the junction structure shall not encroach within 3 feet of the existing pavement surface.
- The junction structure shall include one (1) maintenance hole that includes a Standard Manhole Head 3 and Cover B per Section 38, Drawing S-150 of the Standard Specifications and placed as shown on the conceptual plans.
- All connections to the junction structure not part of the structure base shall be made by use of a coring machine. The annular space between the outside of the pipe and the structure shall be sealed by using flexible annular space filler such as “Kor-N-Seal Cavity O-Ring” by NPC, Inc. or approved equal.
- The Contractor shall install a flexible joint or coupling a horizontal distance of 18 to 24 inches from the wall of the junction structure on all combined sewer pipes 36 inches in diameter or smaller that convey flow to or from the junction structure.
- The base of the precast junction structure shall be filled with concrete and shaped to direct flows from the incoming 48-inch and 60-inch pipes along the flowline at a minimum slope of 0.01 ft/ft. The concrete flowline shall be channelized to the spring line of the 60-inch diameter pipe, or to contain flows that reach a depth of 2.5 feet through the structure. The concrete fill along the perimeter of the junction structure shall be sloped to direct flows toward the flowline at a minimum slope of 0.1 ft/ft on all sides. The concrete fill shall have a minimum thickness of 1 foot below all flow lines.

The Contractor shall submit structural calculations and details for the precast or cast-in-place concrete junction structure to the Engineer for written approval a minimum of 21 days prior to the scheduled construction/placement of the junction structure. The structural calculations and details shall be stamped and signed by a Civil and/or Structural Engineer licensed in the State of California.

Payment shall be at the unit price bid per the precast or cast-in-place concrete junction

structure and maintenance hole placed and shall include full compensation for the approved structure design and furnishing all labor, materials, tools, equipment and incidentals, including necessary excavation, shoring, dewatering, flow control, removal and disposal of existing manhole, subgrade preparation and backfill, testing, tree preservation, and repaving or other surface restoration, and for doing all work involved to complete the junction structure as shown on the approved details, as specified in these Special Provisions and as directed by the Engineer.

Item No. 23 Existing Manhole to Remove, Saddle Manhole to Construct

Existing manhole shall be removed and Saddle Manhole shall be constructed where shown on the plans or directed by the Engineer in conformance with Section 25 and Section 38 of the Standard Specifications. The waterstop shown on the manhole details in Section 38 of the Standard Specifications shall be an O-Ring, a banded rubber coupling, or other approved product that is centered in the manhole wall as shown. The waterstop shall also be installed at the locations shown on the manhole detail for any pass-through pipes.

The existing manhole 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.

The Contractor shall install a flexible joint or coupling a horizontal distance of 18 to 24 inches from the wall of the saddle manhole on all pipes that are 36 inches in diameter or smaller and convey flow to or from the manhole.

The contractor shall reconnect existing pipe connections from the existing manhole to the proposed manhole as show as shown on the plans, as directed in this specification and as directed by the Engineer. The Contractor shall complete the following work at each of the listed manhole locations and include this work in this bid item:

- Sta. 5+04.32 (7th Street, at O Street) – Reconnect the existing 36-inch CS main (exiting the existing manhole to the southeast) to the proposed manhole.
- Sta 0+61 (9th Street, at L Street) – Reconnect the existing 15-inch CS main and 24-inch main (exiting the existing manhole to the east and south) to the proposed manhole.

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.

At the discretion or option of the Engineer, manhole testing shall be performed by the

Contractor in accordance with Section 25-3.

Payment shall be at the unit price indicated in the proposal for each Saddle Manhole constructed and shall include all labor, materials, equipment and incidentals necessary to remove and replace this item complete in place including pavement cutting and removal, excavating, furnishing and placing necessary materials, backfilling, removing and disposing of existing manholes, connecting pipe to manholes, flow control, shoring, dewatering, testing, tree preservation, and repaving or other surface restoration.

Item No. 24 Saddle Manhole to Construct

A Saddle Manhole shall be constructed where shown on the plans or directed by the Engineer in conformance with Section 25 and Section 38 of the Standard Specifications. The waterstop shown on the manhole details in Section 38 of the Standard Specifications shall be an O-Ring, a banded rubber coupling, or other approved product that is centered in the manhole wall as shown. The waterstop shall also be installed at the locations shown on the manhole detail for any pass-through pipes.

The Contractor shall install a flexible joint or coupling a horizontal distance of 18 to 24 inches from the wall of the saddle manhole on all pipes that are 36 inches in diameter or smaller and convey flow to or from the manhole.

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.

At the discretion or option of the Engineer, manhole testing shall be performed by the Contractor in accordance with Section 25-3.

Payment shall be at the unit price indicated in the proposal for each Saddle Manhole constructed and shall include all labor, materials, equipment and incidentals necessary to remove and replace this item complete in place including pavement cutting and removal, excavating, furnishing and placing necessary materials, backfilling, connecting pipe to manholes, flow control, shoring, dewatering, testing, tree preservation, and repaving or other surface restoration.

Item No. 25 Existing Manhole to Remove

The existing manhole shall be removed where shown on the plans or directed by the Engineer and shall be disposed of away from the site of the project.

Any excavation or depression created by removal of all or a portion of the manhole shall be backfilled to within 12 inches of the asphalt concrete pavement using CDF, Class 2 aggregate

base, or an import material with a sand equivalent of 20 or greater. The Class 2 aggregate base and import material shall be compacted to at least 90 percent relative compaction. The backfill shall be overlain by a pavement section consisting of at least 12 inches of Class 2 aggregate base and 4 inches of asphalt concrete placed to match existing grade as per these Special Provisions and the Standard Specifications. The Class 2 aggregate base within the pavement section shall be compacted to at least 95 percent relative compaction. Excavation and backfill shall conform to Section 14-2, Structure Excavation and Backfill, of the Standard Specifications unless superseded by these Special Provisions.

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.

Payment shall be at the unit price bid per the manhole removed and shall include all labor, materials, equipment and incidentals necessary to complete this item including pavement cutting and removal, excavating, removing and disposing of existing manhole, furnishing and placing necessary materials, backfilling, flow control, shoring, dewatering, and repaving or other surface restoration.

Item No. 26 Manhole to Abandon or Remove

Existing manholes as shown on the plans or as directed by the Engineer to be abandoned, shall be removed within four (4) feet of subgrade. The remaining portion of the manhole that is lower than the aforementioned shall, at the option of the contractor, be removed or abandoned in place and filled completely with Control Density Fill (CDF) that meets the requirements of Section 10-16 of the Standard Specifications.

Any excavation or depression created by removal of all or a portion of the manholes shall be backfilled to within 12 inches of the asphalt concrete pavement using CDF, Class 2 aggregate base, or an import material with a sand equivalent of 20 or greater. The Class 2 aggregate base and import material shall be compacted to at least 90 percent relative compaction. The backfill shall be overlain by a pavement section consisting of at least 12 inches of Class 2 aggregate base and 4 inches of asphalt concrete placed to match existing grade as per these Special Provisions and the Standard Specifications. The Class 2 aggregate base within the pavement section shall be compacted to at least 95 percent relative compaction. Excavation and backfill shall conform to Section 14-2, Structure Excavation and Backfill, of the Standard Specifications unless superseded by these Special Provisions.

All manholes, or portions thereof, removed shall become the property of the Contractor and disposed of away from the project site.

The frame and cover shall be cleaned of all material and delivered to the City of Sacramento Corporation Yard, Division of Field Services, 5730 24th Street - Attn: Rob Jack, Sewer Superintendent (916) 808-4022.

Payment shall be at the unit price bid per each manhole abandoned and shall include all labor, materials, equipment and incidentals necessary to complete this item including pavement cutting and removal, excavating, furnishing and placing necessary materials, backfilling,

removing and disposing of existing manholes, flow control, shoring, dewatering, and repaving or other surface restoration.

Item No. 27 Manhole No. 3 to Construct

A Manhole No. 3 shall be constructed where shown on the plans or directed by the Engineer in conformance with Section 25 and Section 38 of the Standard Specifications. Eccentric cones shall not be used unless specified on the Plans or by the Engineer. If eccentric cone is used, vertical face of cone shall be parallel to flow and away from traffic (closest to the nearest curb.)

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 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.

At the discretion or option of the Engineer, manhole testing shall be performed by the Contractor in accordance with Section 25-3.

Payment shall be at the unit price bid per each Manhole No. 3 constructed and shall include all labor, materials, equipment and incidentals necessary to construct this item complete in place including pavement curbing and removal, excavating, furnishing and placing necessary materials, backfilling, connecting pipe to manhole, flow control, shoring, dewatering, testing, tree preservation, and repaving or other surface restoration.

Item No. 28 Modified Type B Drain Inlet to Construct

Existing drains shall be removed and replaced by a Modified Type B Drain Inlet where shown on the plans or directed by the Engineer. Modified Type B Drain Inlets shall conform to Sections 20, 24, 30 and 38 of the Standard Specifications.

Drain inlets shall be precast or cast in place, formed using wood or metal forms. Hand forming of concrete will not be allowed. If cast in place, maximum wall thickness shall be 8-inches.

The grate shall conform to Section 38 of the Standard Specifications. The grate shall be installed so that either end of the grate can be lifted from the frame and removed by pulling parallel to the curb. The grate frame shall be installed between ½ and 1 inch from the face of the open back hood. All joints and all connections between the hardware (grate and hood) and the vertical walls of the drain inlet shall be grouted smooth with a light broom finish or equivalent.

The open back hood shall be cast iron or approved equal.

The vertical distance between the grate and the top of the hood shall be a minimum of 5-inches and a maximum of 8-inches. If the top of the hood must be placed below the top of curb, there shall be a minimum 3-inch cover of concrete. One Number 4 reinforcing bar shall be placed in the concrete and shall extend twelve (12) inches on both sides of the hood. If the top of the hood is placed flush with the top of curb, the Contractor shall embed hood in a concrete curb a minimum thickness of four (4) inches and extending six (6) inches beyond both ends of the hood.

Drain lead shall be connected to drain inlet with approved waterstop cast into side wall with non-shrink grout. Waterstop shall have a minimum of two (2) inches of embedment on all sides.

This item shall include the removal and disposal of existing gutter drains to be replaced. The existing grates 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.

Curb and gutter reconstruction shall match existing geometry and, at the Engineers discretion, extend up to five (5) feet in length on either side of the inlet. The cost of curb and gutter reconstruction shall be included in the unit price for this item.

Payment shall be at the unit price bid per each Modified Type B drain inlet placed and shall include all labor, materials, equipment and incidentals necessary to complete this item including pavement cutting and removal, excavating, furnishing and placing necessary materials, backfilling, flow control, shoring, dewatering, and repaving or other surface restoration.

Item No. 29 10" Drain Lead to Install

Where shown on the Plans, 10-inch diameter drain inlet leads shall be polyvinyl chloride (PVC).

Drain lead connections to manholes shall be included in this item unless otherwise indicated in these Special Provisions.

Drain inlet lead and fittings shall be constructed to the details on the Plans and shall conform to Sections 10, 14, and 26 of the Standard Specifications and these Special provisions. PVC gravity sewer pipe and fittings shall conform to ASTM D3034 and shall be SDR 35 with elastomeric gasket joints providing a watertight seal per ASTM D3212. Minimum pipe stiffness at 5% deflection shall be 46 PSI according to ASTM test D2412. Pipe shall be subject to deflection tests as specified elsewhere in these Special Provisions.

C-900 PVC for pipe and fittings shall be utilized for any pipe that has less than eighteen (18) inches of cover between the top of the installed pipe and the finish grade. If the depth of cover is less than twelve (12) inches, the Contractor shall encase pipe with controlled density fill as specified elsewhere in these Special Provisions. When the Engineer approves shallow placement of drain inlet leads requiring protective measures proposed by Contractor, all work associated with protective measures shall be considered as extra and paid per Section 8 of the Standard Specifications.

When connecting to a manhole:

- A. The Contractor shall install a flexible joint (bell and spigot or flexible coupling) a horizontal distance of 18 inches to 24 inches from the wall of the manhole.
- B. All connections to the manholes not cast as part of the base shall be made by use of a coring machine and a NPC "Kor-N-Seal Cavity O-Ring" or approved equal flexible watertight coupling. The incoming pipe shall be cut, and the space between the inserted pipe and the seal shall be grouted smooth.

It shall be the Contractor's responsibility to determine the final vertical alignment by means of locating potential conflicts prior to construction of the drain inlet, lead, or coring of the manhole. No deflections will be allowed in the lead unless otherwise approved by the Engineer. Guidelines for final profile of drain lead are as follows: The distance from the grate elevation to the top of the drain inlet base shall be between 4'-8" and 5' unless otherwise shown on the Plans or directed by the Engineer. The drain lead shall have a minimum slope of 0.01 ft/ft unless otherwise approved by the Engineer. Lead traps may be moved away from the drain inlet, if approved by the Engineer, to avoid conflicts with crossing utilities. Unless otherwise stated herein, no additional compensation shall be paid to the Contractor for potholing, or altering drain inlet or lead elevations.

Payment shall be at the unit price bid per lineal foot of 10-inch drain lead placed 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 including pavement cutting and removal, trenching, furnishing and placing pipe, backfilling, flow control, dewatering, testing, and repaving or other surface restoration.

Item No. 30 Drain Lead, to Abandon

Existing 6-inch, 8-inch, and 10-inch drain leads as shown on the plans or as directed by the Engineer that are no longer to be used shall be removed within two (2) feet of subgrade. Such drain lead pipes that are lower than the aforementioned shall, at the option of the contractor,

be removed or shall be filled and plugged completely with Control Density Fill (CDF) that meets the requirements of Section 10-16 of the Standard Specifications.

Any excavation or depression created by removal of the drain leads or any portion thereof shall be backfilled to within 12 inches of the asphalt concrete pavement using CDF, Class 2 aggregate base, or an import material with a sand equivalent of 20 or greater. The Class 2 aggregate base and import material shall be compacted to at least 90 percent relative compaction. The backfill shall be overlain by a pavement section consisting of at least 12 inches of Class 2 aggregate base and 4 inches of asphalt concrete placed to match existing grade as per these Special Provisions and the Standard Specifications. The Class 2 aggregate base within the pavement section shall be compacted to at least 95 percent relative compaction. Excavation and backfill shall conform to Section 14-2, Structure Excavation and Backfill, of the Standard Specifications unless superseded by these Special Provisions.

All pipe removed shall become the property of the Contractor and disposed of away from the project site.

Payment shall be at the unit price per lineal foot of drain leads to be abandoned 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 including pavement cutting and removal, trenching, backfilling, disposing or abandoning of existing pipe, flow control, dewatering, and repaving or other surface restoration.

Item No. 31 8-inch Water Main to Relocate

Water mains that cross the proposed receiving pit as shown on the Plans at 7th and L Streets may conflict with the construction of the receiving pit. Prior to installing the 72"/60"/48" combined sewer pipe, the Contractor shall pothole the water main per Section 2.02 of these Special Provisions to evaluate if conflicts exist and to confirm the diameter of the water mains. If a water main is found to be in conflict with the proposed receiving pit as determined by the Contractor and approved by the Engineer, the Contractor shall relocate the water main in accordance with the requirements of Section 27 of the Standard Specifications and Detail W-106 in Section 38 of the Standard Specifications unless modified by these Special Provisions.

The existing 8-inch water mains are cast iron. Replacement pipe shall be ductile iron. The Contractor shall install cast iron sleeves to transition to ductile iron pipe. The Contractor shall relocate the mains by utilizing ductile iron mechanical joint fittings with mega lug restraints. The Contractor may propose alternate construction fittings to be approved by the Engineer.

City Water Crews shall be given 10 working days' notice prior to scheduling the shutdown. All water main shutdowns and openings shall be performed by City Water Crews.

Trench excavation and backfill shall meet the applicable requirements of Sections 10, 14, 27 and 38 of the Standard Specifications and these Special Provisions.

The quantities of water mains to be relocated shown in the Proposal are for bidding purposes only in anticipation of encountering conflicts with the proposed combined sewer main. The unit price indicated for existing water mains to be relocated will not be adjusted because the actual

number of required water mains to be relocated varies from the quantity shown in the Proposal. If no water mains need to be relocated, this item will be deleted.

Payment shall be at the unit price bid per each water main relocated and shall include full compensation for furnishing all labor, materials, tools, equipment and incidentals and for doing all work necessary to complete this item in place including pavement cutting and removal, trenching, shoring, furnishing and placing pipe, backfilling, removing and disposing of existing pipe, flow control, dewatering, testing, and repaving or other surface restoration.

Item No. 32 Existing Sewer Service, to Replace

Substandard sewer services shall be replaced and shall be constructed to the requirements of Sections 10, 26, and 38 of the Standard Specifications. The new sewer service shall match existing in size. All sewer services shall be acrylonitrile-butadiene-styrene (ABS) and constructed as shown on City Standard Detail S-260. Cleanouts shall be placed as shown on the Typical Sewer Service Cleanout Locations Detail S-265. Services shall be connected to sewer mains using tees or insert-a-tees when the sewer main is 8-inches in diameter or greater. When connecting to a 6-inch sewer main, insert-a-tees will not be allowed. Cast iron fittings will not be allowed. Under no circumstances shall grouted connections be acceptable. An existing sewer service without a cleanout per Detail S-265 shall be considered a substandard sewer service.

The number and location of lateral sewer services shown on the Plans are based on CCTV inspection and as-built plan information. The size, quantity and location of sewer services may vary from what is shown on the plans. CCTV inspections identified openings in the sewer main but did not confirm if each was live. Only live services shall be replaced. The Engineer shall differentiate between the active and abandoned service connections after they are exposed by the Contractor. All abandoned service connections shall be plugged and sealed as covered elsewhere in these Special Provisions.

New services shall be installed perpendicular to the main. The layout of services shown on the Plans is diagrammatic only. Final layout of new services and cleanouts will be determined by the Engineer as follows: After exposure of service connection at main by Contractor, Engineer will trace layout of existing service line and proposed location of cleanout. The Contractor will coordinate this work with the Engineer a minimum of two (2) working days in advance of placing new services.

The operations of the Contractor shall not result in any interruption of sewer service to any building being served by the sewer main. The replacement of the sewer service shall be accomplished within the same day that work is started. The Contractor shall provide, at no extra cost to the City, whatever equipment, materials, labor and services are necessary to ensure that the sewer service is maintained consistent with this requirement including, if necessary, the installation of temporary lines, temporary pumping equipment, and night-time or other overtime work as may be required.

When connecting a service to an existing manhole, the service shall be installed above the base of the manhole such that no alteration of the manhole base is required, unless otherwise approved by the Engineer. If the service enters a manhole near the invert of the manhole flow

channel, the service shall be channelized in the MH bench with vitrified clay pipe, shaped to provide a smooth transition into the main flow channel. If the service enters a manhole more than 1.5 feet above the spring-line of the pipe forming the manhole channel, an inside drop connection shall be constructed from the incoming service to one (1) foot above the spring-line of the pipe forming the channel at no additional cost to the City.

The quantity of sewer services to be replaced shown on the Proposal is for bidding purposes only. The unit price indicated for existing sewer services to be replaced will not be adjusted because the actual number of required sewer services varies from the quantity shown on the Plans and in the Proposal.

Payment shall be at the unit price bid for each sewer service removed and placed 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 including pavement cutting and removal, excavation, furnishing and placing sewer service and cleanout, backfilling, removing and disposing of existing sewer pipe, and repaving or other surface restoration.

Item No. 33 Pipe ends, to Plug

Existing sewer services or other pipes encountered that are determined by the Engineer to be abandoned or inactive shall be plugged and sealed per Section 13-3 of the Standard Specifications.

The quantity of pipe ends to be plugged shown on the Proposal is for bidding purposes only in anticipation that abandoned sewer services or other abandoned pipes will be encountered. The unit price indicated for pipe ends to be plugged will not be adjusted because the actual number of pipe ends required to be plugged varies from the quantity shown on the Plans and in the Proposal.

Payment shall be at the unit price bid per each plugged sewer service or other abandoned pipe end 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.

Item No. 34 Substandard Water Service to Replace

Substandard water services encountered during construction shall be removed and replaced in accordance with Sections 10, 27, and 38 of the Standard Specifications.

A water service shall be considered substandard if not made of copper tubing or does not have minimum coverage of twelve (12) inches of cover from the subgrade. Included in this item shall be the installation of a new curb stop and copper tubing of the same size as the existing. The new tubing shall extend from the new curb stop to the existing corporation stop. If the existing corporation stop cannot be reused through no fault of the Contractor, the work associated with installing a new corporation stop will be considered extra work and paid per Section 8 of the Standard Specifications. New service boxes shall be installed for each new water service.

Contractor shall coordinate water service shutdown with customers to minimize disruption.

Contractor shall provide a 24 hour advanced written notification to affected residences and businesses before water services are replaced. The maximum time for shutdown of any water service shall be four (4) hours. A sample 24 hour notification letter is located in Appendix B.

The exact number and location of substandard water services shall be determined in the field. The quantity of substandard water services shown in the Proposal is for bidding purposes only. The unit price indicated will not be adjusted because the actual number of substandard water services replaced varies from the quantity shown in the Proposal. If no substandard water services are encountered, this item will be deleted.

Payment shall be at the unit price bid for each water service replaced and shall include all labor, material, equipment and incidentals necessary to complete this item in place including pavement cutting and removal, excavation, furnishing and placing pipe, backfilling, removing and disposing of existing pipe, testing, and repaving or other surface restoration.

Item No. 35 Unsuitable Material, Removal and Replacement

Whenever the bottom of the trench is, in the opinion of the Engineer, unsuitable as a foundation for pipe bedding, the foundation shall be treated in accordance with Section 26-5-4 of the Standard Specifications. Unsuitable material is generally defined as material the Engineer determines to be:

1. Of such unstable nature as to be incapable of being compacted to specified density using ordinary methods at or near optimum moisture content; or
2. Too wet to be properly compacted and circumstances prevent processing or in-place drying prior to incorporation into the work; or
3. Containing visible or excessive deleterious material; or
4. Otherwise unsuitable for planned use.

Trench backfill shall consist of Class 2 Aggregate Base (AB) or job excavated, native soil meeting the requirements of Section 26-5 of the Standard Specifications. The use of the job excavated, native soil shall be at the Contractors risk. No additional compensation will be paid to the Contractor for hauling, stockpiling, drying, wetting or any processing of the native soil or AB required in order to achieve the minimum stability and relative compaction criteria.

Excavated unsuitable material shall be the property of the Contractor and shall be disposed of away from the project site. For offsite disposal, the Contractor shall have written permission from the owner upon whose property the disposal is to be made before any material is deposited thereon.

The quantity shown in the Proposal for this item shall be considered approximate. No guarantee is made or implied that the quantity will not be reduced, increased, or deleted as may be required by the Engineer. This item has been included in the proposal in anticipation of encountering unsuitable material during pipe backfill or subgrade preparation. If no unsuitable material is excavated, then this item will be deleted.

Measurement for payment for excavation of unsuitable material and placement of clean crushed rock, "pit run", cobbles, Class 2 aggregate base or any approved combination thereof

shall be based upon the weight of material placed less the weight of moisture content.

Payment shall be at the unit price bid per ton of unsuitable material replaced 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.

Item No. 36 CCTV Inspection

All newly-constructed combined sewer pipes shall be inspected by the Contractor utilizing a remote closed circuit in-line television (CCTV) camera in accordance with Section 3.04 of these Special Provisions. Acceptance by the City of the newly-constructed pipe shall be in accordance with the criteria outlined in Section 26-12-4 of the Standard Specifications. If deficiencies are revealed by the CCTV inspection that require repair, the Contractor shall make the repair and re-inspect the repaired pipe section using CCTV at the Contractor's expense.

Payment shall be at the unit price bid per lineal foot of proposed combined sewer pipe inspected and shall include full compensation for furnishing all labor, materials, equipment and incidentals to perform all work necessary to complete this item in place.

Item No. 37 Unmarked Utility Crossings

All utilities, abandoned or live, not shown on the plans that cross the excavation for but do not physically conflict with the installation of the subgrade items of the Bid Proposal shall be paid for under this item. A crossing shall be defined as any pipe, cable, conduit, or duct structure that in the opinion of the Engineer crosses the excavation within 60 degrees of a line perpendicular to the excavation. If more than one utility crosses within a 15-inch long section of the trench, then all the utilities in that cross section will be paid as one. Crossings that are more than 60 degrees from perpendicular, run parallel in the excavation, or physically conflict with the installation shall be paid for on a time and material basis in accordance with section 8 of the Standard Specifications.

The quantity shown in the Proposal for this item shall be considered approximate. No guarantee is made or implied that the quantity will not be reduced, increased, or deleted as may be required by the Engineer. This item has been included in anticipation of encountering unmarked utility crossings during construction. If no unmarked utility crossings are encountered, then this item will be deleted.

Payment shall be at the unit price bid per each unmarked utility crossing 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.

- Item No. 38 Fiber Optic Vault to Construct**
- Item No. 39 Fiber Optic Pull Box to Construct**
- Item No. 40 1-1/4" Fiber Optic Conduit to Construct**
- Item No. 41 2" Fiber Optic Conduit to Construct**
- Item No. 42 2-1/2" Fiber Optic Conduit to Construct**
- Item No. 43 3" Fiber Optic Conduit to Construct**

The Contractor shall construct a 36-inch barrel vault in L street to intercept the existing City fiber optic conduits, construct a pull box in the sidewalk along L Street, and construct 1-1/4", 2", 2-1/2", and 3" fiber optic conduits as shown on the Plans and in accordance with these Special Provisions. These item shall cover all work required to complete the fiber optic work.

The fiber optic work will be defined by three phases described below.

Phase 1 – Prep-work

1. Phase 1 work shall be as shown on the plans and shall be completed at least one month prior to excavating the proposed jacking and receiving pits in order to allow ample coordination of service cut-overs with Los Rios, UC Davis CENIC and City ISP.
2. Contractor shall request USA marking of the existing City & ICG/TelePacific fiber within the intersection and 50 feet to the north and to the west, use the existing trace wire accessible from the existing City manhole.
3. Based on the USA markings, Contractor shall determine the exact location of the fiber/duct-bank and intercept the conduit using a 36" barrel vault as shown in the detail on the plans. **DO NOT CUT THE CONDUITS OR FIBER AT THIS TIME.**
4. Contractor shall install a new pull box, Christy box B3048 x 30" deep in the sidewalk as shown on the plans. Box and lid must be tier 22 rated. Stamp "Communications" on the lid.
5. Contractor shall furnish and install (2) 3" conduit & (1) 2" conduit with pull rope from the new barrel vault to the new pull box.
6. Contractor shall furnish and install (1) 2" conduit with pull rope from the new pull box to the ICG/TelePacific pull box (HH08), and shall coordinate access to pull box with TelePacific.

Phase 2 – Cut-Over Work

1. Once Phase I work is complete, Contractor shall coordinate with CITY IT Telecom staff/City IT Low voltage contractor. City's Telecom contractor will cut the conduits, pull back the existing fiber and cut over services via the new path.
2. Once City IT Telecom staff confirms that services are live on the new path, the Contactor shall remove the existing conduits within the proposed jacking pit, to be replaced after completion of sewer work.

Phase 3 – Post Jack and Bore/Trenching Sewer Work

1. Contractor shall install a new 3" Schedule 40 PVC conduit and rope from the new barrel vault to RT low voltage box (Sta. 17+14, south of 7th and L Street intersection, west of RT light rail tracks).
2. Once the jacking pit is closed, Contractor shall repair existing City duct-bank connecting to existing City manhole on 7th Street.

Contractor shall notify the Engineer 5 days prior to beginning fiber optic work. Work under these items shall involve and be coordinated with City IT Telecom Engineers, Manuel Martinez (808-8785), Pedro Sanchez (808-8564), Public Works (PW) Telecom Engineer Ryan Billeci (808-6796), and PW Electrical shop Supervisor Norm Colby (808-6635).

All duct penetrations into vaults shall be sealed and inside of vaults shall be grouted smooth. All holes, cracks, and seams shall be grouted flush using non-shrink grout. Non-shrink grout

shall be “Metallic Grouting Compound” by Burke, “Embeco” by Master Builders, “Ferrolith-G” by Sonneborn-Desoto, or approved equal.

The existing fiber entering and exiting the fiber MH on 7th Street (Sta. 18+63) along 7th Street contains the following existing infrastructure:

- Two (2) 96 strand fiber cable (ICG, City)
- One (1) 36 strand fiber cable (City)
- Two (2) 24 strand fiber cable (City)
- Six (6) pair 19 gage copper interconnect

The Contractor and Engineers shall coordinate to perform the cut over work. This work shall be performed on a weekend in order to minimize impact on City services and will require a minimum of five (5) day advanced notice. All cut-over work shall be performed within a 24 hour period.

New conduit shall be installed per the details on the Plans. Conduit shall be Schedule 40 PVC and have no more than 180 degree of total bends. The new conduit shall have manufactured plugs/seals installed. Duct Seal shall not be accepted. The new conduit shall have Bull Line WP12 LC Tone Tape installed. Copper tone wire shall be tied together inside the communications vault.

Payment shall be at the unit price bid for each fiber optic vault installed, pull box installed, and for each liner foot of fiber optic conduit installed and shall include full compensation for all labor, materials, tools, equipment and incidentals to complete the work in place including pavement cutting and removal, excavation, vault installation, conduit relocation, conduit construction, splicing, testing, backfilling, and repaving or other surface restoration as shown on the Plans, as specified in these Special Provisions, and as directed by the Engineer.

Item No. 44 Asphalt Overlay to Place

This item consists of all asphalt concrete (AC) work beyond the edge of the required pipe trench restoration. The AC work consists of replacing the top two and one-quarter (2.25) inches of asphalt beyond the pipe trench restoration beginning at the outer edge of the pipe trench and extending to the lip of gutter or nearest RT rail on both sides of the trench, as directed by the Engineer.

Actual quantities for this bid item shall be calculated by measuring the total square footage of asphalt overlay placed, subtracting the square footage of pipe trench surface restoration (trench width plus six inches on either side times the length of open cut pipe installation), multiplying by 2.25 inch asphalt depth (in feet), times the unit weight of 150 lbs/ft³ and converting to tons.

Asphalt concrete (AC) pavement shall conform to Section 22 of the Standard Specifications. Final asphalt paving along the 72”/60”/48” CS main trench shall be per City Standard Specifications Detail T-80. At the intersection of 7th Street and Capitol Mall, the contractor shall replace the top two and one quarter inches of asphalt in the entire intersection bounded by the light rail tracks on the east and the nearest crosswalk stripe on the west.

As part of this bid item, Contractor shall grind the existing asphalt to the total depth specified herewith and shall complete this work prior to placing the final asphalt layer. See sections below for pavement planing requirements, hotmix asphalt overlay requirements and time required between planing and placement of overlay. Contractor shall also lower and raise existing iron for manholes, valve boxes, cleanouts, etc. according to the sections below for raising and lowering iron. Contractor shall also remove and replace traffic striping and raised reflective pavement markers per the sections below. All work shall conform to Section 22 of the Standard Specifications, these Specifications and as directed by the Engineer.

PAVEMENT PLANING (2.25")

1. Pavement planing shall be done in an approved manner by cold planing. Rubber-tired grinding machines will only be allowed with the Engineers permission and with the understanding that any damage done by the grinding machine to the existing asphalt pavement be repaired by the Contractor at his expense.
2. The depth of planing below the gutter lip shall be equal to the specified thickness of asphaltic concrete. The depth of planing at the centerline shall be equal to the specified thickness of asphaltic concrete to be placed on the street.
3. At the end of the workday, there shall not be any elevation difference between planed pavement and unplaned pavement in the traveled vehicle lanes. Any differences that parallel the centerline of the street in a longitudinal direction shall be sloped by either a temporary asphaltic plant mix cut back or additional planing, to produce a bevel within the planed pavement. The slope of either the cutback or the bevel shall be not greater than one-inch (1") vertical in twelve inches (12") horizontal. Elevation differences between planed pavement and lips of gutters are not required to be sloped except in front of curb ramps. C-W37 "Bump" sign shall be installed as directed by the Engineer.

Elevation differences perpendicular to the centerline of the street, in a transverse direction, or elevation differences between the planed street and cross-streets, shall be sloped as directed by the Engineer with cutback and shall not exceed one inch (1") vertical in twelve inches (12") horizontal.

If the Contractor fails to slope elevation differences as required by these Special Provisions, the Contractor may pay an administrative penalties of \$1,000 per each infraction per each calendar day elevation differences are not sloped. The City shall have the right to deduct such liquidated damages from any amount due, or that may become due to Contractor, or the amount of such penalties shall be due and collectable from the Contractor or his Surety.

4. The Contractor shall remove existing asphalt concrete from the gutter pan, gutter lip, and face of curb as directed by the Engineer.
5. The Contractor shall exercise extreme care to avoid damaging the gutter lips during the planing operation. Damaged gutter lips which are spalled in excess of one inch (1") deep by five inches (5") long will have to be repaired at the Engineer's direction. The cost of repairs to damaged gutter shall be considered as included in the price paid per ton of AC

overlay, and no separate payment shall be made therefore.

6. The street shall be swept with a mechanical type pickup machine throughout the course of grinding operations and shall be left thoroughly clean and clear of all grindings at the end of each working day and prior to placing temporary striping. The contractor shall have a separate power sweeper for every grinding machine used throughout the operation.
7. Extreme care shall be exercised to avoid spillage of grindings into drain inlets and rail tracks. Any such spillage shall be promptly removed. All vegetation shall be removed from the gutter lip and other street areas to be resurfaced.
8. The grindings shall become the property of the Contractor and disposed of off-site.
9. Contractor shall provide means for temporary lane delineation, including centerline (yellow) and/or lane lines (white), between the time of grinding operations and roadway paving. Temporary lane delineation shall consist of pavement markers, painted stripes or other means approved by the Engineer.
10. The Contractor shall obtain a hydrant permit from the City of Sacramento Department of Utilities for all equipment used requiring water from a fire hydrant.

TIME BETWEEN PAVEMENT PLANING AND PLACEMENT OF OVERLAY

Roadway surfaces receiving pavement planing shall be resurfaced within **one (1) calendar day** of planing operations.

Prior to 8:30 A.M. and after 4:00 P.M Monday through Friday, public traffic must have access to the number of lanes normally available on all streets unless otherwise approved.

Limits of pavement planing shall be determined by the Engineer and logged daily. The Engineer's log shall be used as the basis for determining the required overlay schedule. If the Contractor fails to complete the resurfacing within the required period, the Contractor may pay an administrative penalty of \$4,000 per day for each day that the road is not entirely resurfaced and temporary markers are not in place. The City shall have the right to deduct such administrative penalties from any amount due, or that may become due to Contractor, or the amount of such penalties shall be due and collectable from the Contractor or the Contractor's Surety.

HOT MIX ASPHALT OVERLAY TO PLACE

This work includes producing and placing Hot Mix Asphalt (HMA) overlay, using Caltrans Standard Process and in accordance with Caltrans Standard Specifications, City Standard Specifications and these Special Provisions.

1. The Contractor shall use a thirty foot (30') leveling ski on the free floating edge of the paving machine unless otherwise approved.
2. Paving work shall be continuous non-stop operation with delivery trucks arriving in a

uniform manner.

3. The Contractor shall submit to the Engineer a written construction plan to be used for every street segment throughout the project. This plan shall include: sweeping and cleaning equipment, paving equipment and speed; breakdown and finish roller type; roller speed and number of passes required; amplitude and period of roller vibration (if used); truck haul route; number of trucks and rate of material delivery. No Paving will be allowed until the written construction plan is approved.
4. The Contractor shall fill and level all surface irregularities and ruts to insure compliance with specified tolerances prior to paving.
5. Night time operations, if any, shall have sufficient lighting on the paving machine, rollers, and other equipment or areas for adequate inspection of the work and safe operation. The adequate lighting level shall be evaluated at the sole discretion of the Engineer.
6. Tack coats shall be in conformance with the requirements of Section 39 "Paint Binder (tack coat)" of the State Specifications. A tack coat shall be applied to all planed surfaces, paved surfaces to be resurfaced, vertical surfaces of existing pavements, curbs, gutters, and construction joints, and other surfaces as directed by the Engineer.
7. Tack coats shall be SS-1 asphalt emulsion unless otherwise approved. The proportion of SS-1 and water shall be 80/20, or as determined by the engineer, and shall be applied to the surface at an application rate from .02 to 0.10 gallons per square yard. Typical application rates vary from .05 gallons per square yard for smooth finished surfaces to .10 gallons per square yard for planed pavement surfaces.
8. Prior to applying tack coat, the street surface shall be swept clean by brooming or washed clean to the satisfaction of the Engineer. The length of the tack coat placed in advance of the paving operation shall be determined by the Engineer to minimized degradation of the tack coat by vehicular traffic. Under cold weather conditions, the Engineer may approve the use and application rate of viscosity grade AR-4000 or AR-8000 paving asphalt as a tack coat.
9. The material shall be brought to the site of the work in suitable vehicles so equipped that they will operate properly with the spreading equipment being used. The Engineer shall have the right to remove any vehicle from service which is not operating satisfactorily in the spreading of the material. Tarpaulins shall be provided for all trucks and shall be used whenever the Engineer may direct.
10. Asphaltic concrete shall not be placed on a wet base or subgrade, and the ambient air temperature shall be 50°F. and rising. The temperature of the mix shall not exceed 325°F. nor shall it be laid at a temperature below 260°F unless specifically authorized by the Engineer.
11. When placing an adjacent pass, asphalt concrete shall be placed when the temperature of the adjacent pass is above 120°F.

12. The nominal compacted thickness for each location is specified in these Special Provisions. The actual overlay thickness shall not vary more than one-quarter inch (1/4") from the nominal thickness specified. At gutter lips the finished grade of asphaltic concrete shall be slightly higher than the top of the lip but shall not exceed a maximum height of 1/2 "above the lip.
13. Asphaltic concrete surfacing shall be Type A, 3/4" maximum, coarse conforming to Section 39 of the State Standard Specifications. Asphalt binder to be mixed with the aggregate shall be steam-refined paving asphalt, paving grade PG 70-10. At least ten (10) days prior to the start of placement of asphalt concrete, the Contractor shall provide a job-mix formula showing conformance to the specifications. This submittal shall provide all laboratory test results for each binder content required to produce the job-mix formula. The Contractor shall designate the "target asphalt content" for each mix submitted.
14. Placement of asphaltic concrete shall not occur until the Contractor has received approval of the job-mix formula submitted in accordance with Section 22-1 of the Standard Specifications, and these Special Provisions.
15. The Contractor shall remove all existing pavement markers (reflective and non-reflective), and thermoplastic (and preformed plastic) traffic stripes and markings that are within the limits of resurfacing, including solid and broken long-line stripes, stop lines, crosswalk lines, crossbars, and word and symbol markings, prior to beginning paving operations on a particular street. **Removal of pavement markers and traffic stripes and markings in all streets requiring pavement planing, pavement kecutting and planed pavement conforms shall be performed by a method approved by the Engineer, and will not be paid separately but will be considered as included in the prices paid per ton of asphalt concrete.**
16. Where directed by the Engineer, suitable feathered connections to existing pavement shall be made using a No. 4 maximum grading aggregate or a 3/8" maximum grading aggregate, in conformance with State Specifications, Section 39.
17. Transverse paving joints shall be checked with a twelve-foot straight edge. When a twelve foot straight edge is placed across the transverse joint and parallel to the street centerline, the transition between finished surface and existing pavement shall not vary more than one-quarter inch (1/4") from the bottom of the straight edge.

The elevation difference between new and existing pavement at joints constructed where the work intersects existing cross-streets, and at asphaltic concrete curb ramps, shall not exceed 1/8". Conformance to this requirement shall be checked by measuring the elevation difference between the existing pavement and the bottom edge of a four foot (4') straight edge. The straight edge shall be placed on the new asphaltic concrete surface in a direction perpendicular to the street centerline, and with one end directly over the joint. It shall be held to the new pavement such that the greatest portion of its length abuts the pavement surface.

Any variations exceeding these limits or the tolerance requirements of Section 22-8 of the Standard Specifications, shall be corrected by a method approved by the Engineer.

Heating of the asphalt directly with an open flame or blowtorch and re-raking will not be permitted. The Contractor shall make every effort to implement the corrective measures on the same day as the asphaltic concrete was placed, or as soon thereafter as is practicable.

When constructing paving joints between new and existing pavement, the larger aggregate, which segregates from the mix during raking, shall be raked off of the fresh mat, and shall be discarded. All such waste material from paving operations shall be removed from the site at the end of the day.

18. Longitudinal paving joints shall coincide with the edges of proposed traffic lanes, except that on streets in which traffic striping tape is to be inlaid, longitudinal joints shall be constructed at a one foot (1') offset from the lane line. The Engineer may permit other patterns of placing longitudinal joints if he considers that such patterns will not adversely affect the quality of the finished product. Longitudinal joints shall not coincide with the wheel paths of traffic.
19. Spreading and compacting requirements shall be in conformance with Section 39 of the State Specifications except as noted herein. Compaction shall be subject to density testing in accordance with California Test Methods 304 and 308.
20. Contractor shall furnish a minimum of two (2) ten (10) ton steel wheel rollers and one (1) twelve (12) ton pneumatic tired roller unless otherwise approved by the Engineer. Vibratory rollers may be substituted when approved by the Engineer. At major intersections a third roller shall be used when directed by the Engineer. The initial vibrating or breakdown rolling of surface course shall be followed by additional rolling consisting of three (3) complete coverage with a pneumatic-tire roller, while the temperature of the mixture is at or above 150° F. The final rolling of surface course shall be performed with a ten (10) ton, two (2) axle tandem roller.
21. Asphalt concrete shall be compacted between a minimum of 92 percent and a maximum of 97 percent of Maximum Theoretical Density as determined by the American Society of Testing Materials (ASTM) D-2041 and in accordance with Section 22-8 of the Standard Specifications. Where the specified thickness of AC to be placed exceeds three inches (3"), or where directed by the Engineer, compaction shall be achieved in two equal lifts. Compaction around the ends of median islands shall be achieved by the use of a hand operated vibrating plate type compaction device immediately after placement of the asphaltic concrete.
22. When a straightedge twelve feet (12') long is laid on the finished surface and parallel with the center line, the surface shall not vary more than 0.01-foot from the lower edge of the straightedge. The transverse slope of the finished surface shall be uniform to a degree such that no depressions greater than 0.02-foot are present when tested with a straightedge twelve feet (12') long laid in a direction transverse to the center line and extending from edge to edge of a twelve foot (12') traffic lane. Contractor shall conform to the tolerance requirements of this specification unless otherwise approved by the Engineer in writing prior to the start of work. Contractor shall request information regarding

tolerances for streets having a parabolic section prior to the start of work.

23. Contractor shall place asphalt such that its finished surface is $\frac{1}{4}$ to $\frac{1}{2}$ inches above the gutter lip.
24. Pavement surface shall be deemed unacceptable should the surface hold water, the pavement ravel, an uneven gradation of mix be visible, cracking occurs, or roller creases are present during rolling. Pavement shall be removed by surface planing (a minimum depth of one and one-half inches (1½") when using one-half inch (½") mix, and two inches (2") inches when using three-quarter inch mix), and repaved to the satisfaction of the Engineer. Areas to be removed and replaced will be determined by the Engineer. Should a significant amount of surface be deemed unacceptable, the entire travel lane shall be resurfaced. A series of spot patches will not be accepted. The mix design used during resurfacing shall be the same as the adjacent pavement.
25. Pursuant to Section 5-14 of these Specifications, the Engineer will have the right and authority, but shall not be obligated, to retain imperfect work instead of requiring the imperfect work to be removed and reconstructed. Patch paving of imperfect work will not be allowed, and the amount of the deduction shall be based on full travel lane widths from beginning to end of the work limits or two nearest intersections as determined by the Engineer.
26. Pavement density will be determined by comparing the average density of cores taken from the compacted pavement to the maximum theoretical density as determined by ASTM D 2041. As required by the Engineer, the pavement will be inspected on a lot basis. A lot will consist of either five hundred (500) tons of asphalt for a surfacing project or four hundred (400) lineal feet of pavement for a trenching project. One sample shall be taken from each lot on a random basis. One laboratory-compacted specimen shall be prepared from each lot.

Cores for determining the density of compacted pavement will be taken on a lot basis with a minimum of three cores per lot. The density of each core shall be determined per ASTM D 2726-89. The cores shall be four inches (4") in diameter.

Contractor shall plug core holes taken by the material tester with asphalt compacted greater than ninety percent (90%) of relative compaction if cores are taken the same day as the contractor's paving operations. The core holes shall be plugged prior to the end of the workday. If required to facilitate the taking of cores, the contractor shall leave lane closures in place for a reasonable period of time (approximately thirty minutes after pavement has cooled enough to drive on).

27. All travel lanes shall be paved substantially equal at the end of the day.
28. Immediately after compaction operations are completed, the Contractor shall place, in a neat line, yellow temporary reflective raised pavement markers to delineate previously existing centerlines, and white temporary reflective raised pavement markers to delineate existing travel lanes. The temporary pavement markers shall be, at the option of the Contractor, one of the removable types listed elsewhere in these Special Provisions, or

approved equal. Markers shall be spaced at a minimum of 25' and a maximum of 50' apart or as directed by the Engineer. All work necessary, including any lines or marks, to establish the alignment of temporary pavement delineation shall be performed by the Contractor.

Full compensation for furnishing and placing the temporary reflective raised pavement markers will not be paid separately but will be considered as included in the prices paid per ton of asphalt concrete.

29. For all asphalt pavement subject to acceptance testing, the lot will be paid for using the following pay factors:

In Place Relative Compaction	Payment Factor
97.1% or higher (over-asphalted mix)	90%
92% – 97%	100%
89%-91.9% (marginal air voids)	85%
88.9% or less (unacceptable air voids)	Not acceptable (60% if otherwise approved)

The amount paid shall be at the unit price bid times the pay factor. For lots with average densities of 91.9% or less, the Engineer reserves the right to deem the lot as not acceptable and require the work to be removed and reconstructed. Unless otherwise approved by the Engineer, lots with average densities of less than 89% relative compaction shall be removed and reconstructed.

MAINTENANCE HOLE TO LOWER

Maintenance hole heads shall be temporarily removed or lowered below the grade of the planed surface. The hole shall be covered so as to support traffic and filled with asphaltic concrete. Asphaltic concrete shall be compacted prior to opening lane to traffic. **All debris, which enters the maintenance hole as a result of this operation, shall be removed immediately after lowering the maintenance holes.**

Prior to lowering maintenance hole heads or paving a street, the Contractor shall submit to the Engineer for his acceptance, drawings showing the location of all maintenance holes. Each maintenance hole shall be clearly identified by type, and shall be sequentially numbered on the drawing. The maintenance hole location shall be established by recording on the drawing and marking in the field, the radial distance from the maintenance hole to two (2) separate and distinct points on the street curb. Work shall not proceed on lowering maintenance hole heads or paving until such drawings have been reviewed and accepted by the Engineer.

MAINTENANCE HOLE TO RAISE

Maintenance hole heads shall be raised to conform to the grade of the new surface in accordance with these Special Provisions.

1. Maintenance hole lowering in any section of street shall be fully completed prior to milling.

2. Maintenance hole heads shall be brought to the new grade by raising the head in conformance with Paragraph 25-4 of the Standard Specifications, except that when the space between the top of the excavated maintenance hole and the bottom of the casting to be set exceeds three inches (3"), the space shall be reduced to one inch (1") or less by the use of grade rings. The requirement for adding or removing risers to keep the maintenance hole head between six inches (6") and eighteen inches (18") from top of cone to finish grade may be waived upon approval of the Engineer.

The use of separate extension ring castings will not be permitted.

3. Maintenance hole heads lowered or removed and covered under the item "Maintenance Hole to Lower" shall have the maintenance hole heads reinstalled (if necessary) and raised to the grade of the new surface under this item.
4. Excavations to install maintenance hole heads previously lowered or removed, or to raise maintenance hole heads to the new pavement grade, shall be such that there is a minimum of one foot (1') clear space between the rim of the casting to be installed and the circumference of the excavated pavement. The minimum depth of the annular region formed shall be two inches (2") below the finish grade of the casting flange.

In all other aspects, removal of existing heads to be raised shall conform to the section "Maintenance Hole to Lower".

5. Castings shall be thoroughly cleaned of all loose or cracked Portland Cement Concrete prior to reinstallation, and the excavated area and casting shall be thoroughly wetted prior to receiving mortar or concrete. The mortar and concrete used shall be hand placed or shovel sliced so that all voids between the existing head and casting are filled.
6. Asphalt patch shall consist of 3/8" maximum aggregate in conformance with Section 39.202 of the State Specifications.
7. The finished grade of the maintenance hole head and asphaltic concrete placed around it shall be checked with a straight edge. When a straight edge of sufficient length to span the diameter of the cut pavement surface is placed across the center of the maintenance hole, in either a perpendicular or parallel direction with respect to the street centerline, the distance between the bottom of the straight edge and either the top of the casting, existing pavement surface, or asphaltic concrete in the annular region, shall not exceed one-quarter inch (1/4") when measured within the outer circumference of the annular region.
8. Maintenance hole raising or lowering in any section of street shall be fully completed during the workday so as to permit full use by traffic at the end of the workday.
9. Raising maintenance hole heads must be completed within 10 working days of placing the asphaltic concrete overlay. All debris, which enters the maintenance hole as a result of this operation, shall be removed immediately after raising the maintenance holes. The Contractor is responsible for damage done to traffic striping placed by another Contractor.

The Contractor shall verify that all lowered maintenance holes are raised back to grade by

back checking against drawings. The Contractor shall perform field review with the Engineer to ensure all maintenance holes shown on the drawings have been raised to grade. **If during the review the Engineer determines a maintenance hole has not been raised by the Contractor, the Contractor may pay a \$1,000 administrative penalty for each maintenance hole not adjusted to grade.**

10. A sand seal coat shall be applied to areas repaved due to the raising of maintenance holes and where directed by the Engineer.

Sand seal shall be provided and placed in accordance with the General Provisions of Section 37-1, "Seal Coats" of the State Specifications, except as modified herein:

The asphaltic materials for the construction of sand seal shall be RS-1 or SS-1 conforming to the requirements set forth in Section 94, "Asphaltic Emulsions," of the State Specifications.

The rate of application of emulsion shall vary between 0.08 and 0.15 gallon per square yard as directed by the Engineer, depending upon the surface condition and weather.

Aggregate for sand seal shall conform to the provisions of Section 37-2.02C, "Aggregate," of the State Specifications for Type 1 aggregate and shall be spread at the rate of 6 to 10 pounds per square yard, as directed by the Engineer.

Preparation for seal coat, applying bituminous binder, spreading, and finishing shall be in accordance with Section 37 of the State Specifications, with the exception that steel wheeled rollers for sand seal may be eliminated and the pneumatic roller used for all seal operations.

All bituminous pavement replacements sealed shall receive the seal coat for the full width of the pavement replacement, plus a minimum of six (6) inches on each side of the pavement replacement, except that seals shall not overlap concrete curb and gutter.

WATER VALVE BOX TO LOWER

Water valve boxes shall be temporarily lowered (or removed and the hole covered so as to support traffic) below the grade of the planed surface and covered with asphalt concrete. Asphaltic concrete shall be compacted prior to opening lane to traffic. In all other respects, this item shall conform to the section "Maintenance hole to Lower" found elsewhere in these Special Provisions.

Lowering of sewer cleanouts and flushers are included in this item and shall conform to this item, "Water Valve Box to Lower".

WATER VALVE BOX TO RAISE

Water valve boxes shall be raised to the grade of the new pavement surface. This item shall also include furnishing and placing new water valve boxes and steel standpipes (risers) and liners as required by the Engineer. All debris, which enters the water valve box as a result of

this operation, shall be removed immediately after raising the water valve box. All work shall meet the applicable requirements of Sections 27 and 38 of the Standard Specifications, and these Special Provisions.

1. The Contractor will notify the Division of Water (433-5271) one (1) week prior to planing or key cutting of City streets.
2. The Contractor shall provide to the Engineer for his review and approval swing tie measurements to all existing water valves, as specified in "Maintenance Hole to Lower," bid item prior to beginning work on a street.
3. The Contractor shall ensure that water valve box covers are not covered with asphaltic coatings during paving operations. Standpipes shall be left clean and free of paving materials and debris. The valve operating nut shall be left fully exposed after all paving operations have been completed.
4. Existing cast iron water valve boxes may be reused if the valve box covers and framers are not damaged, deficient or broken. Installation shall be in accordance with details SD-10 and SD-11 of Section 38 of the Standard Specifications. All other valve boxes shall be replaced with a new valve box conforming to detail SD-9 and installed in accordance with detail SD-11. Unused water valve boxes shall become the property of the Contractor and shall be disposed of away from the project site.

The Contractor shall verify that all lowered water valve boxes are raised back to grade by back checking against drawings. The Contractor shall perform field review with the Engineer to ensure all water valve boxes shown on the drawings have been raised to grade. **If during the review the Engineer determines a water valve box has not been raised by the Contractor, the Contractor shall pay a \$500 administrative penalty for each water valve box not adjusted to grade.**

5. All standpipes shall extend a minimum of two inches (2") into the raised water valve boxes. Extension of eight-inch (8") diameter standpipes not meeting this requirement shall be accomplished by the methods shown on detail SD-11 of Section 38 of the Standard Specifications. Standpipes that are damaged or broken, and existing six-inch (6") standpipes, which cannot be lengthened to meet this requirement by welding on a steel standpipe extension, shall be removed and replaced. Standpipe shall be free of burrs and sharp edges. Installation of new standpipe shall conform to the provisions of detail SD-8.
6. The finished grade of raised water valve boxes shall be checked with a straight edge. When a straight edge is placed across the valve box, the distance between the bottom of the straight edge and either the valve box, existing pavement surface, or asphaltic concrete placed around the valve box, shall not exceed one-quarter inch (1/4") when measured within the perimeter of the pavement cut.
7. Raising (or lowering) water valve boxes in any section of street shall be fully completed during the workday so as to permit full use of traffic at the end of the work day. Should the Contractor be unable to fully complete a water valve box by the above time, a temporary asphaltic cutback surface shall be placed in any depression so as to provide a smooth

traveling surface until the water valve box can be fully completed. The use of barricades around incomplete water valve boxes during night hours is not permitted.

8. Asphalt concrete patch shall consist of 3/8" maximum aggregate in conformance with Section 39.202 of the State Specifications.
9. A sand seal coat shall be applied to areas re-paved due to the raising of water valves as described in the section "Maintenance Hole to Raise", located elsewhere in these Special Provisions.
10. Raising of sewer cleanouts and flushers are included in this item and shall conform to this section, "Water Valve Box to Raise."

RAISED REFLECTIVE PAVEMENT MARKER TO PLACE

Raised reflective pavement markers shall be placed where shown on the Plans or as directed by the Engineer and shall conform to the applicable requirements of Section 32 of the Standard Specifications and these Special Provisions.

This item shall include the placement of blue raised reflective pavement markers to identify fire hydrants. See section 32 of the Standard Specifications for placement requirements of blue markers.

The cost of removing existing raised reflective pavement markers shall be included in this item of work.

THERMOPLASTIC TRAFFIC STRIPE (4", 6", 8", 12") AND PAVEMENT MARKING TO PLACE

Thermoplastic traffic stripes and pavement markings, both white and yellow, shall be placed where shown on the Plans or as directed by the Engineer and shall conform to the applicable requirements of Section 32 of the Standard Specifications and these Special Provisions.

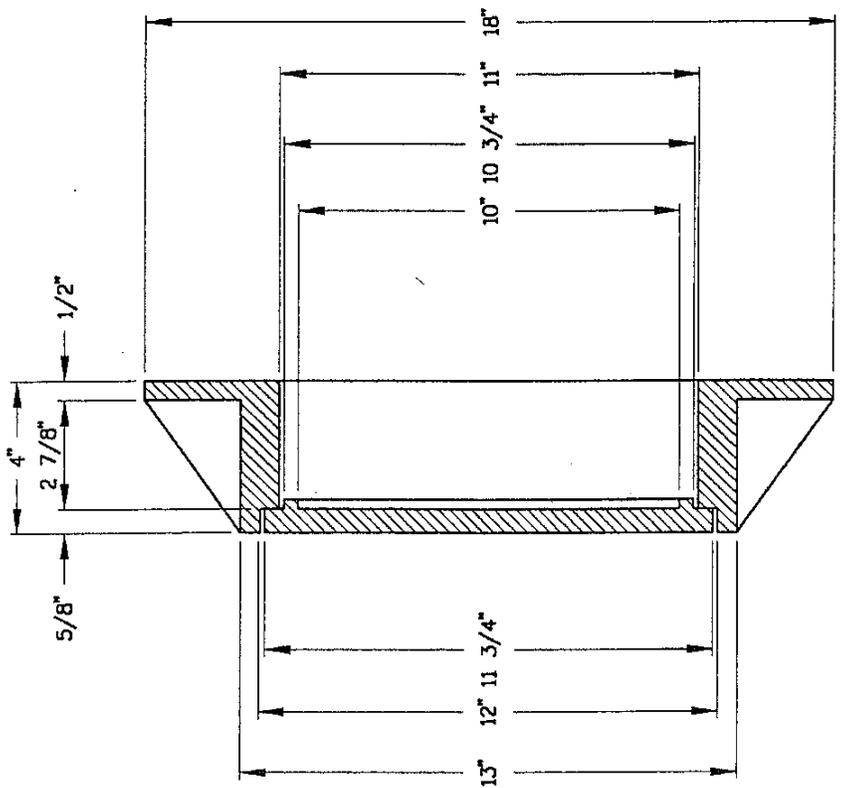
The Contractor shall place the striping and markings after the resurfacing has been set for three (3) calendar days, but no later than seven (7) calendar days after resurfacing was completed. **If the Contractor fails to place the striping and markings in the time period allowed, the Contractor shall pay an administrative penalty of \$500 per calendar day for each street that is not completed.**

Payment shall be at the unit price bid per ton and shall include full compensation for furnishing all labor, materials, tools equipment and incidentals and for doing all work involved in placing asphalt concrete including pavement grinding or planing, lowering and raising existing iron, placing asphalt, removing and replacing traffic striping and raised reflective pavement markers where shown on the Plans as specified in these Special Provisions and as directed by the Engineer.

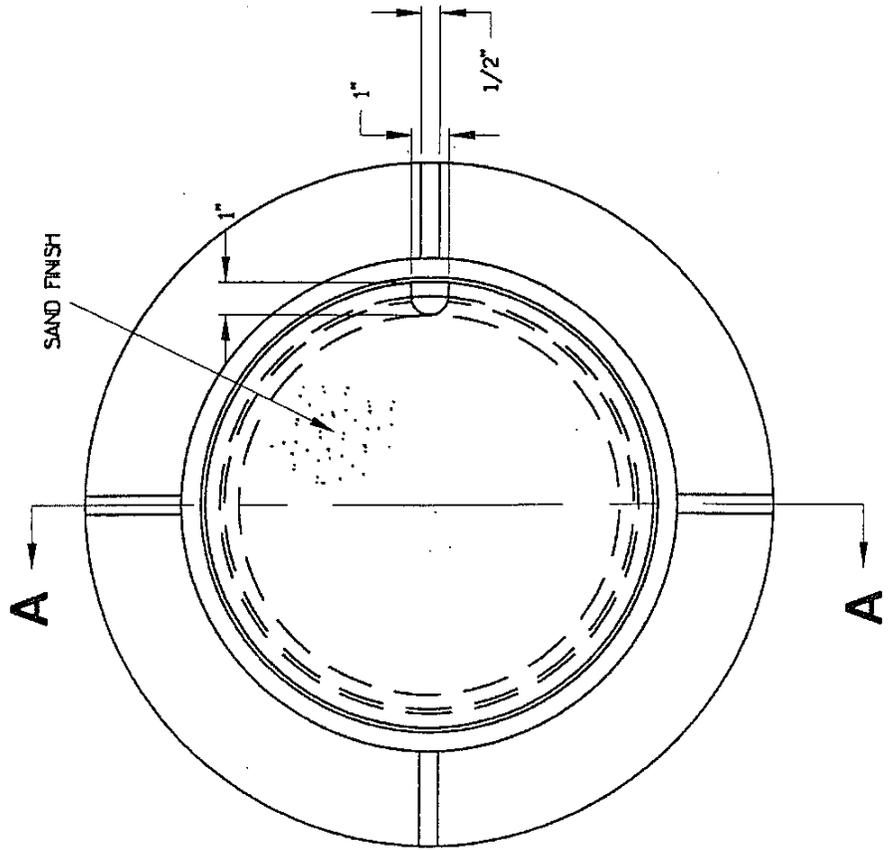
END OF SPECIAL PROVISIONS

APPENDIX A

1. Cast Iron Cleanout Assembly Detail
2. RT Permit Application
3. Combined Sewer System Map 1
4. Combined Sewer System Map 2



SECTION A-A



CAST IRON CLEANOUT ASSEMBLY

REVISION DATE: MAY 14, 1997

CITY OF SACRAMENTO
DEPARTMENT OF UTILITIES

APPROVED BY: R. BATHA NO SCALE
DRAWN BY: B. GRANT DWG. NO.: A-1



Sacramento Regional Transit District
P.O. Box 2110
Sacramento, CA 95812-2110

APPLICATION FOR PERMIT

Permit Number: _____

APPLICANT: _____ Date: _____

ADDRESS: _____

_____ Phone: (____) _____

Person familiar with details of application: Name: _____ Phone: (____) _____

APPLICATION IS HEREBY MADE FOR THE PERMIT TO PERFORM THE FOLLOWING:

1. Applicant's work order or job number: _____

2. Location of work: Name of Road _____ Between _____

3. Describe completely work to be done: _____

4. Submit Plans to Scale (3 copies) showing plan view and cross-section, indicating clearly location of work with respect to centerline of track, face of curb, edge of pavement or property line. Show clearance and type and size of facilities proposed.

5. Estimated state date: _____ Completion date: _____

6. Applicant's Inspector, Contractor, Foreman or Supervisor as appropriate:

Name: _____ Company: _____ Phone: (____) _____

Note: General Conditions on reverse side and "Special Provisions" below are a part of this Permit. By starting work applicant accepts all General Conditions and Special Provisions. Call RT Metro Wayside Maintenance Superintendent (556-0461) 24 hours prior to starting work to notify RT and request inspection.

Company: _____

Title: _____

Signed: _____ Date: _____

REVIEW (RT USE ONLY)

Engineering Services Division

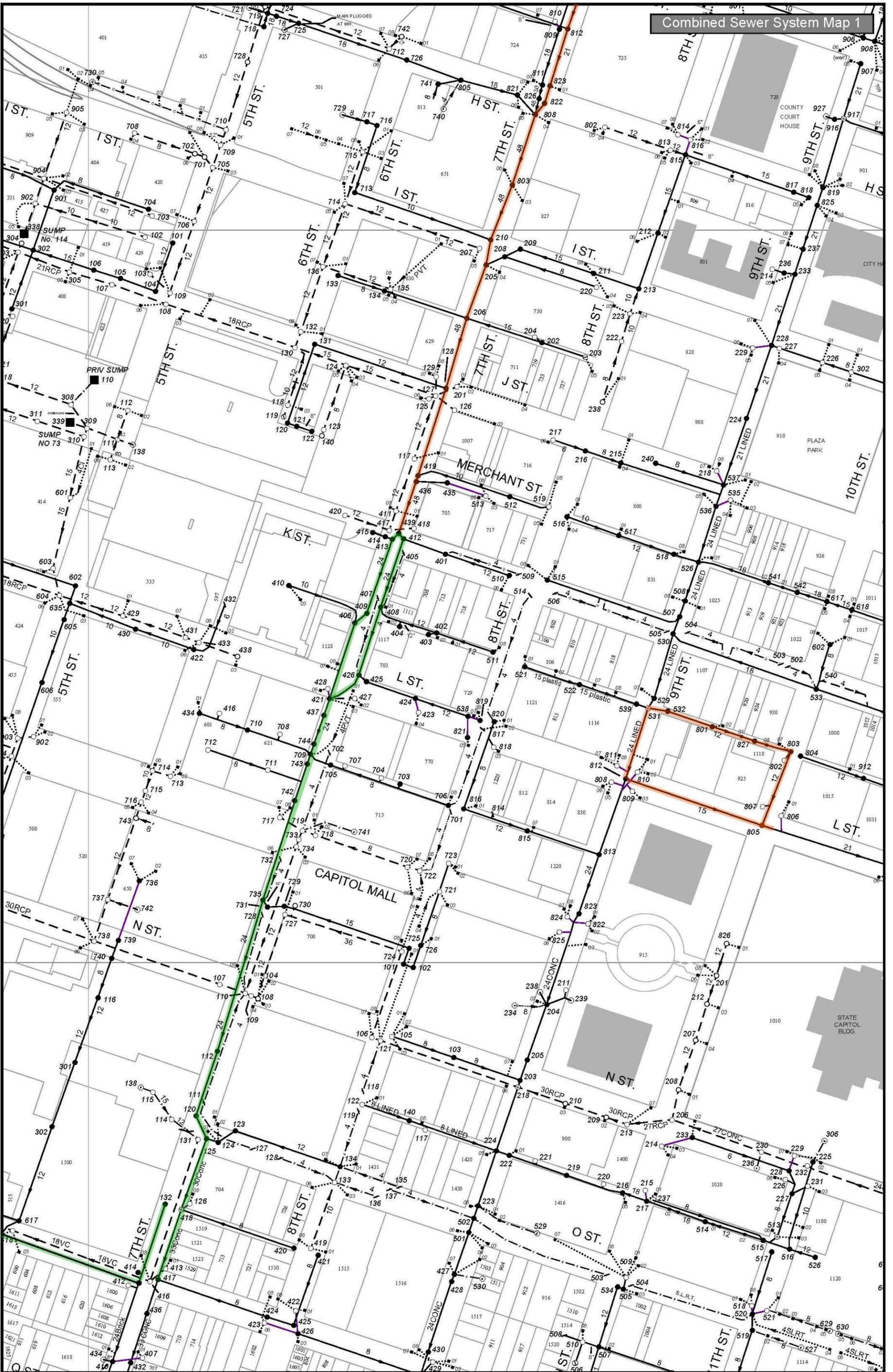
Wayside Maintenance
Safety OTS Training

Permit Expires: _____ Permit Fee: \$ _____

JPA Fee: \$ _____

SPECIAL PROVISIONS (RT USE ONLY)

Approved By: _____ Date: _____



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Department of Utilities
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Department of Utilities
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APPENDIX B

Notification Letter

Constructing Sewer Main [Distribute 2 working days prior to beginning work]

(CONTRACTOR LETTER HEAD)

Dear Resident or Business Owner,

The City of Sacramento, Department of Utilities, awarded a construction contract to **(Contractor)** to replace the combined sewer/drainage pipeline **add location here**.

During the course of construction, a portion of the street will be closed to through traffic. In addition, if your garage, driveway, or parking area is accessed from the street, access may be temporarily restricted during the period that construction takes place in front of your driveway. At the end of each work day, the street will be re-opened. Our work hours are typically between **7 AM to 6 PM**. In an effort to minimize driveway access delays, you may consider moving your vehicle before the construction crews begin work.

General public and construction crew safety is of primary concern to us and we encourage you to observe the construction signs. We realize this construction 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 one of the project representatives listed below:

Contractor Superintendent: *Name, Phone Number*

City Inspector: *Name, Phone Number*

City Inspection Supervisor: *Name, Phone Number*

City Project Manager: *Name, Phone Number*

Pipeline work is scheduled to begin in your neighborhood on _____.

Once the pipelines are constructed, we will restore the affected portion of the street surface. The anticipated project completion date is _____.

Thank you for your cooperation on this very important project.

Sincerely,

Contractor Representative

APPENDIX C

Geotechnical Data Report

June 10, 2014
X14010063

TECHNICAL MEMORANDUM

TO: Dale Mathison

FROM: Gary Gulseth

SUBJECT: **Geotechnical Data Report**
7th Street Sewer Replacement (X14010063)
Sacramento, California

This technical memorandum (TM) presents the results of a geotechnical data investigation for the subject project. The following presents a brief description of the field investigation performed and a discussion regarding the subsurface soil and groundwater conditions encountered. In addition, a discussion is presented regarding the limitations of the investigation and conditions for use of the data. Finally, maps showing exploration locations and the boring logs are attached.

Field Investigation

Between April 11 and 14, 2014, the Youngdahl Consulting Group, Inc. (Youngdahl) explored the subsurface conditions near the project alignment by drilling nine borings to depths ranging from about 4½ to 21½ feet below the pavement grade. The approximate boring locations are shown on attached Figure A-1 and the project plans.

At each boring, the pavement surface was cored and a hand auger was first used to excavate to depths of about 4½ to 5 feet. At three boring locations (B-3, B-6 and B-8) the borings were terminated at this point after encountering metal and concrete pipe. At the remaining six locations, the borings were drilled to their final depths using a CME-55 truck-mounted drill rig equipped with 6 inch diameter hollow-stem augers. During drilling operations, penetration tests were performed in accordance with ASTM D1586 at regular intervals using a modified California sampler to evaluate the relative density of coarse-grained (cohesionless) soil and to retain soil samples for pocket penetrometer and laboratory testing. The pocket penetrometer data was used to evaluate the consistency of the fine-grained (cohesive) soil encountered. The penetration tests were performed by initially driving the sampler 6 inches into the bottom of the bore hole using a 140 pound automatic hammer falling 30 inches to penetrate the loose soil cuttings and “seat” the sampler. Thereafter, the sampler was progressively driven an additional 12 inches, with the results recorded as the corresponding number of blows required to advance the sampler 12 inches. A representative from Youngdahl maintained the boring logs and visually classified soils encountered according to the Unified Soil Classification System as defined by ASTM 2487. The Youngdahl boring logs are presented on attached Figures A-2 through

A-10. A key to the boring logs is presented on attached Figure A-11.

On September 10, 2007, Sage explored the subsurface conditions near the project alignment for the K Street Pedestrian Mall Renovation by drilling one boring to a depth of about 16½ feet below the concrete sidewalk. The approximate boring location is shown on attached Figure 2B. The boring was reported to have been drilled using a portable Minuteman drill rig equipped with 3-inch diameter solid flight auger and a 140 pound trip hammer. Both standard penetration and modified California samplers were used to evaluate penetration resistance and to retain soil samples for laboratory testing. A key to the Sage boring log is presented on attached Figure A-1 and the boring log is presented on attached Figure A-4.

Laboratory Testing

Laboratory tests were performed in accordance with current ASTM standards on selected soil samples to evaluate their physical characteristics and engineering properties. The laboratory testing program was formulated with emphasis on the evaluation of natural moisture content, in-place density, percent passing the #200 sieve, plasticity, and maximum density/optimum moisture content of the materials encountered.

The results of laboratory tests performed on soil samples obtained by Youngdahl are presented on the boring logs and attached Figures B-1 through B-10. The results of laboratory tests performed on soil samples obtained by Sage are presented on the boring log.

Subsurface Conditions

The following presents a general description of the subsurface conditions encountered at each exploration. Detailed descriptions of the subsurface conditions encountered are presented on the attached boring logs.

Youngdahl Consulting Group, Inc.

Boring B-1

The subsurface conditions encountered consisted of about 7 inches of asphalt-concrete underlain by aggregate base rock to a depth of about 2½ feet. The pavement section was underlain by medium stiff Clay (CL) fill with scattered debris to a depth of about 10 feet below site grade. The fill was followed by soft to medium stiff Silt (ML) to a depth of about 15 feet and medium stiff, sandy lean Clay (CL) to a depth of about 21 feet, the maximum depth explored. The soil moisture condition was generally very moist (moisture content several percentage points above standard proctor optimum).

Boring B-2

The subsurface conditions encountered consisted of about 5 inches of asphalt-concrete underlain by aggregate base rock to a depth of about 2 feet. The pavement section was underlain by medium stiff Silt (ML) fill with scattered debris to a depth of about 5 feet below site grade. The fill was followed by medium stiff sandy Silt (ML) to a depth of about 10 feet and loose to medium dense silty Gravel with sand (GM) to a depth of about 21 feet, the maximum depth explored. The soil moisture condition ranged from moist (moisture content near standard proctor optimum) to wet (moisture content near saturation).

Boring B-3

The subsurface conditions encountered consisted of about 8 inches of asphalt-concrete underlain by about 8 inches of concrete. The concrete was underlain by aggregate base rock with interbedded cobbles to a depth of about 5 feet below site grade. The boring was terminated on what appeared to be a cast iron pipe of unknown diameter.

Boring B-4

The subsurface conditions encountered consisted of about 16 inches of asphalt-concrete underlain by about 4 inches of concrete. The pavement section was underlain by medium stiff to stiff Silt (ML) fill with scattered debris and cobble to a depth of about 10 feet below site grade. The fill was followed by soft to medium stiff Silt (ML) to a depth of about 21 feet, the maximum depth explored. The soil moisture condition ranged from moist to very moist.

Boring B-5

The subsurface conditions encountered consisted of about 8 inches of asphalt-concrete underlain by about 4 inches of concrete. The pavement section was underlain by medium stiff to stiff Silt (ML) fill to a depth of about 10 feet below site grade. The fill was followed by soft to medium stiff Silt (ML) to a depth of about 21 feet, the maximum depth explored. The soil moisture condition ranged from moist to very moist.

Boring B-6

The subsurface conditions encountered consisted of about 10 inches of asphalt-concrete underlain by about 4 inches of concrete. The concrete was underlain by aggregate base rock to a depth of about 2 feet, followed by medium dense silty Sand (SM) to a depth of about 4½ feet below site grade. The boring was terminated on what appeared to be an 8 to 12 inch diameter metal pipe.

Boring B-7

The subsurface conditions encountered consisted of about 9 inches of asphalt-concrete underlain by about 5 inches of concrete. The pavement section was underlain by medium stiff sandy Silt (ML) fill with interbedded cobble to a depth of about 5 feet below site grade. The fill was followed by soft to very stiff Silt with sand (ML) to a depth of about 21 feet, the maximum depth explored. The soil moisture condition ranged from moist to wet.

Boring B-8

The subsurface conditions encountered consisted of about 6 inches of asphalt-concrete underlain by aggregate base rock to a depth of about 2 feet below the pavement surface. The pavement section was underlain by medium dense silty Sand (SM) to a depth of about 5 feet below site grade. The boring was terminated on what appeared to be an 8 inch diameter gas main.

Boring B-9

The subsurface conditions encountered consisted of about 8 inches of asphalt-concrete underlain by aggregate base rock to a depth of about 2 feet. The pavement section was underlain by medium stiff Clay with sand (CL) fill with trace gravel to a depth of about 5 feet below site grade. The clay fill was followed by very stiff Silt (ML) fill to a depth of about 10 feet and soft to stiff sandy Silt (ML) to a depth of about 21 feet, the maximum depth explored. The soil moisture condition ranged from moist to very moist.

Sage

Boring B-2

The subsurface conditions encountered consisted of about 3½ inches of sidewalk concrete underlain by medium stiff Clay (CL) fill with scattered debris to a depth of about 5 feet below site grade. The fill was followed by medium stiff Silt (ML) to a depth of about 11 feet and loose to medium dense, silty Sand (SM) to a depth of about 13½ feet. The sand was further underlain by medium stiff to stiff Clay (CL) to a depth of about 16½ feet, the maximum depth explored. The soil moisture condition ranged from dry (moisture content below standard proctor optimum) to moist.

Groundwater

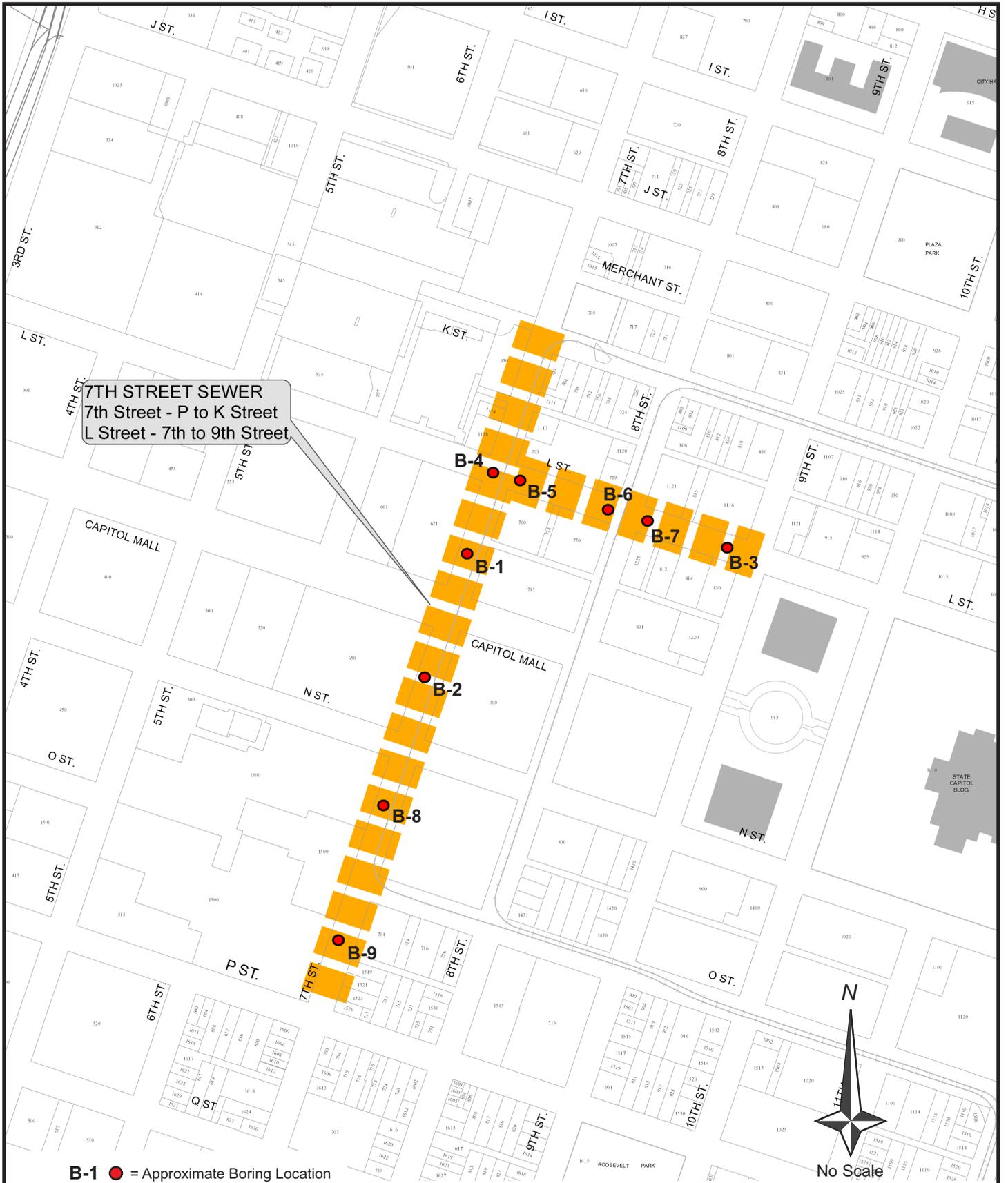
The project site lies within an area typically underlain by unconsolidated, geologically young (Holocene) alluvium. Groundwater within this deposit is usually considered unconfined with groundwater depths generally influenced by the stage and duration of stage of the nearby Sacramento River and, to a lesser extent, from infiltration of precipitation and irrigation water. Thus, groundwater depths are typically shallowest in winter months when river levels are at their highest and deeper in the summer months.

Other factors, such as leaking water pipes, etc., could create isolated areas of higher groundwater. The evaluation of such factors is beyond the intent of this investigation.

Groundwater was encountered at depths of about 16 to 20 feet below site grade at the Youngdahl borings and no groundwater was encountered in the Sage boring. The Sacramento River was at or near normal/low levels at the time of the explorations. A review of the Sacramento County Groundwater Elevation Maps (County of Sacramento, Water Resources Division) indicates that during high rainfall years that spring time groundwater levels have risen as much as about 5 feet.

Limitations and Conditions

The purpose of this TM is to provide the contractor geotechnical data regarding the soil and groundwater conditions that potentially could be encountered during construction, in order to provide a basis for bidding and for resolution of disputes that may arise during construction concerning the subsurface conditions. The geotechnical conditions contained in this report are not necessarily geotechnical fact. It is possible that variations in the soil conditions exist between and beyond the points of exploration, or the groundwater elevation may change. No warranty, expressed or implied, is made. The contractor should select their equipment, means and methods using judgment based on the subsurface conditions encountered and their experience with similar projects in the Sacramento area. The contractor should not receive additional compensation for actual conditions that are more favorable than these subsurface conditions.



Depth (Feet)	Graphic Log	Ground Water	ASTM D2487 - 11 Soil Classification	Sample	Blow Count	Dry Density (pcf)	Moisture Content (%)	Tests & Comments
1			Asphalt 7" AB					
2			Dark brown lean CLAY with sand (CL) , medium stiff, very moist, with trash debris (FILL)					
3			Grades light brown (FILL)					
4								
5								
6					8	84	34.0	Bulk 1 @ 3' - 5' -200 = 80% PI = 16 LL = 38 Slight petroleum like odor Pocket Pen: 1.5 tsf
7					6	83.2	31.7	
8								
9								
10			Light brown SILT (ML) with trace clay, soft, with 1/16" diameter pores, very moist, slight petroleum like odor (NATIVE?)					Pourous -200 = 97% Pocket Pen: 0.5 tsf Pocket Pen: 1.0 tsf Pocket Pen: 1.25 tsf Pocket Pen: 1.25 tsf
11					5	76.3	40.8	
12								
13								
14								
15			Light brown sandy lean CLAY (CL) , medium stiff, with orange mottling, very moist, with slight petroleum like odor (NATIVE)					Pocket Pen: 1.5 tsf Pocket Pen: 1.5 tsf
16					8	85.2	31.6	
17								
18								
19								
20			Groundwater at 20'					
21			Boring terminated at 21' Groundwater encountered at 20'					
22								
23								
24								
25								
26								
27								

Note: The boring log indicates subsurface conditions only at the specific location and time noted. Subsurface conditions, including groundwater levels, at other locations of the subject site may differ significantly from conditions which, in the opinion of Youngdahl Consulting Group, Inc., exist at the sampling locations. Note, too, that the passage of time may affect conditions at the sampling locations.

Depth (Feet)	Graphic Log	Ground Water	ASTM D2487 - 11 Soil Classification	Sample	Blow Count	Dry Density (pcf)	Moisture Content (%)	Tests & Comments
1			Asphalt 5" AB with trace cobbles					
2			Dark brown SILT (ML) with trace fine sand and trace clay, medium stiff, moist, with trash debris (FILL)					 Bulk 2 @ 2' - 5'
3								
4								
5			Dark brown sandy SILT (ML) , with trace clay and little cobble 3" to 4" in diameter, medium stiff, moist to vert moist					
6								
7					6	83.0	24.1	-200 = 67%
8			<i>Grades with trace gravel</i>		8	84.7	25.7	
9								
10			Brown silty GRAVEL with sand (GM) with trace clay, medium dense, moist to wet (NATIVE)					
11					7	115.8	10.2	-200 = 30%
12								
13								
14								
15								
16			Groundwater at 16'; very moist to wet		7	87.6	29.9	Pocket Pen: 1.5 tsf
17								
18								
19								
20								
21					4			
22			Boring terminated at 21.5' Groundwater encountered at 16'					
23								
24								
25								
26								
27								

Note: The boring log indicates subsurface conditions only at the specific location and time noted. Subsurface conditions, including groundwater levels, at other locations of the subject site may differ significantly from conditions which, in the opinion of Youngdahl Consulting Group, Inc., exist at the sampling locations. Note, too, that the passage of time may affect conditions at the sampling locations.

Logged By: **DHR** Date: **12 April 2014** Elevation: **~ Unknown** Boring No. **B-3**

Equipment: **Hand Auger**

Depth (Feet)	Graphic Log	Ground Water	ASTM D2487 - 11 Soil Classification	Sample	Blow Count	Dry Density (pcf)	Moisture Content (%)	Tests & Comments
1			Asphalt 8"					
2			Concrete 8"					
2			AB with cobbles 3" to 4" in diameter (moist)					Bulk 3 @ 1.5' - 4'
4			Unmarked Cast Iron Pipe Unknown Diameter					
5			Boring terminated at 5' No free groundwater encountered					
6								
7								
8								
9								
10								
11								
12								
13								
14								
15								
16								
17								
18								
19								
20								
21								
22								
23								
24								
25								
26								
27								

Note: The boring log indicates subsurface conditions only at the specific location and time noted. Subsurface conditions, including groundwater levels, at other locations of the subject site may differ significantly from conditions which, in the opinion of Youngdahl Consulting Group, Inc., exist at the sampling locations. Note, too, that the passage of time may affect conditions at the sampling locations.

Depth (Feet)	Graphic Log	Ground Water	ASTM D2487 - 11 Soil Classification	Sample	Blow Count	Dry Density (pcf)	Moisture Content (%)	Tests & Comments
1			Asphalt 16"					
2			Concrete 4"					
2			Brown SILT (ML) with trace fine sand and trace clay, medium stiff, moist, interlayered with some cobble 3" to 6" in diameter and trash debris and trace gravel (FILL)					Bulk 4 @ 2.5' - 5'
3								
4								
5								
6			<i>Stiff, very moist</i>		9			Pocket Pen: 2.0 tsf Pocket Pen: 2.75 tsf -200 = 99% PI = 19 LL = 46
7								
8								
9								
10								
11			Brown SILT (ML) with trace fine sand and trace clay, orange mottling, 1/6" diameter pores, medium stiff, very moist (NATIVE)		8	81.3	32.0	Pocket Pen: 1.5 tsf Pocket Pen: 1.5 tsf -200 = 90%
12								
13								
14								
15								
16			<i>Grades with 1/6" to 1/8" diameter pores, soft to medium stiff</i>		4	81.1	36.4	Pocket Pen: 1.0 tsf
17		▽	<i>Groundwater at 17.5'</i>					
18								
19								
20								
21								
22			Boring terminated at 21.5' Groundwater encountered at 17.5'		2			
23								
24								
25								
26								
27								

Note: The boring log indicates subsurface conditions only at the specific location and time noted. Subsurface conditions, including groundwater levels, at other locations of the subject site may differ significantly from conditions which, in the opinion of Youngdahl Consulting Group, Inc., exist at the sampling locations. Note, too, that the passage of time may affect conditions at the sampling locations.

Depth (Feet)	Graphic Log	Ground Water	ASTM D2487 - 11 Soil Classification	Sample	Blow Count	Dry Density (pcf)	Moisture Content (%)	Tests & Comments
1			<i>Asphalt 8"</i>					
1			<i>Concrete 4"</i>					
1			Brown sandy SILT (ML) with trace clay, medium stiff, moist (FILL)					
2								
3								
4								
5								
6			<i>Grades with 1/6" diameter pores, medium stiff to stiff, very moist</i>		9			
7					11	70.1	34.9	 Bulk 5 @ 2' - 5' -200 = 69% PI = NP LL = 38 Pocket Pen: 2.0 tsf Pocket Pen: 2.5 tsf -200 = 75%
8								Pocket Pen: 3.0 tsf
9								
10								
11			Brown SILT (ML) with trace fine sand and trace clay, with 1/6" to 1/8" diameter pores, medium stiff, very moist (NATIVE)		7	76.5	31.5	Pocket Pen: 2.0 tsf Pocket Pen: 1.5 tsf
12								
13								
14								
15								
16			<i>Grades very soft to soft, very moist</i>		4	87.9	34.3	Pocket Pen: 0.25 tsf Pocket Pen: 0.5 tsf Pocket Pen: 0.75 tsf
17			<i>Groundwater at 17.5'</i>					
18								
19								
20								
21								
22			Boring terminated at 21.5' Groundwater encountered at 17.5'					
23								
24								
25								
26								
27								

Note: The boring log indicates subsurface conditions only at the specific location and time noted. Subsurface conditions, including groundwater levels, at other locations of the subject site may differ significantly from conditions which, in the opinion of Youngdahl Consulting Group, Inc., exist at the sampling locations. Note, too, that the passage of time may affect conditions at the sampling locations.

Logged By: **DHR** Date: **12 April 2014** Elevation: **~ Unknown** Boring No. **B-6**

Equipment: **Hand Auger**

Depth (Feet)	Graphic Log	Ground Water	ASTM D2487 - 11 Soil Classification	Sample	Blow Count	Dry Density (pcf)	Moisture Content (%)	Tests & Comments
1			<i>Asphalt 10"</i> <i>Concrete 4"</i>					Bulk 6 @ 3' - 4.5'
2			<i>AB</i> Brown silty SAND (SM) , medium dense, moist (FILL)					
3								
4			<i>8" - 12" Black Metal Pipe</i>					
5			Boring terminated at 4.5' No free groundwater encountered					
6								
7								
8								
9								
10								
11								
12								
13								
14								
15								
16								
17								
18								
19								
20								
21								
22								
23								
24								
25								
26								
27								

Note: The boring log indicates subsurface conditions only at the specific location and time noted. Subsurface conditions, including groundwater levels, at other locations of the subject site may differ significantly from conditions which, in the opinion of Youngdahl Consulting Group, Inc., exist at the sampling locations. Note, too, that the passage of time may affect conditions at the sampling locations.

Depth (Feet)	Graphic Log	Ground Water	ASTM D2487 - 11 Soil Classification	Sample	Blow Count	Dry Density (pcf)	Moisture Content (%)	Tests & Comments
1			<i>Asphalt 9"</i>					
1			<i>Concrete 5"</i>					
2			Brown sandy SILT (ML) with trace clay and abundant cobbles 3" to 4" in diameter, and trace gravel, medium dense, moist (FILL)					Bulk 7 @ 3.5' - 5' -200 = 71%
3			<i>Grades with no cobbles</i>					
5			Brown SILT with sand (ML) with trace gravel, very stiff, very moist (NATIVE)		19		Pocket Pen: 4.25 tsf Pocket Pen: 4.5 tsf -200 = 75% PI = 9 LL = 34	
6			<i>Grades with trace clay, moist, medium stiff</i>					
11					12	98.3	19.3	Pocket Pen: 1.25 tsf Pocket Pen: 1.5 tsf Pocket Pen: 1.75 tsf
16			<i>Grades very soft to soft</i>					
17			<i>Groundwater at 17'</i>					
20			<i>Grades with trace fine sand and trace clay, stiff, very moist to wet</i>					
21					31	94.9	27.2	Pocket Pen: 3.25 tsf Pocket Pen: 2.5 tsf
22			Boring terminated at 21.5' Groundwater encountered at 17'					
23								
24								
25								
26								
27								

Note: The boring log indicates subsurface conditions only at the specific location and time noted. Subsurface conditions, including groundwater levels, at other locations of the subject site may differ significantly from conditions which, in the opinion of Youngdahl Consulting Group, Inc., exist at the sampling locations. Note, too, that the passage of time may affect conditions at the sampling locations.

Logged By: **DHR** Date: **14 April 2014** Elevation: **~ Unknown** Boring No. **B-8**

Equipment: **Hand Auger**

Depth (Feet)	Graphic Log	Ground Water	ASTM D2487 - 11 Soil Classification	Sample	Blow Count	Dry Density (pcf)	Moisture Content (%)	Tests & Comments
1			Asphalt 6" AB					
2			Brown silty SAND (SM) with trace clay, medium dense, moist (FILL)					
3								
4								
5			8" Diameter Gas Line at 4.5' Concrete Layer at 5' (possible abandoned manhole or vault)					
6			Boring terminated at 5' No free groundwater encountered					
7								
8								
9								
10								
11								
12								
13								
14								
15								
16								
17								
18								
19								
20								
21								
22								
23								
24								
25								
26								
27								

Note: The boring log indicates subsurface conditions only at the specific location and time noted. Subsurface conditions, including groundwater levels, at other locations of the subject site may differ significantly from conditions which, in the opinion of Youngdahl Consulting Group, Inc., exist at the sampling locations. Note, too, that the passage of time may affect conditions at the sampling locations.



Project No.:
E11166.000

June 2014

EXPLORATORY BORING LOG

7th Street Sewer
Sacramento, California

FIGURE
A-9

Depth (Feet)	Graphic Log	Ground Water	ASTM D2487 - 11 Soil Classification	Sample	Blow Count	Dry Density (pcf)	Moisture Content (%)	Tests & Comments
1			Asphalt 8"					
2			AB - 3/4" with some cobbles 3" to 4" in diameter					
3			Brown lean CLAY with sand (CL) with trace silt and trace gravel, medium dense, moist to wet (FILL)					 Bulk 8 @ 2' - 5' -200 = 75% PI = 15 LL = 32
4			Brown SILT (ML) with trace fine sand and trace gravel, very stiff, very moist, with debris (FILL)					Pocket Pen: 4.0 tsf Pocket Pen: 4.25 tsf
5			<i>Grades stiff, with 1/16" diameter pores</i>					Pocket Pen: 3.5 tsf Pocket Pen: 2.0 tsf
6			Red brown sandy SILT (ML) , stiff, with 1/16" diameter pores, moist (NATIVE)		22	94.4	26.4	
7			<i>Grades brown, with trace clay and trace gravel, soft, very moist</i>		15	91.2	26.0	
8			<i>Groundwater at 16'</i>					Pocket Pen: 2.25 tsf -200 = 52%
9			<i>Grades little clay, 1/16" to 1/8" diameter pores, stiff</i>		16	99.6	14.5	
10			Boring terminated at 21.5' Groundwater encountered at 16'					Pocket Pen: 0.75 tsf
11			<i>Grades little clay, 1/16" to 1/8" diameter pores, stiff</i>					
12			<i>Grades little clay, 1/16" to 1/8" diameter pores, stiff</i>					
13			<i>Grades little clay, 1/16" to 1/8" diameter pores, stiff</i>					
14			<i>Grades little clay, 1/16" to 1/8" diameter pores, stiff</i>					
15			<i>Grades little clay, 1/16" to 1/8" diameter pores, stiff</i>					
16			<i>Grades little clay, 1/16" to 1/8" diameter pores, stiff</i>					
17			<i>Grades little clay, 1/16" to 1/8" diameter pores, stiff</i>					
18			<i>Grades little clay, 1/16" to 1/8" diameter pores, stiff</i>					
19			<i>Grades little clay, 1/16" to 1/8" diameter pores, stiff</i>					
20			<i>Grades little clay, 1/16" to 1/8" diameter pores, stiff</i>					
21			<i>Grades little clay, 1/16" to 1/8" diameter pores, stiff</i>					
22			<i>Grades little clay, 1/16" to 1/8" diameter pores, stiff</i>		31	112.6	16.4	Pocket Pen: 2.25 tsf
23								
24								
25								
26								
27								

Note: The boring log indicates subsurface conditions only at the specific location and time noted. Subsurface conditions, including groundwater levels, at other locations of the subject site may differ significantly from conditions which, in the opinion of Youngdahl Consulting Group, Inc., exist at the sampling locations. Note, too, that the passage of time may affect conditions at the sampling locations.

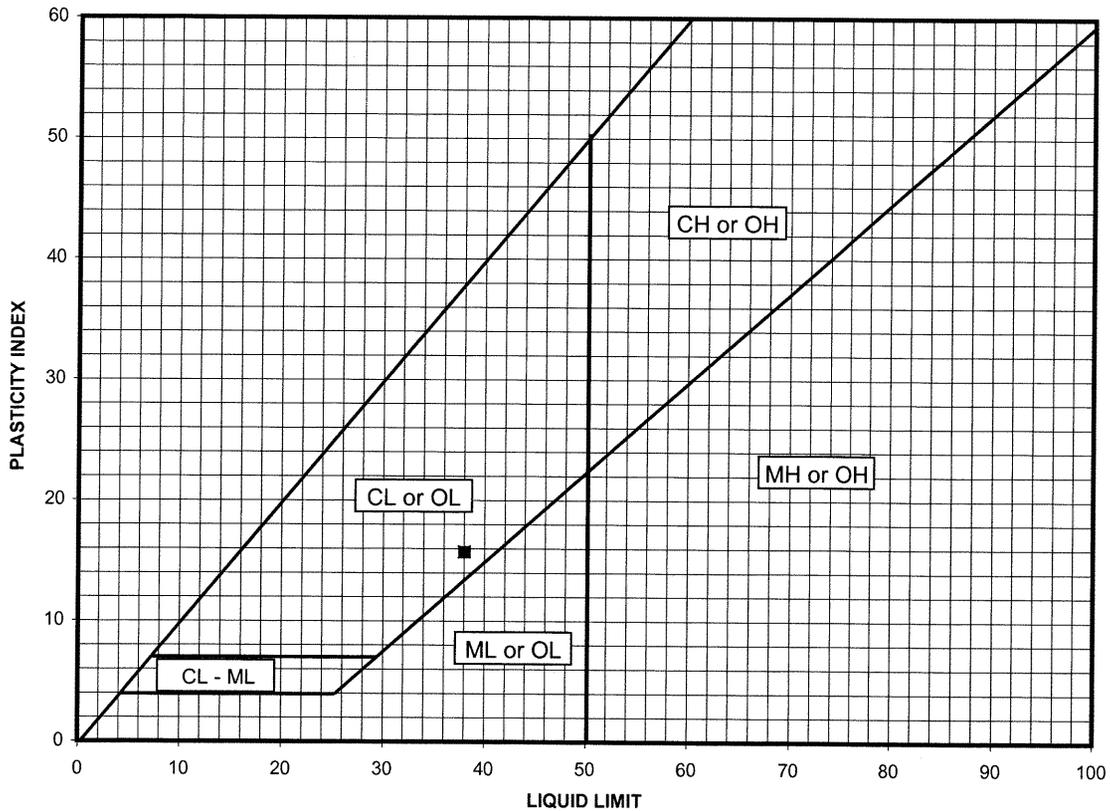
TABLE 1 Soil Classification Chart

Criteria for Assigning Group Symbols and Group Names Using Laboratory Tests ^A				Soil Classification			
				Group Symbol	Group Name ^B		
COARSE-GRAINED SOILS	Gravels (More than 50 % of coarse fraction retained on No. 4 sieve)	Clean Gravels (Less than 5 % fines ^C)	$Cu \geq 4$ and $1 \leq Cc \leq 3^D$	GW	Well-graded gravel ^E		
		Gravels with Fines (More than 12 % fines ^C)	$Cu < 4$ and/or $[Cc < 1 \text{ or } Cc > 3]^D$	GP	Poorly graded gravel ^E		
			Fines classify as ML or MH	GM	Silty gravel ^{E,F,G}		
	More than 50 % retained on No. 200 sieve	Sands (50 % or more of coarse fraction passes No. 4 sieve)	Clean Sands (Less than 5 % fines ^H)	$Cu \geq 6$ and $1 \leq Cc \leq 3^D$ $Cu < 6$ and/or $[Cc < 1 \text{ or } Cc > 3]^D$	SW	Well-graded sand ^I	
			Sands with Fines (More than 12 % fines ^H)	Fines classify as ML or MH	SM	Silty sand ^{F,G,I}	
		Fines classify as CL or CH		SC	Clayey sand ^{F,G,I}		
		FINE-GRAINED SOILS	Silt and Clays	inorganic	$PI > 7$ and plots on or above "A" line ^J	CL	Lean clay ^{K,L,M}
				organic	$PI < 4$ or plots below "A" line ^J	ML	Silt ^{K,L,M}
			50 % or more passes the No. 200 sieve	Silt and Clays	inorganic	Liquid limit - oven dried ^{L,Liquid&#10} < 0.75	OL
		organic			PI plots on or above "A" line	CH	Fat clay ^{K,L,M}
Liquid limit 50 or more	organic	PI plots below "A" line		MH	Elastic silt ^{K,L,M}		
HIGHLY ORGANIC SOILS	Primarily organic matter, dark in color, and organic odor		Liquid limit - oven dried ^{L,Liquid&#10} < 0.75	OH	Organic clay ^{K,L,M,P} Organic silt ^{K,L,M,Q}		
				PT	Peat		

SOIL GRAIN SIZE									
U.S. STANDARD SIEVE	6"	3"	¾"	4	10	40	200		
	BOULDER	COBBLE	GRAVEL		SAND			SILT	CLAY
			COARSE	FINE	COARSE	MEDIUM	FINE		
SOIL GRAIN SIZE IN MILLIMETERS	150	75	19	4.75	2.0	.425	0.075	0.002	

KEY TO PIT & BORING SYMBOLS	KEY TO PIT & BORING SYMBOLS
 Standard Penetration test  2.5" O.D. Modified California Sampler  3" O.D. Modified California Sampler  Shelby Tube Sampler  2.5" Hand Driven Liner  Bulk Sample  Water Level At Time Of Drilling  Water Level After Time Of Drilling  Perched Water	 Joint  Foliation  Water Seepage NFWE No Free Water Encountered FWE Free Water Encountered REF Sampling Refusal DD Dry Density (pcf) MC Moisture Content (%) LL Liquid Limit PI Plasticity Index PP Pocket Penetrometer UCC Unconfined Compression (ASTM D2166) TVS Pocket Torvane Shear EI Expansion Index (ASTM D4829) Su Undrained Shear Strength

Liquid Limit, Plastic Limit, and Plasticity Index of Soils ASTM D4318



Liquid Limit	Plastic Limit	Plasticity Index	Unified Soil Classification, ASTM D2487
38	22	16	CL

Material Description:		Brown Sandy CLAY						
Sample No.:		Bulk 1		Elev./Depth (ft.):		3-5		
Date Sampled:		4/11/2014		Source:				
Date Tested:		5/19/2014		Notes:				
Classification		Water Content, As Sampled (%)		Sp.G.	LL	PI	% > No. 4	% < No. 200
USCS	AASHTO							
CL								
					38	16		80



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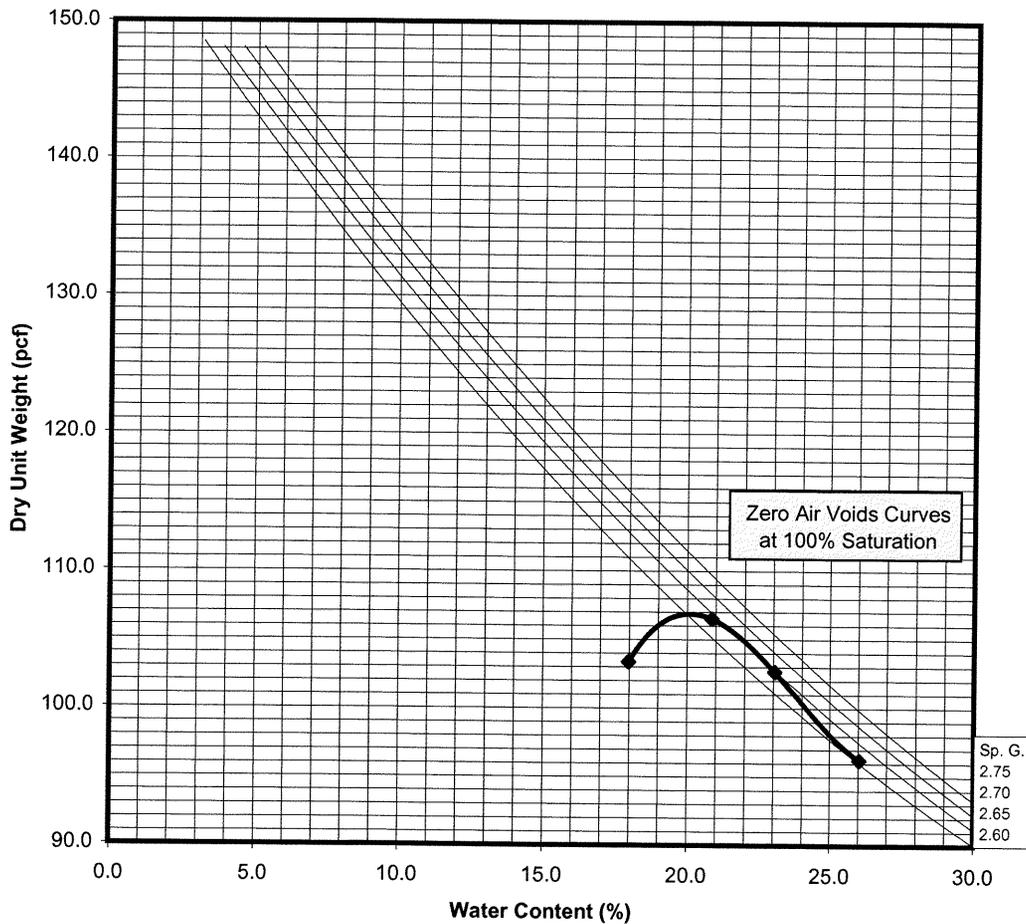
Project: City of Sacramento, 7th Street Sewer

Project No.: E11166.006

Reviewed By: JLC **Date:** 5/30/2014

Figure No. 211 of 223
B-1

**Laboratory Compaction Characteristics of Soil
Using Modified Effort (56,000 lbf/ft³) ASTM D1557, Method A**



Maximum Dry Unit Weight (pcf):		106.9	Material Description:				
Optimum Water Content (%):		20.1	Brown Sandy CLAY				
Sample No.:	Bulk 1		Elev./Depth (ft.):	3-5			
Date Sampled:	4/11/141		Source:				
Date Tested:	5/10/2014		Notes:				
Classification		Water Content, As Sampled (%)	Sp.G.	LL	PI	% > No. 4	% < No. 200
USCS	AASHTO						
CL							
				38	16		80



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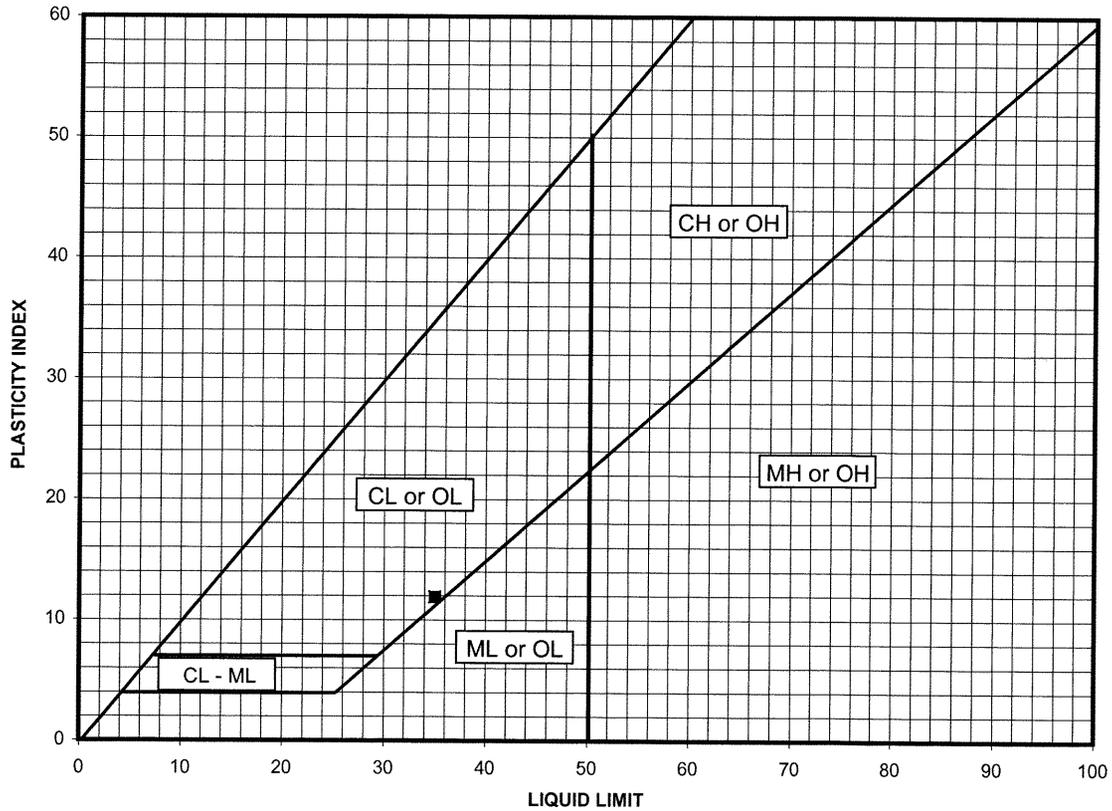
Project No.: E11166.006

Figure No.

Reviewed By: JLC

Date: 5/30/2014

Liquid Limit, Plastic Limit, and Plasticity Index of Soils ASTM D4318



Liquid Limit	Plastic Limit	Plasticity Index	Unified Soil Classification, ASTM D2487
35	23	12	SC

Material Description:		Brown Sandy GRAVEL with clay						
Sample No.:		B-2		Elev./Depth (ft.):		11-11.5		
Date Sampled:		4/11/2014		Source:				
Date Tested:		5/28/2014		Notes:				
Classification		Water Content, As Sampled (%)		Sp.G.	LL	PI	% > No. 4	% < No. 200
USCS	AASHTO							
SC		10.2			35	12		30



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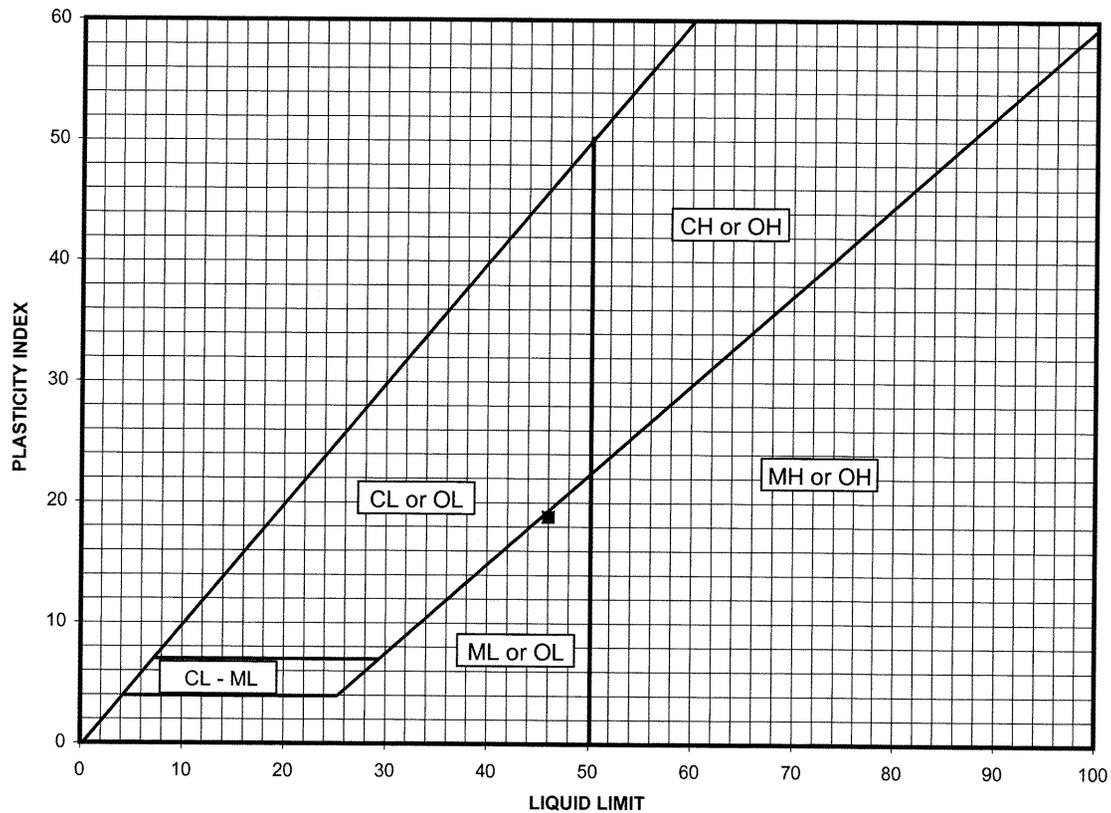
Project No.: E11166.006

Reviewed By: JLC

Date: 5/30/2014

Figure No. 213 of 223
B-3

Liquid Limit, Plastic Limit, and Plasticity Index of Soils ASTM D4318



Liquid Limit	Plastic Limit	Plasticity Index	Unified Soil Classification, ASTM D2487
46	27	19	ML

Material Description:		Brown SILT with clay						
Sample No.:		B-4		Elev./Depth (ft.):		6-6.5		
Date Sampled:		4/11/2014		Source:				
Date Tested:		5/28/2014		Notes:				
Classification		Water Content, As Sampled (%)		Sp.G.	LL	PI	% > No. 4	% < No. 200
USCS	AASHTO							
ML		34			46	19		99



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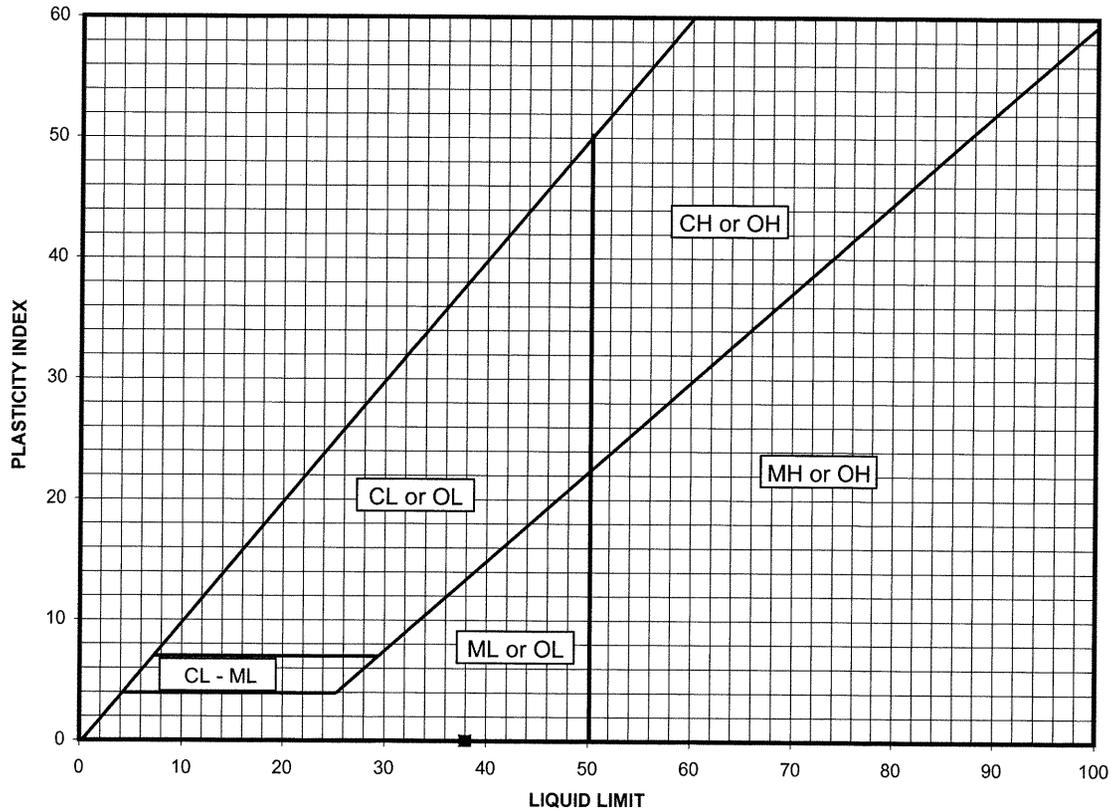
Project: City of Sacramento, 7th Street Sewer

Project No.: E11166.006

Reviewed By: JLC **Date:** 5/30/2014

Figure No. 214 of 223
B-4

Liquid Limit, Plastic Limit, and Plasticity Index of Soils ASTM D4318



Liquid Limit	Plastic Limit	Plasticity Index	Unified Soil Classification, ASTM D2487
38	NP	NP	ML

Material Description:		Brown Sandy SILT						
Sample No.:		Bulk 5		Elev./Depth (ft.):		2-5		
Date Sampled:		4/11/2014		Source:				
Date Tested:		5/19/2014		Notes:				
Classification		Water Content, As Sampled (%)		Sp.G.	LL	PI	% > No. 4	% < No. 200
USCS	AASHTO							
ML								
					38	NP		69



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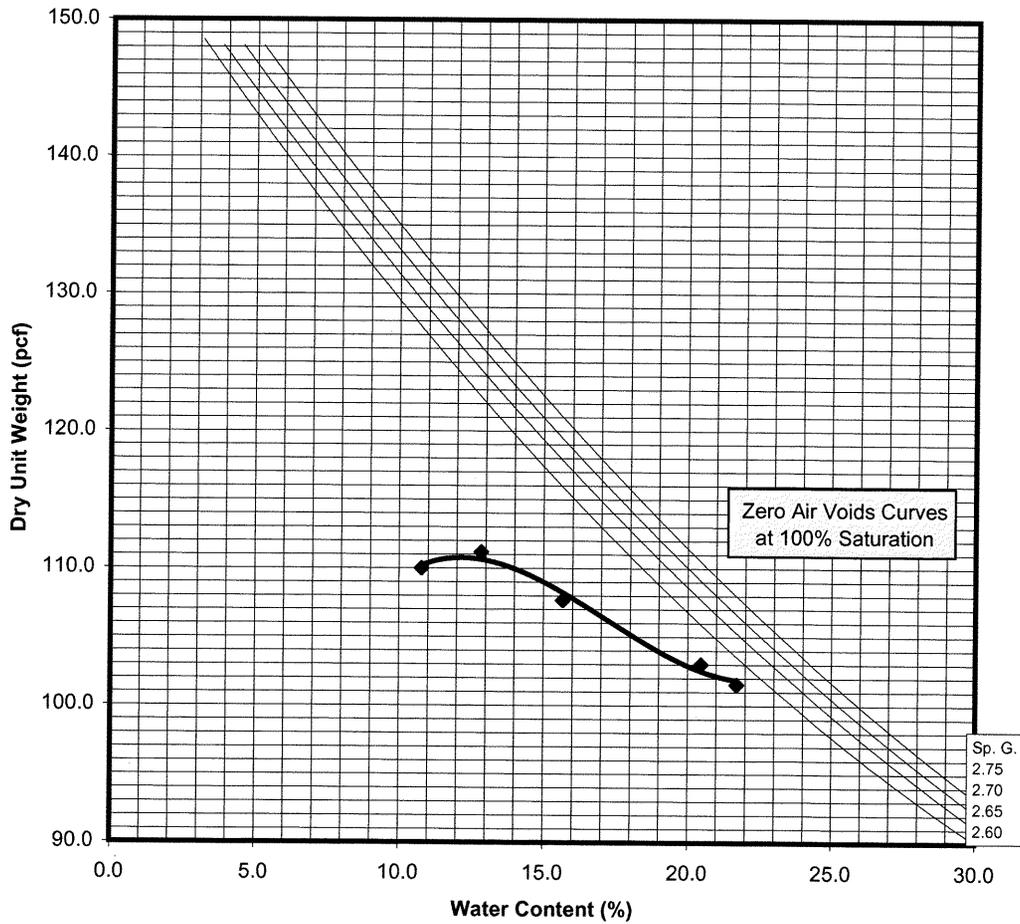
Project: City of Sacramento, 7th Street Sewer

Project No.: E11166.006

Reviewed By: JLC **Date:** 5/30/2014

Figure No. 215 of 223
B-5

**Laboratory Compaction Characteristics of Soil
Using Modified Effort (56,000 lbf/ft³) ASTM D1557, Method A**



Maximum Dry Unit Weight (pcf):		111.0	Material Description:				
Optimum Water Content (%):		12.3	Brown Sandy SILT				
Sample No.:	Bulk 5	Elev./Depth (ft.):	2-5				
Date Sampled:	4/11/141	Source:					
Date Tested:	5/10/2014	Notes:					
Classification		Water Content, As Sampled (%)	Sp.G.	LL	PI	% > No. 4	% < No. 200
USCS	AASHTO						
ML							
				38	NP		69



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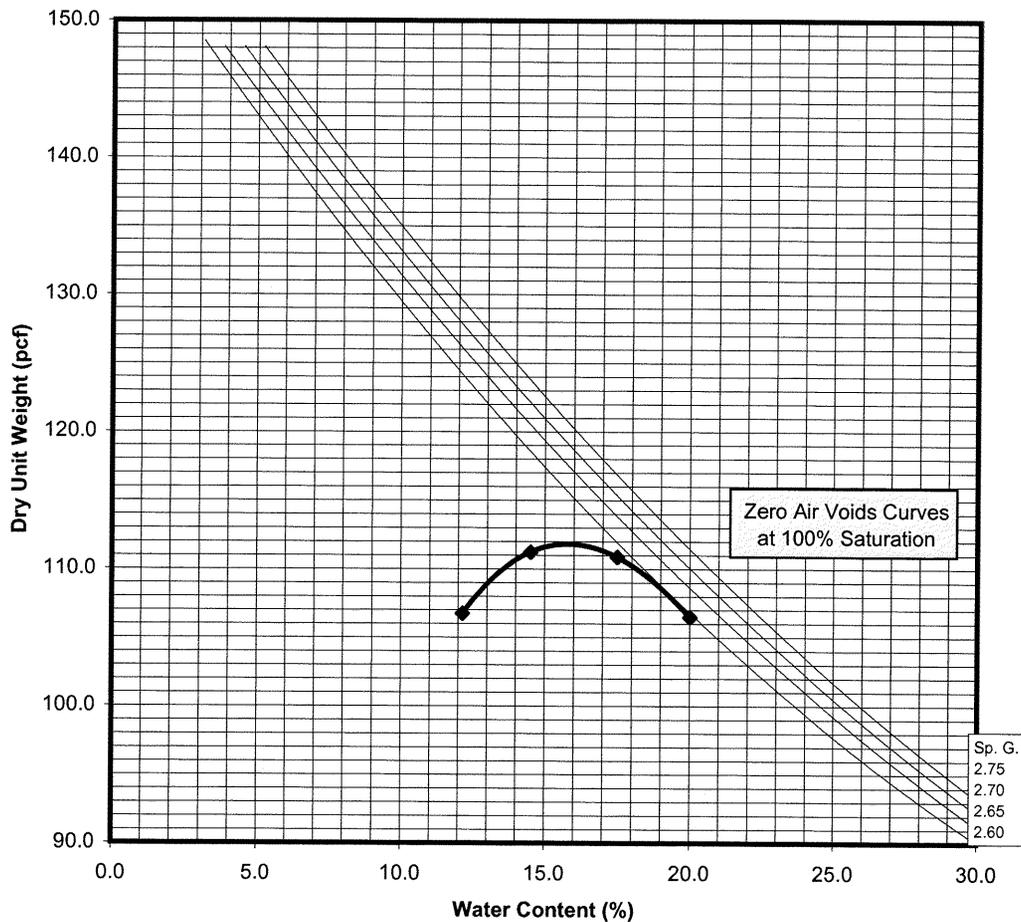
Figure No.

Reviewed By: JLC

Date: 5/30/2014

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**Laboratory Compaction Characteristics of Soil
Using Modified Effort (56,000 lbf/ft³) ASTM D1557, Method A**



Maximum Dry Unit Weight (pcf):		111.9	Material Description:				
Optimum Water Content (%):		15.9	Dark Brown Sandy SILT				
Sample No.:	Bulk 7		Elev./Depth (ft.):	3.5-5			
Date Sampled:	4/11/141		Source:				
Date Tested:	5/10/2014		Notes:				
Classification	Water Content, As Sampled (%)		Sp.G.	LL	PI	% > No. 4	% < No. 200
USCS	AASHTO						



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Project No.: E11166.006

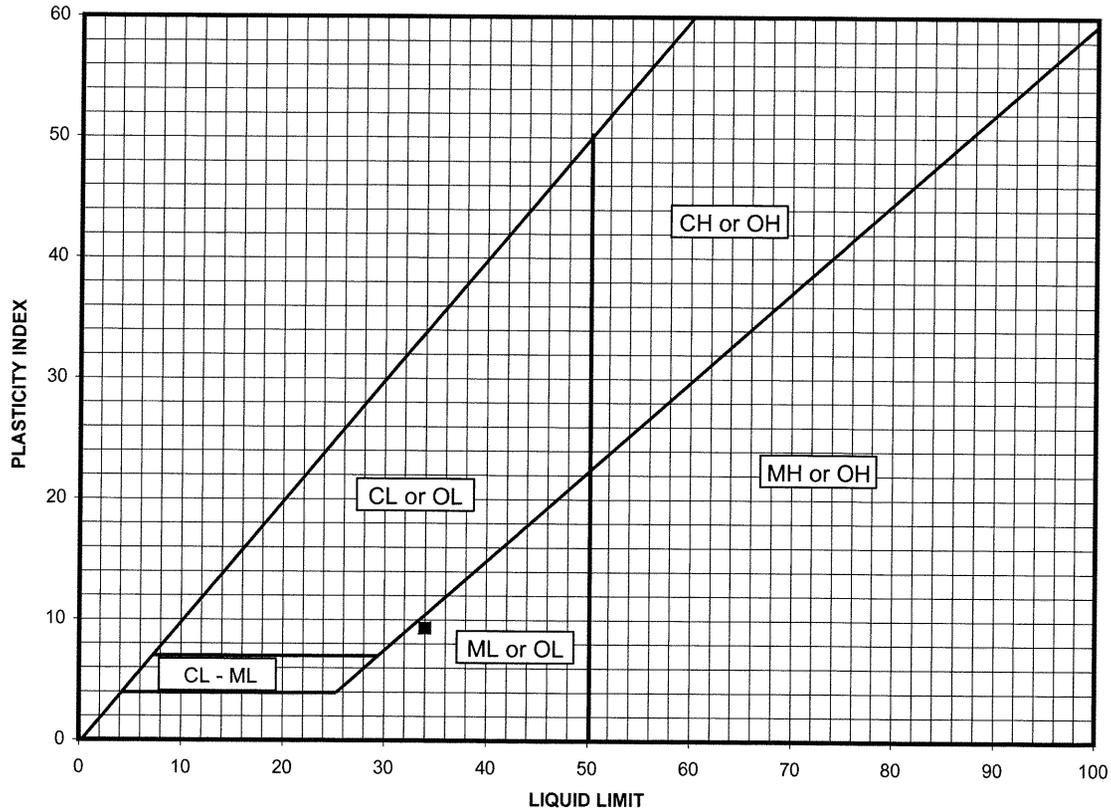
Figure No.

Reviewed By: JLC

Date: 5/30/2014

B-7
217 of 223

Liquid Limit, Plastic Limit, and Plasticity Index of Soils ASTM D4318



Liquid Limit	Plastic Limit	Plasticity Index	Unified Soil Classification, ASTM D2487
34	25	9	ML

Material Description:		Brown Sandy SILT						
Sample No.:		B-7		Elev./Depth (ft.):		6-6.5		
Date Sampled:		4/11/2014		Source:				
Date Tested:		5/28/2014		Notes:				
Classification		Water Content, As Sampled (%)		Sp.G.	LL	PI	% > No. 4	% < No. 200
USCS	AASHTO							
ML		20.2			34	9		75



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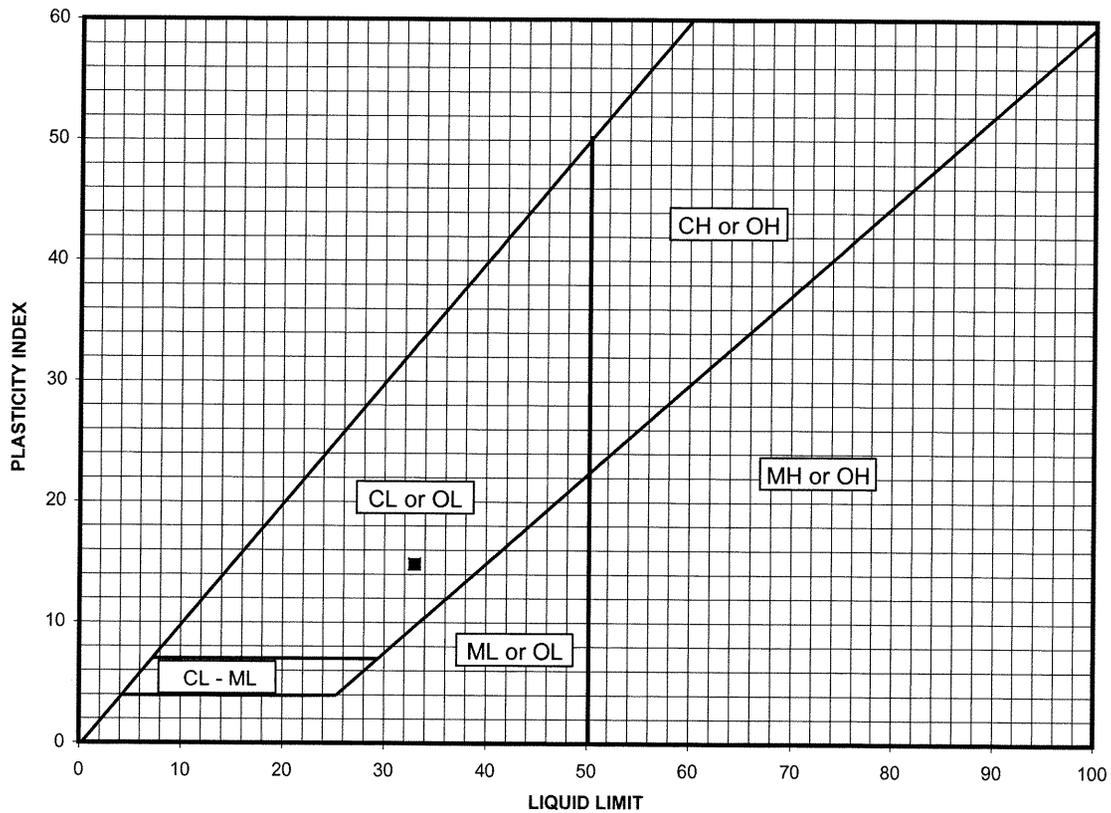
Project: City of Sacramento, 7th Street Sewer

Project No.: E11166.006

Reviewed By: JLC **Date:** 5/30/2014

Figure No. 218 of 223
B-8

Liquid Limit, Plastic Limit, and Plasticity Index of Soils ASTM D4318



Liquid Limit	Plastic Limit	Plasticity Index	Unified Soil Classification, ASTM D2487
33	18	15	CL

Material Description:		Brown Sandy CLAY						
Sample No.:		Bulk 8		Elev./Depth (ft.):		2-5		
Date Sampled:		4/11/2014		Source:				
Date Tested:		5/19/2014		Notes:				
Classification		Water Content, As Sampled (%)		Sp.G.	LL	PI	% > No. 4	% < No. 200
USCS	AASHTO							
CL					33	15		75



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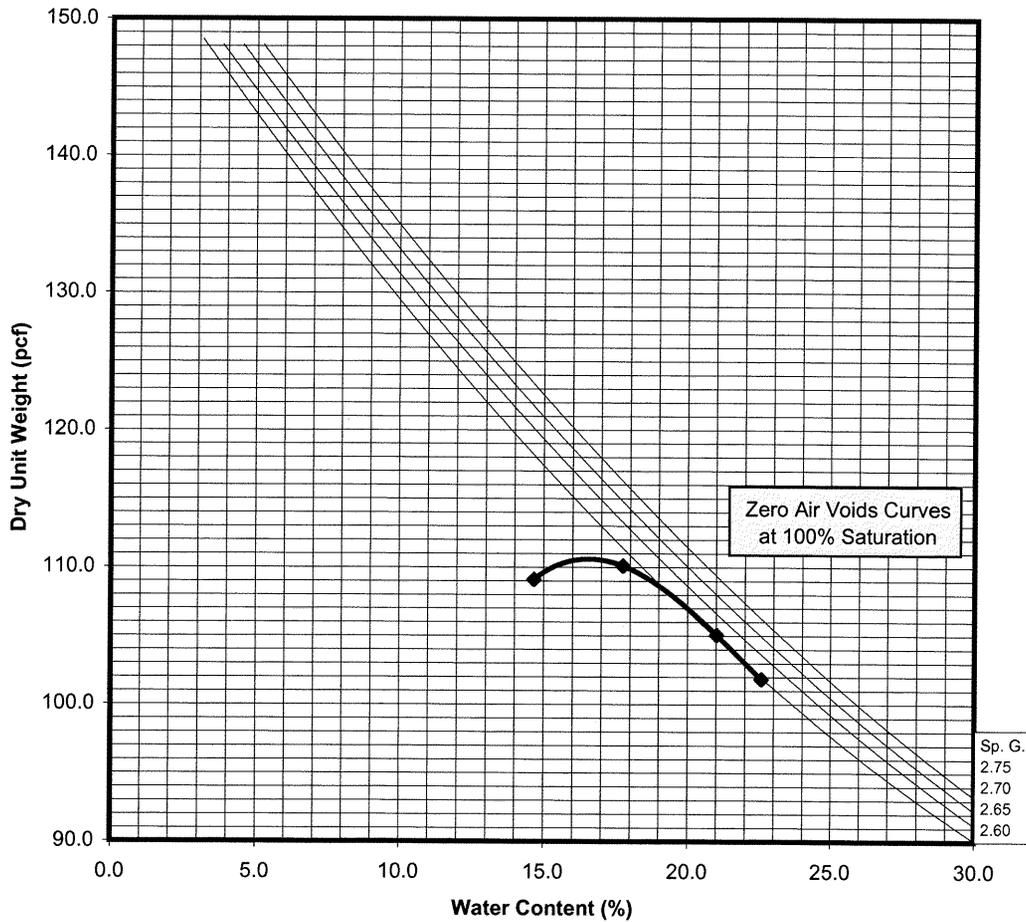
Project No.: E11166.006

Reviewed By: JLC

Date: 5/30/2014

Figure No. 219 of 223
B-9

**Laboratory Compaction Characteristics of Soil
Using Modified Effort (56,000 lbf/ft³) ASTM D1557, Method A**



Maximum Dry Unit Weight (pcf):		110.7	Material Description:				
Optimum Water Content (%):		16.6	Brown Sandy CLAY				
Sample No.:	Bulk 8		Elev./Depth (ft.):	2-5			
Date Sampled:	4/11/141		Source:				
Date Tested:	5/10/2014		Notes:				
Classification		Water Content, As Sampled (%)	Sp.G.	LL	PI	% > No. 4	% < No. 200
USCS	AASHTO						
CL							
				33	15		75



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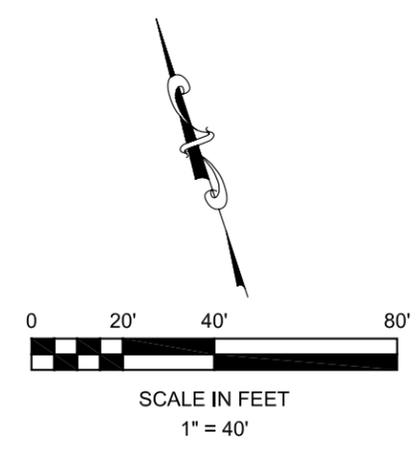
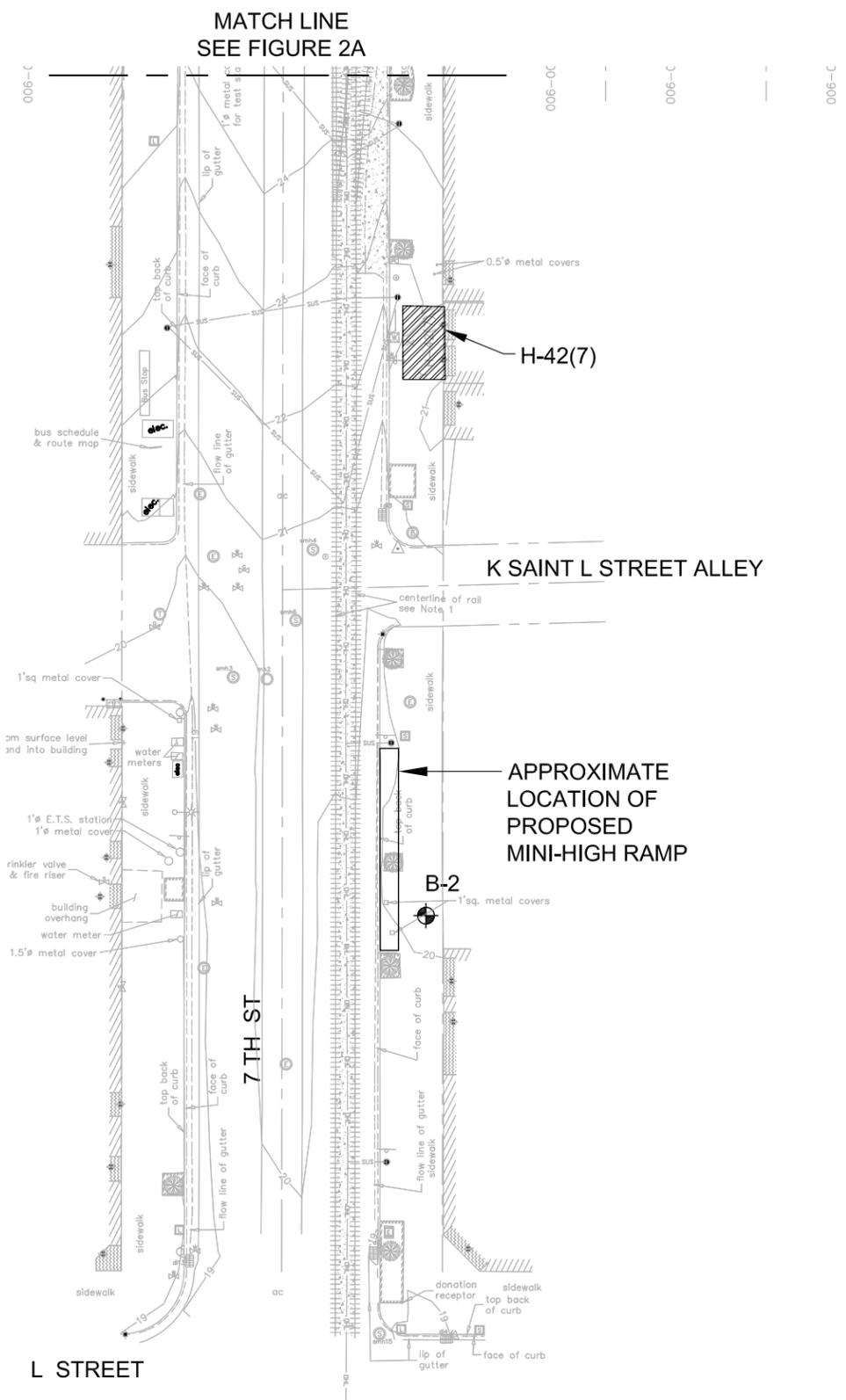
Figure No.

Reviewed By: JLC

Date: 5/30/2014

B10
220 of 223

F:\1-PROJECTS\2007\07-034 K St Renovation\DWGS\SE07-034-BL-SITE-C.dwg, 12/17/2008 12:53:38 PM



- LEGEND:**
- APPROXIMATE LOCATION OF TEST BORING BY SAGE, SEPTEMBER 2007
 - APPROXIMATE LOCATION OF DOCUMENTED HOLLOW SIDEWALKS (QUERIED WHERE APPROXIMATE)

SAGE
SANDERS & ASSOCIATES GEOSTRUCTURAL ENGINEERING
INTEGRATING EARTH & STRUCTURE

No. California
4180 Douglas Bl. Ste. 100
Granite Bay, CA 95746
P (916) 729-8050
F (916) 729-7706

So. California
238 W. Mountain St., Suite 204
Pasadena, CA 91103
P (626) 792-4151
F (626) 792-4440

SITE PLAN
K Street Pedestrian Mall Renovation

CITY OF SACRAMENTO COUNTY OF SACRAMENTO CALIFORNIA

REV	BY	DATE	DESCRIPTION

DATE: 12/16/08
SCALE: AS SHOWN
DESIGNED BY: TNM
DRAFTED BY: GJB
CHECKED BY: DGK
JOB NO.: SE07-034
FILE: SE07-034-BL-SITE-C

REFERENCE: TOPOGRAPHIC SURVEY PROVIDED BY MICHAEL DEQUINE & ASSOCIATES (FEBRUARY 2008)

UNIFIED SOIL CLASSIFICATION SYSTEM

Major Divisions		Symbols	Typical Names
Coarse-Grained Soils (more than half of soil > no. 200 sieve size)	Gravels (More than half of coarse fraction > no. 4 sieve size)	GW	Well-graded gravels or gravel-sand mixtures, little or no fines
		GP	Poorly-graded gravels or gravel-sand mixtures, little or no fines
		GM	Silty gravels, gravel-sand-silt mixtures
		GC	Clayey gravels, gravel-sand-clay mixtures
	Sands (More than half of coarse fraction < no. 4 sieve size)	SW	Well-graded sands or gravelly sands, little or no fines
		SP	Poorly-graded sands or gravelly sands, little or no fines
		SM	Silty sands, sand-silt mixtures
		SC	Clayey sands, sand-clay mixtures
Fine-Grained Soils (more than half of soil < no. 200 sieve size)	Sils and Clays LL = <50	ML	Inorganic silts and clayey silts of low plasticity, sandy silts, gravelly silts
		CL	Inorganic clays of low to medium plasticity, gravelly clays, sandy clays, lean clays
		OL	Organic silts and organic silt-clays of low plasticity
	Sils and Clays LL = >50	MH	Inorganic silts of high plasticity
		CH	Inorganic clays of high plasticity, fat clays
		OH	Organic silts and clays of high plasticity
Highly Organic Soils		PT	Peat and other highly organic soils

GRAIN SIZE CHART		
Classification	Range of Grain Sizes	
	U.S. Standard Sieve Size	Grain Size in Millimeters
Boulders	Above 12"	Above 305
Cobbles	12" to 3"	305 to 76.2
Gravel coarse fine	3" to No.4 3" to 3/4"	76.2 to 4.76 76.2 to 19.1
	3/4" to No. 4	19.1 to 4.76
Sand coarse medium fine	No. 4 to No. 200	4.76 to 0.074
	No. 4 to No. 10	4.76 to 2.00
	No. 10 to No. 40 No. 40 to No. 200	2.00 to 0.420 0.420 to 0.074
Silt and Clay	Below No. 200	Below 0.074

TYPES OF STRENGTH TESTS	
PP	Pocket Penetrometer
TV	Field Torvane
LVS	Laboratory Vane Shear
UC	Unconfined Compression
TXUU	Triaxial, unconsolidated, undrained
DS	Direct Shear

- ▽ Unstabilized (initial) groundwater level
- ▼ Stabilized groundwater level

SAMPLER TYPE

- | | | | | | |
|----|-------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------|------|-------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------|
| C |  | Core barrel | BULK |  | Disturbed grab sample |
| O |  | Osterberg piston sampler using 3.0-inch outside diameter, thin-walled Shelby tube | CA |  | California split-barrel sampler with 2.5-inch outside diameter and 1.93-inch inside diameter |
| PT |  | Pitcher tube sampler using 3.0-inch outside diameter, thin-walled Shelby tube | MCA |  | Modified California split-barrel sampler with 3.0-inch outside diameter and 2.5-inch inside diameter |
| ST |  | Shelby tube (3.0-inch outside diameter, thin-walled tube) advanced with hydraulic pressure | SPT |  | Standard Penetration Test (SPT) split-barrel sampler with a 2.0-inch outside diameter and a 1.5-inch inside diameter |
| | | | |  | Sampling attempted without recovery |

K Street Pedestrian Mall Renovation		SOIL CLASSIFICATION CHART	
City of Sacramento	California	Project No. SE07-034	
No, California 4180 Douglas Bl., Ste. 100 Granite Bay, CA 95746 P (916) 729-8050 F (916) 729-7706		SANDERS & ASSOCIATES GEOSTRUCTURAL ENGINEERING  INTEGRATING EARTH & STRUCTURE	
So, California 236 W. Mountain St., Suite 204 Pasadena, CA 91103 P (626) 792-8151 F (626) 792-8440		Date 12/18/08	Figure A-1

PROJECT:

K Street Mall Renovation
Sacramento, California

LOG OF BORING B-2

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BORING LOCATION: See Figure 2B	DRILLING SUBCONTRACTOR: PC Exploration
DATE STARTED: 9/10/2007	DATE FINISHED: 9/10/2007
LOGGED BY: D. Kennedy	DRILL RIG: Minuteman
ELEVATION (FT): 20	DATUM: City Datum
GW DEPTH (FT): N/A	GW DATE: N/A
CASING NOTES: N/A	HAMMER TYPE: Rope and cathead (safety)
BACKFILL MATERIAL: Neat Cement Grout	HAMMER WT (LBS): 140
	HAMMER DROP (IN): 30
	SAMPLERS: MCA, SPT

DEPTH (FT)	ELEV. (FT)	SAMPLE TYPE	SAMPLE	SPT N60 VALUE	LITHOLOGY	DESCRIPTION	LABORATORY TEST DATA										
							MOISTURE CONTENT (%)	DRY DENSITY (pcf)	FINES (%)	TYPE of TEST	UNCONFINED STRENGTH (tsf)	SHEAR STRENGTH (ksf)	PLASTICITY				
													LL	PI			
2	18				CL	3-1/2-inch-thick concrete sidewalk CLAY (CL) brown, medium stiff, dry, silty, with glass fragments at 3 inches											
4	16	SPT		6		moist, with increased silt content, small brick fragments	19.0								48	25	
6	14	MCA		5		SILT (ML) brown to yellow-brown, medium stiff to loose, moist, trace rootlets, 64.8% SILT, 28.8% CLAY	22.9	68	93.6	DSCD							
8	12	SPT		7	ML	grades to dark brown, less silt below 7.5'											
10	10	SPT		9													
12	8				SM	SILTY SAND (SM) yellow-brown, loose to medium dense, moist, with roots, fine-grained sand, trace clay											
14	6				CL	CLAY (CL) brown to yellow-brown, medium stiff to stiff, moist, silty, trace fine-grained sand			94.0								
16	4	MCA		7													
18	2																
20	0																
22	-2																
24	-4																
26	-6																
28	-8																
30	-10																
32	-12																
34	-14																

Boring terminated at a depth of 16.5 feet.
MCA and SPT blow counts converted to SPT N60 values using conversion factors of 0.6 and 1.0, respectively.



Project No:
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Figure:

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