Meeting Date: **8/20/2013**

Report Type: Review

Report ID: 2013-00628

11

City of SACRAMENTO

City Council Report
915 I Street, 1st Floor
www.CityofSacramento.org

Title: (Agreement/Contract Review and Information) Contract Award: 2013 Street Overlay Project

Location: Districts 1, 3, 4, 6, and 8

Issue: Resolution No. 2013-0367 (Council Rules of Procedure) requires additional posting time for labor agreements and agreements greater than $1,000,000. The 2013 Street Overlay Project will apply asphalt concrete overlays and bonded wearing course treatments to extend the useful life of City streets.

Recommendation: Review report 1) approving the Plans and Specifications for the 2013 Street Overlay Project; 2) transferring funds in the amount of $1,498,936; 3) reviewing the construction contract with Martin Brothers Construction for an amount not to exceed $2,829,933 for the 2013 Street Overlay Project which includes street striping and marking services for the Bikeway Program (K15120000); and 4) continuing to August 27, 2013 for approval.

Contact: Greg Smith, Associate Civil Engineer, (916) 808-8364; Nicholas Theocharides, Engineering Services Manager, (916) 808-5065, Department of Public Works

Presenter: None

Department: Public Works Department

Division: Civil & Electrical Design

Dept ID: 15001131

Attachments:

1-Description/Analysis

2-Background

3-Resolution

4-Exhibit A (Location Maps)

5-Contract (Martin Brothers Construction)

City Attorney Review

Approved as to Form
Gerald Hicks
8/5/2013 9:01:31 AM

City Treasurer Review

Reviewed for Impact on Cash and Debt
Russell Fehr
7/31/2013 4:35:58 PM

Approvals/Acknowledgements

Department Director or Designee: Jerry Way - 8/1/2013 2:40:05 PM

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Description/Analysis

Issue Detail: The 2013 Street Overlay Project is part of an annual preventative maintenance strategy that extends the life of City streets and reduces the need for costly road reconstruction. Contract award to Martin Brothers Construction allows various City streets to receive this maintenance.

Policy Considerations: The project is consistent with the City's General Plan goals of achieving sustainability and neighborhood livability.

Economic Impacts: This roadway project is expected to create 11.32 total jobs (6.51 direct jobs and 4.81 jobs through indirect and induced activities) and create $1,747,300 in total economic output ($1,101,337 of direct output and another $645,963 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 qualify 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:

California Environmental Quality Act (CEQA): The Community Development Department, Environmental Planning Services Division has determined that this project is exempt from the provisions of the California Environmental Quality Act (CEQA) under Class 1, Section 15301(c).

Projects exempted under Class 1, Section 15301 (c) consist of the operation, repair or minor alteration to existing highways and streets, sidewalks, bicycle and pedestrian trails, and similar facilities.

Sustainability Considerations: This project is consistent with the City's Sustainability Master Plan. It conforms to the Air Quality Focus Area by improving and optimizing transportation infrastructure.

Commission/Committee Action: None

Rationale for Recommendation: Martin Brothers Construction is the lowest responsive and responsible bidder.

Financial Considerations: The total estimated program cost for the 2013 Street

Overlay and Seal Program (R15132000) is $5,911,691. To date, $885,140 has been expended among the several program activities and staff anticipates an additional $5,021,500 will be needed to complete all program activities, of which $3,191,812 will be needed to complete the 2013 Street Overlay Project.

As of July 30, 2013, the program's unobligated balance is $3,522,564. The approval of the fund transfer in the amount of $1,498,936 as detailed below will increase the total unobligated balance to $5,021,500 which is sufficient to execute the contract with Martin Brothers Construction in the amount of $2,820,134 for the 2013 Street Overlay Project and cover construction engineering costs and complete other program activities.

2011 Street Overlay and Seal Program (R15112000)	$ 250,636
2011 Trench Cut Fee Program (R15112500)	$ 30,250
2012 Street Overlay and Seal Program (R15122000)	$ 133,061
2014 Street Overlay and Seal Program (R15142000)	$ 518,204
State Route 275 State of Good Repair (R15067600)	$ 566,785
	$ 1,498,936

The total estimated cost for street striping and marking services at Carlson Drive and H Street is $11,799. The Bikeway Program (K15120000) will cover this cost and, as of July 30, 2013, has an unobligated balance of $431,488 which is sufficient to cover the cost with Martin Brothers Construction in the amount of $9,799 and cover construction management costs.

There are no General Funds planned or allocated for this project.

The Martin Brothers Construction contract will resurface streets and provide street signing and marking services in the amount of $2,829,933 per the following cost distribution:

2013 Street Overlay and Seals Program (R15132000)	$ 2,820,134
Carlson Drive and H Street Striping Project (K15120000)	$ 9,799
	$ 2,829,933

Emerging and Small Business Enterprise (E/SBE): The Emerging and Small Business Enterprise (ESBE) requirement is 20%. Martin Brothers Construction pledged 20.6% SBE project participation and satisfactorily met the ESBE project requirement.

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Background:

The 2013 Street Overlay Project is part of an annual preventative maintenance program that extends the life of City streets and reduces the need for costly road reconstruction work.

This project includes street striping and marking services at Carlson Drive and H Street as part of the Bikeway Program. The project purpose is to enhance safety by restriping eastbound H Street to make it narrower to reduce speeds, to enhance the pedestrian crosswalk, and to enhance the existing bike lanes by using green color pavement or striped buffered bike lanes.

The project was advertised and bids were received on July 10, 2013. The bids are summarized below:

Contractor	Bid Amount	ESBD Participation (Goal 20 %)	Responsive
Teichert Construction	$2,631,635	16.7%	No
Martin Brothers Construction	$2,829,933	20.6%	Yes
Granite Construction Company	$2,891,201	18.5%	No

The Engineer's estimate was $2,700,000.

It is recommended that the contract be awarded to Martin Brothers Construction, the lowest responsive and responsible bidder.

The apparent low bidder for this project was Teichert Construction. However, after conducting a bid analysis of all bids received, the staff determined that the bid submitted by Teichert Construction is non-responsive due to its failure to meet the required 20% ESBE requirement for this project.

Construction is expected to begin in September 2013 and be completed in November 2013.

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RESOLUTION NO.

Adopted by the Sacramento City Council

APPROVING PLANS AND SPECIFICATIONS, TRANSFERRING FUNDS, AND AWARDING A CONSTRUCTION CONTRACT FOR THE 2013 STREET OVERLAY PROJECT (R15132019)

BACKGROUND

A. The 2013 Street Overlay Project is part of an annual preventative maintenance program that extends the life of City streets and reduces the need for costly road reconstruction.

B. The project was advertised and three bids were received on July 10, 2013. Martin Brothers Construction is the lowest responsive and responsible bidder.

C. Construction is expected to begin in September 2013 and be completed in November 2013.

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

Section 1. Plans and Specifications for the 2013 Street Overlay Project (R15132019) are approved.

Section 2. The FY2013/14 Capital Improvement Program budget is amended by transferring $566,785 (Fund 2011) from the SR275 State of Good Repair (R15067600), $250,636 (Fund 2002 and 2026) from the 2011 Street Overlay and Seal Program (R15112000), $30,250 (Fund 2008) from the 2011 Trench Cut Fee Program (R15112500), $133,061 (Fund 2002 and 2026) from the 2012 Street Overlay and Seal Program (R15122000), and $518,204 (Fund 2002 and 2026) from the 2014 Street Overlay and Seal Program (R15142000) to the 2013 Street Overlay and Seal Program (R15132000).

Section 3. The Contract for the 2013 Street Overlay Project and for striping and marking services for the Bikeway Program (K15120000) for an amount not to exceed $2,829,933 is awarded to Martin Brothers Construction.

Section 4. The City Manager is authorized to execute a contract with Martin Brothers Construction in an amount not to exceed $2,829,933.

Table of Contents:

Exhibit A: Maps of the 2013 Street Overlay Project (R15132019) – 5 Pages

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EXHIBIT A

Map No. 1
Council District 1
Overlay (NB Only)

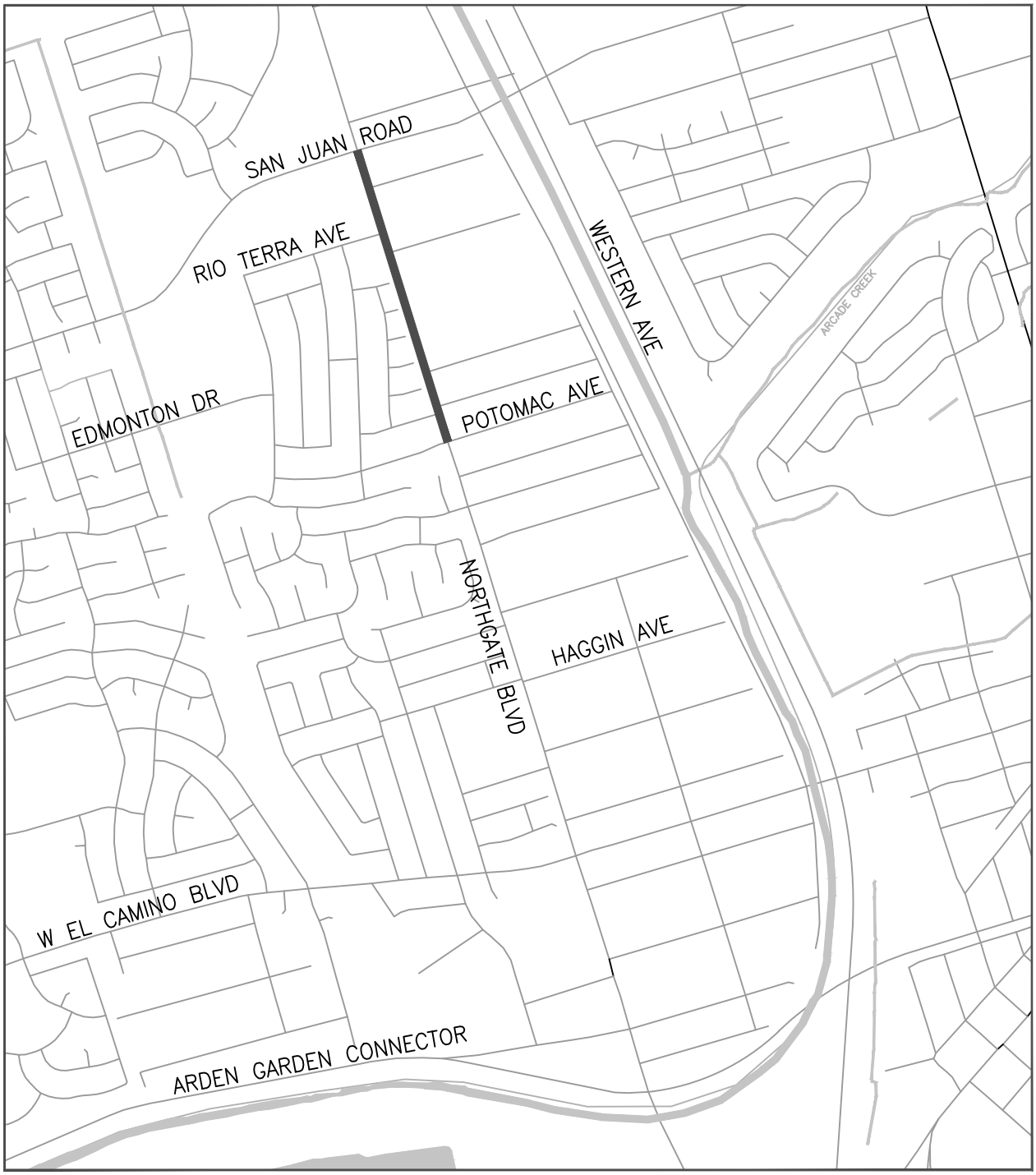
0 2000 4000 6000 8000

2013 STREET OVERLAY PROJECT
PN: R15132019

Map Contact
K. CHAHAL

MARCH 6, 2013

Map No. 2
Council District 3
Overlay



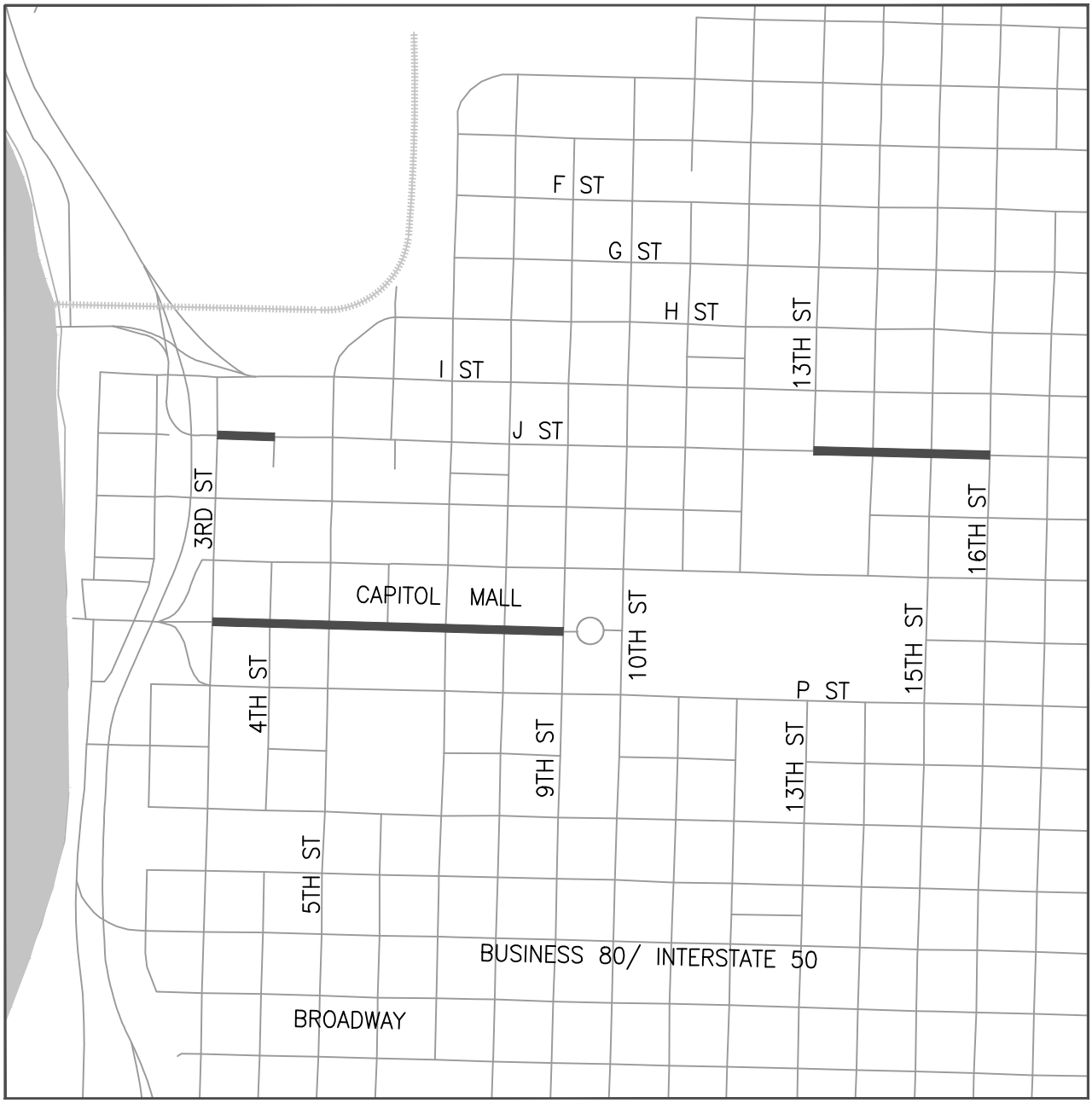
0 2000 4000 6000 8000

2013 STREET OVERLAY PROJECT
PN: R15132019

Map Contact
K. CHAHAL

MARCH 6, 2013

Map No. 3
Council District 4
Bonded Wearing Course



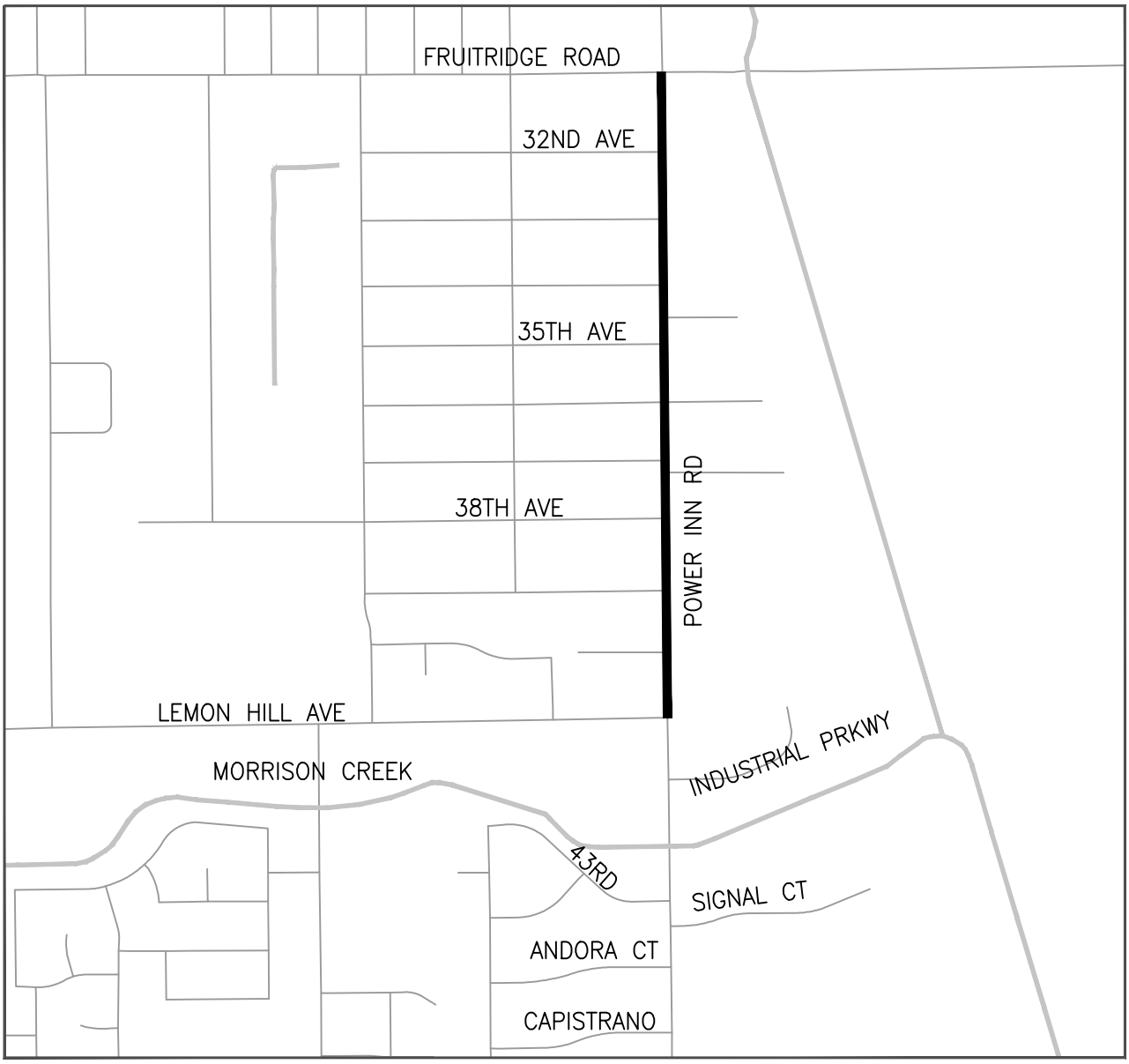
0 2000 4000 6000 8000

2013 STREET OVERLAY PROJECT
PN: R15132019

Map Contact
K. CHAHAL

MARCH 6, 2013

Map No. 4
Council District 6
Overlay



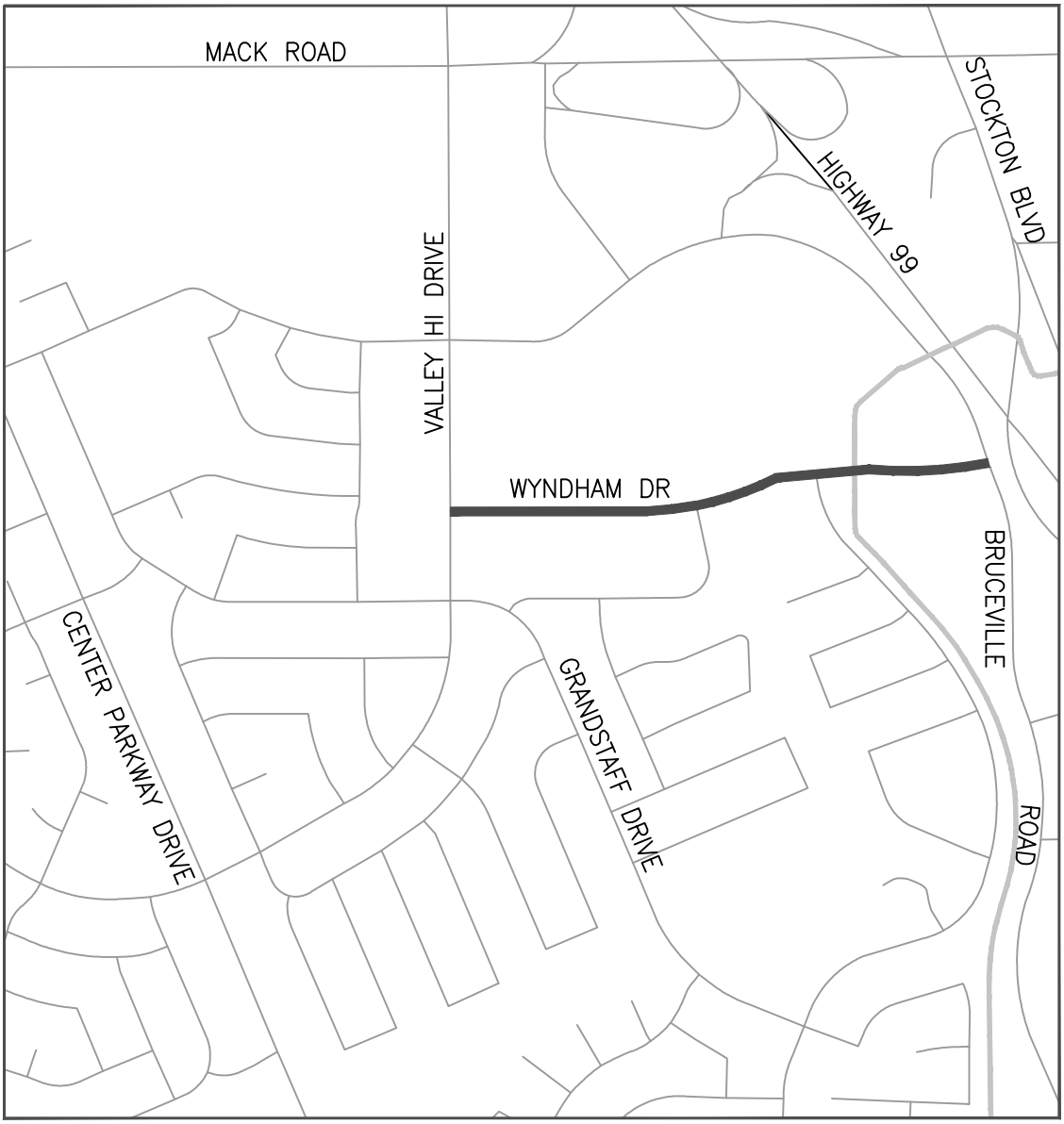
0 1000 2000 3000 4000

2013 STREET OVERLAY PROJECT
PN: R15132019

Map Contact
K. CHAHAL

MARCH 6, 2013

Map No.5
Council District 8
Overlay



0 1000 2000 3000 4000

2013 STREET OVERLAY PROJECT
PN: R15132019

Map Contact
K. CHAHAL

MARCH 6, 2013

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DEPARTMENT OF
PUBLIC WORKS

ENGINEERING SERVICES
DIVISION

CITY OF SACRAMENTO
CALIFORNIA

915 I ST
RM 2000
SACRAMENTO, CA
95814-2702

PH 916-808-8300
FAX 916-808-8281

CONTRACT SPECIFICATIONS
FOR

2013 Street Overlay Project

(PN: R15132019)

Bid # B13151131030

For Pre-Bid Information contact:
Greg Smith, Project Manager
gsmith@cityofsacramento.org

Bids to be received before
2:00 P.M. July 10, 2013 at:
City Clerk's Passport Acceptance Area
New City Hall
915 I Street, 1st floor, Room 1119
Sacramento, CA 95814

ESBE PROGRAM

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

Estimated Construction Cost: **$2,700,000.00** Construction Time: 40 working Days

DEPARTMENT OF CONSUMER AFFAIRS
Contractors State License Board

Contractor's License Detail - License # 726454

DISCLAIMER: A license status check provides information taken from the CSLB license database. Before relying on this information, you should be aware of the following limitations.

- CSLB complaint disclosure is restricted by law (B&P 7124.6) If this entity is subject to public complaint disclosure, a link for complaint disclosure will appear below. Click on the link or button to obtain complaint and/or legal action information.
- Per B&P 7071.17 , only construction related civil judgments reported to the CSLB are disclosed.
- Arbitrations are not listed unless the contractor fails to comply with the terms of the arbitration.
- Due to workload, there may be relevant information that has not yet been entered onto the Board's license database.

License Number	**726454**	**Extract Date** 7/14/2013
Business Information	MARTIN BROTHERS CONSTRUCTION Business Phone Number: (916) 381-0911 8801 FOLSOM BLVD STE 260 SACRAMENTO, CA 95826	
Entity	Corporation	
Issue Date	08/20/1996	
Expire Date	08/31/2014	
License Status	**ACTIVE** This license is current and active. **All information below should be reviewed.**	
Classifications	**CLASS** / **DESCRIPTION** A / GENERAL ENGINEERING CONTRACTOR	
Certifications	**CERT** / **DESCRIPTION** HAZ / HAZARDOUS SUBSTANCES REMOVAL	
Bonding	**CONTRACTOR'S BOND** This license filed a Contractor's Bond with FIDELITY AND DEPOSIT COMPANY OF MARYLAND. **Bond Number:** 08895526 **Bond Amount:** $12,500 **Effective Date:** 06/10/2011 Contractor's Bond History **BOND OF QUALIFYING INDIVIDUAL** **1.** The Responsible Managing Officer (RMO) MARTIN FELIPE certified that he/she owns 10 percent or more of the voting stock/equity of the corporation. A bond of qualifying individual is **not** required.	

Effective Date: 03/21/2012
BQI's Bond History

Workers' Compensation	**WORKERS' COMPENSATION** This license has workers compensation insurance with COMPANION PROPERTY AND CASUALTY INSURANCE COMPANY **Policy Number:** CPCA16199 **Effective Date:** 10/01/2012 **Expire Date:** 10/01/2013 Workers' Compensation History

Personnel listed on this license (current or disassociated) are listed on other licenses.

Personnel List | Other Licenses

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Division of Labor Standards Enforcement (DLSE)

DLSE debarments

The following contractors are currently barred from bidding on, or accepting or performing any public works contracts, either as a contractor or subcontractor, for the period set forth below:

Note: As part of your due diligence, we suggest that you also check:

- Debarments made by the Division of Apprenticeship Standards (DAS)
- Contractor status at the Contractors State License Board (CSLB)
- The Federal debarment list at the Excluded Parties List System

For a list of past DLSE debarments of public works contractors, please contact:

Susan Nakagama
Special Assistant to the Labor Commissioner
455 Golden Gate Ave., 9th Flr.
San Francisco, CA 94102
415-703-4810
SNakagama@dir.ca.gov

Revised: 5/17/13

Name of contractor	Period of debarment
Ayodejia A. Ogundare, Individual **Dba Pacific Engineering Company** 6310 Stewart Way, Bakersfield, CA 93308 CLSB#710322 Decision	**5/15/2013 through 5/15/2014**
Wallcrete Industries, Inc.; Garit David Wallace and Amber Anderson, Individuals 400 Kansas, Redlands, CA 92373 CSLB#834220 Decision	**7/29/12 through 7/28/15**
FEI Enterprises, Inc **Gabriel Fedida, Individual** 5749 Venice Blvd., Los Angeles, CA 90019 CSLB#659252 Decision	**6/14/12 through 6/13/15**
Jeffrey Alan Mott and Michelle Mott, individuals **Dda Integrity Landscape** 3756 Independence Avenue Sanger, CA 93637 CSLB#774222 Decision	**3/29/12 through 3/28/15**
Jensen Drywall & Stucco **Jeffrey E. Jensen** 3714 Lynda Place National City, CA 91950-8121 CSB # 664168 Exp. 2/18/11 (expired) Decision	**3/31/11 through 3/30/13**
All West Construction, Inc. **Donald Kent Russell** 495 N. Marks Ave. Fresno, CA 93706 CSB # 592321 Exp. 4/3/12 (suspended) Decision	**3/31/11 through 3/30/13**
Country Builders, Inc. **Weldon Offill, individually** 5915 Graham Ct. Livermore, CA 94550 CSB # 699574 Exp. 11/30/12 (active)	**3/1/11 through 2/28/14**

Labor Commissioner's Office

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Decision Addendum	
Sutter Foam & Coating, Inc. 909 A. George Washington Yuba City, CA 95993 CSB # 732014 Exp. 1/31/09 (inactive) **David Alvin Trexler, an individual** 909 A. George Washington Yuba City, CA 95993 **Kenneth A. Trexler, an individual** 2603 Lago Lane Marysville, CA 95901 Decision	**7/1/10 through 6/30/13** **7/1/10 through 6/30/13** **7/1/10 through 6/30/13**
Soo Dong Kim, an individual, **dba Soo Kim Electric Company** 16224 Ridgeview Lane La Mirada, CA 90638 CSB # 568103 Exp. 8/1/09 (inactive) **Hyo Nam Jung, an individual,** **dba Lucid Electric** 18621 Well Street Rowland Heights, CA 91748 CSB # 914692 Exp. 4/3/10 Decision	**4/19/10 through 4/18/13** **4/19/10 through 4/18/13**
Southwest Grading, **dba Southwest Grading Services, Inc.,** 22031 Waite Street Wildomar, CA 92595 **David Walter Cholewinski, an individual** 22031 Waite Street Wildomar, A 92595 29970 Technology Drive, Ste. 205 Murrieta, CA 92563 CSB #840416 Exp. 6/30/10 Decision	**3/18/10 through 3/17/13**
S.J. Cimino Electric, Inc., a California corporation, 3267 Dutton Ave. Santa Rosa, CA 95404 **Salvatore Joseph Cimino, RMO, CEO and President of S.J. Cimino Electric, Inc. and sole owner of S.J. Cimino** **Electric, an individual** 5825 Heights Rd. Santa Rosa, CA 95401 CSB #343802 Exp. 2/28/10 CSB #294141 Exp. 9/30/13 (inactive) Decision	**10/15/09 through 10/14/12**
Cedar Development Corporation **Serghon Gabriel Afram, individually** 12477 Feather Dr Mira Loma, CA 91752 CSB # 839898 Exp. 6/30/10 (suspended) Decision	**8/5/09 through 8/4/12**
All Floors Commercial and Residential Flooring, Inc. **Salvador Elias Perea, individually** 750 E. McGlincy Lane, #103 Campbell, CA 95008 CSB #430969 Exp. 7/31/09 Decision	**5/14/09 through 5/13/12**
1-AMD Construction, Inc. **Alberto Mordoki, individually** **Mirella Mordoki, individually** 5300 Beach Blvd., Suite 110-416 Buena Park, CA 90621 CSB #787533, revoked Decision	**3/16/09 through 3/15/12**

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DEPARTMENT OF
PUBLIC WORKS

ENGINEERING SERVICES DIVISION

CITY OF SACRAMENTO
CALIFORNIA

915 I STREET, ROOM 2000
SACRAMENTO, CA
95814-2700

PH. (916) 808-8300
FAX (916) 808-8281

2013 Street Overlay Project
(PN: R15132019)
Addendum No. 1

June 27, 2013

To all Potential Bidders:

Attached hereto are addenda items, which shall be incorporated into the bid proposal for above noted project. These changes shall be considered as part of the original documents, as if they were originally provided therein, and as such shall be used as contractual documents. All other terms, conditions, and specifications of the bid remain unchanged. Bidders must acknowledge receipt of this addendum prior to the hour and date specified in the bid request, or as amended, by one of the following methods:

(a) By acknowledging receipt, on the bid proposal form submitted; or
(b) By separate letter or email which includes a reference to the bid request and addendum number.

Failure to acknowledge receipt of this addendum in one of the above methods and cause acknowledgment to be received prior to the hour and date specified for receipt of proposals, **may result in rejection of your offer.** If by virtue of this addendum you decide to change an offer already submitted, such change may be made by email or letter, provided such email or letter makes reference to the bid request number and this addendum, and is received prior to the opening hour and date specified.

For any questions related to this Addendum, contact the Project Manager, Nader Kamal at (916) 808-7035 or NKamal@cityofsacramento.org.

Respectfully,

Jose R. Ledesma
Contracts & Compliance Specialist

Brenda Kee
Program Analyst

Enclosure

2013 Street Overlay Project
(PN: R15132019)
Addendum No. 1

Item #1 Following are the type, size and quantity of signs to be supplied and installed by bid item No. 33 "Traffic Sign to Place":

SIGNE TYPE	SIZE	QUANTITY
R81(CA)	24" X 18"	15
R26	12" X 18"	2
R3-7	30" X 30"	2
R32	12" X 18"	2
R27A	12" X 18"	1
R73-6(CA)MAS	36" X 36"	1

City of Sacramento
Formal Bid / Proposal Delivery Options

Any vendor and/or consultant submitting an official bid or proposal to the City of Sacramento City Clerk's Office, shall select one of the following delivery options. To ensure responsive receipt of bids and/or proposals within established submission deadlines, address information must exactly match one of the below options.

The City of Sacramento is not responsible for the late receipt of bids and/or proposals where the proposer did not adhere to one of the available delivery options.

Option	Service Provider and/or Service Types	Address
1.	**United States Postal Service (USPS)** - Regular First Class - Certified or Return Receipt - Priority - Express	Sacramento City Clerk's Office P.O. Box 122391 Sacramento, CA 95812-2391
2.	**Expedited Services** - FedEx - UPS - DHL	Sacramento City Clerk's Office 915 I Street, New City Hall Passport Acceptance Area 1st Floor Room 1119 Sacramento, CA 95814-2604
3.	**Personal Delivery** - Hand Delivery - Courier	Sacramento City Clerk's Office 915 I Street, New City Hall Passport Acceptance Area 1st Floor Room 1119 Sacramento, CA 95814

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Green Contracting Survey	1 – 3
Agreement	1 – 14
Performance Bond	1 only
Payment Bond	1 only
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Appendix A, B, C	

Sealed Proposals will be received by the City Clerk of the City of Sacramento at the office of the City Clerk Passport Acceptance Area, New City Hall, First Floor, Room 1119, located at 915 I Street between 9th and 10th Streets, up to the hour of **2:00 PM on July 10, 2013** and will be opened as soon thereafter as business allows, at Historic City Hall, 915 I Street, 2nd Floor Hearing Room:

2013 Street Overlay Project
(PN: R15132019)

as set forth in the Contract Documents.

Proposals received and work performed thereunder shall comply with the requirements of Title 3 of the Sacramento City Code. Each Bid Proposal shall be accompanied by bid security of at least 10% of the sum of the Bid Proposal which conforms to the requirements of Section 7.0 of the Instructions to Bidders. 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 in the Project Manual and enclosed in an envelope marked: Sealed Bid Proposal for:

2013 Street Overlay Project
(PN: R15132019)

Copies of the Contract Documents, including plans and specifications are available at

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

There are no costs to view or download the plans and specifications.

All contractors (prime and subs) 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. **Electronic Web submittal of Labor Compliance Reports is effective May 1, 2007.** Each contractor and every lower-tier subcontractor is required to submit certified payrolls and labor compliance documentation electronically at the discretion of and in the manner specified by the City of Sacramento.

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

This requirement will be 'flowed down' to every lower-tier subcontractor and vendor required to provide labor compliance documentation.

All questions regarding this Labor Compliance Program should be directed to Contracts Services at (916) 808-8195.

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, Sacramento, CA 95814.

ESBE REQUIREMENTS

(City Construction Contracts no Federal Funds Used)

I. ESBE PARTICIPATION REQUIREMENT

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

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

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

II. ESBE CERTIFICATION

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

B. An EBE designated in the bid must be certified as such by the City prior to the time bids are received by the City.

III. DETERMINATION OF ESBE PARTICIPATION LEVEL

A. ESBE Participation: The percent of ESBE participation shall be determined based on the dollar value of the work to be performed or supplies to be furnished by certified ESBEs designated in the bidder's Subcontractor and ESBE Participation Verification Form, relative to the total dollar amount of the bid.

B. Participation Credit: To receive credit for participation:(1) an ESBE subcontractor must be responsible for the execution of a distinct element of the work, must possess any license or certification required for the work, and must carry its responsibility by actually performing, managing, or supervising the work without subcontracting or

otherwise shifting any portion of the work to another subcontractor; and (2) an ESBE supplier must be furnishing materials, equipment, or supplies that the supplier sells as a recurring, although not necessarily primary, part of its business, and that are necessary for performance of the work.

C. ESBE Bidders: The dollar value listed for an ESBE bidder on the bidder's Subcontractor and ESBE Participation Verification Form shall include only the amount of work to be performed by the ESBE bidder, and shall not include any amount to be paid by the ESBE bidder for the cost of materials, equipment, or supplies.

D. Suppliers: Credit for an ESBE supplier of materials, equipment, or supplies is counted as one hundred (100) percent of the amount paid to the supplier for the material, equipment, or supplies. To receive this credit, ESBE suppliers must be listed on the bidder's Subcontractor and ESBE Participation Verification Form.

E. Subcontractors (including truckers): To receive credit for an ESBE subcontractor, the subcontractor must be listed on the bidder's Subcontractor and ESBE Participation Verification Form. The dollar value listed for a subcontractor on the bidder's Subcontractor and ESBE Participation Verification Form shall not include any amount to be paid to the subcontractor for the cost of materials, equipment, or supplies.

- Truckers: Credit for an ESBE trucker is counted as one hundred (100) percent of the amount paid to the trucker for trucking services, not including any amount paid to the trucker for the cost of any materials, equipment, or supplies being transported by the trucker.

IV. ESBE REQUIREMENTS FOR CONTRACTOR

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

Not later than 30 days after completion of the work performed under the contract, a summary of these records shall be prepared, certified correct by the Contractor's authorized representative and furnished to the City. The Contractor shall provide such other information, records, reports, certifications or other documents as may be required by City, to determine compliance with any provision of the ESBD program or these specifications.

B. Performance of ESBE Subcontractors and Suppliers: The ESBEs listed by the Contractor shall perform the work and supply the materials, equipment, and supplies for which they are listed unless the Contractor has received prior written authorization from the City to perform the work with other forces or to obtain the material, equipment, or supplies from other sources. Reasons for requesting such authorization would include:

1. The listed ESBE fails to execute a written contract based upon the general terms, conditions, plans, and specifications for the project.

2. The listed ESBE becomes bankrupt or insolvent.

3. The listed ESBE subcontractor fails to meet the bond requirements of the Contractor.

4. The work performed or the materials/equipment/supplies provided by the listed ESBE are unsatisfactory or are not in accordance with the plans and specifications, or the listed ESBE fails to perform its contractual obligations.

5. It would be in the best interest of the City.

C. Subcontractor Substitution: No substitution of an ESBE subcontractor shall be made at any time without compliance with the Subletting and Subcontracting Fair Practices Act. If an ESBE subcontractor is unable to perform successfully and is to be replaced, the Contractor shall make reasonable efforts to replace the original ESBE subcontractor with another certified ESBE subcontractor. The new ESBE subcontractor must be certified at the time of substitution.

D. Reporting and Utilization Requirements and Sanctions: Failure to provide specific information, records, reports, certifications, or any other documents required for compliance with these specifications, or failure to utilize one or more ESBEs in substantial compliance with the ESBE utilization indicated in the Contractor's bid (unless otherwise authorized by City as provided herein, or when such failure results from changes to the work approved by the City), shall be considered a breach of the contract, and a deduction may be made from the contract amount. The deduction shall be not more than ten (10) percent of the value of the work or materials/equipment/supplies that the subject ESBE(s) were listed to perform/provide in the Contractor's bid, and shall be deducted from any payment due to the Contractor. This is in addition to any deduction that may be made under any other provision of the contract, the Sacramento City Code, or State law.

E. Hearing and Review of Division Manager Decision: Prior to making a deduction pursuant to Section IV(D), above, the City shall provide written notice of the proposed deduction to the Contractor, and the Contractor may, not later than five (5) working days after receiving such notice, provide a written request to City for a hearing to contest the proposed deduction. Upon receipt of a timely written request from the Contractor, the City shall schedule a hearing before the Division Manager (as defined in the City's Standard Specifications for Public Construction), and written notice of the date, time and location of the hearing shall be provided to the Contractor not less than five (5) working days prior to the date of the hearing. The hearing shall be conducted in the manner specified in Section 4-8 of the Standard Specifications, and the Division Manager shall prepare and forward to the Contractor a written decision as soon as practicable after the hearing. The Division Manager's decision shall be subject to

review in accordance with the provisions of Section 4-9 of the Standard Specifications. Failure to request such review in compliance with the requirements set forth in Section 4-9 shall constitute acceptance of the Division Manager's decision by the Contractor.

The written notices and requests described above shall be provided by registered or certified mail (return receipt requested), by telecopy, by personal delivery, or by any other method that provides reliable evidence of the date of receipt. Written notice provided by telecopy shall be deemed received on the date that it is transmitted and transmission is confirmed by the transmitting machine. Written notice provided by personal delivery shall be deemed received on the date of delivery.

V. DEFINITIONS

A. Emerging Business Enterprise (EBE): The City shall certify EBEs utilizing the small business certification criteria and standards of the State of California, General Services Department, Office of Small Business and DVBE Services, that were in effect on December 1, 1998, provided that the size standard, industry by industry, shall be set at 50% of the State small business certification criteria and standards that were in effect on December 1, 1998.

B. Small Business Enterprise (SBE): The City shall certify SBEs utilizing the current small business certification criteria and standards of the State of California, General Services Department, Office of Small Business and DVBE Services. The City will also accept State certified SBEs.

C. The small business certification criteria and standards of the State of California, General Services Department, Office of Small Business and DVBE Services shall be used only for the purpose of determining whether a firm may receive certification as an EBE or SBE.

D. Contractor: The sole proprietorship, partnership, limited liability company, corporation, or any other business entity entering into a contract with the City of Sacramento.

E. Subcontractor: The sole proprietorship, partnership, limited liability company, corporation, or other business entity entering into a contract with the prime contractor to perform a portion of the work.

F. Supplier: The sole proprietorship, partnership, limited liability company, corporation, or other business entity entering into a contract with the prime contractor to provide materials, equipment, or supplies necessary for performance of the work.

CALIFORNIA LABOR CODE RELATING TO APPRENTICES ON PUBLIC WORKS PROJECTS

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

BID PROPOSAL FORMS

PLEASE REMOVE AND COMPLETE THE FOLLOWING DOCUMENTS AND SUBMIT AS THE BID PROPOSAL PACKAGE

BID PROPOSAL CHECKLIST

The following items are required to be submitted as part of the bid proposal. Failure to do so will result in the bid being declared not responsive.

Included: Please (√)	Pages
☑ Bid Proposal Form	1 – 5
☑ Bid Proposal Guarantee	1 only
☑ Drug Free Work Place Certification	1 only
☑ Minimum Qualifications Questionnaire	1 - 6
☑ E/SBE Subcontractor Form*	1 only
☑ Non-Discrimination in Employee Benefits Ordinance Certification	1 – 7

*Documentation of subcontractor E/SBE certification is due by no later than close of business two (2) working days after bid opening. **Subcontractor list is due with submission of bid.** This information is due to Department of Public Works, Attn: Jose R. Ledesma/Brenda Kee, 915 I Street, Room 2000, Sacramento CA 95814. Email: jledesma@cityofsacramento.org, bkee@cityofsacramento.org, or fax: 916-808-8281.

MARTIN BROTHERS

CITY OF SACRAMENTO
Department of Public Works
Engineering Services Division

TO THE HONORABLE CITY COUNCIL
SACRAMENTO, CALIFORNIA:

In compliance with the Contract Documents, the undersigned hereby proposes to furnish all required labor, materials, supervision, transportation, equipment, services, taxes and incidentals required for:

2013 STREET OVERLAY PROJECT
(R15132019)

in the City and County of Sacramento, California.

The Work is to be done in strict conformity with the Contract Documents now on file in the Office of the City Clerk, for the following sum:

Item No.	Item	Estimated Quantity	Unit	Unit Price	Total
1	PAVEMENT KEYCUTTING (8' WIDE)	6,584	LF	$ 1.50	$ 9,876-
2	PLANED PAVEMENT CONFORMS	2,433	SY	$ 4.20	$ 10,218.60
3	PAVEMENT PLANING (1.0")	25,324	SY	$ 2-	$ 50,648-
4	PAVEMENT PLANING (2.5")	23,861	SY	$ 2-	$ 47,722-
5	PAVEMENT PLANING (3.0")	20,875	SY	$ 2.25	$ 46,968.75
6	BASE REPAIR	5,276	TN	$ 123.00	$ 648,948.00
7	RUBBERIZED ASPHALT CONCRETE OVERLAY TO PLACE	3,691	TN	$ 106.00	$ 391,246.00
8	HOT MIX ASPHALT OVERLAY TO PLACE	3,069	TN	$ 104.00	$ 319,176.00
9	FIBER REINFORCED HMA OVERLAY TO PLACE	3,875	TN	$ 100.00	$ 387,500.00
10	HMA-G (BONDED WEARING COURSE) TO PLACE	1,567	TN	$ 200.00	$ 313,400.00
11	EMULSION (BONDED WEARING COURSE) TO PLACE	26	TN	$ 800.00	$ 20,800.00
12	MAINTENANCE HOLE TO LOWER	138	EA	$ 275-	$ 37,950-
13	MAINTENANCE HOLE TO RAISE	138	EA	$ 500-	$ 69,000-

14	AT&T AND SMUD MAINTENANCE HOLE TO LOWER	28	EA	$ 375-	$ 10,500-
15	AT&T AND SMUD MAINTENANCE HOLE TO RAISE	28	EA	$ 625-	$ 17,500-
16	MAINTENANCE HOLE CASTING TO SUPPLY AND INSTALL	30	EA	$ 795-	$ 23,850-
17	WATER VALVE BOX TO LOWER	114	EA	$ 245-	$ 27,930-
18	WATER VALVE BOX TO RAISE	114	EA	$ 245-	$ 27,930-
19	TRAFFIC STRIPE (4" & 6") TO REMOVE	12,670 (F)	LF	$ 1.50	$ 19,005-
20	TRAFFIC STRIPE (8") TO REMOVE	1,440 (F)	LF	$ 2-	$ 2,880-
21	TRAFFIC STRIPE (12") TO REMOVE	925 (F)	LF	$ 3-	$ 2,775-
22	PAVEMENT MARKINGS TO REMOVE	577 (F)	SF	$ 2-	$ 1,154-
23	RAISED REFLECTIVE PAVEMENT MARKERS TO PLACE	1,636 (F)	EA	$ 5-	$ 8,180-
24	THERMOPLASTIC STRIPE (4") TO PLACE	36,903 (F)	LF	$ 0.50	$ 18,451.50
25	THERMOPLASTIC STRIPE (6") TO PLACE	13,873 (F)	LF	$ 0.75	$ 10,404.75
26	THERMOPLASTIC STRIPE (8") TO PLACE	2,824 (F)	LF	$ 1-	$ 2,824-
27	THERMOPLASTIC STRIPE (12") TO PLACE	3,565 (F)	LF	$ 1.50	$ 5,347.50
28	THERMOPLASTIC PAVEMENT MARKINGS TO PLACE	2,261 (F)	SF	$ 3-	$ 6,783-
29	COLORED PAVEMENT FOR BIKE LANES (GREEN) TO PLACE	12,603	SF	$ 2.45	$ 30,877.35
30	COLORED PAVEMENT FOR BIKE LANES (4" WHITE) TO PLACE	676	LF	$ 1-	$ 676-
31	COLORED PAVEMENT FOR BIKE LANES (6" WHITE) TO PLACE	3,578	LF	$ 1.50	$ 5,367-
32	COLORED PAVEMENT FOR BIKE LANES (MARKINGS) TO PLACE	764	SF	$ 5-	$ 3,820-

33	TRAFFIC SIGN TO PLACE	23	EA	$ 120-	$ 2760-
34	NEW POST TO PLACE	7	EA	$ 250-	$ 1750-
35	CHANGEABLE MESSAGE SIGN TO INSTALL	14	EA	$ 2000-	$ 28000-
36	6' X 6' DETECTOR LOOP TO INSTALL	23	EA	$ 1,300.00	$ 29,900.00
37	DETECTOR HANDHOLE TO INSTALL	15	EA	$ 1,050.00	$ 15,750.00
38	1-1/2" CONDUIT TO INSTALL	490	LF	$ 36.00	$ 17,640.00
39	2" CONDUIT TO INSTALL	1,100	LF	$ 29.00	$ 31,900.00
40	3" CONDUIT TO INSTALL	420	LF	$ 31.00	$ 13,020.00
41	DETECTOR LEAD-IN CABLE TO INSTALL	5,470	LF	$ 1.50	$ 8,205.00
42	DETECTOR LEAD-IN CABLE TO REMOVE	7	EA	$ 350.00	$ 2,450.00
43	PULL BOX NO. 5 (LOCKABLE) TO INSTALL	12	EA	$ 1,550.00	$ 18,600.00
44	PULL BOX NO. 6 (LOCKABLE) TO INSTALL	7	EA	$ 1,750.00	$ 12,250.00
45	INSTALL NO. 10 THW CONDUCTOR	1,520	LF	$ 2.50	$ 3,800.00
46	VIDEO DETECTION CAMERA SYSTEM TO INSTALL	5	EA	$ 1,100.00	$ 5,500.00
47	SURGE SUPPRESSOR TO INSTALL	4	EA	$ 1,200.00	$ 4,800.00
48	NETWORK SWITCH SYSTEM TO INSTALL	4	EA	$ 10,500.00	$ 42,000.00
49	INTEGRATION OF DETECTOR LOOP & VIDEO DETECTION	7	EA	$ 1,700.00	$ 11,900.00

(F) – denotes final pay quantity

CONTRACTOR NAME: Martin Brothers Construction TOTAL $ 2,829,933.45

It is understood that this Bid Proposal is based upon completion of the Work within a period of **FORTY (40) WORKING DAYS,** commencing on the date set forth in the written Notice to Proceed issued by the City to the Contractor. The Contractor is hereby notified and reminded that per City Contract requirements, the City

will issue a Notice to Proceed within 15 calendar days of execution of contract by City. Contract work days will start immediately on the date of the Notice to Proceed. Attached is a sample of a Notice to Proceed.

In determining the amount bid by each bidder, the City may 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 face of 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.

The City Council may reject any and all bids and waive any informalities or minor irregularities in the bids.

When an item price is required to be set forth in the Proposal, and the total for the item set forth separately does not agree with a figure which is derived by multiplying the item price times the Engineer's estimate of the quantity of work to be performed for said item, the item 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 bidding procedure. The total paid for each such item of work shall be based upon the item price and not the total price. Should the Proposal contain only total price for the item and the item price is omitted, the City shall determine the item price by dividing the total price for the item by the Engineer's estimate of the estimated quantities of work to be performed as items 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.

The undersigned has examined the location of the proposed Work, the local conditions at the place where the Work is to be done, is familiar with the Contract Documents and is familiar and expressly agrees to the liquidated damages provision of the Contract Documents.

The undersigned has checked carefully all of the foregoing 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 Proposal.

Enclosed is a Bid Proposal Guarantee, as required, consisting of a bidder's bond or other acceptable security for not less than ten percent (10%) of the amount Bid Proposal.

The undersigned agrees that all addenda received and acknowledged herein shall become a part of and be included in this Bid Proposal. This Bid Proposal includes the following addenda:

Add. #	1	DATE	6/27/13
Add. #		DATE	
Add. #		DATE	

NOTE: State whether your concern is a corporation, a co-partnership, private individual, or individuals doing business under a firm name.

Martin Brothers Construction, a California Corporation

If the Bidder is a corporation, the Bid Proposal must be executed in the name of the corporation and must be signed by a duly authorized officer of the corporation.

If the Bidder is a partnership, the Bid Proposal must be executed in the name of the partnership and one of the partners must subscribe their signature thereto as the authorized representative of the partnership.

AMOUNT OF BID PROPOSAL GUARANTEE ENCLOSED:

($ 10% of Total) not less than ten percent (10%) of amount Bid Proposal

_____ CERTIFIED CHECK
_____ CASHIER'S CHECK
XX BID BOND
_____ MONEY ORDER
_____ OTHER SECURITY

CONTRACTOR: Martin Brothers Construction

By _____
(Signature)

Felipe Martin
(Print or Type)

Title President

Address 8801 Folsom Blvd Suite 260
Sacramento, CA 95826

Telephone No. 916-381-0911

Fax No. 916-381-0611

Email Address fmartin@martinbrothers.net

Date July 10, 2013

FOR CITY USE ONLY

Bid Bond Security
- [x] Properly Signed
- [ ] *Improperly Signed*
- [ ] *Not Included*
- [ ] Not Required

Type of Deposit
- [x] Bid Bond
- [ ] Cashier/Certified Check
- [ ] Other _____ Initial: _____

Contractor's License No. 726454 Type A

Expiration Date August 31, 2014

Tax I.D. Nos.- Fed. 68-0377885 State 432-4701-4

City of Sacramento Business Operation Tax Certificate No. 114797
(City will not award contract if Certificate Number is missing.)

Please indicate if you are any of the following:

EBE_____ Cert #_____ SBE_____ Cert #_____

UDBE_____ Cert #_____ M/WBE_____ Cert #_____

SACRAMENTO
Department of Public Works

KNOW ALL MEN BY THESE PRESENTS,

That we, Martin Brothers Construction

as Principal, and Fidelity and Deposit Company of Maryland

a corporation duly organized under the laws of the State of Maryland 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 City Clerk's Office, City of Sacramento, located at 915 I Street, New City Hall, Closed Session Room #CH1104, Sacramento, CA 95814 up to the hour of 2:00 p.m. on July 10, 2013 for the Work specifically described as follows:

2013 Street Overlay.Project
(PN: R15132019)

NOW, THEREFORE, if the aforesaid Principal is awarded the Contract and within the time and manner required under the Contract Documents, enters into a written Contract, 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 25th day of June 2013.

Martin Brothers Construction
(Contractor) (Seal)
By _____
Title Felipe Martin President

ORIGINAL APPROVED AS TO FORM:

_____
City Attorney

Fidelity and Deposit Company of Maryland
(Surety) (Seal)
By _____
Title Renee Ramsey, Attorney-in-Fact
Agent Name and Address InterWest Insurance Services, Inc., 3636 American River Dr, 2nd Fl, Sacramento, CA 95864
Agent Phone # (918) 488-3100
Surety Phone # (800) 331-6053
California License # 0B01094

(Rev. 5-6-91)

CALIFORNIA ALL-PURPOSE ACKNOWLEDGMENT

State of California

County of Sacramento

On 07/02/13 (Date) before me, amy N. Spence, Notary Public (Here Insert Name and Title of the Officer),

personally appeared Felipe Martin (Name(s) of Signer(s)),

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

AMY NICOLE SPENCE
Commission # 1858444
Notary Public - California
Sacramento County
My Comm. Expires Jul 18, 2013

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

WITNESS my hand and official seal.

Signature: [signature] (Signature of Notary Public)

Place Notary Seal and/or Stamp Above

OPTIONAL

Though the information below is not required by law, it may prove valuable to persons relying on the document and could prevent fraudulent removal and reattachment of this form to another document.

Description of Attached Document

Title or Type of Document: 2013 overlay Bid Bond

Document Date: 06/25/13 Number of Pages: _____

Signer(s) Other Than Named Above: _____

Capacity(ies) Claimed by Signer(s)

Signer's Name: _____	Signer's Name: _____
☐ Corporate Officer — Title(s): _____	☐ Corporate Officer — Title(s): _____
☐ Individual	☐ Individual
☐ Partner — ☐ Limited ☐ General	☐ Partner — ☐ Limited ☐ General
☐ Attorney in Fact	☐ Attorney in Fact
☐ Trustee	☐ Trustee
☐ Guardian or Conservator	☐ Guardian or Conservator
☐ Other: _____	☐ Other: _____
Signer Is Representing: _____	Signer Is Representing: _____
RIGHT THUMBPRINT OF SIGNER — Top of thumb here	RIGHT THUMBPRINT OF SIGNER — Top of thumb here

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ACKNOWLEDGMENT

State of California
County of Sacramento)

On June 25, 2013 before me, Patricia M. Simas, Notary Public
(insert name and title of the officer)

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

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

WITNESS my hand and official seal.

PATRICIA M. SIMAS
NOTARY PUBLIC - CALIFORNIA
COMMISSION # 1858871
SACRAMENTO COUNTY
My Comm. Exp. August 21, 2013

Signature Patricia M. Simas (Seal)

EXTRACT FROM BY-LAWS OF THE COMPANIES

"Article V, Section 8, Attorneys-in-Fact. The Chief Executive Officer, the President, or any Executive Vice President or Vice President may, by written instrument under the attested corporate seal, appoint attorneys-in-fact with authority to execute bonds, policies, recognizances, stipulations, undertakings, or other like instruments on behalf of the Company, and may authorize any officer or any such attorney-in-fact to affix the corporate seal thereto; and may with or without cause modify of revoke any such appointment or authority at any time."

CERTIFICATE

I, the undersigned, Vice President of the ZURICH AMERICAN INSURANCE COMPANY, the COLONIAL AMERICAN CASUALTY AND SURETY COMPANY, and the FIDELITY AND DEPOSIT COMPANY OF MARYLAND, do hereby certify that the foregoing Power of Attorney is still in full force and effect on the date of this certificate; and I do further certify that Article V, Section 8, of the By-Laws of the Companies is still in force.

This Power of Attorney and Certificate may be signed by facsimile under and by authority of the following resolution of the Board of Directors of the ZURICH AMERICAN INSURANCE COMPANY at a meeting duly called and held on the 15th day of December 1998.

RESOLVED: "That the signature of the President or a Vice President and the attesting signature of a Secretary or an Assistant Secretary and the Seal of the Company may be affixed by facsimile on any Power of Attorney...Any such Power or any certificate thereof bearing such facsimile signature and seal shall be valid and binding on the Company."

This Power of Attorney and Certificate may be signed by facsimile under and by authority of the following resolution of the Board of Directors of the COLONIAL AMERICAN CASUALTY AND SURETY COMPANY at a meeting duly called and held on the 5th day of May, 1994, and the following resolution of the Board of Directors of the FIDELITY AND DEPOSIT COMPANY OF MARYLAND at a meeting duly called and held on the 10th day of May, 1990.

RESOLVED: "That the facsimile or mechanically reproduced seal of the company and facsimile or mechanically reproduced signature of any Vice-President, Secretary, or Assistant Secretary of the Company, whether made heretofore or hereafter, wherever appearing upon a certified copy of any power of attorney issued by the Company, shall be valid and binding upon the Company with the same force and effect as though manually affixed.

IN TESTIMONY WHEREOF, I have hereunto subscribed my name and affixed the corporate seals of the said Companies, this 25 day of June, 2013.

Thomas O. McClellan, Vice President

ZURICH AMERICAN INSURANCE COMPANY
COLONIAL AMERICAN CASUALTY AND SURETY COMPANY
FIDELITY AND DEPOSIT COMPANY OF MARYLAND
POWER OF ATTORNEY

KNOW ALL MEN BY THESE PRESENTS: That the ZURICH AMERICAN INSURANCE COMPANY, a corporation of the State of New York, the COLONIAL AMERICAN CASUALTY AND SURETY COMPANY, a corporation of the State of Maryland, and the FIDELITY AND DEPOSIT COMPANY OF MARYLAND a corporation of the State of Maryland (herein collectively called the "Companies"), by **JAMES M. CARROLL, Vice President,** in pursuance of authority granted by Article V, Section 8, of the By-Laws of said Companies, which are set forth on the reverse side hereof and are hereby certified to be in full force and effect on the date hereof, do hereby nominate, constitute, and appoint **Richard W. PRATT, Renee RAMSEY, B. G. MIDSTOKKE, Katherine GORDON and Patricia M. SIMAS, all of Sacramento, California, EACH** its true and lawful agent and Attorney-in-Fact, to make, execute, seal and deliver, for, and on its behalf as surety, and as its act and deed: **any and all bonds and undertakings,** and the execution of such bonds or undertakings in pursuance of these presents, shall be as binding upon said Companies, as fully and amply, to all intents and purposes, as if they had been duly executed and acknowledged by the regularly elected officers of the ZURICH AMERICAN INSURANCE COMPANY at its office in New York, New York., the regularly elected officers of the COLONIAL AMERICAN CASUALTY AND SURETY COMPANY at its office in Owings Mills, Maryland., and the regularly elected officers of the FIDELITY AND DEPOSIT COMPANY OF MARYLAND at its office in Owings Mills, Maryland., in their own proper persons.

The said Vice President does hereby certify that the extract set forth on the reverse side hereof is a true copy of Article V, Section 8, of the By-Laws of said Companies, and is now in force.

IN WITNESS WHEREOF, the said Vice-President has hereunto subscribed his/her names and affixed the Corporate Seals of the said **ZURICH AMERICAN INSURANCE COMPANY, COLONIAL AMERICAN CASUALTY AND SURETY COMPANY, and FIDELITY AND DEPOSIT COMPANY OF MARYLAND**, this 12th day of September, A.D. 2012.

ATTEST:

ZURICH AMERICAN INSURANCE COMPANY
COLONIAL AMERICAN CASUALTY AND SURETY COMPANY
FIDELITY AND DEPOSIT COMPANY OF MARYLAND

By: _____
Assistant Secretary
Eric D. Barnes

_____
Vice President
James M. Carroll

State of Maryland
City of Baltimore

On this 12th day of September, A.D. 2012, before the subscriber, a Notary Public of the State of Maryland, duly commissioned and qualified, **JAMES M. CARROLL, Vice President, and ERIC D. BARNES, Assistant Secretary,** of the Companies, to me personally known to be the individuals and officers described in and who executed the preceding instrument, and acknowledged the execution of same, and being by me duly sworn, deposeth and saith, that he/she is the said officer of the Company aforesaid, and that the seals affixed to the preceding instrument are the Corporate Seals of said Companies, and that the said Corporate Seals and the signature as such officer were duly affixed and subscribed to the said instrument by the authority and direction of the said Corporations.

IN TESTIMONY WHEREOF, I have hereunto set my hand and affixed my Official Seal the day and year first above written.

_____
Maria D. Adamski, Notary Public
My Commission Expires: July 8, 2015

POA-F 016-3833A

City of SACRAMENTO
Department of Public Works

DRUG-FREE WORKPLACE POLICY AND AFFIDAVIT

BID PROPOSAL 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 Agreement 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 Agreement, 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 Agreement 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 was 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 AGREEMENT, 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: Martin Brothers Construction

BY: _____ President **Date:** July 10, 2013
Signature **Title**
Felipe Martin

Effects of violations: a. Suspension of payments under the Agreement. **b.** Suspension or termination of the Agreement. **c.** Suspension or debarment of the contractor from receiving any Agreement from the City of Sacramento for a period not to exceed five years.

FM 681
(Rev. 10/5/01)

CITY OF SACRAMENTO

THIS FORM MUST BE SUBMITTED WITH THE SEALED BID PROPOSAL

CITY OF SACRAMENTO SUBCONTRACTOR and ESBE PARTICIPATION VERIFICATION

To be eligible for award of this contract, the bidder shall list any business entity used to attain the 20% ESBE goal. Additionally, all other subcontractors who perform work, labor, or render service in an amount in excess of one-half of 1 percent of the total bid amount shall be listed. In the case of bids for the construction of streets and highways, including bridges, subcontractors whose subcontract value exceeds one-half (0.5) of one percent of the total bid or ten thousand dollars ($10,000), whichever is greater, shall be listed. Estimated dollar values shall be provided for all work / services listed. The inclusion of false information or the omission of required information will render the bid non-responsive. **READ THE ABOVE REQUIREMENT CAREFULLY**

Name of Prime Contractor: Martin Brothers Construction		Bid Amount: 2,829,933.45	Date: July 10, 2013
Business Entity or Subcontractor Name and Location	Indicate EBE or SBE (subject to verification)	Items of Work and/or Description of Work or Service Subcontracted or Materials to be provided to complete contract	Estimated Dollar Value of Work / Services Provided
Studebaker Brown Electrical	SBE	Electrical	217,715.00
2008 Opportunity Dr #140 Roseville Ca, 95678			
Centerline Striping	SBE	Striping/Marking/	93,677.00
9807 Dino Dr. Elk Grove CA 95624		Signage	
Asphalt Impressions	SBE	Colored pavement	30,877.00
8150 37th Ave Gacto CA 95824			
Anvak Corp	SBE	planing	97,000.00
5820 Mayhew Rd		Base Repair (partial)	
Gacto CA 95827			
~~Spirit Road Oils~~	SBE	Tack Coat	
~~16490 Vineyard Blvd Morgan Hill CA 95037~~			AB
West Coast Water + Trucking Inc	SBE	Trucking (Partial)	$125,000.00
3941 Park Dr. #20-231 El Dorado Hills CA 95762			
Neil O. Anderson + assocs	SBE	Inspection Services	18,000.00
902 Industrial Wy Lidi CA 95240			

FM 440 (Rev. 2/25/04) COPY AND ATTACH ADDITIONAL SHEETS AS NECESSARY Page __ of __

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

CITY OF SACRAMENTO

THIS FORM MUST BE SUBMITTED WITH THE SEALED BID PROPOSAL

CITY OF SACRAMENTO SUBCONTRACTOR and ESBE PARTICIPATION VERIFICATION

To be eligible for award of this contract, the bidder shall list any business entity used to attain the 20% ESBE goal. Additionally, all other subcontractors who perform work, labor, or render service in an amount in excess of one-half of 1 percent of the total bid amount shall be listed. In the case of bids for the construction of streets and highways, including bridges, subcontractors whose subcontract value exceeds one-half (0.5) of one percent of the total bid or ten thousand dollars ($10,000), whichever is greater, shall be listed. Estimated dollar values shall be provided for all work / services listed. The inclusion of false information or the omission of required information will render the bid non-responsive. **READ THE ABOVE REQUIREMENT CAREFULLY**

Name of Prime Contractor: Martin Brothers Construction		Bid Amount:	Date: July 10, 2013
Business Entity or Subcontractor Name and Location	Indicate EBE or SBE (subject to verification)	Items of Work and/or Description of Work or Service Subcontracted or Materials to be provided to complete contract	Estimated Dollar Value of Work / Services Provided
Windsor Fuel Company		BWC - Equip. Rental	95,000.00
1150 Willowpass Rd Pittsburg Ca, 94565		Emulsion	
Pacific Northwest Oil		Tack Coat	37,600.00
3310 East Miner Ave			
Stockton Ca, 95206			
Riley's Striping Inc.		Lower/Raise Iron	214,660.00
P.O. Box 769 Union City Ca, 94587			

FM 440 (Rev. 2/25/04)

COPY AND ATTACH ADDITIONAL SHEETS AS NECESSARY **Page __ of __**

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

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.

FOR CITY CLERK USE ONLY

RESOLUTION NO.: 2007-574

DATE ADOPTED: July 31, 2007

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:

   726454 "A" Expiration 8/31/2014

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

FOR CITY CLERK USE ONLY

RESOLUTION NO.: 2007-574

DATE ADOPTED: July 31, 2007

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

FOR CITY CLERK USE ONLY

RESOLUTION NO.: 2007-574

DATE ADOPTED: July 31, 2007

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

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

☐ Yes ☒ No

OR

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

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

N	**= number of lost workday cases (as defined by the U.S. Dept. of Labor, Bureau of Labor Statistics)**
EH	**= total hours worked by all employees during the calendar year**
200,000	**= base for 100 equivalent full-time working (working 40 hours per week, 50 weeks per year)**

☐ Yes ☐ No

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

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

☐ Yes ☒ No

FOR CITY CLERK USE ONLY

RESOLUTION NO.: 2007-574

DATE ADOPTED: July 31, 2007

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

FOR CITY CLERK USE ONLY

RESOLUTION NO.: 2007-574

DATE ADOPTED: July 31, 2007

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 Sacramento, CA, on July 10, 2013.
(Location) (Date)

Signature: _____

Print name: Felipe Martin

Title: President

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.

FOR CITY CLERK USE ONLY

RESOLUTION NO.: 2007-574

NON-DISCRIMINATION IN EMPLOYEE BENEFITS BY CITY CONTRACTORS ORDINANCE

INTRODUCTION

The Sacramento Non-Discrimination In Employee Benefits By City Contractors Ordinance (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 $25,000.00. 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 provisions apply only to those employee(s) actually working on the City contract and only for the actual amount of time the employee(s) spend working on such contract.

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 contracts 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 of 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

Martin Brothers Construction

Name of Contractor

8801 Folsom Blvd Suite 260 Sacramento, CA 95826

Address

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

1. I have read and understand the Non-Discrimination In Employee Benefits By City Contractors Ordinance ("Ordinance") 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 of the Ordinance, codified as Chapter 3. 54 of the Sacramento City Code.

3. If the face amount of this City Contract is less than $100,000.00 as a condition of receiving this Contract, I agree to notify the City in writing if the aggregate value of the City Contract referenced herein, after changes, modifications, or similar actions, equals or exceeds $100,000.00 in total value.

4. 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.

5. 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.

6. I understand that failure to comply with the provisions of Section 5. (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.

7. 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.

8. 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 EBO 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.

9. 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 City's Equal Benefits 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

July 10, 2013
Date

Felipe Martin
Print Name

President
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 95814-2714

- 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 95814-2714

- 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.

TITLE VI

Title VI Language

APPENDIX A

During the performance of this contract, the contractor, for itself, its assignees and successors in interest (hereinafter referred to as the "contractor") agrees as follows:

(1) ***Compliance with Regulations:***
The contractor shall comply with the Regulations relative to nondiscrimination in Federally-assisted programs of the Department of Transportation (hereinafter, "DOT") Title 49, Code of Federal Regulations, Part 21, as they may be amended from time to time, (hereinafter referred to as the Regulations), which are herein incorporated by reference and made a part of this contract.

(2) ***Nondiscrimination:***
The contractor, with regard to the work performed by it during the contract, shall not discriminate on the grounds of race, color, or national origin in the selection and retention of subcontractors, including procurements of materials and leases of equipment. The contractor shall not participate either directly or indirectly in the discrimination prohibited by section 21.5 of the Regulations, including employment practices when the contract covers a program set forth in Appendix B of the Regulations.

(3) ***Solicitations for Subcontracts, Including Procurements of Materials and Equipment:***
In all solicitations either by competitive bidding or negotiation made by the contractor for work to be performed under a subcontract, including procurements of materials or leases of equipment, each potential subcontractor or supplier shall be notified by the contractor of the contractor's obligations under this contract and the Regulations relative to nondiscrimination on the grounds of race, color, or national origin.

(4) ***Information and Reports:***
The contractor shall provide all information and reports required by the Regulations or directives issued pursuant thereto, and shall permit access to its books, records, accounts, other sources of information, and its facilities as may be determined by the (Recipient) or the (Name of Appropriate Administration) to be pertinent to ascertain compliance with such Regulations, orders and instructions. Where any information required of a contractor is in the exclusive possession of another who fails or refuses to furnish this information the contractor shall so certify to the (Recipient), or the (Name of Appropriate Administration) as appropriate, and shall set forth what efforts it has made to obtain the information.

(5) ***Sanctions for Noncompliance:***
In the event of the contractor's noncompliance with the nondiscrimination provisions of this contract, the (***Recipient***) shall impose such contract sanctions as it or the (***Name of Appropriate Administration***) may determine to be appropriate, including, but not limited to:

- **(a)** withholding of payments to the contractor under the contract until the contractor complies, and/or
- **(b)** cancellation, termination or suspension of the contract, in whole or in part.

(6) ***Incorporation of Provisions:***
The contractor shall include the provisions of paragraphs (1) through (6) in every subcontract, including procurements of materials and leases of equipment, unless exempt by the Regulations, or directives issued pursuant thereto. The contractor shall take such action with respect to any subcontract or procurement as the (***Recipient***) or the (***Name of Appropriate Administration***) may direct as a means of enforcing such provisions including sanctions for non-compliance: Provided, however, that, in the event a contractor becomes involved in, or is threatened with, litigation with a subcontractor or supplier as a result of such direction, the contractor may request the (***Recipient***) to enter into such litigation to protect the interests of the (***Recipient***), and, in addition, the contractor may request the United States to enter into such litigation to protect the interests of the United States.

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 #	
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.
c) Electronic version available at http://www.airquality.org/ceqa/index.shtml
d) For additional questions, please call (916) 874-4892

Please Submit To:

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

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

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

In Partnership with the City of Sacramento and the Sacramento Metropolitan AQMD

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.
c) Electronic version is available at http://www.airquality.org/ceqa/index.shtml
d) For additional questions, please call (916) 874-4892

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	
(ex)	*48W34456*	*Caterpillar*	*631G*	*Scraper*	*2003*	*Caterpillar*	*3408E*	*2003*	*485*	*1,600*

FOLLOWING FORMS TO BE FILLED OUT AND SIGNED ONLY IF AWARDED CONTRACT

AGREEMENT
(Construction Contract Over $25,000)

THIS AGREEMENT, dated for identification August 27, 2013, is made and entered into between the CITY OF SACRAMENTO, a municipal corporation ("City"), and
Martin Brothers Construction, 8801 Folsom Blvd., Suite 260, Sacramento, CA 95826 ("Contractor").

The City and Contractor hereby mutually agree as follows:

1. CONTRACT DOCUMENTS

The Contract Documents, sometimes also referred to as the "Contract," consist of the following items, which are hereby incorporated by reference as if set forth in full in this Agreement:

The Notice to Contractors
The Proposal Form submitted by the Contractor
The Instructions to Bidders
The Emerging and Small Business Enterprise (ESBE) Requirements
The Requirements for the Non-Discrimination in Employee Benefits by City Contractors Ordinance and the Declaration of Compliance
The City's Reference Guide for Construction Contracts
The Addenda, if any
This Agreement
The Standard Specifications
The Special Provisions
The Plans and Technical Specifications
The drawings and other data and all developments thereof prepared by City pursuant to the Contract
Any modifications of any of the foregoing made or approved by City, including but not limited to duly authorized change orders.

Unless specifically noted otherwise, references to the "Standard Specifications" shall mean and refer to the Standard Specifications for Public Construction of the City of Sacramento approved by the Sacramento City Council on June 4, 2007 (Resolution No. 2007-350), and any subsequent amendments thereto approved by the Sacramento City Council or the Sacramento City Manager. Work called for in any one Contract Document and not mentioned in another is to be performed and executed as if mentioned in all Contract Documents. The table of contents, titles and headings contained in the Contract Documents are provided solely to facilitate reference to various provisions of the Contract Documents and in no way affect or limit the interpretation of the provisions to which they refer.

2. DEFINITIONS

Unless otherwise specifically provided herein, all words and phrases defined in the Standard Specifications shall have the same meaning and intent in this Agreement.

3. AGREEMENT CONTROLS

In the event of a conflict between any of the terms and conditions set forth in this Agreement and the terms and conditions set forth in other Contract Documents, the terms and conditions set forth in this Agreement shall prevail, except that the provisions of any duly authorized change order shall prevail over any conflicting provisions of this Agreement.

4. SCOPE OF CONTRACT

Contractor agrees to furnish all tools, equipment, apparatus, facilities, labor, material and transportation necessary to perform and complete in a good and workmanlike manner to the satisfaction of City, all the Work called for in the Contract Documents entitled:

2013 Street Overlay Project
(PN: R15132019)

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 phase "commence the Work" means to engage in a continuous program on-site including, but not limited to, site clearance, grading, dredging, land filling and the fabrications, erection, or installation of the Work. The Notice to Proceed shall be issued within fifteen (15) calendar days following execution of the Agreement by the City and the filing by Contractor of the required Bonds and proof of insurance, provided that the Engineer may delay issuance of the Notice to Proceed if the Engineer determines in the Engineer's sole discretion that conditions on the site of the Work are unsuitable for commencement of the Work. After the Notice to Proceed is issued, the continuous prosecution of Work by Contractor shall be subject only to Excusable Delays as defined in this Agreement.

9. TIME OF COMPLETION

The entire Work shall be brought to completion in the manner provided for in the Contract Documents on or before **30 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 **nine hundred and ten dollars ($910)** 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-erections, and repairs occasioned or rendered necessary by accidental causes of any nature, to all or any portions of the Work.

18. GENERAL LIABILITY OF CONTRACTOR

Except as otherwise herein expressly stipulated, Contractor shall perform all the Work and furnish all the labor, materials, tools, equipment, apparatus, facilities, transportation, power and light, and appliances, necessary or proper for performing and completing the Work herein required in the manner and within the time herein specified. The mention of any specific duty or liability of Contractor shall not be construed as a limitation or restriction of any general liability or duty of Contractor, and any reference to any specific duty or liability shall be construed to be solely for the purpose of explanation.

19. INSURANCE

During the entire term of 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 <u>not</u> include: (i) any delay that could have been avoided by the exercise of care, prudence, foresight and diligence on the part of Contractor; (ii) any delay in the prosecution of any part of the Work that does not constitute a Controlling Operation, whether or not such delay is unavoidable; (iii) any reasonable delay resulting from time required by City for review of any Contractor submittals and for the making of surveys, measurements and inspection; and, (iv) any delay arising from an interruption in the prosecution of the Work on account of reasonable interference by other Contractors employed by City that does not necessarily prevent the completion of the entire Work within the time specified. Excusable Delays, if any, shall operate only to extend the Completion Date (not in excess of the period of such delay as determined by City) and shall not under any circumstances increase the amount City is required to pay Contractor except as otherwise provided in these Contract Documents.

22. CONTRACTOR TO SERVE NOTICE OF DELAYS

Whenever Contractor foresees any delay in the prosecution of the Work, and in any event as soon as possible (not to exceed a period of ten (10) calendar days) after the initial occurrence of any delay that Contractor regards as or may later claim to be an Excusable Delay, the Contractor shall notify the Engineer in writing of such delay and its cause, in order that the Engineer: (i) may take immediate steps to prevent if possible the occurrence or continuance of the delay; or (ii) if this cannot be done, may determine whether the delay is to be considered excusable, how long it continues, and to what extent the prosecution and completion of the Work are delayed thereby. Said written notice shall constitute an application for an extension of time only if the notice requests such an extension and sets forth the Contractor's estimate of the additional time required together with a full description of the cause of the delay relied upon.

After the completion of any part or whole of the Work, the Engineer, in estimating the amount due Contractor, will assume that any and all delays that may have occurred in its prosecution and completion were not Excusable Delays, except for such delays for which the Contractor has provided timely written notice as required herein, and that the Engineer has found to be excusable. Contractor shall not be entitled to claim Excusable Delay for any delay for which the Contractor failed to provide such timely written notice.

23. EXTENSION OF TIME

If the Contractor complies with Section 22, above, and the Engineer finds a delay claimed by the Contractor to be an Excusable Delay, the Contractor shall be allowed an extension of time to complete the Work that is proportional to the period of Excusable Delay determined by the Engineer, subject to the approval by City of a change order granting such time extension. During a duly authorized extension for an Excusable Delay, City shall not charge liquidated damages against the Contractor for such delay.

If the City extends the time to complete the Work as provided herein, such extension shall in no way release any warranty or guarantee given by Contractor pursuant to the provisions of the Contract Documents, nor shall such extension of time relieve or release the sureties of the Bonds provided pursuant to the Contract Documents. By executing such Bonds, the Sureties shall be deemed to have expressly agreed to any such extension of time. The granting of any extension of time as provided herein shall in no way operate as a waiver on the part of City of its rights under this Contract, excepting only extension of the Completion Date for such period of Excusable Delay as may be determined by the Engineer and approved by a duly authorized change order.

24. NO PAYMENT FOR DELAYS

No damages or compensation of any kind shall be paid to Contractor or any subcontractor because of delays in the progress of the Work whether or not such delays qualify for extension of time under this Agreement; except that this provision shall not preclude the recovery of damages for a delay caused by the City that is unreasonable under the circumstances and that is not within the contemplation of the parties, provided that the Contractor timely submits all such written notice(s) and fully complies with such other procedures as may be specified in the Contract Documents or any Laws or Regulations for Contractor to claim damages for such delay.

25. CHANGES IN THE WORK

Changes in the Work authorized or directed in accordance with the Contract Documents and extensions of time of completion made necessary by reason thereof shall not in any way release any warranty or guarantee given by Contractor pursuant to the provisions of the Contract Documents, nor shall such changes in the Work relieve or release the Sureties on Bonds provided pursuant to the Contract Documents. By executing such Bonds, the Sureties shall be deemed to have expressly agreed to any such change in Work and to any extension of time made by reason thereof.

26. TERMINATION AFTER COMPLETION DATE

In addition to any other rights City may have, if any services or work required under the Contract (including but not limited to punch list items) are not completed as of the Completion Date (as adjusted by any extensions of time for Excusable Delays granted pursuant to the Contract Documents), City may terminate the Contract at any time after the Completion Date (as adjusted by any extensions of time for Excusable Delays granted pursuant to the Contract Documents), by providing a written notice to Contractor specifying the date of termination. Such notice also may specify conditions or requirements that Contractor must meet to avoid termination of the Contract on such date. If Contractor fails to fulfill all such conditions and requirements by such termination date, or, if no such conditions or requirements are specified, Contractor shall cease rendering services and performing work on such termination date, and shall not be entitled to receive any compensation for services rendered or work performed after such termination date. In the event of such termination, Contractor shall remain liable to City for liquidated damages incurred for any period of time prior to the termination date.

In addition to any other charges, withholdings or deductions authorized under the Contract or any Laws or Regulations, if City terminates the Contract pursuant to this section, City may withhold and deduct from any payment and/or retention funds otherwise due Contractor any sum necessary to pay the City's cost of completing or correcting, or contracting for the completion or correction of, any services or work under the Contract that are not completed to the satisfaction of the City or that otherwise are deficient or require correction as of such termination date, including but not limited to incomplete punch list items. Such costs shall include all of the City's direct and indirect costs incurred to complete or correct such services or work, including the City's administrative and overhead costs. If the amount of payment(s) and/or retention funds otherwise due the Contractor are insufficient to pay such costs, City shall have the right to recover the balance of such costs from the Contractor and/or its Surety(ies).

27. TERMINATION FOR CONVENIENCE

Upon written notice to the Contractor, the City may at any time, without cause and without prejudice to any other right or remedy of the City, elect to terminate the Contract for the convenience of City. In such case, the Contractor shall be paid (without duplication of any items, and after deduction and/or withholding of any amounts authorized to be deducted or withheld by the Contract Documents or any Laws or Regulations):

(A) For Work executed in accordance with the Contract Documents prior to the effective date of termination and determined to be acceptable by the Engineer, including fair and reasonable sums for overhead and profit on such Work;

(B) For reasonable claims, costs, losses, and damages incurred in settlement of terminated contracts with subcontractors, suppliers, and others; and

(C) For reasonable expenses directly attributable to termination.

Contractor shall not be paid for any loss of anticipated profits or revenue for any Work not performed prior to termination, nor for any economic loss arising out of or resulting from such termination, except for the payments listed in this section. Contractor's warranty under Section 14 of this Agreement shall apply, and Contractor shall remain responsible for all obligations related to such warranty, with respect to all portions of the Work performed prior to the effective date of the termination for convenience pursuant to this section. The City shall be entitled to have any or all remaining Work performed by other contractors or by any other means at any time after the effective date of a termination for convenience pursuant to this section.

28. TERMINATION FOR BREACH OF CONTRACT

If Contractor abandons the Work under this Contract, or if the Contract or any portion of the Contract is sublet or assigned without the consent of the City, or if the Engineer determines in the Engineer's sole discretion that the conditions of the Contract in respect to the rate of progress of the Work are not being fulfilled or any part thereof is unnecessarily delayed, or if Contractor violates or breaches, or fails to execute in good faith, any of the terms or conditions of the Contract, or if Contractor refuses or fails to supply enough properly skilled labor or materials or refuses or fails to make prompt payment to subcontractors for material or labor, or if Contractor disregards any Laws or Regulations or proper instruction or orders of the Engineer, then, notwithstanding any provision to the contrary herein, the City may give Contractor and its Sureties written notification to immediately correct the situation or the Contract shall be terminated.

In the event that such notice is given, and, in the event such situation is not corrected, or arrangements for correction satisfactory to the City are not made, within ten (10) calendar days from the date of such notice or within such other period of time as may be specified by the City in the notice, the Contract shall upon the expiration of said period cease and terminate. In the event of any such termination, City may take over the Work and prosecute the Work to completion, or otherwise, and the Contractor and its Sureties shall be liable to City for any cost occasioned City thereby, as hereinafter set forth.

In the event City completes the Work, or causes the Work to be completed, no payment of any kind shall be made to Contractor until the Work is complete. The cost of completing the Work, including but not limited to, extra costs of project administration and management incurred by City, both direct or indirect, shall be deducted from any sum then due, or that becomes due, to Contractor from City. If sums due to Contractor from City are less than the cost of completing the Work, Contractor and its Sureties shall pay City a sum equal to this difference on demand. In the event City completes the Work, and there is a sum remaining due to Contractor after City deducts the costs of completing the Work, then City shall pay such sum to Contractor. The Contractor and Contractor's Sureties shall be jointly and severally liable for all obligations imposed on Contractor hereunder.

No act by City before the Work is finally accepted, including, but not limited to, exercise of other rights under the Contract, actions at law or in equity, extensions of time, payments, assessments of liquidated damages, occupation or acceptance of any part of the Work, waiver of any prior breach of the Contract or failure to take action pursuant to this section upon the happening of any prior default or breach of Contractor, shall be construed to be a waiver or estoppel of the City's right to act pursuant to this Section upon any subsequent event, occurrence or failure by Contractor to fulfill the terms and conditions of the Contract. The rights of City to terminate the Contract pursuant to this Section and pursuant to Sections 26 and 27 are cumulative and are in addition to all other rights of City pursuant to the Contract and at law or in equity.

29. CONTRACTOR BANKRUPT

If Contractor should commence any bankruptcy proceeding, or if Contractor is adjudged a bankrupt, or if Contractor makes any assignment for the benefit of creditors, or if a receiver is appointed on account of Contractor's insolvency, then the City may, without prejudice to any other right or remedy, terminate the Contract and complete the work by giving notice as provided in Section 28 above.

30. SURETIES' OBLIGATIONS UPON TERMINATION

If the City terminates the Contract pursuant to Section 28 or Section 29 above:

(A) The Surety under Contractor's performance bond shall be fully responsible for all of the Contractor's remaining obligations of performance under the Contract as if the Surety were a party to the Contract, including without limitation Contractor's obligations, as provided in the Contract Documents, to complete and provide a one-year warranty of the entire Work, pay liquidated damages and indemnify, defend and hold harmless City, up to the full amount of the performance bond.

(B) The Surety under Contractor's payment bond shall be fully responsible for the performance of all of the Contractor's remaining payment obligations for work, services, equipment or materials performed or provided in connection with the Work or any portion thereof, up to the full amount of the payment bond.

31. ACCOUNTING RECORDS OF CONTRACTOR

During performance of the Contract and for a period of three (3) years after completing the entire Work, Contractor shall maintain all accounting and financial records related to the Contract and performance of the Work in accordance with generally accepted accounting practices, and shall keep and make such records available for inspection and audit by representatives of the City upon reasonable written notice.

32. USE TAX REQUIREMENTS

During the performance of this Agreement, CONTRACTOR, for itself, its assignees and successors in interest, agrees as follows:

(A) Use Tax Direct Payment Permit: For all leases and purchases of materials, equipment, supplies, or other tangible personal property used to perform the Agreement and shipped from outside California, the Contractor and any subcontractors leasing or purchasing such materials, equipment, supplies or other tangible personal property shall obtain a Use Tax Direct Payment Permit from the California State Board of Equalization ("SBE") in accordance with the applicable SBE criteria and requirements.

(B) Sellers Permit: For any construction contract and any construction subcontract in the amount of $5,000,000 or more, Contractor and the subcontractor(s) shall obtain sellers permits from the SBE and shall register the jobsite as the place of business for the purpose of allocating local sales and use tax to the City. Contractor and its subcontractors shall remit the self-accrued use tax to the SBE, and shall provide a copy of each remittance to the City.

(C) The above provisions shall apply in all instances unless prohibited by the funding source for the Agreement.

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 08/06/13

BY _____
Felipe Martin
Print Name
President
Title

BY _____
Print Name

Title
68-0377885
Federal ID#
432-4701-4
State ID#
114797
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
_X_ Corporation
____ Limited Liability Company
____Other (*please specify:*_____)

CITY OF SACRAMENTO
a municipal corporation

DATE _____

BY _____
For: _____
City Manager

Original Approved As To Form:

City Attorney

Attest:

City Clerk

Premium is for contract term and is subject to adjustment based on final contract price.

CITY OF SACRAMENTO
PERFORMANCE BOND
Department of Public Works

Bond No.: 09087631
Premium: $12,896.00

WHEREAS, the City of Sacramento, State of California, hereinafter called City, has conditionally awarded to: Martin Brothers Construction, 8801 Folsom Blvd., Suite 260, Sacramento, CA 95826 as principal, hereinafter called Contractor, a contract for construction of:

2013 Street Overlay Project
(R15132019)

which contract is by reference incorporated herein and made a part hereof as if the Surety named below were a party to the contract, and is hereinafter referred to as the Contract; and

WHEREAS, under the terms of the Contract, Contractor is required to furnish a bond for the faithful performance of the Contract.

NOW, THEREFORE, we the Contractor and *(here insert full name and address of Surety)*:
Fidelity and Deposit Company of Maryland, c/o Zurich, 1400 American Lane, Tower I, 18th Fl, Schaumburg, IL 60196
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: two million, eight hundred twenty nine thousand, nine hundred thirty three dollars and forty five cents ($2,829,933.45), for the payment of which sum well and truly to be made, we the Contractor and Surety bind ourselves, our heirs, executors, administrators, successors and assigns, jointly and severally. The condition of this obligation is such that, if the Contractor, Contractor's heirs, executors, administrators, successors or assigns, shall in all things stand to and abide by, and well and truly keep and fully perform all covenants, conditions and agreements required to be kept and performed by Contractor in the Contract and any changes, additions or alterations made thereto, to be kept and performed at the time and in the manner therein specified, and in all respects according to their true intent and meanings, and shall indemnify and save harmless the City, its officers, employees and agents, as therein provided, then the Surety's obligations under the Contract and this bond shall be null and void; otherwise they shall be and remain in full force and effect. This obligation shall remain in full force and effect through the end of the Contract warranty period, which will expire one year after the completion of work date specified in the Notice of Completion filed for the above-named project.

As part of the obligations secured hereby and in addition to the sum specified above, there shall be included all costs, expenses and fees, including attorney's fees, reasonably incurred by City in successfully enforcing such obligations, all to be taxed as costs and included in any judgment rendered.

The Surety, for value received, hereby stipulates and agrees that no change, extension of time, alteration or addition to the terms of the Contract or to the work to be performed thereunder or to the specifications accompanying the same shall in any way affect its obligations on this bond, and it does hereby waive notice of any such change, extension, alteration or addition.

IN WITNESS WHEREOF, this instrument has been duly executed by authorized representatives of the Contractor and Surety. SIGNED AND SEALED on July 30, 20 13.

Martin Brothers Construction
(Contractor) (Seal)
By
Title President

ORIGINAL APPROVED AS TO FORM:
City Attorney

Fidelity and Deposit Company of Maryland
(Surety) (Seal)
By
Title Renee Ramsey, Attorney-in-Fact
Agent Name and Address InterWest Insurance Services, Inc.
3636 American River Dr, 2nd Fl, Sacramento, CA 95864
Agent Phone # (916) 488-3100
Surety Phone # (800) 701-4926
California License # 0B01094

ACKNOWLEDGMENT

State of California
County of Sacramento)

On July 30, 2013 before me, Patricia M. Simas, Notary Public
(insert name and title of the officer)

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

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

WITNESS my hand and official seal.

PATRICIA M. SIMAS
NOTARY PUBLIC - CALIFORNIA
COMMISSION # 1858871
SACRAMENTO COUNTY
My Comm. Exp. August 21, 2013

Signature Patricia M. Simas (Seal)

ZURICH AMERICAN INSURANCE COMPANY
COLONIAL AMERICAN CASUALTY AND SURETY COMPANY
FIDELITY AND DEPOSIT COMPANY OF MARYLAND
POWER OF ATTORNEY

KNOW ALL MEN BY THESE PRESENTS: That the ZURICH AMERICAN INSURANCE COMPANY, a corporation of the State of New York, the COLONIAL AMERICAN CASUALTY AND SURETY COMPANY, a corporation of the State of Maryland, and the FIDELITY AND DEPOSIT COMPANY OF MARYLAND a corporation of the State of Maryland (herein collectively called the "Companies"), by **JAMES M. CARROLL, Vice President,** in pursuance of authority granted by Article V, Section 8, of the By-Laws of said Companies, which are set forth on the reverse side hereof and are hereby certified to be in full force and effect on the date hereof, do hereby nominate, constitute, and appoint **Richard W. PRATT, Renee RAMSEY, B. G. MIDSTOKKE, Katherine GORDON and Patricia M. SIMAS, all of Sacramento, California, EACH** its true and lawful agent and Attorney-in-Fact, to make, execute, seal and deliver, for, and on its behalf as surety, and as its act and deed: **any and all bonds and undertakings,** and the execution of such bonds or undertakings in pursuance of these presents, shall be as binding upon said Companies, as fully and amply, to all intents and purposes, as if they had been duly executed and acknowledged by the regularly elected officers of the ZURICH AMERICAN INSURANCE COMPANY at its office in New York, New York., the regularly elected officers of the COLONIAL AMERICAN CASUALTY AND SURETY COMPANY at its office in Owings Mills, Maryland., and the regularly elected officers of the FIDELITY AND DEPOSIT COMPANY OF MARYLAND at its office in Owings Mills, Maryland., in their own proper persons.

The said Vice President does hereby certify that the extract set forth on the reverse side hereof is a true copy of Article V, Section 8, of the By-Laws of said Companies, and is now in force.

IN WITNESS WHEREOF, the said Vice-President has hereunto subscribed his/her names and affixed the Corporate Seals of the said **ZURICH AMERICAN INSURANCE COMPANY, COLONIAL AMERICAN CASUALTY AND SURETY COMPANY, and FIDELITY AND DEPOSIT COMPANY OF MARYLAND**, this 12th day of September, A.D. 2012.

ATTEST:

ZURICH AMERICAN INSURANCE COMPANY
COLONIAL AMERICAN CASUALTY AND SURETY COMPANY
FIDELITY AND DEPOSIT COMPANY OF MARYLAND

By: _____
Assistant Secretary
Eric D. Barnes

_____
Vice President
James M. Carroll

State of Maryland
City of Baltimore

On this 12th day of September, A.D. 2012, before the subscriber, a Notary Public of the State of Maryland, duly commissioned and qualified, **JAMES M. CARROLL, Vice President, and ERIC D. BARNES, Assistant Secretary,** of the Companies, to me personally known to be the individuals and officers described in and who executed the preceding instrument, and acknowledged the execution of same, and being by me duly sworn, deposeth and saith, that he/she is the said officer of the Company aforesaid, and that the seals affixed to the preceding instrument are the Corporate Seals of said Companies, and that the said Corporate Seals and the signature as such officer were duly affixed and subscribed to the said instrument by the authority and direction of the said Corporations.

IN TESTIMONY WHEREOF, I have hereunto set my hand and affixed my Official Seal the day and year first above written.

_____
Maria D. Adamski, Notary Public
My Commission Expires: July 8, 2015

EXTRACT FROM BY-LAWS OF THE COMPANIES

"Article V, Section 8, Attorneys-in-Fact. The Chief Executive Officer, the President, or any Executive Vice President or Vice President may, by written instrument under the attested corporate seal, appoint attorneys-in-fact with authority to execute bonds, policies, recognizances, stipulations, undertakings, or other like instruments on behalf of the Company, and may authorize any officer or any such attorney-in-fact to affix the corporate seal thereto; and may with or without cause modify of revoke any such appointment or authority at any time."

CERTIFICATE

I, the undersigned, Vice President of the ZURICH AMERICAN INSURANCE COMPANY, the COLONIAL AMERICAN CASUALTY AND SURETY COMPANY, and the FIDELITY AND DEPOSIT COMPANY OF MARYLAND, do hereby certify that the foregoing Power of Attorney is still in full force and effect on the date of this certificate; and I do further certify that Article V, Section 8, of the By-Laws of the Companies is still in force.

This Power of Attorney and Certificate may be signed by facsimile under and by authority of the following resolution of the Board of Directors of the ZURICH AMERICAN INSURANCE COMPANY at a meeting duly called and held on the 15th day of December 1998.

RESOLVED: "That the signature of the President or a Vice President and the attesting signature of a Secretary or an Assistant Secretary and the Seal of the Company may be affixed by facsimile on any Power of Attorney...Any such Power or any certificate thereof bearing such facsimile signature and seal shall be valid and binding on the Company."

This Power of Attorney and Certificate may be signed by facsimile under and by authority of the following resolution of the Board of Directors of the COLONIAL AMERICAN CASUALTY AND SURETY COMPANY at a meeting duly called and held on the 5th day of May, 1994, and the following resolution of the Board of Directors of the FIDELITY AND DEPOSIT COMPANY OF MARYLAND at a meeting duly called and held on the 10th day of May, 1990.

RESOLVED: "That the facsimile or mechanically reproduced seal of the company and facsimile or mechanically reproduced signature of any Vice-President, Secretary, or Assistant Secretary of the Company, whether made heretofore or hereafter, wherever appearing upon a certified copy of any power of attorney issued by the Company, shall be valid and binding upon the Company with the same force and effect as though manually affixed.

IN TESTIMONY WHEREOF, I have hereunto subscribed my name and affixed the corporate seals of the said Companies, this 30 day of July, 2013.

Thomas O. McClellan, Vice President

CITYOF SACRAMENTO
PAYMENT BOND
Department of Public Works
Page 1 of 1

Bond No.: 09087631
Premium: included in Performance Bond

WHEREAS, the City of Sacramento, State of California, hereinafter called City, has conditionally awarded to: Martin Brothers Construction, 8801 Folsom Blvd., Suite 260, Sacramento, CA 95826 as principal, hereinafter called Contractor, a contract for construction of:

2013 Street Overlay Project
(R15132019)

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*):
Fidelity and Deposit Company of Maryland, c/o Zurich, 1400 American Lane, Tower I, 18th Fl, Schaumburg, IL 60196
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 two million, eight hundred twenty nine thousand, nine hundred thirty three dollars and forty five cents ($2,829,933.45), 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 July 30, 20 13.

Martin Brothers Construction
(Contractor) (Seal)
By
Title President

ORIGINAL APPROVED AS TO FORM:
City Attorney

Fidelity and Deposit Company of Maryland
(Surety) (Seal)
By:
Title: Renee Ramsey, Attorney-in-Fact
Agent name and Address: InterWest Insurance Services, Inc.
3636 American River Dr, 2nd Fl, Sacramento, CA 95864
Agent Phone #: (916) 488-3100
Surety Phone #: (800) 701-4926
California License # 0B01094

Effective 7-1-12

ACKNOWLEDGMENT

State of California
County of Sacramento)

On July 30, 2013 before me, Patricia M. Simas, Notary Public
(insert name and title of the officer)

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

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

WITNESS my hand and official seal.

PATRICIA M. SIMAS
NOTARY PUBLIC - CALIFORNIA
COMMISSION # 1858871
SACRAMENTO COUNTY
My Comm. Exp. August 21, 2013

Signature Patricia M. Simas **(Seal)**

ZURICH AMERICAN INSURANCE COMPANY
COLONIAL AMERICAN CASUALTY AND SURETY COMPANY
FIDELITY AND DEPOSIT COMPANY OF MARYLAND
POWER OF ATTORNEY

KNOW ALL MEN BY THESE PRESENTS: That the ZURICH AMERICAN INSURANCE COMPANY, a corporation of the State of New York, the COLONIAL AMERICAN CASUALTY AND SURETY COMPANY, a corporation of the State of Maryland, and the FIDELITY AND DEPOSIT COMPANY OF MARYLAND a corporation of the State of Maryland (herein collectively called the "Companies"), by **JAMES M. CARROLL, Vice President,** in pursuance of authority granted by Article V, Section 8, of the By-Laws of said Companies, which are set forth on the reverse side hereof and are hereby certified to be in full force and effect on the date hereof, do hereby nominate, constitute, and appoint **Richard W. PRATT, Renee RAMSEY, B. G. MIDSTOKKE, Katherine GORDON and Patricia M. SIMAS, all of Sacramento, California, EACH** its true and lawful agent and Attorney-in-Fact, to make, execute, seal and deliver, for, and on its behalf as surety, and as its act and deed: **any and all bonds and undertakings,** and the execution of such bonds or undertakings in pursuance of these presents, shall be as binding upon said Companies, as fully and amply, to all intents and purposes, as if they had been duly executed and acknowledged by the regularly elected officers of the ZURICH AMERICAN INSURANCE COMPANY at its office in New York, New York., the regularly elected officers of the COLONIAL AMERICAN CASUALTY AND SURETY COMPANY at its office in Owings Mills, Maryland., and the regularly elected officers of the FIDELITY AND DEPOSIT COMPANY OF MARYLAND at its office in Owings Mills, Maryland., in their own proper persons.

The said Vice President does hereby certify that the extract set forth on the reverse side hereof is a true copy of Article V, Section 8, of the By-Laws of said Companies, and is now in force.

IN WITNESS WHEREOF, the said Vice-President has hereunto subscribed his/her names and affixed the Corporate Seals of the said **ZURICH AMERICAN INSURANCE COMPANY, COLONIAL AMERICAN CASUALTY AND SURETY COMPANY, and FIDELITY AND DEPOSIT COMPANY OF MARYLAND**, this 12th day of September, A.D. 2012.

ATTEST:

ZURICH AMERICAN INSURANCE COMPANY
COLONIAL AMERICAN CASUALTY AND SURETY COMPANY
FIDELITY AND DEPOSIT COMPANY OF MARYLAND

By: _____
Assistant Secretary
Eric D. Barnes

_____
Vice President
James M. Carroll

State of Maryland
City of Baltimore

On this 12th day of September, A.D. 2012, before the subscriber, a Notary Public of the State of Maryland, duly commissioned and qualified, **JAMES M. CARROLL, Vice President, and ERIC D. BARNES, Assistant Secretary,** of the Companies, to me personally known to be the individuals and officers described in and who executed the preceding instrument, and acknowledged the execution of same, and being by me duly sworn, deposeth and saith, that he/she is the said officer of the Company aforesaid, and that the seals affixed to the preceding instrument are the Corporate Seals of said Companies, and that the said Corporate Seals and the signature as such officer were duly affixed and subscribed to the said instrument by the authority and direction of the said Corporations.

IN TESTIMONY WHEREOF, I have hereunto set my hand and affixed my Official Seal the day and year first above written.

_____
Maria D. Adamski, Notary Public
My Commission Expires: July 8, 2015

EXTRACT FROM BY-LAWS OF THE COMPANIES

"Article V, Section 8, Attorneys-in-Fact. The Chief Executive Officer, the President, or any Executive Vice President or Vice President may, by written instrument under the attested corporate seal, appoint attorneys-in-fact with authority to execute bonds, policies, recognizances, stipulations, undertakings, or other like instruments on behalf of the Company, and may authorize any officer or any such attorney-in-fact to affix the corporate seal thereto; and may with or without cause modify of revoke any such appointment or authority at any time."

CERTIFICATE

I, the undersigned, Vice President of the ZURICH AMERICAN INSURANCE COMPANY, the COLONIAL AMERICAN CASUALTY AND SURETY COMPANY, and the FIDELITY AND DEPOSIT COMPANY OF MARYLAND, do hereby certify that the foregoing Power of Attorney is still in full force and effect on the date of this certificate; and I do further certify that Article V, Section 8, of the By-Laws of the Companies is still in force.

This Power of Attorney and Certificate may be signed by facsimile under and by authority of the following resolution of the Board of Directors of the ZURICH AMERICAN INSURANCE COMPANY at a meeting duly called and held on the 15th day of December 1998.

RESOLVED: "That the signature of the President or a Vice President and the attesting signature of a Secretary or an Assistant Secretary and the Seal of the Company may be affixed by facsimile on any Power of Attorney...Any such Power or any certificate thereof bearing such facsimile signature and seal shall be valid and binding on the Company."

This Power of Attorney and Certificate may be signed by facsimile under and by authority of the following resolution of the Board of Directors of the COLONIAL AMERICAN CASUALTY AND SURETY COMPANY at a meeting duly called and held on the 5th day of May, 1994, and the following resolution of the Board of Directors of the FIDELITY AND DEPOSIT COMPANY OF MARYLAND at a meeting duly called and held on the 10th day of May, 1990.

RESOLVED: "That the facsimile or mechanically reproduced seal of the company and facsimile or mechanically reproduced signature of any Vice-President, Secretary, or Assistant Secretary of the Company, whether made heretofore or hereafter, wherever appearing upon a certified copy of any power of attorney issued by the Company, shall be valid and binding upon the Company with the same force and effect as though manually affixed.

IN TESTIMONY WHEREOF, I have hereunto subscribed my name and affixed the corporate seals of the said Companies, this 30 day of July, 2013.

Thomas O. McClellan, Vice President

Company Profile

ZURICH AMERICAN INSURANCE COMPANY

1400 AMERICAN LANE
SCHAUMBURG, IL 60196-1056
800-382-2150

Agent for Service of Process
KAREN HARRIS, C/O CORPORATION SERVICE COMPANY 2710 GATEWAY OAKS DRIVE, SUITE 150N SACRAMENTO, CA 95833-3505
Unable to Locate the Agent for Service of Process?

Reference Information

NAIC #:	16535
NAIC Group #:	0212
California Company ID #:	4581-5
Date authorized in California:	January 01, 1999
License Status:	UNLIMITED-NORMAL
Company Type:	Property & Casualty
State of Domicile:	NEW YORK

Lines of Insurance Authorized to Transact

The company is authorized to transact business within these lines of insurance. For an explanation of any of these terms, please refer to the glossary.

AIRCRAFT
AUTOMOBILE
BOILER AND MACHINERY
BURGLARY
COMMON CARRIER LIABILITY
CREDIT
DISABILITY
FIRE
LIABILITY
MARINE
MISCELLANEOUS
PLATE GLASS

SPRINKLER
SURETY
TEAM AND VEHICLE
WORKERS' COMPENSATION

Company Complaint Information

Company Enforcement Action Documents
Company Performance & Comparison Data
Composite Complaint Studies

Want More?

Help Me Find a Company Representative in My Area

Last Revised - November 10, 2012 10:58 AM
Copyright © California Department of Insurance

City of
SACRAMENTO
Department of Public Works

WORKER'S COMPENSATION CERTIFICATION

2013 Street Overlay Project
(PN: R15132019)

In accordance with Article 5 (commencing at Section 1860), Chapter 1, Part 7, Division 2 of the Labor Code, the below certificate must be signed and filed with the awarding body prior to performing any work under this contract. Labor Code Section 3700, inter alia, states the following:

"Every employer shall secure the payment of compensation in one or more of the following ways:

"(a) By being insured against liability to pay compensation in one or more insurers duly authorized to write compensation insurance in this State.

"(b) By securing from the Director of Industrial Relations a certificate of consent to self-insure, which may be given upon furnishing proof satisfactory to the Director of Industrial Relations of ability to self-insure and to pay any compensation that may become due to his employees.

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

1. An individual using a firm name, sign: "John Doe, an 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)

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

DATE: 08/06/13 Contractor Martin Brothers construction

By _____
Signature

(Rev. 5-6-91)

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: _____ Engineering Estimate: _____
Contractor: _____ Phone: _____
Address: _____ 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*

Bell Marine	(916) 442-9089
C & C Paper Recycling	(916) 920-2673
EBI Aggregates	(916) 372-7580
International Paper	(916) 371-4634
Modern Waste Solutions	(916) 447-6800
PRIDE Industries, Inc.	(916) 640-1300
Recycling Industries, Inc.	(916) 452-3961
Sacramento Local Conservation Corps	(916) 386-8394
Smurfit-Stone Container Corporation	(916) 381-3340
Southside Art Center	(916) 387-8080
Spencer Building Maintenance, Inc.	(916) 922-1900

Recovery Stations & Landfills

Elder Creek Recovery & Transfer Station	(916) 387-8425
Kiefer Landfill	(916) 875-5555
L & D Landfill	(916) 383-9420
North Area Recovery Station	(916) 875-5555
Sacramento Recycling & Transfer Station	(916) 379-0500
Waste Management Recycle America	(916) 452-0142

More updated information can be found online at:
http://www.cityofsacramento.org/utilities/

* Please note that any facility may receive source-separated recyclable materials as long as it is authorized to do so by the State of California. This is not meant to be a complete list.

C&D Debris Waste Log

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

Project address: _____

This waste log, and copies of supporting weight tickets, must be submitted to Solid Waste within 30 days of submitting the project completion report. The waste log and weight tickets must also be kept on file for one year after project completion.

Date	Hauler	Material	Destination	Amount

Hauler: Indicate the Franchisee, Self-Hauler, City of Sacramento, or other hauler who removed the material offsite.
Material: Indicate appropriate category: Scrap Metal, Inert Materials, Cardboard, Wooden Pallets, or Clean Wood Waste.
Destination: Indicate the facility that received the material for disposal or recycling
Amount: Indicate the weight. If weight is not known, put volume.

City of
SACRAMENTO
Department of Public Works

Monthly Pay Request Application and Schedule of Values Processing

1. The Contractor must have Microsoft Excel Version 7 to prepare Pay Request Application and Schedule of Values.

2. The City will provide the Contractor with an electronic version of the Schedule of Values with bid items and Contractor prices and Pay Request Application at or immediately after the preconstruction meeting.

3. On a monthly basis, the Contractor shall submit an electronic copy of the Pay Request Application and Schedule of Values to City Inspector for review.

4. Upon approval by City Inspector, the Contractor shall print out hard copies of the Pay Request Application and Schedule of Values, sign and submit to City Inspector for processing.

DEPARTMENT OF TRANSPORTATION

ENGINEERING SERVICES DIVISION
915 I Street, Room 2000
Sacramento, CA 95814

PAY REQUEST APPLICATION

(All information to be entered on Schedule of Values page.)

PROJECT NAME:	**2013 Street Overlay Project**		
CONTRACTOR: *(per agreement)*			
REMITTANCE ADDRESS:			
PHONE NUMBER: ( )			
INVOICE NO.:	**R15132019-**	CITY PROJECT NUMBER:	**R15132019**
		PERIOD ENDING DATE:	

ORIGINAL CONTRACT AMOUNT:		
CHANGE ORDER NO. 1		
CHANGE ORDER NO. 2		
CHANGE ORDER NO. 3		
CHANGE ORDER NO. 4		
CHANGE ORDER NO. 5		
CHANGE ORDER NO. 6		
CHANGE ORDER NO. 7		
CHANGE ORDER NO. 8		
CHANGE ORDER NO. 9		
TOTAL CHANGE ORDERS:		
CONTRACT AMOUNT TO DATE:		
TOTAL WORK COMPLETED TO DATE:		
RETENTION WITHHELD:		
LESS PREVIOUS PAYMENTS:		
AMOUNT DUE THIS INVOICE:		
TOTAL COMPLETED LESS RETENTION:		

If the project is CDBG funded, or the prime contractor is a certified UDBE or ESBE, please check the applicable box & you do not need to fill out the section below.

☐ UDBE Prime Contractor ☐ ESBE Prime Contractor ☐ CDBG Funded

List all **ESBE/UDBE** subcontractors employed on this project during this period ending date and indicate committed amounts to be paid to the sub contractors. Please also include ESBE/UDBE materials suppliers and trucking firms. Keep records of payments made, as you will be asked to furnish these at contract completion. The Pay Request Application will be considered incomplete unless this information is provided along with all other required documentation to support the request for payment. Attach additional sheets if necessary.

Circle UDBE for FEDERALLY funded projects.

Circle ESBE for LOCALLY funded projects.

Original amount pledged:	
Pledge Increase/Decrease to Include Change Order(s):	
Total amount pledged:	

ESBE / UDBE Sub-Contractor	Previous Total (A)	Current Pay Request Total (B)	Total ESBE / UDBE Work (A+B)	Percentage Attained (A+B)/Amount Pledged
		Totals:		

Labor compliance (payrolls, etc.) is current and submitted for this Pay Request

DEPARTMENT OF TRANSPORTATION

ENGINEERING SERVICES DIVISION
915 I Street, Room 2000
Sacramento, CA 95814

PAY REQUEST APPLICATION

(All information to be entered on Schedule of Values page.)

Approved
By (Prime Contractor) _____ Date: _____
PRINT AND SIGN

Submit To: Department of Public Works
915 "I" Street, Room 2000
Sacramento, CA 95814
Attn: CONSTRUCTION INSPECTOR

Approved
By (Resident Const. Inspector) _____ Date: _____
PRINT AND SIGN

Certified by Project Manager
By (Project Manager) _____ Date: _____
PRINT AND SIGN

Approved
By (Labor Compliance) _____ Date: _____
PRINT AND SIGN

In accordance with Public Contract Code Sec. 20104.50 the City shall pay the Contractor interest on any progress payment which is made by City more than 30 days after City receives an undisputed and properly submitted written payment request. Said interest shall be equal to the rate set forth in CCP Sec.685.010(a), and shall begin to accrue upon the expiration of said 30 day period. Any written request for a progress payment which City determines to be disputed, improper or not suitable for payment for any reason shall be returned to Contractor within 7 days after receipt by City, along with a written statement of the reason or reasons why such request is disputed, improper or not suitable for payment.

	Contractor Entered Data
	Construction Inspector's Name.
	PM certifies that all information is correct.

SCHEDULE OF VALUES

V4 - temp 5%

DEPARTMENT OF PUBLIC WORKS
ENGINEERING SERVICES DIVISION
915 I Street, Room 2000

PROJECT NAME: 2013 Street Overlay Project
CITY PROJECT NUMBER: R15132019
CONTRACTOR: (As per City Agreement)
REMITTANCE ADDRESS:
PHONE NUMBER: ( )
INVOICE NUMBER: R15132019-

Remit To:
Department of Public Works
Engineering Services Division
915 "I" Street, Room 2000
Sacramento, CA 95814

Payment No. _____
Work Performed Thru _____
Days Expended on Contract _____

Item No	Item Description	Original Contract Quantity	Unit	Unit Price	Original Contract Amount	Previous Work Completed (SHOULD MATCH PREVIOUS PAY REQUEST'S TOTAL WORK COMPLETED COLUMNS)		Current Work Completed		Total Work Completed		Balance of Contract	
						Quantity	Amount	Quantity	Amount	Quantity	Amount	Quantity	Amount
1	PAVEMENT KEYCUTTING (8' WIDE)	6,584	LF									6,584.00	
2	PLANED PAVEMENT CONFORMS	2,433	SY									2,433.00	
3	PAVEMENT PLANING (1.0")	25,324	SY									25,324.00	
4	PAVEMENT PLANING (2.5")	23,861	SY									23,861.00	
5	PAVEMENT PLANING (3.0")	20,875	SY									20,875.00	
6	BASE REPAIR	5,276	TN									5,276.00	
7	RUBBERIZED ASPHALT CONCRETE OVERLAY TO PLACE	3,691	TN									3,691.00	
8	HOT MIX ASPHALT OVERLAY TO PLACE	3,069	TN									3,069.00	
9	FIBER REINFORCED HMA OVERLAY TO PLACE	3,875	TN									3,875.00	
10	HMA-G (BONDED WEARING COURSE) TO PLACE	1,567	TN									1,567.00	
11	EMULSION (BONDED WEARING COURSE) TO PLACE	26	TN									26.00	
12	MAINTENANCE HOLE TO LOWER	138	EA									138.00	
13	MAINTENANCE HOLE TO RAISE	138	EA									138.00	
14	AT&T AND SMUD MAINTENANCE HOLE TO LOWER	28	EA									28.00	
15	AT&T AND SMUD MAINTENANCE HOLE TO RAISE	28	EA									28.00	
16	MAINTENANCE HOLE CASTING TO SUPPLY AND INSTALL	30	EA									30.00	
17	WATER VALVE BOX TO LOWER	114	EA									114.00	
18	WATER VALVE BOX TO RAISE	114	EA									114.00	
19	TRAFFIC STRIPE (4" & 6") TO REMOVE	12,670	LF									12,670.00	
20	TRAFFIC STRIPE (8") TO REMOVE	1,440	LF									1,440.00	
21	TRAFFIC STRIPE (12") TO REMOVE	925	LF									925.00	
22	PAVEMENT MARKINGS TO REMOVE	577	SF									577.00	
23	RAISED REFLECTIVE PAVEMENT MARKERS TO PLACE	1,636	EA									1,636.00	
24	THERMOPLASTIC STRIPE (4") TO PLACE	36,903	LF									36,903.00	
25	THERMOPLASTIC STRIPE (6") TO PLACE	13,873	LF									13,873.00	
26	THERMOPLASTIC STRIPE (8") TO PLACE	2,824	LF									2,824.00	

Item No	Item Description	Original Contract Quantity	Unit	Unit Price	Original Contract Amount	Previous Work Completed (SHOULD MATCH PREVIOUS PAY REQUEST'S TOTAL WORK COMPLETED COLUMNS)		Current Work Completed		Total Work Completed		Balance of Contract	
						Quantity	Amount	Quantity	Amount	Quantity	Amount	Quantity	Amount
27	THERMOPLASTIC STRIPE (12") TO PLACE	3,565	LF									3,565.00	
28	THERMOPLASTIC PAVEMENT MARKINGS TO PLACE	2,261	SF									2,261.00	
29	COLORED PAVEMENT FOR BIKE LANES (GREEN) TO PLACE	12,603	SF									12,603.00	
30	COLORED PAVEMENT FOR BIKE LANES (4" WHITE) TO PLACE	676	LF									676.00	
31	COLORED PAVEMENT FOR BIKE LANES (6" WHITE) TO PLACE	3,578	LF									3,578.00	
32	COLORED PAVEMENT FOR BIKE LANES (MARKINGS) TO PLACE	764	SF									764.00	
33	TRAFFIC SIGN TO PLACE	23	EA									23.00	
34	NEW POST TO PLACE	7	EA									7.00	
35	CHANGEABLE MESSAGE SIGN TO INSTALL	14	EA									14.00	
36	6' X 6' DETECTOR LOOP TO INSTALL	23	EA									23.00	
37	DETECTOR HANDHOLE TO INSTALL	15	EA									15.00	
38	1-1/2" CONDUIT TO INSTALL	490	LF									490.00	
39	2" CONDUIT TO INSTALL	1,100	LF									1,100.00	
40	3" CONDUIT TO INSTALL	420	LF									420.00	
41	DETECTOR LEAD-IN CABLE TO INSTALL	5,470	LF									5,470.00	
42	DETECTOR LEAD-IN CABLE TO REMOVE	7	EA									7.00	
43	PULL BOX NO. 5 (LOCKABLE) TO INSTALL	12	EA									12.00	
44	PULL BOX NO. 6 (LOCKABLE) TO INSTALL	7	EA									7.00	
45	INSTALL NO. 10 THW CONDUCTOR	1,520	LF									1,520.00	
46	VIDEO DETECTION CAMERA SYSTEM TO INSTALL	5	EA									5.00	
47	SURGE SUPPRESSOR TO INSTALL	4	EA									4.00	
48	NETWORK SWITCH SYSTEM TO INSTALL	4	EA									4.00	
49	INTEGRATION OF DETECTOR LOOP & VIDEO DETECTION	7	EA									7.00	
		Original Contract Total:											
	Change Order #1 - See change order summary sheet for details												
	Change Order #2 - See change order summary sheet for details												
	Change Order #3 - See change order summary sheet for details												
	Change Order #4 - See change order summary sheet for details												
	Change Order #5 - See change order summary sheet for details												
	Change Order #6 - See change order summary sheet for details												
	Change Order #7 - See change order summary sheet for details												
	Change Order #8 - See change order summary sheet for details												
	Change Order #9 - See change order summary sheet for details												

Item No	Item Description	Original Contract Quantity	Unit	Unit Price	Original Contract Amount	Previous Work Completed (SHOULD MATCH PREVIOUS PAY REQUEST'S TOTAL WORK COMPLETED COLUMNS)		Current Work Completed		Total Work Completed		Balance of Contract	
						Quantity	Amount	Quantity	Amount	Quantity	Amount	Quantity	Amount
		Sum of all Change Orders			$0.00	"Total Work to Date" From Previous Pay Request		This Estimate (current work)		Total Work to Date		Balancing Total of Adjusted Contract	$0.00
		CCO Adjusted Contract Amount (Original + Change Orders)			$0.00	Retention Withheld From Previous Pay Request		This Retention (current work) (5%)		Retention Withheld to Date			
		Partial Retention Release (Prior approval is needed before proceeding with partial rention release)				"Retention Released to Date" From Previous Pay Request		Current Retention Release		Retention Released to Date			
						"Total Paid To Date" from Previous Pay Request		This Payment		Total Paid to Date		Supervisor Approval (Print & Sign)	

	Contractor Entered Data
	PM Entered Data

City of SACRAMENTO
Department of Public Works

GUARANTEE

We hereby guarantee the **2013 Street Overlay Project (PN: R15132019)** the City of Sacramento for one (1) year in accordance with the guarantee required in the specifications. We agree to repair or replace any or all such work, together with all or any other work which may be displaced in so doing, that may be proven defective in workmanship or material within the one-year period from the date of acceptance without any expense whatsoever to the City, ordinary wear and tear and unusual abuse or neglect excepted.

In the event of our failure to comply with the above-mentioned conditions within five (5) days time after being notified in writing, we collectively or separately, do hereby authorize the City to proceed to have the defects repaired and made good at our expense and will pay the costs and damages, including but not limited to any related attorney fees and City staff and administrative expenses, therefor immediately upon demand.

Dated: 08/08/13

Signed:

Felipe Martin
Printed Name

Martin Brothers Construction
Company

8801 Folsom Blvd, Ste 260
Address

Sacramento, CA 95826

(Rev. 5-6-91)

DEPARTMENT OF TRANSPORTATION

ENGINEERING SERVICES DIVISION

CITY OF SACRAMENTO
CALIFORNIA

915 I St, RM 2000

SACRAMENTO, CA 95814-2702

PH 916-808-8300
FAX 916-808-8281

NOTICE TO PROCEED

DATE

ABC Construction
Attn: John Construction
123 ABC Street
Sacramento, CA 95814

RE: PROJECT.NAME

Notice is hereby given you are authorized to commence work on the above referenced project on _____. You are legally required to begin work within fifteen (15) working days of this date. The entire work on the project must be completed within ___ **(_) working days** from the date of this notice. Forty eight (48) hours prior to starting work, please notify the Project Manager_____ , **808-___.** Please address all correspondence to:

Engineering Services Division
915 I Street, Room 2000
Sacramento, CA 95814
(916) 808-8300/ (916) _____
(916) 808-7903 FAX
Attn: _____

Please reference City Project No. _____ in all billing and correspondence. We look forward to a mutually successful project. The City of Sacramento is committed to the "Partnering Concept" of open communication and cooperative construction. In that spirit, please do not hesitate to contact us via phone at (916) 808-8195 or FAX at (916) 808-8281 if we can be of any assistance.

Respectfully,

Jose R. Ledesma
Contract Services

cc:

Tim Mar
Risk Management
Shareen Kidd
Project File

CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY): 7/30/2013

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

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

PRODUCER
InterWest Insurance Services
License #0B01094
P.O. Box 255188
Sacramento CA 95865-5188

CONTACT NAME: Joanne Cadarette
PHONE (A/C, No, Ext): 916-488-3100 FAX (A/C, No): 916-979-7992
E-MAIL ADDRESS: jcadarette@iwins.com

INSURER(S) AFFORDING COVERAGE	NAIC #
INSURER A : Financial Pacific Ins Company	31453
INSURER B : Companion Property & Casualty	
INSURER C :	
INSURER D :	
INSURER E :	
INSURER F :	

INSURED
MART-15
Martin Bros. Construction
8801 Folsom Blvd., Suite 260
Sacramento CA 95826

COVERAGES **CERTIFICATE NUMBER:** 1671606015 **REVISION NUMBER:**

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

INSR LTR	TYPE OF INSURANCE	ADDL INSR	SUBR WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS	
A	GENERAL LIABILITY	Y	Y	130860417984	10/1/2012	10/1/2013	EACH OCCURRENCE	$2,000,000
	X COMMERCIAL GENERAL LIABILITY						DAMAGE TO RENTED PREMISES (Ea occurrence)	$300,000
	CLAIMS-MADE X OCCUR						MED EXP (Any one person)	$5,000
	X Contractual Liab						PERSONAL & ADV INJURY	$2,000,000
	X $1,000 Ded.						GENERAL AGGREGATE	$4,000,000
	GEN'L AGGREGATE LIMIT APPLIES PER:						PRODUCTS - COMP/OP AGG	$2,000,000
	POLICY X PRO-JECT LOC							$
A	AUTOMOBILE LIABILITY	Y		130860417984	10/1/2012	10/1/2013	COMBINED SINGLE LIMIT (Ea accident)	$1,000,000
	X ANY AUTO						BODILY INJURY (Per person)	$
	ALL OWNED AUTOS / SCHEDULED AUTOS						BODILY INJURY (Per accident)	$
	X HIRED AUTOS / X NON-OWNED AUTOS						PROPERTY DAMAGE (Per accident)	$
								$
A	UMBRELLA LIAB X OCCUR			130860417984	10/1/2012	10/1/2013	EACH OCCURRENCE	$10,000,000
	X EXCESS LIAB CLAIMS-MADE						AGGREGATE	$10,000,000
	DED X RETENTION $0							$
B	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY		Y	CPCA16199	10/1/2012	10/1/2013	X WC STATU-TORY LIMITS / OTH-ER	
	ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? Y/N	N/A					E.L. EACH ACCIDENT	$1,000,000
	(Mandatory in NH) If yes, describe under DESCRIPTION OF OPERATIONS below						E.L. DISEASE - EA EMPLOYEE	$1,000,000
							E.L. DISEASE - POLICY LIMIT	$1,000,000

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (Attach ACORD 101, Additional Remarks Schedule, if more space is required)

Re: MBC #013-015/PN #R15132019 - 2013 Street Overlay Project. City Of Sacramento, Department Of Transportation, Its Officers, Employees, Volunteers Are Included As Additional Insured (GL/Auto) Acting Within The Scope Of Their Duties Controlled/ Supervised By The Primary (First) Additional Insured, Primary Wording, GL Waiver Attached. Work Comp Waiver Applies And Will Follow From Company. 30-Day Notice Of Cancellation, Except 10-Day Notice For Non-Payment Of Premium Applies Per Policy Provisions.

CERTIFICATE HOLDER

City of Sacramento, Department of Transportation
915 I Street, Room 2000
Sacramento CA 95814-2700

CANCELLATION

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

AUTHORIZED REPRESENTATIVE

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POLICY NUMBER: 130860417984 COMMERCIAL GENERAL LIABILITY

THIS ENDORSEMENT CHANGES THE POLICY. PLEASE READ IT CAREFULLY.

ADDITIONAL INSURED OWNERS, LESSEES OR CONTRACTORS (FORM B)

This endorsement modifies insurance provided under the following:

COMMERCIAL GENERAL LIABILITY COVERAGE PART

SCHEDULE

Name of Person or Organization:

Re: MBC #013-015/PN #R15132019 - 2013 Street Overlay Project. City Of Sacramento, Department Of Transportation, Its Officers, Employees, Volunteers Are Included As Additional Insured (GL/Auto) Acting Within The Scope Of Their Duties Controlled/ Supervised By The Primary (First) Additional Insured, Primary Wording, GL Waiver Attached. Work Comp Waiver Applies And Will Follow From Company. 30-Day Notice Of

(If no entry appears above, information required to complete this endorsement will be shown in the Declarations as applicable to this endorsement)

WHO IS AN INSURED (Section II) is amended to include as an insured the person or organization shown in the Schedule, but only to the extent that the person or organization is held liable for "your work" for that person or organization by or for you.

This endorsement applies to the following work:

Description of Job: See Above

Location of Job: See Above

Al only Effective from:

Effective Date: 10/1/2012 Expiration Date: 10/1/2013

When this endorsement applies, such insurance as is afforded by the general liability policy is primary and any other insurance shall be excess and shall not contribute to the insurance afforded by this endorsement.

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THIS ENDORSEMENT CHANGES THE POLICY. PLEASE READ IT CAREFULLY.

ADDITIONAL INSURED

This endorsement modifies insurance provided under the following:

BUSINESS AUTO COVERAGE FORM

SCHEDULE

NAMED INSURED: Martin Bros. Construction
8801 Folsom Blvd., Suite 260
Sacramento CA 95826

ADDITIONAL INSURED: Re: MBC #013-015/PN #R15132019 - 2013 Street Overlay Project. City Of Sacramento, Department Of Transportation, Its Officers, Employees, Volunteers Are Included As Additional Insured (GL/Auto) Acting Within The Scope Of Their Duties

WHO IS AN INSURED (SECTION II) is amended to include as an insured the organization shown in the Schedule above, but only with respect to the operation of vehicles owned by the named insured and operated on behalf of the named insured. This endorsement does not apply to any operations for other than the named insured.

Each person or organization named above is an insured for liability coverage, but only to the extent that person or organization qualifies as an insured under the Who Is An Insured provision of Section II Liability Coverage.

The additional insured is not required to pay for any premiums stated in the policy or earned from the policy. Any return premium, if applicable, declared by us shall be paid to you.

You are authorized to act for the additional insured in all mailers pertaining to this insurance.

We will mail the additional insured notice of any cancellation of this policy. If the cancellation is by us, we will give thirty days notice to the additional insured.

The additional insured will retain any right of recovery as a claimant under this policy.

THIS ENDORSEMENT CHANGES THE POLICY. PLEASE READ IT CAREFULLY.

WAIVER OF TRANSFER OF RIGHTS OF RECOVERY AGAINST OTHERS TO US

This endorsement modifies insurance provided under the following:

COMMERCIAL GENERAL LIABILITY COVERAGE PART

SCHEDULE

Name of Person or Organization:

Re: MBC #013-015/PN #R15132019 - 2013 Street Overlay Project. City Of Sacramento, Department Of Transportation, Its Officers, Employees, Volunteers Are Included As Additional Insured (GL/Auto) Acting Within The Scope Of Their Duties Controlled/

(If no entry appears above, information required to complete this endorsement will be shown in the Declarations as applicable to this endorsement.)

The TRANSFER OF RIGHTS OF RECOVERY AGAINST OTHERS TO US Condition (Section **IV** – COMMERCIAL GENERAL LIABILITY CONDITIONS) is amended by the addition of the following:

We waive any right of recovery we may have against the person or organization shown in the Schedule above because of payments we make for injury or damage arising out of your ongoing operations or "your work" done under a contract with that person or organization and included in the "products-completed operations hazard". This waiver applies only to the person or organization shown in the Schedule above.

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WAIVER OF OUR RIGHT TO RECOVER FROM OTHERS ENDORSEMENT-CALIFORNIA

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

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

The additional premium for this endorsement shall be ___5__% of the California workers' compensation premium otherwise due on such remuneration.

Schedule

Person or Organization	Job Description
City of Sacramento, Department of Transportation,	
Its Officers, Employees, Volunteers	
915 I Street, Room 2000	
Sacramento, CA. 95815-2700	
MBC #013-015, PN #R15132019-2013 Street Overlay Project	

This endorsement changes the policy to which it is attached and is effective on the date issued unless otherwise stated.

(The information below is required only when this endorsement is issued subsequent to preparation of the policy.)

Endorsement Effective 7/30/2013 Policy No. CPCA16199 Endorsement No.
Insured Martin Brothers Construction Insurance Company Companion Property & Casualty

Countersigned by_____

WC 04 03 06
(Ed. 4-84)

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Form **W-9**
(Rev. December 2011)
Department of the Treasury
Internal Revenue Service

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
Martin Brothers Construction

Check appropriate box for federal tax classification:
☐ Individual/sole proprietor ☐ C Corporation ☑ S Corporation ☐ Partnership ☐ Trust/estate

☐ Limited liability company. Enter the tax classification (C=C corporation, S=S corporation, P=partnership) ▶

☐ Other (see instructions) ▶

☐ Exempt payee

Address (number, street, and apt. or suite no.)
8801 Folsom Blvd, Ste 260

Requester's name and address (optional)

City, state, and ZIP code
Sacramento, CA 95826

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.

Social security number
☐☐☐ - ☐☐ - ☐☐☐☐

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

Employer identification number
6 8 - 0 3 7 7 8 8 5

Part II Certification

Under penalties of perjury, I certify that:

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

Certification instructions. You must cross out item 2 above if you have been notified by the IRS that you are currently subject to backup withholding because you have failed to report all interest and dividends on your tax return. For real estate transactions, item 2 does not apply. For mortgage interest paid, acquisition or abandonment of secured property, cancellation of debt, contributions to an individual retirement arrangement (IRA), and generally, payments other than interest and dividends, you are not required to sign the certification, but you must provide your correct TIN. See the instructions on page 4.

Sign Here **Signature of U.S. person ▶** **Date ▶** 08/06/13

General Instructions

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

Purpose of Form

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

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

1. Certify that the TIN you are giving is correct (or you are waiting for a number to be issued),
2. Certify that you are not subject to backup withholding, or
3. Claim exemption from backup withholding if you are a U.S. exempt payee. If applicable, you are also certifying that as a U.S. person, your allocable share of any partnership income from a U.S. trade or business is not subject to the withholding tax on foreign partners' share of effectively connected income.

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

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

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

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

YEAR **2012**

Withholding Exemption Certificate

CALIFORNIA FORM **590**

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

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

Withholding agent's name: City of Sacramento

Payee's name: Martin Brothers Construction

Payee's ☐ SOS file no. ☐ CA corp. no. ☐ SSN or ITIN ☑ FEIN: 6 8 0 3 7 7 8 8 5

Address (number and street, PO Box, or PMB no.): 8801 Folsom Blvd

Apt. no./ Ste. no.: 2 6 0

City: Sacramento

State: C A

ZIP Code: 9 5 8 2 6

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

I certify that for the reasons checked below, the payee named on this form is exempt from the California income tax withholding requirement on payment(s) made to the entity or individual.

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

☑ **Corporations:**
The above-named corporation has a permanent place of business in California at the address shown above or is qualified through the California Secretary of State (SOS) to do business in California. The corporation will file a California tax return and withhold on payments of California source income to nonresidents when required. If this corporation ceases to have a permanent place of business in California or ceases to do any of the above, I will promptly notify the withholding agent. See instructions for General Information F, What is a Permanent Place of Business, for the definition of permanent place of business.

☐ **Partnerships or limited liability companies (LLC):**
The above-named partnership or LLC has a permanent place of business in California at the address shown above or is registered with the California SOS, and is subject to the laws of California. The partnership or LLC will file a California tax return and will withhold on foreign and domestic nonresident partners or members when required. If the partnership or LLC ceases to do any of the above, I will promptly inform the withholding agent. For withholding purposes, a limited liability partnership (LLP) is treated like any other partnership.

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

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

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

☐ **Estates — Certification of Residency of Deceased Person:**
I am the executor of the above-named person's estate. The decedent was a California resident at the time of death. The estate will file a California fiduciary tax return and will withhold on foreign and domestic nonresident beneficiaries when required.

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

CERTIFICATE: Please complete and sign below.

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

Payee's name and title (type or print): Felipe Martin, President Daytime telephone no. 916 381-0911

Payee's signature ▶ _____ Date 08/06/13

For Privacy Notice, get form FTB 1131.

7061123

SPECIAL PROVISIONS

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(PN: R15132019)

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SPECIAL PROVISIONS
FOR
2013 STREET OVERLAY PROJECT
(PN: R15132019)

1. GENERAL REQUIREMENTS

1.1 SCOPE AND LOCATION OF WORK

The work to be performed under these Special Provisions consists of resurfacing the following street segments:

- Natomas Boulevard between North Park Drive and North Bend Drive (northbound only)
- Northgate Boulevard between San Juan Road and Potomac Avenue
- J Street between 3rd Street and 4th Street
- J Street between 13th Street and 16th Street
- Capitol Mall between 3rd Street and 9th Street
- Power Inn Road between Fruitridge Road and Lemon Hill Avenue
- Wyndham Drive between Valley Hi Drive and Bruceville Road

Resurfacing treatments include the placement of Hot Mix Asphalt (HMA) and Rubberized Hot Mix Asphalt (RHMA) overlays and Bonded Wearing Course (BWC). Other work includes: pavement planing; adjusting maintenance holes and valve boxes to grade; installing traffic signal video detection cameras; replacing existing traffic signal detector loops and related equipment which are damaged or inoperative; placing new signing and striping; and placing colored pavement surface treatment for bike lanes.

1.2 SPECIFICATIONS

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

1.3 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.

1.4 ORDER OF WORK

The Contractor shall refer to Section No. 9.32 "Time Between Pavement Planing and Placement of Asphalt Concrete Overlay" and Section No. 9.33 "Special Construction Considerations" for order of work requirements.

1.5 COMPLETION TIME

The time limit for the completion of all items of work is **Forty (40) working days**, commencing on the date set forth in the written Notice to Proceed issued by the City to the Contractor. The Contractor shall pay a sum in the amount of NINE HUNDRED TEN DOLLARS ($910.00) as liquidated damages, and not as a penalty, for each calendar day delay after the expiration of Forty (40) working days.

The Engineer will furnish the Contractor a weekly statement showing the number of working days charged to the contract for the preceding week and the number of working days charged to date. The Contractor will be allowed fifteen (15) calendar days in which to file a written protest setting forth in what respect the Contractor disagrees with the working day statement, otherwise the working day statement of the Engineer shall be deemed to have been accepted by the Contractor as correct.

1.6 PRE-BID INTERPRETATION OF CONTRACT DOCUMENTS

No oral representations or interpretation will be made to any bidder as to the meaning of the contract documents. Requests for interpretation shall be made in writing and delivered to the City at least seven (7) calendar days before the time announced for opening the proposals. Interpretation, where necessary, will be made by the City in the form of an addendum to the contract documents and, when issued, will be sent as promptly as is practicable to all parties to whom the bid documents have been issued. All such addenda shall become part of the contract. Requests for information regarding this procedure or other similar information, shall be directed to Greg Smith of the Department of Public Works, Engineering Services Division, 915 I Street, Room 2000, Sacramento, CA 95814, (916) 808-8364, FAX (916) 808-7903 or gsmith@cityofsacramento.org.

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 immediately but at least two (2) weeks prior to the bid opening date.

1.7 NO TRUCK HAUL ROUTE ON 28TH STREET SOUTH OF E STREET

The Contractor and its subcontractors must not use 28th Street south of E Street as part of any haul route to and from the Bell Marine Co., Inc./ Harbor Sand and Gravel located at 200 28th Street. Acceptable routes to and from the facility are as follows:

To enter facility:

North on 30th Street
West on E Street
North on 28th Street

To exit facility:

South on 28th Street
East on C Street
South on 29th Street

The Contractor shall be assessed an administrative penalty of $500 for each Contractor or subcontractor dump truck that uses 28th Street South of E Street to enter or exit the Bell Marine Co., Inc/Harbor Sand and Gravel.

1.8 CERTIFICATE OF COMPLIANCE

The Contractor shall provide the Engineer with a manufacturer's "Certificate of Compliance" at the Engineer's request within two weeks. The Certificate of Compliance shall clearly show that the material, equipment and/or work is in compliance with the tests and specifications set forth in these contract documents.

1.9 EQUIPMENT TO BE SUPPLIED

All equipment, material and supplies called for in the specifications shall be new and currently manufactured items, unless otherwise specified. All equipment shall be complete and in operation to the satisfaction of the Engineer at the time of acceptance of the work.

All incidental parts which are not shown on the Plans or specified herein and which are necessary to complete the project shall be furnished and installed as though such parts were shown on the Plans or specified herein.

1.10 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 shall be 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. 29 Code of Federal Regulation 1910.120 relating to Hazardous Waste Operation Safety Training.

    c. City of Sacramento Building Code and the current edition of the Uniform Building Code.

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.

1.11 COORDINATION

The Contractor shall coordinate his activities in a manner that will provide the least interference with the City's operations, other contractors and utility companies working in the area, and agencies exercising jurisdiction over the project area or portions thereof.

1. At a minimum the Contractor shall coordinate his operations with the following:

    - <u>City Traffic Signal and Street Lighting Maintenance Shop</u>
      Contractor shall notify Norm Colby, via the Resident Engineer, a minimum of five (5) working days before any electrical work begins at 808-6635.

    - <u>City Fire Alarm</u>
      Contractor shall notify Doug Crawford, at 798-0673 or 277-6133, a minimum of five (5) working days prior to beginning work at each location.

    - <u>Underground Service Alert</u>
      Contractor shall contact Underground Service Alert (USA) at 1-800-227-2600, a minimum of three (3) working days prior to any excavation.

- Sacramento Municipal Utility District (SMUD)
  Contractor shall contact Michelle Zuniga, SMUD, at (916) 732-5726, at least 2 months before service hook-up is required, before service disconnect is required, before pole quadrants for risers need to be marked, before any poles need to be stood by SMUD, or before any overhead line heights need to be measured.

- Pacific Bell
  Contractor shall contact Astrid Willard at (916) 453-6136 forty-eight hours (48) before service hook-up is required, before service disconnect is required, before pole quadrants for risers need to be marked, before any poles need to be stood by Pacific Bell, or before any overhead line heights need to be measured.

- Pacific Gas and Electric (PG&E)
  Contractor shall contact David Allen, Senior Field Engineer Technician for PG&E, at (916) 386-5277, and Larry Schlaht at (916) 386-5371at least 7 calendar days before start of construction.

- City Waste Removal Division
  Contractor shall notify the Superintendent of Collection or Refuse Collection General Supervisor, at 808-4952, a minimum of at least 7 calendar days prior to beginning work at each location.

- Street Division
  Contractor shall notify the Section General Supervisor, at 808-6333, a minimum of at least 7 calendar days prior to beginning work at each location.

The Contractor shall be responsible for any garden refuse piles, which are inadvertently placed in the street between the time of City pickup and the Contractor's work. The cost for removing garden refuse piles shall be included in the unit prices bid for the various items of the proposal.

The cost of coordination shall be included in the unit prices bid for the various items of the proposal and no additional compensation will be allowed therefor.

1.12 PROGRESS SCHEDULE

The Contractor shall submit to the Engineer a progress schedule in accordance with Section 7-2 of the Standard Specifications showing the order in which the Contractor proposes to carry out the work, the dates on which he will start all features of the work, and the anticipated dates for completing the prominent features. Thereafter, **on Thursday of every week**, a weekly revised progress schedule showing any changes to the original shall be submitted to the Engineer and the City Divisions listed under "Coordination with City Divisions". The revised schedule shall also be furnished to all public utility companies having facilities, which are affected by the work, within the time frame specified above.

The Contractor shall be required to provide a weekly schedule of work for each week by 4:00 P.M., Thursday, of the previous week.

The progress schedules shall be submitted on a critical path method form of the Contractor's choice, and shall be consistent in all respects with the time and order of work requirements of the contract. The progress schedule must include all signal detector loop replacement after the pavement is planed and prior to placement of the asphaltic concrete overlay.

No progress payments will be made for any work until a satisfactory schedule has been submitted to the Engineer.

1.13 PROTECTION OF EXISTING IMPROVEMENTS

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 their accuracy.

The Contractor's attention is directed to the provisions of Chapter 3.1 "PROTECTION OF PUBLIC UTILITIES IN PUBLIC CONTRACTS" of the California Government Code concerning protecting existing overhead and underground utilities. In particular, Section 4216 and Section 4217.

Existing improvements, utilities and adjacent property shall be protected from damage resulting from the Contractor's operations. All trees, shrubbery, grass, fences, mail boxes, walls and other improvements including existing pavements, sidewalks, street improvements, sprinkler systems and underground utilities and other improvements not to be removed under this contract shall be protected from damage by the Contractor throughout the construction period.

All painted or other disfiguring markings on the pavement, sidewalk or gutters shall be removed by the Contractor before acceptance of the work.

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

The Contractor is responsible for the protection of and for damage to existing overhead and underground utility lines and services encountered during the course of construction. The Contractor shall notify the respective utility owner prior to any interruption of service.

The Contractor is expected to "pothole" existing underground utilities a minimum of ten (10) working days in advance at any location where an existing utility may be in conflict with the proposed work.

The cost of relocating existing overhead or underground utilities not specified on Plans to be relocated, but which the Contractor elects to relocate or cut and reconnect for his/her own convenience, shall be borne by the Contractor.

No compensation will be paid to the Contractor for the maintenance and protection of existing utilities and facilities. The cost of such work shall be included in whatever bid item the Contractor deems appropriate.

1.14 TRAFFIC HANDLING, PUBLIC SAFETY AND CONVENIENCE

The contractor's attention is directed to Sections 6 and 7 of the Standard Specifications.

The contractor shall submit to the Engineer for review and approval a plan showing traffic control measures for vehicles, pedestrians and bicycles affected by the construction work. For emergency purposes, the responsible person in charge of the work must be reachable by phone 24 hours a day during the progress of the work. A 24-hour phone number shall be indicated on the permit application.

The contractor shall adhere to guidelines as stated in Section 12.20.030 of Title 12 of the Sacramento City Code pertaining to Traffic Control Plan – Requirements, and shall conform to the current edition of the California MUTCD. Particular attention is directed to Chapter 6D – Pedestrian and Worker Safety and Chapter 6F – Temporary Traffic Control Zone Devices, Section 6F.68 – Detectable Edging for Pedestrians.

Spillage resulting from hauling operations along or across any public traveled way shall be removed immediately by the Contractor at his expense.

Construction operations shall be conducted in such a manner as to cause as little inconvenience as possible to abutting property owners.

The Contractor shall submit a site specific Traffic Control Plan to the Engineer at the pre-construction meeting in accordance with Section 6-9 of the Standard Specifications. Revisions to the plan shall be submitted on Thursday prior to work. A copy of the Traffic Control Plan shall be available on site at all times. The Traffic Control Plan shall be developed within the following parameters:

1. No work will be allowed if the Contractor does not adhere to these traffic control guidelines.

2. During the planing operation a minimum of two flaggers per intersection for two-way streets (one flagger per intersection for one way streets) shall be positioned at one intersection ahead of the grinding machine and one intersection behind the grinding machine. **If the Contractor fails to position flaggers per these requirements, the Contractor may pay $1,000 per each flagger that's not provided an administrative penalty, for each day the work is being performed.**

3. During the paving operation a minimum of two flaggers per intersection for two-way streets (one flagger per intersection for one way streets) shall be positioned at three consecutive intersections ahead of the paver and three consecutive intersections behind the paver. **If the Contractor fails to position flaggers per these requirements, the Contractor may pay $1,000 per each flagger that's not provided as administrative penalty, for each day the work is being performed.**

4. During planing, paving, base repair, traffic signal loop installation, lowering and raising iron and striping a minimum of one (1) paved traffic lane, not less than twelve feet (12')

wide with approved traffic control measures (including flag persons, pilot car, etc.), shall be open for use by public traffic on the segment of the street where work is being performed.

Between the hours of 7 A.M. – 8:30 A.M. and 4:00 P.M. – 6:00 P.M. Monday through Friday, the public must have access to all lanes normally available on all streets, including bicycle and pedestrian facilities, unless otherwise approved.

Five work days (5) prior to roadway or lane closures, changeable message signs shall be placed where designated by the Engineer. The message on the changeable message sign shall be approved in writing by the Engineer two days prior to installment on the roadway. **If the Contractor fails to install changeable message signs per these requirements, the Contractor may pay $1,000 per day per street as administrative penalty, for each day the work is being performed.**

At night and at other times when work is not in progress, the full roadway shall be available to the public unless otherwise approved. **If the Contractor fails to have all normally available lanes open as required by these Special Provisions, the Contractor may pay an administrative penalty of $1,000 for every 15 minutes until the required number of lanes are open for use.**

Lane closures shall be in conformance with an approved traffic control plans, the details in the Appendix of these Special Provisions and all provisions of the Caltrans encroachment permit.

Work on certain weekends will not be approved if special events are taking place that have the potential of being affected by the project. Known special events include but are not limited to the following: Color Run on 8/3; Gold Rush Days 8/30-9/2; Farm to Fork festival 9/28-9/29; Walk to end Alzheimers 10/5; and the Walk to cure Diabetes on 10/6.

Full compensation for furnishing all labor, materials, tools, equipment and incidentals and for doing all work involved in maintenance of traffic and public safety shall be considered as included in the prices paid for various contract items of work and no additional compensation will be allowed therefore.

1.15 TEMPORARY PAVEMENT MARKERS

Temporary pavement markers shall be furnished and placed, maintained, and later removed as specified in these Special Provisions, and as directed by the Engineer.

The following markers are approved for use on City of Sacramento street resurfacing projects:

Temporary Overlay marker (Types Y and W) manufactured by Davidson Plastics Company, 18726 East Valley Highway, Kent, Washington 98032, telephone (206) 251 8140.

Safe-Hit Temporary Pavement Marker, manufactured by Safe-Hit Corporation, 1930 West Winton Avenue, Building #11, Hayward, CA 95545, telephone (415) 783 6550.

Swareflex Pavement Marker (Models 3553, 3554, Cat Eyes Nos. 3002 and 3004), manufactured by Swareco and distributed by Servtech Plastics Inc., 1711 South California Street, Monrovia, CA 91016, telephone (818) 359 9248.

Stimsonite Construction Zone Marker (Model 66), manufactured by Amerace Corporation, Signal Products Division, 7542 North Natchez Avenue, Niles, IL 60648, telephone (312) 647 7717.

Flex-O-Lite Raised Construction Marker (RCM), manufactured by Flex-O-Lite, Lukens Company, P.O. Box 4366, St. Louis, MO 63123 0166, telephone (800) 325 9525.

3M Scotch-Lane A200 Pavement Marking System (reflective raised pavement marker on reflective traffic line tape), manufactured by 3M Company, Highway Safety Products, 1010 Hurley Way, Suite 300, Sacramento, CA 95825, telephone (916) 924 9605.

MV Plastics Chip Seal Marker (1280/1281 Series with Reflexite Polycarbonate, PC 1000, reflector unit), manufactured by MV Plastics, Inc., 533 W. Collines Avenue, Orange, CA 92667, telephone (714) 532-1522.

Temporary reflective raised pavement markers shall be placed in accordance with the manufacturer's instructions. Temporary reflective raised pavement markers shall be cemented to the surfacing with the adhesive recommended by the manufacturer, except epoxy adhesive shall not be used.

At the direction of the Engineer, Temporary pavement striping may be required.

After paving and or planing, temporary pavement markers shall be placed on all existing striped streets that are opened to public traffic prior to final striping in accordance with the striping diagrams. Temporary pavement markers that are damaged from any cause during the progress of the work shall be repaired or replaced by the Contractor at his expense.

When no longer required for the work as determined by the Engineer, temporary pavement markers shall be removed in accordance with the provisions in Section 15-2, "Miscellaneous Highway Facilities," of the State Standard Specifications, except as otherwise provided herein. If the temporary pavement markers to be removed are on surfacing that is to be removed, the temporary pavement markers may be removed and disposed of in conjunction with the removal of the surfacing, providing such pavement markers do not interfere with the required traffic lane delineation, as determined by the Engineer.

The 14-day waiting period for placing pavement markers on new asphalt concrete surfacing shall not apply to temporary pavement markers.

Full compensation for furnishing, placing, maintaining, removing, and disposing of temporary pavement markers shall be considered as included in the prices paid for the various contract items and no additional compensation will be allowed therefore.

1.16 PUBLIC NOTIFICATION

The Contractor shall be required to notify residents/businesses adjacent to the work a minimum of three (3) working days and a maximum of one week in advance of starting work with a City supplied door hanger. The Contractor may be required to contact business owners in person to explain the work schedule as determined by the engineer. The notification shall be consistent with the weekly progress schedule submitted every Thursday of the week. The contractor shall be responsible for keeping a log of the dates notifications were delivered. The Contractor will be responsible for inserting the date of work on which a street will be pavement planed and/or paved on each flyer. Any changes in the Contractor's schedule will require that re-notification take place at the Contractors expense. The Contractor shall be given 1,500 door hangers and it is the Contractor's responsibility to obtain, at his expense, additional standard City flyers. **No work will be permitted until the public has been notified**

Full compensation for this item shall be included in the prices paid for various contract items of work and no additional compensation will be allowed.

Full compensation for this item shall be included in the prices paid for various contract items of work and no additional compensation will be allowed.

1.17 REMOVAL OF ON-STREET PARKING

In Metered Parking Areas:

Seventy-two (72) hours prior to construction, the Contractor shall place signs adjacent to every third parking stall stating, "NO PARKING - (specific times and dates) - Tow Away" or "NO PARKING - (specific times and dates) - This Block". Contractor shall also contact the City Parking Division prior to placing barricades.

Signs shall be placed before 1:00 PM on the day selected to allow sufficient time for City inspection.

The Contractor shall request the City Parking Division to cover each parking meter, prior to construction, with a "NO PARKING" sign and the signs previously placed adjacent to every third stall shall be mounted on a barricade and moved into the parking stall at the Contractors expense.

If the Contractor needs less than the entire block, every stall removed shall be barricaded in conjunction with the covering of parking meters.

Where parking removal is necessary, at metered parking stalls, the Contractor shall coordinate with the City Parking Division three (10) days in advance and shall be responsible for the payment of parking removal fees (City Code Section 25.122-1). It is recommended that the Contractor consult with the City Parking Division (phone 916-808-5874) prior to submission of their bid to obtain an estimate of the fees for this project. Note: Typical fees are $29 to bag the first meter and $5 each additional meter. Daily meter fees are typically $2.25 each day Monday through Saturday.

In Non-Metered Parking Areas:

Seventy-two (72) hours prior to construction (except Monday work, barricades shall be placed on the prior Thursday), the Contractor shall place signed Type II barricades stating "NO PARKING - (specific times and dates) - Tow Away" or "NO PARKING - (specific times and dates) - This Block", at 50 to 60 foot intervals in the work area. The Contractor shall notify the City Parking Division (916-808-5874) prior to placing barricades. No fee is required in Non-metered zones. "NO PARKING" signs shall be approved by the Engineer prior to their use. "NO PARKING" signs and barricades shall be supplied by the Contractor. The Contractor shall notify the Engineer immediately after the "NO PARKING" signs are in place.

Barricades shall be placed before 1:00 PM on the day selected to allow sufficient time for City inspection.

Failure to comply with this section will prevent the City from towing vehicles parked within the proposed work area until the provisions of this section have been met and will require rescheduling of planned work. Additionally, "NO PARKING" signs and barricades shall not be removed prior to removal/towing of vehicles in violation of posted "NO PARKING" signs.

Payment shall include full compensation for furnishing all labor, materials, tools, equipment, incidentals and payment of all fees required to perform all work, as specified in these Special Provisions and as directed by the Engineer and shall be considered as included in the prices paid for the various contract items of work. No additional compensation will be allowed therefore.

1.18 EQUIPMENT LIST AND DRAWINGS SUBMITTALS

Equipment list and drawings shall be in accordance with Section 34-3 of the Standard Specifications and these Special Provisions.

Unless otherwise permitted in writing by the Engineer, the Contractor shall, within twenty (20) days following notification of award of the contract submit to the Engineer for approval a listing of equipment and material which he/she proposes to furnish and install. The list shall be complete as to name of manufacturer, size and catalog number of unit, and shall be supplemented by other data, including detailed scale drawings and wiring drawings. A minimum of five (5) copies of the above data shall be submitted to the Engineer for review and approval.

The Contractor shall submit to the Engineer a statement from each vendor supplying electrical equipment, including but not limited to, signal heads, standards, electroliers, luminaries, service pedestal and all other electrical equipment indicating that the orders for the materials required for this contract have been received and accepted by said vendor. The confirmed date of delivery to the contractor shall be indicated on the statement.

All substitutions are subject to the approval of the Engineer.

1.19 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.

1.20 BACKFILLING OF VOIDS

All voids resulting from the removal of trees, pipes, maintenance holes, ditch boxes, or other buried structures or objects shown on the Plans or called in these Special Provisions to be removed, shall be backfilled per the provisions of Section 26 (Trench Backfill) of the Standard Specifications. In the event job excavated native material is unsuitable for backfill as determined by the Engineer, the Contractor shall furnish the required suitable backfill material.

The cost to backfill voids as specified in the Special Provisions shall be included in the price bid for the respective items to remove trees, pipe, maintenance holes, ditch boxes, or other buried structures or objects, and no additional compensation shall be allowed.

1.21 PAVEMENT CUTTING AND RESTORATION

Pavement cutting and restoration shall conform to the provisions of Section 13-4 of the Standard Specifications and these Special Provisions.

No pavement cutting shall precede pavement excavation by more than seven (7) calendar days unless approved by the Engineer. Prior to excavation in paved areas, pavement will be broken within the limits of expected excavation so as to prevent lifting of the pavement during excavation. Prior to restoration, the pavement shall be sawed or scored with an abrasive type pavement cutter (maximum blade width 1/4"). The proper tools and equipment shall be used so that the pavement will be cut to a neat and straight line six inches (6") beyond the limits of actual excavation.

Where pavement cutting takes place more than five (5) calendar days before trench excavation, the Contractor shall fill the pavement cuts with asphaltic patching mix and maintain a smooth riding surface until trenching begins.

Where the limits of excavation are located within twelve (12") of the edge of existing pavement or lip of the curb and/or gutter, the existing pavement within this twelve inches (12") shall also be removed.

Full compensation for furnishing all labor, materials, tools, equipment and incidentals and for all work involved in this item shall be considered as included in the unit price bid for roadway excavation and removing and replacing asphaltic concrete pavement.

1.22 CLEANING UP

Section 4-2 of the Standard Specifications is amended to read as follows:

The Contractor shall not allow the site of the work to become littered with trash, debris, garbage or waste material, but shall maintain the site in a neat, orderly and healthful condition until completion and acceptance of the work. When work is being performed on a particular street, the contractor shall clean up the site no later than one week after raising utility covers. Before final inspection of the work, the Contractor shall clean the work site and all ground occupied by him in connection with the work of all rubbish, excess materials, false work, temporary structures, construction markings (by the Contractor or for his benefit) and equipment. All parts of the work shall be left in a neat and presentable condition. Full compensation for cleaning up is included in the prices paid for the various contract items of work, and no separate or additional payment shall be made for cleaning up.

Contractor shall be responsible for removing all yard waste and debris affecting the work at his expense. Yard waste shall not be relocated to planter strips, pedestrian areas, or other areas not approved by the Engineer. Garbage cans that are temporarily removed from the street shall be placed back in their original position at the end of the workday.

1.23 PROTECTION OF TREES

During construction the Contractor shall protect existing trees. All work near the trees shall be coordinated by the Contractor with the City Arborist, Duane Goosen, phone number 808-4996. The Contractor shall comply with direction as given by the City Arborist and the following City requirements regarding tree protection:

No storage of materials or parking of vehicles may occur within the drip lines of the trees, except on paved streets.

If, during construction, tree roots two inches (2") in diameter or greater are encountered, work shall stop immediately and the City Arborist shall be contacted for a root inspection, and roots shall not be cut without arborist approval. Roots approved by the arborist to be pruned during the course of project construction shall be cleanly cut. If extensive root pruning is proposed an arborist inspection will determine if tree removal is necessary.

If construction activities will affect any of the limbs of the trees, a certified arborist (certified by International Society of Arboriculture, Western Chapter) shall be consulted prior to the cutting or removal of any limb. Limbs approved by the arborist to be pruned during the course of project construction shall be cleanly cut.

The Contractor shall be responsible for damages to trees. Trees damaged by the Contractor during construction activities shall be assessed by the City Arborist using the International Society of Arborists (ISA) appraisal guide or UFS standard diameter and area indexing. The Contractor's responsibility for damaged trees will be determined by the Arborist.

Full compensation for furnishing all labor, materials, tools, equipment and incidentals and for doing all work involved in this section shall be considered as included in the prices paid for various contract items of work and no additional compensation will be allowed.

1.24 TREE TRIMMING

Trees identified by the Engineer to be trimmed shall be trimmed in accordance with the following specifications and as directed by the Engineer or project Arborist in conjunction with the City Arborist:

General Conditions - This work is to be performed by a Tree Service Contractor, licensed and bonded to do business in the City of Sacramento. The work to be done will consist not only of this trimming and removal of branches and limbs but also disposal of material trimmed from these trees. Disposal of material will not be allowed at the City Dump.

Contractor shall be aware of and shall comply with all ordinances governing and related to tree trimming work. Contractor shall furnish all labor, materials and equipment as required in performing the work described herein in strict accordance with these specifications and subject to the terms and conditions of this contract.

Description of Work - The work shall be done primarily from truck mounted aerial platforms except where trees are inaccessible to trucks. All hand and power tools in the performance of this work shall be subject to inspection and approval of the Manager of the Urban Forest Services division or his designated representative who shall serve as the inspector for the City.

In general, the standard tree trimming equipment shall be used and shall be maintained in a satisfactory condition at all times. All tools shall be clean, sharp, in proper working order and shall be checked for safety before each job.

Inspection/Permit - The Contractor shall notify the Engineer prior to 8:00 a.m. on each day Contractor will be trimming trees.

The Contractor shall notify, 3 working days prior to tree trimming, the City Arborist, Duane Goosen, (916) 808-4996 and obtain, for this project, a permit for tree trimming within the City.

Special Conditions - All licenses, insurance, etc., necessary to assume the legal responsibility for said work shall be acquired by the Contractor to cover the liabilities which might be caused by said work.

All workmen shall comply with State Compensation Safety Rules and must wear safety equipment at all times while on the job. Adequate warning devices, barricades, guards, cones, etc., shall be placed and necessary precautions shall be taken by the Contractor to provide protection for the workers, pedestrians and vehicular traffic in the area. Work shall be scheduled and conducted in a cooperative manner in order to give the least possible interference with or annoyance to others. It shall be the responsibility of the Contractor to work out any cooperative work schedules as necessary.

All tree work requiring climbing of trees shall be suspended during inclement weather. No trimmings or debris shall be left overnight on any of the work sites. Upon completion of a specific area, the site shall be left in a clean and orderly condition. It shall be the responsibility

of the Contractor to repair any damages to adjacent property including shrubs, trees or other growth as well as structures along the route.

To prevent the spread of Dutch elm disease, tree trimming tools shall be sprayed with Lysol before any tree trimming and after each tree has been trimmed.

Personnel - All work shall be done by qualified and trained persons. They shall be familiar with tree climbing and trimming work in general and trained to work in trees of any size. A qualified foreman shall be provided to oversee and direct the work of each crew.

Correct Cuts - All work shall be done in a professional and workmanlike manner. All cuts shall be made in accordance with the following sections in these Special Provisions, and as directed by the Engineer. Trees shall be trimmed at locations where there are tree conflicts and as directed by the Engineer or project Arborist in conjunction with the City Arborist.

Tree trimming shall include the removal of any limbs or brush from limbs in order to achieve a clear space of at least six foot (6') radial distance from each luminaire. The results of the tree trimming shall produce an unobstructed cone of light that will illuminate a semicircle on the street at street level. The semicircle shall have a radius of forty feet (40') minimum on the street from the electrolier base. The unobstructed cone of light shall also illuminate an area at sidewalk level on the house side of the electrolier. This illuminated area shall extend fifteen feet (15') minimum from the base of the electrolier.

Twigs, small limbs and sucker growth shall be removed with hand pruners, pole pruners or a fine toothed saw. All portions of a tree removed in the pruning operations, whether small or large in diameter, shall be made just outside the branch bark ridge, parallel to and immediately adjacent to the tree limb from which the part is removed.

Any dead wood and broken limbs encountered in the pruning operations shall be removed. Dead wood shall be defined as any portion of the tree having no living foliage, no live buds or no apparent life in the cambium layer. Final cuts on dead limbs shall not cut into the branch bark ridge or branch collar of the parent limb. Dead limbs larger than three-fourths of one inch (3/4") in diameter shall be removed by sawing. Broken limbs shall be removed except where branches have split and one portion of the branch can be saved by pruning to reduce lateral end weight.

Shrubs shall be pruned as directed by the Engineer and shall conform to current ISA specifications.

The cost of such work shall be included in whatever bid item the Contractor deems appropriate.

1.25 STOP WORK IF CULTURAL RESOURCES ARE DISCOVERED

If artifacts or stone, bone, or shell are uncovered during construction activities, the Contractor shall stop work within 100 feet of the find and notify the City, who will consult with a qualified archaeologist for an on-the-spot evaluation. Additional mitigation of the archaeological site will be the responsibility of the City. If bone is found and it appears to be human, the City will notify the Sacramento County coroner and the Native American Heritage Commission (916-322-7791).

1.26 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.

1.27 PERMITS AND STAGING AREA

If the Contractor decides he/she needs additional working easement areas, work sites or material sites to facilitate his operation, it shall be his sole responsibility to locate, negotiate, obtain and pay for such additional working easements, work sites and material sites.

The Contractor shall submit to the Engineer written authorization from the property owner of private property being used for the storage of equipment or materials. 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.

All areas lying outside of the street right-of-way which are affected by the work shall be restored to the same, or better condition existing prior to the commencement of the work, to the satisfaction of the Engineer.

The cost of necessary permits, all restoration, including but not limited to landscaping improvements, shall be included in the various items of work the Contractor deems appropriate, and no separate or additional compensation shall be made.

1.28 EROSION AND SEDIMENT CONTOL

Erosion and Sediment Control shall be in accordance with Section 16 of the City Standard Specifications.

1.29 ENCROACHMENT PERMIT

The City is in the process of acquiring a Caltrans Encroachment Permit. Prior to start of work within the State of California's right-of-way or work affecting the State of California facilities, the Contractor will be required to obtain an Encroachment Permit at the following State of California Transportation office:

CALTRANS, DISTRICT 03
PERMIT ENGINEER
703 "B" Street
P.O. Box 911
Marysville, CA 95901
(530) 741-5374

The Contractor shall pay the applicable fees due at the time of application. A copy of the City's Encroachment Permit is available upon request.

Full compensation for conforming to the requirements in this permit, including the cost of the permit, shall be considered as included in the contract prices paid for the various item or work and no additional compensation will be allowed therefore.

1.30 REGIONAL TRANSIT COORDINATION

At least three (3) working days prior to working on streets used as bus routes, the Contractor shall notify the Regional Transit (RT) Dispatcher at 321-2897 and notify RT that traffic restrictions will be in effect and that bus stops may be temporarily out of service.

The Contractor shall obtain a Track Warrant through RT Metro when working near RT light rail tracks. Contact Sharon Fultz in RT's Real Estate Department at 556-0308 for details. The tracks shall remain active during construction.

1.31 FINAL PAY QUANTITY

Final pay quantity is designated on the sealed bid proposal sheet with a "(F)". Final pay quantity shall conform to Section 9-1.02C "Final Pay Item Quantities" of the State Standard Specifications, except that the final pay quantity designation shall be made on the sealed bid proposal rather than the Plans.

1.32 TIME BETWEEN PAVEMENT PLANING AND PLACEMENT OF OVERLAY

Roadway surfaces receiving pavement keycutting, planing or conforms shall be resurfaced within **four (4) calendar days** of planing operations for the following street segments:

- Northgate Boulevard between San Juan Road and Potomac Avenue
- Power Inn Road between Fruitridge Road and Lemon Hill Avenue

Roadway surfaces receiving pavement keycutting, planing or conforms shall be resurfaced within **one (1) calendar day** of planing operations for the following street segments:

- J Street between 13th Street and 16th Street
- Wyndham Drive between Valley Hi Drive and Bruceville Road
- Capitol Mall between 3rd Street and 9th Street
- Natomas Boulevard between North Park Drive and North Bend Drive

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.

1.33 SPECIAL CONSTRUCTION CONSIDERATIONS

Field meetings will be held between the Contractor and City staff as needed to determine actual limits of planing and resurfacing.

No working days will be charged to the Contractor for work days missed due to temperature.

Full compensation for furnishing all labor, materials, tools, equipment and incidentals and for doing all work involved in special construction considerations shall be considered as included in the prices paid for various contract items of work and no additional compensation will be allowed therefore.

The Contractor is hereby notified of the following special construction considerations:

Natomas Boulevard between North Park Drive and North Bend Drive

- Northbound segment of roadway shall only be resurfaced.
- Perform all electrical work, except detection loop installation, prior to planing the roadway. Video detection shall be in operation before planing work begins.
- Lower all maintenance holes and water valves within keycutting and conform areas before planing begins.
- Perform keycutting operations (8') on east side of roadway. Keycut through all side streets as marked in the field. Keycut between medians at the driveway apartment intersection as marked in the field. Hand work the radiuses as required.
- Perform a 50' variable depth conform at the intersection of North Bend Drive. Conform shall encompass the northbound segment of roadway through the distance of the intersection. Hand work the radiuses as required.

- Perform a 50' variable depth conform at the intersection of North Park Drive. Hand work the radiuses as required.
- Perform all detection loop installation prior to placement of asphalt concrete overlay.
- Place 2" of hot mix asphalt overlay with temporary striping and markings.
- Raise all maintenance holes and water valves after resurfacing operations.
- Place striping and markings after raising of maintenance holes and water valves.

Northgate Boulevard between San Juan Road and Potomac Avenue

- All work performed at the intersection of Northgate Boulevard and San Juan Road shall occur at night between the hours of 11:00 PM and 5:00 AM. All other work shall occur on weekdays during the times allowed in the Traffic Handling, Public Safety and Convenience section of these Specifications.
- Perform all electrical work, except detection loop installation, prior to planing the roadway. Video detection shall be in operation before planing work begins.
- Lower all maintenance holes and water valves prior to planing operations.
- Plane the entire roadway segment to a depth of 3" from the lip of gutter on both sides of the street.
- Perform all base repairs after planing operations but before placement of overlay. See Section 1.32 for time between pavement planning and placement of overlay.
- Perform all detection loop installation prior to placement of asphalt concrete overlay.
- Place 3" of fiber reinforced hot mix asphalt overlay with temporary striping and markings.
- Raise all maintenance holes and water valves after resurfacing operations.
- Place striping and markings after raising of maintenance holes and water valves.

J Street between 3rd Street and 4th Street

- Obtain Encroachment Permit from Caltrans.
- All work performed shall occur at night between the hours of 11:00 PM and 5:00 AM.
- Lower all maintenance holes and water valves prior to planing operations.
- Plane the entire roadway segment to a depth of 1" from the lip of gutter on both sides of the street.
- Place 1" Bonded Wearing Course with temporary striping and markings.
- Raise all maintenance holes and water valves after resurfacing operations.
- Place striping and markings after raising of maintenance holes and water valves.

J Street between 13th Street and 16th Street

- All work performed shall occur on weekends. Working hours shall be between 7:00 AM and 7:00 PM on Saturday and between 9:00 AM and 7:00 PM on Sunday.
- Planing and paving work shall be completed within one (1) weekend. Working hours shall be between 7:00 AM and 7:00 PM on Saturday and between 9:00 AM and 7:00 PM on Sunday. **If the Contractor fails to complete the planing and paving work within the required period, the Contractor shall pay an administrative penalty of $750 per day for each day's delay.**
- Perform all base repairs prior to planing operations.
- Lower all maintenance holes and water valves prior to planing operations.

- Plane the entire roadway segment to a depth of 1" from the lip of gutter on both sides of the street.
- Place 1" Bonded Wearing Course with temporary striping and markings.
- Raise all maintenance holes and water valves after resurfacing operations.
- Place striping and markings after raising of maintenance holes and water valves.

Capitol Mall between 3rd Street and 9th Street

- Obtain Encroachment Permit from Caltrans.
- Obtain Track Warrant from Regional Transit.
- Planing and paving work shall meet at Regional Transit rails. Protect rails from damage. Hand work may be necessary.
- Planing and paving work shall be completed within one (1) weekend. Working hours shall be between 7:00 AM and 7:00 PM on Saturday and between 9:00 AM and 7:00 PM on Sunday. **If the Contractor fails to complete the planing and paving work within the required period, the Contractor shall pay an administrative penalty of $750 per day for each day's delay.**
- Lower all maintenance holes and water valves prior to planning operations.
- Plane the entire roadway segment to a depth of 1" from the lip of gutter on both sides of the street.
- Place 1" Bonded Wearing Course with temporary striping and markings.
- Raise all maintenance holes and water valves after resurfacing operations.
- Place striping and markings after raising of maintenance holes and water valves.

Power Inn Road between Fruitridge Road and Lemon Hill Avenue

- All work performed between Fruitridge Road and 32nd Avenue shall occur at night between the hours of 11:00 PM and 5:00 AM. All other work shall occur on weekdays during the times allowed in the Traffic Handling, Public Safety and Convenience section of these Specifications.
- Perform all electrical work, except detection loop installation, prior to planing the roadway. Video detection shall be in operation before planing work begins.
- Lower all maintenance holes and water valves prior to planing operations.
- Plane the entire roadway segment to a depth of 2.5" from the lip of gutter on both sides of the street.
- Perform all base repairs after planing operations but before placement of overlay. See Section 1.32 for time between pavement planning and placement of overlay.
- Perform all detection loop installation prior to placement of rubberized asphalt concrete overlay.
- Place 2.5" of rubberized asphalt concrete overlay with temporary striping and markings.
- Raise all maintenance holes and water valves after resurfacing operations.
- Place striping and markings after raising of maintenance holes and water valves.

Wyndham Drive between Valley Hi Drive and Bruceville Road

- Perform all electrical work, except detection loop installation, prior to planing the roadway. Video detection shall be in operation before planing work begins.
- Perform all base repairs prior to planing operations.

- Lower all maintenance holes and water valves within keycutting and conform areas before planning begins.
- Perform keycutting operations (8') on both sides of roadway. Keycut through all side streets as marked in the field.
- Perform a 50' variable depth hammerhead conform at the intersection of Valley Hi Drive. Hand work the radiuses as required. Locations will be marked in the field.
- Perform a 50' variable depth hammerhead conform at the intersection of Bruceville Road. Hand work the radiuses as required. Locations will be marked in the field.
- Perform a 50' variable depth conform on both sides of the Union House Creek bridge deck. Locations will be marked in the field.
- Perform all detection loop installation prior to placement of asphalt concrete overlay.
- Place 2" of hot mix asphalt concrete overlay with temporary striping and markings.
- Raise all maintenance holes and water valves after resurfacing operations.
- Place striping and markings after raising of maintenance holes and water valves.

2. ITEMS OF THE PROPOSAL

ITEM NO. 1 - PAVEMENT KEYCUTTING (8' WIDE)

1. At cross-streets within the limits of work, pavement keycutting shall continue in a straight line from curb line to curb line parallel to the direction of work as directed by the Engineer. At the beginning and ending limit of work, a planed pavement conform shall be constructed as specified in the item "Planed Pavement Conform" found elsewhere in these Special Provisions.

2. The Contractor shall exercise extreme care to avoid damaging the gutter lips during the keycutting operation. Damaged gutter lips which have spalls 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 lineal foot for pavement keycutting and no separate payment shall be made therefore.

3. The Contractor shall remove existing asphalt concrete from the top of the gutter pan and from the face of gutter lip as directed by the Engineer.

4. 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. 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.

5. The grindings shall become the property of the Contractor and disposed of off-site.

6. At the end of the workday, there shall not be any elevation difference between planed pavement and unplaned pavement in the traveled vehicle lanes and all curb ramps. 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.

7. 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 Contractor fails to slope elevation differences as required by these Special Provisions, Contractor may pay administrative penalties of $1,000 per each infraction per each calendar day elevation differences are not sloped.**

Payment shall be at the unit price bid per lineal foot and shall include full compensation for furnishing all labor, material, tools, equipment and incidentals, and for doing all work involved in 8' wide pavement keycutting as specified in these Special Provisions and as directed by the Engineer.

ITEM NO. 2 - PLANED PAVEMENT CONFORMS

Planed pavement conforms shall be constructed at the beginning and ending limits of the streets indicated in the street overlay quantities and where directed by the Engineer.

Planed pavement conforms shall be also constructed at side streets in conformance with the Special Construction Considerations in these Special Provisions and where directed by the Engineer between the lip of the main street to the curb return of the side streets.

Where the beginning or ending limit of work is a crossing street, a fifty foot (50') planed conform extending to the round corner of the crossing street shall be constructed to the dimensions and depths of cut shown on Detail C1 of the Appendix except where noted in the "Special Considerations" section of these Special Provisions and that an eighteen foot (18') planed pavement conform shall be constructed on residential streets.

Where the beginning or ending limit of work is not at a crossing street, or where a crossing traveled way or other such feature which is not to be resurfaced causes a discontinuity in the work, a planed pavement conform shall be constructed. The conform shall span the full width of the street for a distance of fifty feet (50') back from the limit line or feature causing the discontinuity in the work. At bridge decks, the conform shall span the full width of the street for a distance of fifty feet (50'). The depth of cut shall be 1½" at the limit of work and shall be progressively decreased to zero (0) over the conform length.

Grinding of the side street conforms shall be completed prior to the paving operation.

Planed pavement conforms shall also be constructed at freeway entrance and exit ramps and at right and left long-radius turn lanes which diverge from, or converge onto, the street to be resurfaced. These conforms shall span the full width of the ramp or turn lane for a distance of eighteen feet (18') and shall be constructed where directed by the Engineer.

In all other aspects, this item shall conform to the item "Pavement Planing" found elsewhere in these Special Provisions.

Payment shall be at the unit price bid per square yard and shall include full compensation for furnishing all labor, material, tools, equipment and incidentals, and for doing all work involved in placing planed pavement conforms as specified in these Special Provisions and as directed by the Engineer.

ITEM NO. 3 - PAVEMENT PLANING (1")
ITEM NO. 4 - PAVEMENT PLANING (2.5")
ITEM NO. 5 - PAVEMENT PLANING (3")

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 planning 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 planning, 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 planning 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 lineal foot for pavement planning, 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.

Payment shall be at the unit price bid per square yard and shall include full compensation for furnishing all labor, material, tools, equipment and incidentals, and for doing all work involved in pavement planing as specified in these Special Provisions and as directed by the Engineer.

ITEM NO. 6 - BASE REPAIR

This item shall consist of sawcutting, removing and replacing asphalt concrete, base, and native material in designated areas as shown in the Appendix and as directed by the Engineer.

Base repair shall occur on the following street segment:

- Northgate Boulevard between San Juan Road and Potomac Avenue (5" AC)
- J Street between 13th Street and 16th Street (8" AC)
- Power Inn Road between Fruitridge Road and Lemon Hill Avenue (6" AC)
- Wyndham Drive between Valley Hi Drive and Bruceville Road (6" AC)

For all areas requiring base repair, the contractor shall grind the existing asphalt concrete pavement and underlying base to the depth indicated in the Appendix, these Special Provisions, or as directed by the Engineer and backfill the resultant excavation with Type "A" asphalt concrete as specified in these Special Provisions and as directed by the Engineer. Asphalt concrete and emulsion tack-coat shall conform to these Special Provisions.

Cut lines with the existing pavement that is to remain shall be vertical, straight, and uniform having a clean, sharp edge. Cut lines shall be constructed parallel and/or at right angles to the direction of traffic flow.

The subgrade material remaining in place shall be graded to a plane, brought to optimum moisture content, and the upper 6" compacted to not less than ninety-five percent (95%) relative compaction. Areas of the grading plane that are low as a result of over excavation shall be filled, at the Contractor's expense, with Type "A" asphalt concrete.

Base repair shall conform to Section 22, of the Standard Specifications, Sections 19 and 39 of the State's Standard Specifications, these special provisions and as directed by the Engineer.

1. The nominal compacted thickness is specified in the Special Consideration Section these Special Provisions. The actual base repair thickness shall not vary more than one-quarter inch (1/4") from the nominal thickness specified.

2. Type A, ¾" maximum aggregate, coarse shall be used in base repair as specified in the Special Considerations Section of these Special Provisions. Asphalt binder to be mixed with the aggregate shall be performance graded asphalt binder PG 70-10 and shall conform to Section 92-1.02(B) of the State Standard Specifications. The Contractor shall be responsible for furnishing to the Engineer the design of a job mix formula, which shall be prepared by an approved testing laboratory.

3. Placement of asphaltic concrete shall not occur until the Contractor has received approval of the job-mix formula (including test results) submitted in accordance with the Standard Specifications, and these Special Provisions.

4. 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.

5. Transverse paving joints shall be checked with a ten-foot straight edge. When a ten 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 (¼") 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.

6. 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 lanes.

7. The Contractor shall cooperate with City forces in establishing a rolling pattern that will insure the obtainment of the maximum possible density in the compacted asphaltic concrete surface in accordance with Section 22-8 of the Standard Specifications. Where the specified thickness of AC to be placed exceeds two and a half inches (2.5"), or where directed by the Engineer, compaction shall be achieved in two 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.

8. 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.

9. All travel lanes shall be paved substantially equal at the end of the day.

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

11. Measurement for payment for excavation of base repair areas and placement of asphalt concrete shall be based upon the weight of the asphalt concrete placed.

Payment shall be made at the unit price bid per ton placed and shall include full compensation for furnishing all labor, material, tools, equipment and incidentals, and for doing all work involved in performing base repair as specified in these Special Provisions and as directed by the Engineer.

ITEM NO. 7 - RUBBERIZED ASPHALT CONCRETE OVERLAY TO PLACE

This work includes producing and placing rubberized hot mix asphalt – gap graded (RHMA-G) using Caltrans Standard Process and in accordance with Caltrans Standard Specifications and these Special Provisions.

A. Asphalt Rubber Hot Mix (ARHM) Wet Process

General. Asphalt Rubber Hot Mix shall consist of a mixture of paving asphalt, asphalt modifier, crumb rubber modifier (CRM), and aggregate mixed in a central mixing plant, all conforming to these specifications.

Materials. The Contractor shall submit test reports and Certificates of Compliance for the paving asphalt, asphalt modifier, and CRM to be used. In addition, when requested by the Engineer, the Contractor shall submit samples of the tested material along with the Certificate of Compliance.

Paving Asphalt. The asphalt used for asphalt-rubber shall be PG 64-16 conforming to Section 92-1.02(B) of the State Standard Specifications and shall be modified with an asphalt modifier.

Quality Control: The Contractor shall be responsible for quality control and shall as specified in these Special Provisions and shall submit to the Engineer a quality control plan that will include quality control testing during material production, and during construction operations. **No work will be allowed prior to the approval of the quality control plan by the Engineer.**

Asphalt Modifier. The asphalt modifier will be a resinous, high flash point, aromatic hydrocarbon compound and shall conform to the requirements in Table I.

TABLE I
REQUIREMENTS FOR ASPHALT MODIFIER

Property	ASTM Test Method	Value
Flash Point, C.L.O.C., °C (°F)	D 92	207 (405) min
Viscosity, cSt @ 100°C (212°F)	D 445	X ±3*
Molecular Analysis		
Asphaltness, percent by mass	D2007	0.1 max
Aromatics, percent by mass	D2007	55 min

* The symbol "X" is the viscosity of the asphalt modifier the Contractor proposes to furnish. The value "X" which the Contractor proposes shall be between the limits of 19 and 36 and shall be submitted in writing to the Engineer. Any proposed change requested by the Contractor in the value "X" shall require a new asphalt-rubber binder design.

Crumb Rubber Modifier (CRM). The material shall consist of a combination of scrap tire CRM and high natural CRM meeting the requirements of this subsection. Scrap tire CRM shall consist of ground or granulated rubber derived from any combination of automobile tires, truck tires or tire buffings. The high natural CRM shall consist of ground or granulated rubber derived

from materials that utilize high natural rubber sources. The high natural CRM may consist of blended CRM.

Steel and fiber separation may employ any method. All CRM shall be ground or granulated at ambient temperature. Cryogenic separation, if utilized, shall be performed separately from and prior to grinding or granulating.

CRM shall be ground or granulated at ambient temperature. Cryogenically produced CRM particles which can pass through the grinder or granulator without being ground or granulated shall not be used.

CRM shall not contain more than 0.01% of wire by weight and shall be free of all other contaminants, except fabric. Fabric shall not exceed 0.05% by weight of CRM. A Certificate of Compliance certifying these percentages shall be furnished to the Engineer.

CRM shall be dry and free-flowing and not produce foaming when combined with the blended paving asphalt and asphalt modifier mixture. Calcium carbonate or talc may be added up to a maximum of 3% by weight of CRM to prevent CRM particles from sticking together. The CRM shall have a specific gravity range from 1.1 minimum to 1.2 maximum as determined by ASTM D 297. Scrap tire CRM and high natural CRM shall be delivered to the production site in separate bags and shall be sampled and tested separately. Scrap tire CRM material shall conform to the following chemical analysis in Table II.

TABLE II
CHEMICAL REQUIREMENTS FOR SCRAP TIRE CRM

Test	ASTM Test Method	Minimum	Maximum
Acetone **Extract**	D 297	6.0%	16.0%
Ash Content	D 297	---	8.0%
Carbon Black Content	D 297	28.0%	38.0%
Rubber Hydrocarbon	D 297	42.0%	65.0%
Natural Rubber Content	D 297	22.0%	39.0%

The scrap tire CRM described above shall be mixed at the job site with high natural CRM so that 75% ±2% of the product used is derived from scrap tires and 25% ±2% from materials that utilize high natural rubber sources. The high natural rubber CRM may consist of blended CRM which, after blending, conforms to the following chemical analysis in Table III.

TABLE III
CHEMICAL REQUIREMENTS FOR HIGH NATURAL CRM

Test	ASTM Test Method	Minimum	Maximum
Acetone **Extract**	D 297	4.0%	16.0%
Rubber Hydrocarbons	D 297	50.0%	---
Natural Rubber Content	D 297	40.0%	48.0%

CRM Gradations. CRM gradations shall conform to the requirements of Table IV when tested in accordance with the requirements of ASTM C136, amended as follows:

Split or quarter 100 grams ±5 grams from the representative CRM sample and dry to a constant weight at a temperature of not less than 135°F (57°C) nor more than 145°F (63°C) and record the dry sample weight. Place the CRM sample and 5.0 grams of talc (or calcium carbonate) in a one (1) pint jar. Seal the jar and shake it by hand for a minimum of one minute to mix the CRM and the talc (or calcium carbonate). Continue shaking or open the jar and stir until particle agglomerates and clumps are broken and the talc (or calcium carbonate) is uniformly mixed.

A Rotap (or equivalent) test shaker shall be used for the sieve analysis. Place one rubber ball on each sieve. Each ball shall have a weight of 8.5 ±0.5 grams, have a diameter of 24.5 ±0.5 mm, and shall have a Shore Durometer "A" hardness of 50 ±5 in accordance with the requirements in ASTM D2240. After sieving the combined material for 10 minutes ±1 minute, disassemble the sieves. Any material adhering to the bottom of a sieve shall be brushed into the next finer sieve. Weigh and record the weight of the material retained on the 2.36mm (No 8) sieve and leave this material (do not discard) on the scale or balance. Any observed fabric balls shall remain on the scale or balance and shall be placed together on the side of the scale or balance to prevent the fabric balls from being covered or disturbed when placing the material from finer sieves onto the scale or balance. The material retained on the next finer sieve (2.00mm (No 10) sieve) shall be added to the scale or balance. Weigh and record that weight as the accumulative weight retained on that sieve (2.00mm (No. 10) sieve). Continue weighting and recording the accumulated weight retained on the remaining sieves until the accumulated weight retained in the pan has been determined. Prior to discarding the CRM sample, separately weight and record the total weight of fabric balls in the sample.

Determine the weight of material passing the 75mμ (No. 200) sieve (or weight retained in the pan) by subtracting the accumulated weight retained on the 75mμ (No. 200) sieve from the accumulated weight retained in the pan. If the material passing the 75mμ (No. 200) sieve (or weight retained in the pan) has a weight of 5 grams or less, cross out the recorded number for the accumulated weight retained in the pan and copy the number recorded for the accumulated weight retained on the 75mμ (No. 200) sieve and record that number (next to the crossed out number) as the accumulated weight retained in the pan. If the material passing the 75mμ (No. 200) sieve (or weight retained in the pan) has a weight greater than 5 grams, cross out the recorded number for the accumulated weight retained in the pan, subtract 5 grams from that number and record the difference next to the crossed out number. The adjustment to the accumulated weight retained in the pan is made to account for the 5 grams of talc (or calcium

carbonate) added to the sample. For calculation purposes, the adjusted total sample weight is the same as the adjusted accumulated weight retained in the pan. Determine the percent passing based on the adjusted total sample weight and record to the nearest 0.1%.

TABLE IV*
GRADING REQUIREMENTS FOR CRM

Sieve Size	Scrap Tire CRM Percent Passing	High Natural CRM Percent Passing
2.36 mm (No. 8)	100	100
2.00 mm (No. 10)	98 – 100	100
1.18 mm (No. 16)	45 – 75	95 – 100
600 µm (No. 30)	2 – 20	35 – 85
300 µm (No. 50)	0 – 6	10 – 30
150 µm (No. 100)	0 – 2	0 – 4
75 µm (No. 200)	--	0 – 1

* CRM from more than one source may be used provided the combined CRM gradation meets the specified limits. No particles shall exceed a length of 5 mm (3/16 in) as measured on any axis.

Aggregate. The aggregate for ARHM shall meet the quality requirements specified in the State Standard Specifications. All aggregate passing the No. 200 sieve used for asphalt concrete shall be mechanically crushed material and no natural sand shall be allowed.

Composition and Grading. Asphalt-rubber hot-mix-gap-graded (ARHM-GG) and shall conform to the requirements of this Section and Table V.

TABLE V
REQUIREMENTS FOR ARHM-GG

Sieve Size	**ARHM-GG Target Value Limits**	**Allowable Tolerance**
25 mm (1")	100	---
19.0 mm (3/4")	100	---
12.5 mm (1/2")	90 –100	TV ±6
9.5 mm (3/8")	83 – 87	TV ±6
4.5 mm (No. 4)	28 – 42	TV ±7
2.36 mm (No.8)	14 – 22	TV ±5
75 µm (No. 200)	0 – 6	TV ±2
% Asphalt Rubber Binder by Weight of Dry Aggregate*	7.5 – 8.4	7.5 – 8.7
Air Voids % Calif. Test 367	3 – 6	3 – 6
Stabilometer Value Min. Calif. Test 304 and 366	25	23
Voids in Mineral Agg. Percent Min.	18	18

Mixing. Mixing of the asphalt and CRM shall be accomplished as specified herein.
The paving asphalt and asphalt modifier shall be combined into a blended mixture that is chemically compatible with the crumb rubber modifier to be used. The blended mixture is considered to be chemically compatible when it meets the requirements for asphalt rubber binder (after reacting) found in Table VI.

The asphalt modifier shall be proportionately added to the paving asphalt at the production site where the asphalt rubber binder is blended and reacted. Asphalt modifier shall be added at an amount of 2.5% to 6.0% by weight of the paving asphalt based on the recommendation of the asphalt rubber binder supplier. The paving asphalt shall be at a temperature of not less than 350°F (177°C) nor more than 425°F (218°C) when the asphalt modifier is added. If the asphalt modifier is combined with the paving asphalt before being blended with the CRM, the combined paving asphalt and asphalt modifier shall be mixed by circulation for a period of not less than 20 minutes. This premixing of asphalt modifier and the paving asphalt will not be required when all ingredients of the asphalt rubber binder are proportioned and mixed simultaneously. The proportions of the materials, by total weight of asphalt-rubber binder, shall be 80% ±2% combined paving asphalt and asphalt modifier, and 20% ±2%CRM. However, the minimum amount of CRM shall not be less that 18%. The temperature of the blended asphalt and modifier shall be between 350°F (177°C) minimum and 425°F (218°C) maximum when the CRM is added. The temperature shall not exceed 10°F (6°C) below the actual flash point of the mixture. The required mixing/ reaction time shall be 45 minutes minimum. The temperature of the asphalt-rubber mixture shall be between 350°F (177°C) minimum to 425°F (218°C) maximum during the reaction period. After reacting, the asphalt rubber binder shall conform to the requirements in Table VI.

TABLE VI
REQUIREMENTS FOR ASPHALT RUBBER BINDER

Test Parameter	Test Method	Specification Limit	
		Minimum	Maximum
Haake Field Viscosity @ 190°C(375°F), (Centipoise)	See "Greenbook" 203-11.4.1	1500	4000
Cone Penetration @ 25°C (77°F), 0.1 mm	ASTM D 217	25	70
Resilient @ 25°C (77°F), % Rebound	ASTM D 3407	18	---
Field Softening Point, °C (°F)	ASTM D 36	52 (125)	74 (165)

The reacted asphalt rubber binder shall be maintained at a temperature of not less than 350°F (177°C) nor more than 425°F (218°C). If any of the material in a batch of asphalt rubber binder is not used within 4 hours after the 45-minute reaction period, heating of the material shall be discontinued. Any time the asphalt rubber binder cools below 177°C (350°F), and is then reheated shall be considered a reheat cycle. The total number of reheat cycles shall not exceed 2.

The material shall be uniformly reheated to a temperature of not less than 177°C (350°F) nor more than 218°C (425°F) prior to use. Additional scrap tire CRM meeting the requirements of these special provisions may be added to the reheated binder and reacted for a minimum of 45 minutes. The cumulative amount of additional scrap tire CRM shall not exceed 10 percent of the total binder weight. Reheated asphalt rubber binder shall conform to the requirements in Table VI.

When permitted by the Engineer, asphalt-rubber binder produced on another agency's project and defined here as "hold over material", may be used on the project if the initial agency certifies the following:

1. The total tons and type of material being held over.
2. The amount of CRM contained within the holdover load on a percentage basis.
3. The grade of paving asphalt and asphalt modifier used and its source.
4. Date of original mixing.
5. Number of reheat cycles.

In no case, will more than 20 tons of holdover material be allowed to be transferred from one project to another. In all cases, the holdover material when blended with new asphalt-rubber binder, shall conform to the requirements in Table VI.

Hand Held Viscometer Test. The Hand Held Viscometer Test shall be conducted as follows:

Precautions
This test method may involve hazardous materials, operations and equipment. This test method does not purport to address all the safety issues associated with its use. It is the responsibility of the user of this test method to establish appropriate safety and health practices and determine the applicability of regulatory limitations prior to use.

Apparatus
1) Viscometer: Haake Model VT-02 rotational viscometer or equivalent.
2) Spindle: Rotor No. 1, diameter 24 mm +/-0.1 mm, height 53 mm +/-0.1 mm or equivalent.
3) Thermometer: Digital with metal-jacketed probe, 1°F (1°C) precision.
4) Sample Container: 1 gallon metal can with sire bale.
5) Standard Fluids: Per fluid manufacturer recommendations calibrate viscometer in absolute viscosity (centipoise).

Calibration
The viscometer shall be calibrated per manufacturer recommendations. The accuracy of the viscometer shall be verified by comparing the viscosity results obtained with the hand held viscometer to 3 separate calibration fluids of known viscosity ranging from 1000 to 5000 centipoise. The viscometer will be considered accurate if the values obtained are within 300 centipoise of the known viscosity. The known viscosity value shall be based on the fluid manufacturer standard test temperature or the test temperature versus viscosity correlation table provided by the fluid manufacturer. The viscometer calibration may be performed at an offsite

laboratory and Certificate of Compliance verifying the calibration shall be provided to the Engineer.

Test Procedure

1. Obtain a representative sample of asphalt rubber binder from an appropriate sample valve during production. Prior to sampling, run a one-gallon sample of binder through the sampling valve and discard the sample. Place a clean one-gallon sample can under the sampling valve and fill the container to approximately 85% full.
2. Transport the sample immediately to the testing location. The testing location should be reasonably close to the sampling location to avoid undue temperature loss. The temperature of the binder prior to sampling should be a minimum of 350°F (177°C). The sample container shall then be placed on a smooth, level support for testing.
3. The binder shall be continuously stirred using an appropriate metal stirring rod. Use of the temperature probe is permitted. Insert the temperature probe into the binder and check the temperature. Stirring shall continue until the binder reaches a temperature of 350°F +/-5°F (177°C +/-3°C).
4. The viscometer spindle shall be cleaned in a suitable solvent and free of any binder material prior to test. While holding the viscometer over the sample container insert the spindle of the viscometer into the sample container near the side of the container and turn the viscometer on. While the spindle is rotating, move the spindle in and out of the binder three times to bring the spindle up to the temperature of the binder. Continue stirring the binder.
5. Determine the viscosity of the binder at 350°F +/-5°F (177°C +/-3°C) as follows. In one continuous operation, remove the spindle from the binder (after heating), discontinue stirring the binder and immediately insert the spindle back into the center of the binder sample. While holding the viscometer level watch the needle on the viscometer dial and record the maximum value obtained on the dial. Record the test temperature and the maximum viscosity. Subtract 100 centipoise from the maximum value recorded and report this as the viscosity of the asphalt rubber binder. (The viscometer shall be maintained and operated in accordance with the instructions from the manufacturer. However, this test method shall apply if there are any differences in the instructions for determination of the viscosity.)
6. Report the following information for the viscosity test; technician performing viscometer test, date and location of plant, asphalt rubber binder supplier, binder test temperature and viscosity, spindle size and rotating speed in revolutions per minute, viscometer model and serial number.

Equipment for production of Asphalt-Rubber. The Contractor shall utilize the following equipment for production of asphalt-rubber binder:

1. **Asphalt Heating Tank.** An asphalt heating tank equipped to heat and maintain the blended paving asphalt and asphalt modifier mixture at the necessary temperature before blending with the CRM. This unit shall be equipped with a thermostatic heat control device and a temperature reading device and shall be accurate to within ±5°F (±3°C) and shall be of the recording type.

2. **Blender Equipment.** A mechanical mixer for the complete, homogeneous blending of paving asphalt, asphalt modifier, and CRM. Paving asphalt and asphalt modifier shall be

introduced into the mixer through meters. The blending system shall be capable of varying the rate of delivery of paving asphalt and asphalt modifier proportionate with the delivery of CRM. During the proportioning and blending of the liquid ingredients, the temperature of paving asphalt and the asphalt modifier shall not vary more than ±25°F (±14°C). The paving asphalt feed, the asphalt modifier feed and CRM feed, shall be equipped with devices by which the rate of feed can be determined during the proportioning operation. Meters used for proportioning individual ingredients shall be equipped with rate-of-flow indicators to show the rates of delivery and resettable totalizers so that the total amounts of liquid ingredients introduced into the mixture can be determined. The liquid and dry ingredients shall be fed directly into the mixer at a uniform and controlled rate. The rate of feed to the mixer shall not exceed that which will permit complete mixing of the materials. Dead areas in the mixer, in which the material does not move or is not sufficiently agitated, shall be corrected by a reduction in the volume of material or by other adjustments. Mixing shall continue until a homogeneous mixture of uniformly distributed and properly blended asphalt-rubber binder of unchanging appearance and consistency is produced. The Contractor shall provide a safe sampling device capable of delivering a representative sample of the completed asphalt-rubber binder of sufficient size to permit the required tests.

3. **Storage/Reaction Tank.** An asphalt-rubber binder storage/reaction tank equipped with a heating system that is equipped with a temperature reading device to maintain the proper temperature of the asphalt-rubber binder and an internal mixing unit capable of maintaining a homogeneous mixture of paving asphalt, asphalt modifier and CRM.

4. **Viscometers.** The Contractor shall supply a Haake Viscometer for use by the Engineer to verify the viscosity of the asphalt-rubber on all projects where a field laboratory is used. All asphalt concrete plants are required to have a field laboratory for use by the Engineer per 8-3.

The equipment shall be approved by the Engineer prior to use.

Mix Designs and Certifications. The optimum binder content for ARHM-GG mixes shall be determined by California Test Method 367 except that Step 2 regarding surface flushing shall not be used. Optimum binder content shall be determined by using a void content between 3% minimum to 6% maximum as approved by the Engineer. Compaction shall be in accordance with California Test Method 304 except for the following:

Mixing Temperatures:

Asphalt-rubber =	325°F - 360°F (163°C - 182°C)
Aggregate =	290°F - 325°F (143°C - 163°C)
Compaction Temperature =	290°F - 300°F (143°C - 149°C)

The Contractor shall furnish to the Engineer a mix design and samples of all materials to be used at least 10 working days before construction is scheduled to begin. The mix design and certifications shall include, but are not limited to, the following:

1) Combined aggregate gradation.
2) Individual bin gradations (hot for batch, cold for drum plant).
3) Percentage of each bin.
4) Asphalt rubber binder content.
5) Density.
6) Air Voids.
7) Voids in Mineral Aggregates (VMA).
8) Stability.
9) Aggregate source.
10) Asphalt binder source.

Miscellaneous Requirements The temperature of the asphalt-rubber binder shall be 375°F (191°C) minimum to 218°C (425°F) maximum for asphalt-rubber when added to the aggregate. The temperature of the aggregate at the time of adding the asphalt-rubber binder shall be 300°F (149°C) minimum to 330°F (166°C) maximum.

Rock Dust Blotter. At the option of the Engineer, when traffic conditions warrant, a rock dust blotter may be required to avoid tracking. Rock dust blotter shall conform to "Greenbook" 200-1.2 and be uniformly applied using a mechanical spreader at a rate of 2 lbs./yd^2 (1.1 kg/m^2) minimum to 4 lbs./yd^2 (2.2 kg/m^2) maximum. When the ARHM-GG pavement has cooled to below 150°F (66°C), the rock dust blotter may not be required. Rock dust blotter placement and sweeping shall be included in the price bid for other items of work and no additional compensation will be allowed therefore.

All manholes, utility, and survey monument covers encountered in the area to be overlaid with asphalt concrete shall be carefully referenced out prior to the overlay by the Contractor. All exposed survey monuments shall be referenced out prior to the overlay, covered by an appropriate method approved by the Engineer, and uncovered after the overlay without disturbing or damaging the survey monument.

B. Rubberized Asphalt Concrete Placement

General
This work shall be performed in agreement with the Asphalt Rubber Hot Mix – Gap Graded (AHRM-GG), of the State Standard Specifications and these Special Provisions.

Scope includes production, delivery, placement, labor, and incidentals required to place Asphalt Rubberized Hot Mix – Gap Graded. Materials shall conform to the following:

Paving gradation shall be: ARHM-GG 1/2" Maximum

Binder for ARHM-GG shall be, at the Contractor's option, Type 1 or Type 2 asphalt-rubber binder as specified in these Special Provisions.

The asphalt used in asphalt-rubber binder shall be paving grade PG 64 -16.

The amount of asphalt used in asphalt-rubber binder to be added to the aggregate shall be between 7.3% and 8.7% by dry weight of the aggregate. The amount used will be determined by the Engineer. The temperature of the aggregate at the time the asphalt-rubber binder is added shall be not more than 350°F.

Rubber for use in asphalt-rubber binder shall be free of loose fabric, wire and other contaminants except that up to 4% (by weight of rubber) calcium carbonate or talc may be added to prevent rubber particles from sticking together. The rubber shall be sufficiently dry so as to be free flowing and not produce foaming when blended with the hot asphalt. The Contractor shall furnish a "Certificate of Compliance" as outlined in Section 6-1.07, "Certificates of Compliance," of the State Specifications.

A sample of the asphalt-rubber binder proposed for use on the project, consisting of four one-quarter cans, together with the proposed formulation of the binder shall be furnished to the Engineer at least two weeks before ARHM-GG pavement construction is scheduled to begin. These samples will be held at the City for comparison to material in the field, if necessary.

The method and equipment for combining the rubber and asphalt shall be so designed and accessible that the Engineer can readily determine the percentage by weight for each material being incorporated into the mixture.

Equipment utilized in the production and proportioning of the asphalt-rubber binder shall include the following:

1. An asphalt heating tank with hot oil heat transfer to heat the asphalt to the necessary temperature before blending with the granulated rubber. This unit shall be equipped with a thermostatic heat control device.

2. A mechanical blender for proper proportioning and thorough mixing of the asphalt and rubber. This unit shall have both an asphalt totalizing meter (gallons or liters) and a flow rate meter (gallons per minute or liters per minute).
3. An asphalt-rubber supply system equipped with a pump and metering device capable of adding the binder by volume to the aggregate at the percentage specified.

The swell, moisture vapor susceptibility, and the stabilometer value requirement in Section 39-2.02, "Aggregate," of the State Specifications shall not apply to ARHM-GG.

The asphalt-rubber mixture shall not be used as a binder after it has been retained for more than 48 hours.

<u>Type 1 Asphalt-Rubber Binder</u>:
Type 1 asphalt-rubber binder shall be a uniform reacted mixture of compatible paving grade asphalt and reclaimed vulcanized rubber. The reclaimed vulcanized rubber shall be produced primarily from the processing of automobile and truck tires. The rubber shall be produced by ambient temperature grinding process only. The specific gravity of the rubber shall be between

1.10 and 1.20 and shall conform to the following gradation when tested in accordance with ASTI C 136:

Sieve Size	Percentage Passing
No. 10	100

The length of the individual rubber particles shall not exceed 3/16 inch.

The asphalt-rubber mixture shall contain between 14% and 20% rubber by weight of the total asphalt-rubber mixture.

The temperature of the asphalt shall be between 350°F and 425°F at the time the rubber is blended with the asphalt. The asphalt and rubber shall be combined and mixed together in a blender unit, pumped into the agitated storage tank, and then reacted for a minimum of 45 minutes from the time the rubber is added to the asphalt. The temperature of the asphalt-rubber mixture shall be maintained between 325°F and 375°F during the reaction period and shall possess the following physical property after the reaction period:

Viscosity, 350°F (ASTI D 2196) 1500 cp minimum
(Brookfield)

After the material has reacted for at least 30 minutes, the asphalt-rubber shall be metered into the mixing chamber of the asphalt concrete production plant at the percentage specified or designated by the Engineer.

After reaching the desired consistency the asphalt-rubber mixture shall not be held at temperatures over 325°F for more than 4 hours.
The Contractor shall provide to the Engineer confirmation of viscosity test results from the asphalt-rubber tank. The test shall be, in the opinion of the Engineer, sufficient to verify that the viscosity of the entire tank is homogenous during the asphalt concrete production.

Type 2 Asphalt-Rubber Binder:
Type 2 asphalt-rubber binder shall be a uniform reacted mixture of compatible paving grade asphalt, extender oil, and granulated reclaimed vulcanized rubber. Extender oil shall be resinous, high flash point aromatic hydrocarbon conforming to the following:

Viscosity, SUS @ 100°F (ASTM D 88)	2500. min
Flash Point, COC, °F (ASTM D 92)	390. min
Molecular Analysis (ASTM D 2007)	
Asphaltness, % by weight	0.1 max
Aromatics, % by weight	55.0 min

The asphalt and extender oil, when combined shall form a material that is chemically compatible with the rubber.

The rubber used in Type 2 asphalt-rubber binder shall be reclaimed vulcanized rubber and shall contain between 20% and 30% by weight, natural rubber when tested in accordance with ASTM D 297. The rubber shall conform to the following grading when tested in accordance with ASTM C 136:

Sieve Size	Percentage Passing
No. 8	100

The rubber shall contain no particles longer than ¼ inch in length.

The extender oil shall be added to the asphalt at a rate between 2% and 6% by weight of the asphalt, the exact amount shall be determined by the asphalt-rubber supplier. The asphalt shall be at a temperature of not less than 350°F nor more than 425°F when the extender oil is added.

The asphalt-extender oil blend and rubber shall be combined and mixed together in the blender unit to produce a homogeneous mixture.

The amount of rubber to be added to the asphalt-extender oil blend shall be between 17% and 23% by weight of the total combined mixture of asphalt, extender oil, and rubber. The exact amount shall be determined by the asphalt-rubber supplier. The asphalt-extender oil blend shall be at a temperature of not less than 350°F nor more than 425°F when the rubber is added. After the material has reacted for at least 30 minutes, the asphalt-rubber shall be metered into the mixing chamber of the asphalt concrete production plant at the percentage specified or ordered.

The asphalt-rubber mixture shall be reacted for a minimum of 30 minutes from the time the rubber is added to the asphalt-extender oil blend. The temperature of the asphalt-rubber mixture shall be maintained between 355°F and 425°F during the reaction period.
The asphalt-rubber mixture shall possess the following physical property after the reaction period:

Viscosity at 400°F (ASTM D 2196) (Brookfield)	600 to 2,000 cp

The asphalt-rubber mixture after reaching the desired consistency shall not be held at temperatures over 375°F for more than 4 hours.

The Contractor shall provide to the Engineer confirmation of viscosity test results from the asphalt-rubber tank. The tests shall be, in the opinion of the Engineer, sufficient to verify that the viscosity of the entire tank is homogenous during the asphalt concrete production.

Materials Delivery:
The Contractor shall transport ARHM-GG materials to the project sites indicated in these Special Provisions.

A. All trucks hauling ARHM-GG shall have tarps available and the loads shall be covered from the plant to the paving machine unless the ambient temperature exceed 75°F, or the haul distance is less than 10 miles.

B. Temperatures of materials supplied shall not be less than 300°F nor more than 325°F.

C. Materials not placed within 120 minutes of load-time shall be rejected at the site. The Contractor shall be responsible to bear the costs for all compliant materials delivered to the site, yet not placed.

D. Any delays in delivery of compliant materials to the project site that result in loss of temperature to below the minimum requirement is the responsibility of the Contractor. Any costs resulting from delays or cancellations of the ARHM-GG production at the Producer's plant caused by the Contractor's forces or equipment will be borne solely by the Contractor. The Contractor shall be responsible for any costs associated with delays caused by inclement weather that delays paving operations.

ARHM-GG Placement:

The nominal compacted thickness is specified on the Special Construction Considerations Section of these Special Provisions. ARHM-GG shall comply with the State Specifications and these Special Provisions. The actual overlay thickness shall not vary more than one-hundredth of a foot (0.01') from the nominal thickness specified, including quarter crowns, covering the existing surfacing. At gutter lips the finished grade shall be slightly higher than the top of the lip but shall not exceed a maximum height of ½" above the lip.

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.**

The Contractor shall fill and level all surface irregularities and ruts with asphalt concrete to insure compliance with specified tolerances prior to paving.

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.

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 kecutting shall be performed by a method approved by the Engineer.**

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 PG 64-16 paving asphalt as a tack coat.

When ARHM-GG is placed in contact with existing asphalt concrete, the surface shall be completely dry of water, clean of dirt and debris, and a tack coat of asphaltic emulsion shall be applied to insure proper bond. The asphalt emulsion binder (tack coat) shall be furnished and applied in accordance with "Asphaltic Emulsion Binder (Tack Coat)" of these Special Provisions.

The ARHM-GG shall be delivered to the site in a thoroughly blended condition and shall be spread by a self-propelled asphalt paving machine in such a manner as to avoid segregation and pockets of coarse or fine material during the placing operations. Areas inaccessible to spreading and compaction equipment may be paved by such methods as may be approved by the Engineer. Initial rolling shall be performed immediately after placement.

No rubberized asphalt concrete is to be placed when the atmospheric temperature is below 55°F. When the atmospheric and pavement surface temperature is 64°F or higher, the following shall apply:

A. The temperature of the aggregate shall not be greater that 325°F at the time the asphalt-rubber binder is added to the aggregate.
B. ARHM-GG shall be spread at a temperature of not less than 280°F or more than 325°F, measured in the mat directly behind the paving machine.
C. The first coverage of initial or breakdown compaction shall be performed when the temperature of the ARHM-GG is not less than 280°F. Breakdown compaction shall be completed before the temperature of the rubberized asphalt concrete drops below 250°F.

When the atmospheric or pavement surface temperature is below 64°F, the following shall apply:

A. The temperature of the aggregate shall not be less than 300°F nor more 325°F at the time the asphalt-rubber binder is added to the aggregate.
B. The Contractor shall cover the loads of ARHM-GG with tarpaulins. The tarpaulins shall completely cover the exposed rubberized asphalt concrete until the ARHM-GG has been completely transferred into the asphalt concrete paver hopper or deposited on the roadbed.
C. ARHM-GG shall be spread at a temperature of not less than 289°F nor more than 325°F, measured in the mat directly behind the paving machine.
D. The first coverage of initial or breakdown compaction shall be performed when the temperature of the ARHM-GG is not less than 280°F. Breakdown and intermediate compaction shall be completed before the temperature of the ARHM-GG drops below 250°F.

Asphalt pavers shall be self-propelled mechanical spreading and finishing equipment, provided with a screed or strike-off assembly capable of distributing the material to not less than twelve (12) feet. Screed action shall include any cutting, crowding or other practical action which is effective on the mixture without tearing, shoving or gouging, and which produces a surface texture of uniform appearance. The screed shall be adjustable to the required section and thickness. The paver shall be provided with a full width roller or tamper or other suitable compacting devices. Pavers that leave ridges, indentations or other marks in the surface shall not be used unless the ridges, indentations or other marks are eliminated by rolling or prevented by adjustment in operation.
In addition to the requirements in Section 39-5.01, "Spreading Equipment," of the State Specifications or elsewhere in these special provisions, asphalt paving equipment shall be equipped with automatic screed controls and a sensing device or devices. When placing the initial mat of rubberized asphalt concrete on existing pavement or prepared aggregate base, the end of the screed nearest the centerline shall be controlled by a sensor activated by a ski device not less than thirty feet (30') long. The end of the screed farthest from centerline shall be controlled by a sensor that responds to the grade of the existing surface and will reproduce final grade in the new mat within a 0.01 foot tolerance. The end of the screed farthest from the previously placed mat shall be controlled in the same manner as when placing the initial mat.

Should the automatic screed controls fail to operate properly and all remedial attempts to correct the equipment by the Contractor have been applied during any day's work, the Contractor may use manual control of spreading equipment for the remainder of the day. However, the equipment shall be corrected or replaced with alternative automatically controlled equipment conforming to the requirements in this section before starting another day's work.

Should the methods and equipment furnished by the Contractor fail to produce a layer of rubberized asphalt concrete conforming to the requirements, including straightedge tolerance as noted in "Tolerances" of this section, the paving operations shall be discontinued and the Contractor shall modify the equipment or methods, or furnish substitute equipment.

ARHM-GG surfacing shall be placed in lifts no greater than three (3) inches in thickness (compacted). Total thickness of surfacing shall be as indicated on the plans. Final lift shall be no greater than two (2) inches in thickness (compacted)

Longitudinal pavement joints shall be on, or as close as possible to, the lane lines. A drop-off of more than 0.15-foot will not be allowed at any time between adjacent lanes open to public traffic.

The contractor shall schedule his paving operations such that each layer of asphalt concrete is placed on all contiguous lanes of a traveled way each work shift. At the end of each work shift, the distance between the ends of the layers of asphalt concrete on adjacent lanes shall not be greater than 10 feet nor less than 5 feet. Additional rubberized asphalt concrete shall be placed along the transverse edge at the end of each lane and along the exposed longitudinal edges between adjacent lanes, hand raked, and compacted to form temporary conforms. Kraft paper, or other approved bond breaker, may be placed under the conform tapers to facilitate the removal of the taper when paving operations resume.

Where the existing pavement is to be widened by constructing a new structural section adjacent to the existing pavement, the new structural section, on both sides of the existing pavement, shall be completed to match the elevation of the edge of the existing pavement at each location prior to spreading and compacting rubberized asphalt concrete over the adjacent existing pavement.

Rubberized asphalt concrete surfacing shall be placed on all existing surfacing, including curve widening, turnouts, left turn pockets and public and private road connections shown on the plans, unless otherwise directed by the Engineer. Shoulders or median borders adjacent to a lane being paved shall be surfaced prior to opening the lane to traffic.

Connections to existing surfacing shall match edge grinding or be feathered to conform to the requirements for smoothness. Private driveways are to have a minimum two (2') foot paveouts and are to be placed during mainline paving with the mainline paver screed extended. Shoulders or median borders adjacent to a lane being paved shall be surfaced prior to opening the lane to traffic. Shoulder conform tapers, as shown on the plans, shall be placed concurrently with the paving of the adjacent lane. Longitudinal joints shall be trimmed to a vertical face and to a neat line if the edges of the previously laid surfacing are, in the opinion of the Engineer, in such condition that the quality of the completed joint will be affected.

Additional rubberized asphalt concrete surfacing material shall be placed along the edge of the surfacing at private drives, hand raked, if necessary, and compacted to form smooth tapered conforms. Full compensation for furnishing all labor and tools and doing all the work necessary to hand rake said conforms shall be considered as included in the contract prices paid for the various contract items of rubberized asphalt concrete surfacing involved and no additional compensation will be allowed therefore.

Paving operations shall be discontinued, at the Engineer's discretion, during periods of precipitation. Rubberized asphalt concrete delivered to the site and not placed due to weather conditions shall become the property of the Contractor, and no payment shall be allowed therefore.

Compaction:

The Contractor shall furnish a sufficient number of rollers to obtain the specified compaction and surface finish required by these specifications. One roller each shall be provided for breakdown, intermediate, and finish rolling. The Contractor shall size the rollers to achieve the required results. Pneumatic tired rollers shall not be used.

All rollers shall be equipped with pads and water systems which prevent sticking of rubberized asphalt concrete mixtures to the steel drum wheels. A parting agent which will not damage the rubberized asphalt concrete mixture, as approved by the Engineer, may be used to aid in preventing the sticking of the rubberized asphalt concrete mixture to the drums.

Vibratory rollers shall be double steel drum, having adjustable frequency and amplitude settings directly available to the operator during operation. The roller shall be equipped with self-reversing eccentrics. The vibratory mode shall automatically shut off when machine comes to a stop or direction is changed. Rolling shall be performed in such a manner that cracking, shoving

or displacement will be avoided. Equipment which, does not perform satisfactorily in the opinion of the Engineer, shall be disallowed and removed from the site of the work.

The completed surfacing shall be thoroughly compacted, smooth, and free from ruts, humps, depressions, or irregularities. Any ridges, indentations or other objectionable marks left in the surface of the rubberized asphalt concrete by blading or other equipment shall be eliminated by rolling or other suitable means. The use of any equipment that leaves ridges, indentations, or other objectionable marks in the rubberized asphalt concrete shall be discontinued, and acceptable equipment shall be furnished by the Contractor.

At locations where the rubberized asphalt concrete is to be placed over areas inaccessible to spreading and rolling equipment, the rubberized asphalt concrete shall be spread by any means practicable so as to obtain the specified results and shall be compacted thoroughly to the required lines, grades and cross sections by means of pneumatic tampers, or by other methods that will produce the same degree of compaction as pneumatic tampers.

The Contractor will monitor density during the compaction process with nuclear density gauges calibrated to core density test data. Rubberized asphalt concrete shall be compacted to a maximum theoretical specific gravity (rice density) of not less than 92.0% and shall be finished to the lines, grades, and cross sections shown on the plans. In-place density of rubberized asphalt concrete will be determined prior to opening the pavement to public traffic. Test locations will be established for rubberized asphalt concrete areas to be tested as specified in California Test 375 or ASTM D-2950.

Additional testing may be provided by the City to assist the Contractor in achieving contract compliance, and will in no way relieve the Contractor of his primary responsibility for quality control.

The Contractor shall demonstrate that the compaction equipment can compact the rubberized asphalt concrete to the required density by compacting a 300 foot long or greater demonstration strip. The density of the demonstration strip shall be the average of a minimum of three (3) tests after rolling is complete. No single test result shall be below 91.0% of maximum theoretical specific gravity per ASTM D-2041.

If the Contractor is unsuccessful in achieving the compaction of the demonstration strip, a second strip shall be constructed and compacted. If the second demonstration strip is unsuccessfully compacted, placement of rubberized asphalt concrete shall be suspended until adequate compaction equipment, other than that unsuccessfully used, is placed into operation. No equipment shall be allowed which is unable to successfully compact a demonstration strip.

Any area, which has an interim compaction result less than 92.0% of maximum theoretical specific gravity, shall be reworked while the mat is above 220°F until the area is compacted to a density of 92.0%.

Traffic shall not be allowed on the ARHM-GG at least one hour after final rolling operations have been completed.

Where applicable and if directed by the Engineer, sand shall been applied to the newly overlayed surface. No water shall be applied. Sand shall be spread on the surface of ARHM-GG at a rate of 1 to 2 pounds per square yard. The exact rate will be determined by the Engineer. When ordered by the Engineer excess sand shall be removed from the pavement surface by sweeping. Sand shall be free from clay or organic material. Sand shall conform to the fine aggregate grading provisions in Section 90-3.03, "Fine Aggregate Grading," of the State Specifications.

Tolerances:
The overlay surface, when completed, shall be smooth, dense, well-bonded and of uniform texture and appearance. When a straightedge 12 feet long is laid on the finished surface and parallel with the centerline, the surface shall not vary more than 0.01 feet 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 feet are present when tested with a straightedge 12 feet long laid in a direction transverse to the center line and extending from edge to edge of a 12 foot traffic lane.

Equipment which does not perform satisfactorily in the opinion of the Engineer shall be removed from the site of the work.

Pavement within 50 feet of a structure or approach slab shall conform to the smoothness tolerances specified in Section 51.1.17, "Finishing Bridge Decks", of the State Specifications.

If the finished surface of the rubberized asphalt concrete does not meet the specified surface tolerances, it shall be brought within tolerance by either (1) abrasive grinding with slurry seal of the entire roadway width on the areas which have been ground (limits to be determined by the Engineer), (2) removal and replacement, or (3) placing an overlay of asphalt concrete. The method will be selected by the Engineer after meeting with the Contractor. The corrective work shall be at the Contractor's expense.
If abrasive grinding is used to bring the finished surface to specified surface tolerances, additional grinding shall be performed, as necessary, to extend the area ground in each lateral direction so that the lateral limits of grinding are at a constant offset from, and parallel to, the nearest lane line or pavement edge, and in each longitudinal direction so that the grinding begins and ends at lines normal to the pavement centerline, within any ground area.

All ground areas shall be neat rectangular areas of uniform surface appearance. Abrasive grinding shall conform to the requirements in the first paragraph and the last 4 paragraphs in Section 42-2.02, "Construction", of the State Specifications, except that the grinding residue shall be legally disposed of outside the County's right of way.

Acceptance Testing:

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.

It has been recognized that improper compaction (or void content) is the most significant factor affecting mix performance. An increase in void content leads to a decrease in modules, fatigue life, and resistance to permanent deformation. These reduced factors equate to a great reduction in pavement life. A decrease in void content beyond an optimum range leads to flushing and reduced skid resistance. As such, all finished asphalt concrete pavements which do not conform to the specified relative compaction requirements will be paid for using the following pay factors:

In-Place Relative Compaction		Pay Factor
97.1 or higher	(Over-asphalted mix)	90% Pay factor
92 - 97.0%	(Ideal)	100% Pay factor
89 - 91.9%	(Marginal air voids)	85% Pay factor
88.9% or less	(Unacceptable air voids)	60% Pay factor

Pavement density will be determined by comparing the density of cores taken from the compacted pavement to the density of Maximum Theoretical Density as determined by ASTM D-2041 - "Rice Test". 4-Inch or 6-inch diameter cores shall be taken by a certified technician designated by the Contractor in the Engineer's presence at random locations designated by the Engineer. The Contractor shall mark the Core and place it in a protective container. Any Damaged core shall be replaced with a new core within one foot longitudinally from the original core. **The Contractor shall take cores within one foot longitudinally of the City obtained cores to perform his own testing at the Contractor's own expense. The testing is to be performed by a laboratory certified by State of California.**

(a) Lot Sizes: The pavement will be accepted for density and pay factors will be determined on a lot basis. A lot will consist of 250 tons or portions.

(b) Laboratory Density: Bituminous mixture for laboratory-compacted specimens will be sampled on a lot basis per Section 39-3.04, "Mixing," of the State Specifications. The lot size will be the same as indicated in Paragraph (a). Two samples shall be taken from each lot on a random basis. Two laboratory-compacted specimens shall be prepared from each lot.

(c) Core Density: Cores for determining the density of the compacted pavement will be taken on a lot basis, a minimum of two cores per lot. The lot size shall be the same as indicated in paragraph (a). One core shall be taken by the City and one core by the Contractor from each lot on a random basis. The cores shall be taken in accordance with these Special Provisions and as directed by the Engineer. The density of each core shall be determined in accordance with ASTM D 2726-89.

Pay factors will be determined by core density tests performed by the City. The Engineer shall submit a copy of the test results to the Contractor. In case of a dispute, the Contractor shall notify the Engineer in writing within five working days of receiving a test result. An Independent Third Party selected by mutual agreement shall perform referee testing at no cost to the Contractor. Before the Independent Third Party participates in a dispute resolution, The

Independent Third Party must be a Certified Laboratory and must be chosen from a Laboratory not employed by the ARHM-GG Producer.

Payment shall be at the unit price bid per ton, and shall include full compensation for furnishing all labor, material, tools, equipment and incidentals, and for doing all work involved in placing rubberized asphalt concrete , as specified in these Special Provisions and as directed by the Engineer.

ITEM NO. 8 - HOT MIX ASPHALT OVERLAY TO PLACE

This work includes producing and placing hot mix asphalt (HMA), 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 the street overlay quantities list included in the Appendix of 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 (¼") 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 ¼ to ½ inches above the gutter lip.

24. Pavement surface shall be deemed unacceptable should the surface hold water, the pavement ravels, 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.

Payment shall be made at the unit price bid per ton of hot mix asphalt placed and shall include full compensation for furnishing all labor, material, tools, equipment and incidentals, and for doing all work involved in placing hot mix asphalt overlay as specified in these Special Provisions and as directed by the Engineer.

ITEM NO. 9 - FIBER REINFORCED HMA OVERLAY TO PLACE

This work includes producing and placing fiber reinforced hot mix asphalt (HMA), using Caltrans Standard process and in accordance with Caltrans Standard Specifications, City Standard Specifications and these Special Provisions.

Produce and place hot mix asphalt (HMA) as described in Bid Item No. 8 "Hot Mix Asphalt to Place" except add fiber reinforcement to the mix design as described below.

Materials:

Fiber Reinforcement – Provide fibers conforming to the requirements below. Design asphalt mix without fibers and do not alter the final mix design for the addition of fiber at the plant. Use the fiber type specified at the rate of 1.0 pound/ton of total mix.

Physical Properties:

Materials	Polyolefin/Aramid
Length	¾"
Form	Twisted Fibrillated and Monofilament Fibers
Color	Yellow, Black, Tan
Specific Gravity	0.91/1.44
Acid/Alkali Resistance	Inert
Tensile Strength	70,000 psi / 400,000 psi
Melting Temperature	212F / 800F

Bituminous Mixing Plant:

Fiber Supply System – Add fiber manually or through specialized equipment that can accurately proportion or meter, by weight, the proper amount per batch for batch plants, or continuously and in a steady uniform manner for drum plants.

Batch Plant – When a batch plant is used, add fiber to the aggregate in the weigh hoper and increase both dry and wet mixing times. Ensure that the fiber is uniformly distributed before the injection of asphalt cement into the mixture.

Drum Plant – When a drum plant is used, inject fibers through the RAP collar by placing 1 pound bags of fibers on the RAP belt or by feeding them through a blower tube. Rate the feeding of fibers with the rate the plant is producing asphalt mix.

Store fibers in a dry environment and do not allow them to be in contact with moisture.

Payment shall be made at the unit price bid per ton of fiber reinforced hot mix asphalt placed and shall include full compensation for furnishing all labor, material, tools, equipment and incidentals, and for doing all work involved in placing fiber reinforced hot mix asphalt overlay as specified in these Special Provisions and as directed by the Engineer.

ITEM NO. 10 - HOT MIX ASPHALT (BONDED WEARING COURSE – GAP GRADED) TO PLACE

ITEM NO. 11 - ASPHALTIC EMULSION MEMBRANE (BONDED WEARING COURSE) TO PLACE

Summary

This work includes producing and placing bonded wearing course. Bonded wearing course consists of gap graded and polymer modified hot mix asphalt (HMA) placed over a membrane of polymer modified asphaltic emulsion in a single pass with an integrated paving machine.

Comply with the specifications for HMA Type A under Section 39, "Hot Mix Asphalt," of the Standard Specifications. Use the Standard construction process.

Submittals

With the job mix formula (JMF) submittal, submit:

1. Film thickness for HMA on Form CEM-3511
2. Target residual rate for asphaltic emulsion membrane

Within 3 business days following the first delivery, submit test results for asphaltic emulsion properties performed on a sample taken from the asphaltic emulsion delivered. Test results must be from an AASHTO accredited laboratory. Test results must comply with the table "Asphaltic Emulsion Membrane."

Within 1 business day of each job site delivery of asphaltic emulsion, submit to the Transportation Laboratory a 2-quart sample and a Certificate of Compliance in compliance with Section 6-1.07, "Certificates of Compliance," of the Standard Specifications. Ship each sample so that it is received at the Transportation Laboratory within 48 hours of sampling. Label each asphaltic emulsion sampling container with:

1. Emulsion producer and location
2. Asphaltic emulsion type
3. Percent of water
4. Sampling location, time and date
5. Contract number
6. Resident Engineer

Each day bonded wearing course is placed, submit the residual and application rate for asphaltic emulsion membrane.

During production, submit certified volume or weight slips for the materials supplied.

Quality Control and Assurance
Sample bonded wearing course in two 1-gallon metal containers. Sample HMA from either a truck or the material transfer device (MTV) hopper.

Perform sampling and testing at the specified frequency for the following quality characteristics:

Minimum Quality Control

Quality Characteristic	Test Method	Minimum Sampling and Testing Frequency	Location of Sampling	Requirement
Aggregate gradation	CT 202	1 per 750 tons and any remaining part. Take samples in two 1-gallon metal cans	CT 125	JMF ± Tolerance [a]
Sand equivalent (min.) [b]	CT 217			47
Asphalt binder content (%)	CT 379 or 382		Truck or MTV Hopper	JMF ± 0.45
HMA moisture content (%, max.)	CT 226 or CT 370	1 per 2,500 tons but not less than 1 per paving day		1.0
Aggregate moisture content at continuous mixing plants [c]	CT 226 or CT 370	2 per day during production	CT 125	--
Percent of crushed particles Coarse aggregate (%, min.) Two fractured faces Fine aggregate (%, min) (Passing No. 4 sieve and retained on No. 8 sieve.) One fractured face	CT 205	As necessary and designated in the QCP. At least once per project		90 85
Los Angeles Rattler (% max.) Loss at 100 rev. Loss at 500 rev.	CT 211			12 35
Fine aggregate angularity (% min.)	AASHTO T 304, Method A			45
Flat and elongated particles (%, max. by weight @ 3:1)	ASTM D 4791			25
Smoothness	Section 39-1.12		--	12-foot straightedge and must-grind
Asphaltic Emulsion Membrane	Various	At least once per paving day	Delivery truck	Specified in "Materials"
	ASTM D 2995		QC plan At the job site	Submitted target application rate ± 0.02 gallons per square yard under ASTM D 2995

Notes:
[a] The tolerances must comply with the allowable tolerances in "Aggregate."
[b] Report the average of 3 tests from a single split sample.
[c] For adjusting the plant controller at the HMA plant.

The Engineer samples for acceptance testing and tests for:

Acceptance

Quality Characteristic				Test Method	Requirement
Aggregate gradation					
Sieve	1/2-inch	3/8-inch	No. 4		
3/8"	X	--	--	CT 202	JMF ± Tolerance [a]
No. 4	--	X	X		
No. 8	X	X	X		
No. 200	X	X	X		
Asphalt binder content (%)				CT 379 or 382	JMF ± 0.45
Sand equivalent (min.) [b]				CT 217	47
Percent of crushed particles coarse aggregate (% min.) Two fractured faces Fine aggregate (% min) (Passing No. 4 sieve and retained on No. 8 sieve.) One fractured face				CT 205	 90 85
HMA moisture content (%, max.)				CT 226 and CT 370	1.0
Smoothness				Standard Specifications Section 39-1.12	12-foot straightedge and must-grind
Asphalt binder				Various	Standard Specifications Section 92
Asphaltic emulsion membrane				Various	"Materials"
				ASTM D 2995	Submitted target residual rate ± 0.01 gallons per square yard

Notes:
[a] The tolerances must comply with the allowable tolerances in "Aggregate."
[b] The Engineer reports the average of 3 tests from a single split sample.

Sample asphaltic emulsion under AASHTO T 40. For each job site delivery of asphaltic emulsion, take a 2-quart sample in the presence of the Engineer. Take samples from the delivery truck mid-load from a sampling tap or thief. If the sample is taken from the tap, draw and discard 4 quarts before sampling.

If you unload asphalt binder or asphaltic emulsion into bulk storage tanks, do not use material from the tanks until you submit test results for a sample taken from the bulk storage tank performed by an AASHTO accredited laboratory.

MATERIALS

Asphaltic Emulsion Membrane

Asphaltic emulsion for membrane must comply with:

Asphaltic Emulsion Membrane

Properties	Test Method	Specification	
		Min.	Max.
Saybolt-Furol viscosity, at 25 °C, s	AASHTO T59	20	100
Sieve test on original emulsion (at time of delivery), %		-	0.05
24-hour storage stability, %		-	1
Residue by evaporation, %	California Test 331	63	--
Tests on residue from evaporation test:			
Torsional recovery, measure entire arc of recovery, at 25 °C, %	California Test 332	40	--
Penetration (0.01 mm) at 25 °C	AASHTO T49		
If using PG 76-22 PM asphalt binder		50	150
If using PG 64-28 PM asphalt binder		70	200

Asphalt Binder

The grade of asphalt binder mixed with aggregate for HMA-G must be PG 64-28 PM.

Aggregate

The aggregate for HMA in bonded wearing course must comply with the 3/8-inch grading specified in the aggregate gradation tables.

Choose a sieve size target value (TV) within each target value limit presented in the aggregate gradation tables.

Aggregate Gradation
(Percentage Passing)
HMA (Bonded Wearing Course - Gap Graded)

3/8-inch HMA

Sieve Sizes	Target Value Limits	Allowable Tolerance
1/2"	100	—
3/8"	80 - 100	TV ±6
No. 4	25 - 40	TV ±7
No. 8	19 - 32	TV ±5
No. 16	16 - 22	TV ±5
No. 30	10 - 18	TV ±4
No. 50	8 - 13	TV ±4
No. 100	6 - 10	TV ±2
No. 200	4 - 7	TV ±2

Before the addition of asphalt binder or lime treatment, aggregate must comply with:

Aggregate Quality

Quality Characteristic	Test Method	Requirement
Percent of crushed particles Coarse aggregate (% min.) Two fractured faces Fine aggregate (% min) (Passing No. 4 sieve and retained on No. 8 sieve.) One fractured face	CT 205	 90 85
Los Angeles Rattler (%, max.) Loss at 100 Rev. Loss at 500 Rev.	CT 211	 12 35
Sand equivalent [a] (min.)	CT 217	47
Fine aggregate angularity (%, min.)	AASHTO T 304 Method A	45
Flat and elongated particles (% max. by weight @ 3:1)	ASTM D 4791	25

Note:
[a] Reported value must be the average of 3 tests from a single sample.

Reclaimed Asphalt Pavement

Do not use reclaimed asphalt pavement in bonded wearing course.

HOT MIX ASPHALT DESIGN REQUIREMENTS

Hot Mix Asphalt for Job Mix Formula

Determine the proposed JMF from a mix design that complies with:

Hot Mix Asphalt for Job Mix Formula

Quality Characteristic	Test Method	Requirement
Film thickness, (μm min.)	Asphalt Institute MS-2 Table 6.1 Note a	10.0
Drain Down (max.)	AASHTO T-305[b]	0.1%

Notes:
[a] Film thickness is calculated based on effective asphalt content and determined as follows:

$$FT = \left(\frac{P_{be}}{SA \times G_b \times 1000} \right) 10^6$$

where:

FT = Film Thickness in μm

P_{be} = Effective asphalt content by weight of aggregate using Lab Procedure LP-4.

SA = Estimated surface area of the aggregate blend in m^2/kg from Table 6.1 in the Asphalt Institute Manual Series No. 2 (MS-2).

G_b = Specific gravity of asphalt binder

[b] Combine aggregate and asphalt at binder supplier's recommended mixing temperature. Coated aggregates that fall through the wire basket during loading will not be considered as "drain down" and are returned to the basket before conditioning at 350 °F for one hour.

The Optimum Binder Content (OBC) must be greater than 5.2 percent by weight of dry aggregate.

Voids in mineral aggregate, voids filled with asphalt, dust proportion, and stabilometer value are not required for the JMF.

Job Mix Formula Verification
The Engineer verifies the JMF by testing for compliance with the specifications for:

1. Aggregate quality
2. Aggregate gradation (JMF TV ± tolerance)
3. Asphalt binder content (JMF TV ± tolerance)
4. Film thickness

CONSTRUCTION

Prepaving Conference
Attendance at the prepaving conference is mandatory for:

1. Emulsion supplier
2. Paving foreman
3. HMA supplier
4. Project superintendent
5. Project Manager

Mixing
Aggregate must not be more than 350 °F when mixed with asphalt binder. For continuous mixing, the completed mixture must not be more than 350 °F at the mixer discharge.

Do not store HMA more than 8 hours.

Spreading and Compacting Equipment
Use an integrated distributor-paver capable of spraying the asphaltic emulsion membrane, spreading the HMA, and leveling the mat surface in 1 pass.

Apply asphaltic emulsion membrane at a uniform rate for the full paving width. The asphaltic emulsion membrane must not be touched by any part of the paver including wheels or tracks.

If the spray bar is adjusted for changing pavement widths, the paver must prevent excess spraying of asphaltic emulsion beyond 2 inches of the HMA edge.

Use a material transfer vehicle (MTV) to receive HMA directly from the truck (without dumping on the ground) and deliver to the paver's receiving hopper or feed system. The MTV must:

1. Remix the HMA with augers before loading the paver
2. Have sufficient capacity to prevent stopping the paver

The paver must have a full-width, heated vibratory screed that uniformly spreads and finishes the HMA.

Compact HMA with steel-tired, 2-axle tandem rollers. Each roller must weigh from 126 to 172 pounds per linear inch of drum width.

Transporting, Spreading, and Compacting

Apply asphaltic emulsion membrane on dry or damp pavement with no free water. Apply asphaltic emulsion when the atmospheric and pavement temperatures are above 45 °F.

Before spreading HMA, apply asphaltic emulsion membrane under Section 94, "Asphaltic Emulsions," of the Standard Specifications. Apply emulsion at a temperature from 120 to 180 °F and in a single application at the residual rate specified for the condition of the underlying surface. Choose a target residual rate from the following:

Asphaltic Emulsion Membrane Target Residual Rate

Surface to Receive Asphaltic Emulsion Membrane	Target Residual Rates (gallons per square yard)
PCC pavement	0.09 - 0.11
Dense, compacted, new HMA pavement	0.11 - 0.14
Open textured, dry, aged or oxidized AC pavement	0.13 - 0.17

If you request and the Engineer authorizes, you may change the asphaltic emulsion membrane application rates.

Spread HMA after applying asphaltic emulsion membrane and before the asphaltic emulsion membrane has spread beyond the area to be covered by the HMA. Do not apply asphaltic emulsion membrane more than once.

Construct a transverse joint when HMA remains in the paver for more than 30 minutes.
Do not reintroduce into the paving process HMA spread over asphaltic emulsion membrane.
Do not overlap or hot lap HMA. Pave through lanes after paving adjacent:

1. Shoulders
2. Tapers
3. Transitions
4. Road connections
5. Driveways
6. Curve widenings
7. Chain control lanes
8. Turnouts
9. Turn pockets
10. Ramps

For bonded wearing course placed on areas adjacent to through lanes that extend into the through lanes, cut the bonded wearing course to a neat, straight vertical line at the lane line.

If you spill asphaltic emulsion into the paver hopper, stop paving and remove and dispose of the contaminated material.

When measured on the surface immediately behind the screed, the HMA must be at least 240 °F and the temperature across the mat should not vary by more than 25 °F. Do not take the temperature within 2 feet of the edge of the pavement. For each paver used, compact HMA with 2 coverages using 2 rollers with the vibrators turned off. Complete the first coverage before the surface temperature drops below 240 °F. Complete all compaction before the surface temperature drops below 180 °F.

If the atmospheric temperature is below 70°F, cover loads in trucks with tarpaulins. The tarpaulins must completely cover the exposed load until you transfer the mixture to the MTV. You may omit tarpaulins if the time from discharge to truck until transfer to the MTV is less than 30 minutes.

Do not allow traffic on bonded wearing course until the surface temperature is below 160 °F.

Smoothness
If bonded wearing course is placed over HMA constructed under the same project:

1. The top layer of the HMA must comply with smoothness specifications before placing bonded wearing course.
2. Bonded wearing course must comply with straightedge and must-grind specifications.

For bonded wearing course placed over existing asphalt concrete, only the straightedge specifications for smoothness apply.

Remove and replace bonded wearing course not complying with the must-grind and straightedge specifications, except you may grind bonded wearing course for correcting smoothness:

1. At a transverse joint separating the bonded wearing course from pavement not constructed under the same project
2. Within 12 feet of a transverse joint separating the pavement from a bridge deck or approach slab

Vertical Joints
If you perform half-width paving, at the end of each day's work the distance between the ends of adjacent surfaced lanes must not be greater than can be completed in the following day of normal paving.

Do not leave a vertical joint more than 0.15 foot high between adjacent lanes open to public traffic.

Place bonded wearing course on adjacent traveled way lanes so that at the end of each work shift, the distance between the ends of bonded wearing course layers on adjacent lanes is between 5 feet and 10 feet. Place additional bonded wearing course along the transverse edge at each lane's

end and along the exposed longitudinal edges between adjacent lanes. Hand rake and compact the additional bonded wearing course to form temporary conforms. You may place Kraft paper or another approved bond breaker under the conform tapers to facilitate the taper removal when paving operations resume.

Conform Tapers
Place shoulder conform tapers concurrently with the adjacent lane's paving.
Place additional bonded wearing course along the pavement's edge to conform to road connections and private drives. Hand rake, if necessary, and compact the additional bonded wearing course to form a smooth conform taper.

MEASUREMENT AND PAYMENT

Payment shall be made at the unit price bid per ton of Hot Mix Asphalt (Bonded Wearing Course - Gap Graded) and per ton of Asphaltic Emulsion Membrane (Bonded Wearing Course) and shall include full compensation for furnishing all labor, tools, materials, equipment and incidentals, and for doing all the work involved in bonded wearing course, complete in place, as shown on the plans, as specified in the Standard Specifications and these special provisions, and as directed by the Engineer.

ITEM NO. 12 - MAINTENANANCE 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.**

This item shall include all City-owned utility maintenance holes (such as, but not limited to: sewage, drainage, water, and fire and police alarm systems), and any other maintenance holes not identified as being owned by other private utilities as determined by the Engineer.

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.

This item shall include the cost of lowering monitoring wells and communication vaults.

Payment shall be at the unit price bid per each, and shall include full compensation for furnishing all labor, material, tools, equipment and incidentals, and for doing all work involved in lowering maintenance hole heads, as specified in these Special Provisions and as directed by the Engineer.

ITEM NO. 13 - 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 item "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.

Maintenance hole heads as used in this item include all City and County-owned utility maintenance holes (such as, but not limited to: sewage, drainage, water, and fire and police alarm systems) and other maintenance holes as directed by the Engineer.

This item shall include the cost of raising monitoring wells and communication vaults.

Payment shall be at the unit price bid per each, and shall include full compensation for furnishing all labor, material, tools, equipment and incidentals, and for doing all work involved in raising maintenance hole heads, as specified in these Special Provisions and as directed by the Engineer.

ITEM NO. 14 - AT&T AND SMUD MAINTENANCE HOLE TO LOWER

AT&T and SMUD maintenance hole frame and covers 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. In all other respects this item shall conform to the item "AT&T and SMUD Maintenance Hole to Raise" in these Special Provisions.

Payment shall be at the unit price bid per each and shall include full compensation for furnishing all labor, material, tools, equipment and incidentals, and for doing all work involved in lowering Pacific Bell and SMUD maintenance holes, as specified in these Special Provisions and as directed by the Engineer.

ITEM NO. 15 - AT&T AND SMUD MAINTENANCE HOLE TO RAISE

AT&T and SMUD maintenance hole frame and covers shall be raised to the grade of the new surface and shall conform to the applicable requirements of Section 25-4 of the Standard Specifications and these Special Provisions.

The Contractor shall be responsible for protecting all cables from injury or damage during the construction operations.

All rubble and debris on the maintenance hole floors associated with the Contractor's operation shall be removed and disposed of away from the project site.

All maintenance hole seams disturbed by the Contractor's operations shall be grouted and the interior painted with white masonry paint.

Maintenance hole raising at any location shall be fully completed during the workday so as to permit full use by traffic at the end of the workday.

The finished grade of raised maintenance hole heads shall conform to the tolerances specified in Paragraph 5 of the item "Maintenance Hole to Raise" found elsewhere in these Special Provisions.

Maintenance hole heads lowered or removed and covered under the item "AT&T and SMUD Maintenance Hole to Lower" shall have the maintenance hole head reinstalled (if necessary) and raised to the grade of the new surface under this item "AT&T and SMUD Maintenance Hole to Raise."

Within 24 hours of paving over an existing AT&T or SMUD maintenance hole, the Contractor shall paint the location of the AT&T or SMUD maintenance hole in the street.

All maintenance holes have a maintenance hole number on the top surface of the maintenance hole frame. The Contractor is responsible for maintaining the existing maintenance hole number at each maintenance hole location. This may be done by either replacing the same lid and frame at each location or by stamping the concrete maintenance hole number on the frame at each location (cross out the incorrect maintenance hole number). Maintenance hole number shall conform to the following:

Die stamp the maintenance hole number on the top surface of the maintenance hole frame. The figures shall be at least 3/4" high. The figures shall be well defined and as deep as practicable. The stamping shall be readable when approaching the opening from the curb or facing oncoming traffic.

Asphalt patch shall consist of 3/8" maximum aggregate in conformance with Section 39.202 of the State Specifications.

A sand seal coat shall be applied to areas re-paved due to the raising of AT&T and SMUD maintenance holes as described in the item "Maintenance Hole to Raise," located elsewhere in these Special Provisions.

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.**

Payment shall be at the unit price bid per each and shall include full compensation for furnishing all labor, material, tools, equipment and incidentals, and for doing all work involved in raising AT&T and SMUD maintenance holes as specified in these Special Provisions and as directed by the Engineer.

ITEM NO. 16 - MAINTENANCE HOLE HEAD CASTINGS TO SUPPLY AND INSTALL

The Contractor shall exercise extreme care in lowering or removing maintenance hole head castings. Castings damaged during removal shall be made available to the Engineer for his inspection. In the event the Engineer determines that the original condition of the casting made it impracticable to salvage for reuse, and that damage to it was not caused by Contractor's failure to exercise reasonable care during removal, the Engineer will instruct the Contractor to supply a new head casting which will be paid for under this item. No additional compensation will be allowed for castings obtained from the City.

All castings and covers supplied will conform to Section 10-27 and Standard Drawing CE59 of the Standard Specifications.

All other damaged castings which are determined by the Engineer to be unsuitable for reuse due to Contractor's failure to exercise reasonable care while removing shall be replaced at the Contractor's expense.

Payment shall be at the unit price bid per each, and shall include full compensation for furnishing all labor, material, tools, equipment and incidentals, and for doing all work involved in supplying and installing maintenance hole head castings, as specified in these Special Provisions and as directed by the Engineer.

ITEM NO. 17 - 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 item "Maintenance hole to Lower" bid item 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".

Payment shall be at the unit price bid per each and shall include full compensation for furnishing all labor, material, tools, equipment and incidentals, and for doing all work involved in lowering water valve boxes, as specified in these Special Provisions and as directed by the Engineer.

ITEM NO. 18 - 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 item "Maintenance Hole to Raise" bid item, located elsewhere in these Special Provisions.

10. Raising of sewer cleanouts and flushers are included in this item and shall conform to this item, "Water Valve Box to Raise."

Payment shall be at the unit price bid per each and shall include full compensation for furnishing all labor, material, tools, equipment and incidentals, and for doing all work involved in raising water valve boxes, as specified in these Special Provisions and as directed by the Engineer.

ITEM NO. 19 - TRAFFIC STRIPE (4" & 6") TO REMOVE
ITEM NO. 20 - TRAFFIC STRIPE (8") TO REMOVE
ITEM NO. 21 - TRAFFIC STRIPE (12") TO REMOVE
ITEM NO. 22 - PAVEMENT MARKINGS TO REMOVE

Thermoplastic and preformed traffic stripes and markings shall be removed to the fullest extent possible from the pavement by grinding. Grinding material left on the pavement as a result of removing traffic stripes and markings shall be removed as the work progresses. Accumulations of grinding material, which might constitute a hazard to traffic, will not be permitted.

In addition to the areas being resurfaced, this item shall include work in the area of Carlson Drive and H Street (see Appendix C).

Traffic Striping and markings that are removed by the planing, kecutting, or conforming items of work shall be paid for under those items and not paid for as part of this bid item.

The Contractor shall be required to provide and submit to the Engineer a weekly schedule of work for each week showing a list of streets in order of performance at least one week prior to performing any work. A contact person and phone number of responsible parties shall be affixed to this list. The Contractor shall also provide, to the Engineer, a list of all striping and marking quantities removed by each day worked, by 10:00 AM the following day.

The Contractor shall place temporary markers prior to removing traffic control measures during the striping and markings removal operation. Temporary markers shall be maintained until permanent striping and markings are in place. See section 1.15.

Measurement

Traffic stripes shall be measured in lineal foot of material removed. No payment will be made for gaps in broken traffic stripes. Double center stripes shall be paid as two (2) four-inch (4") stripes. Twelve-inch traffic stripes are defined as both transverse and longitudinal lines, which include 12" limit lines and 12" crosswalks stripes. 24" limit lines shall be considered as two 12" stripes.

Pavement markings shall be measured in square foot of material removed. Pavement markings are defined as, but not limited to, word and symbol markings, parking brackets, and "Triple-four" crosswalks.

The quantities of traffic stripes and pavement markings may be adjusted, deleted, or omitted as directed by the Engineer to meet the existing requirements. No adjustment to the unit price bid will be made because of a change in quantity from the Engineer's estimate.

Payment shall be made based on the final pay quantity indicated on the Sealed Proposal and will not be recalculated in the field.

Payment shall be based on final pay quantity per lineal feet of traffic stripes and per square feet for markings and shall include full compensation for furnishing all labor, material, tools, equipment, incidentals and for doing all work involved with removing traffic stripes and markings as shown on the Plans, as specified in these Special Provisions and as directed by the Engineer.

ITEM NO. 23 - RAISED REFLECTIVE PAVEMENT MARKERS 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.

In addition to the areas being resurfaced, this item shall include work in the area of Carlson Drive and H Street (see Appendix C)

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

Payment shall be made based on the final pay quantity indicated on the Sealed Proposal and will not be recalculated in the field.

Payment shall be based on final pay quantity per each placed and shall include full compensation for furnishing all labor, material, tools, equipment, incidentals and for doing all work involved with placing raised reflective markers as shown on the Plans, as specified in these Special Provisions and as directed by the Engineer.

ITEM NO. 24 - THERMOPLASTIC TRAFFIC STRIPE (4") TO PLACE
ITEM NO. 25 - THERMOPLASTIC TRAFFIC STRIPE (6") TO PLACE
ITEM NO. 26 - THERMOPLASTIC TRAFFIC STRIPE (8") TO PLACE
ITEM NO. 27 - THERMOPLASTIC TRAFFIC STRIPE (12") TO PLACE
ITEM NO. 28 - THERMOPLASTIC 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.

In addition to the areas being resurfaced, this item shall include work in the area of Carlson Drive and H Street (see Appendix C).

The Contractor shall be required to provide and submit to the Engineer a weekly schedule of work for each week showing a list of streets in order of performance at least one week prior to performing any work. A contact person and phone number of responsible parties shall be affixed to this list. The Contractor shall also provide, to the Engineer, a list of all striping and marking quantities installed by each day worked, by 10:00 AM the following day.

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.**

Any concrete bridge decks encountered within the limits of a street being resurfaced shall be striped in conjunction with the street even though the decks themselves have not been resurfaced.

Measurement

Traffic stripes shall be measured in lineal foot of material placed. No payment will be made for gaps in broken traffic stripes. Double center stripes shall be paid as two (2) four-inch (4") stripes. Twelve-inch traffic stripes are defined as both transverse and longitudinal lines, which include 12" limit lines and 12" crosswalks stripes. 24" limit lines shall be considered as two 12" stripes.

Pavement markings shall be measured in square foot of material placed. Pavement markings are defined as, but not limited to, word and symbol markings, parking brackets, and "Triple-four" crosswalks.

The quantities of traffic stripes and pavement markings may be adjusted, deleted, or omitted as directed by the Engineer to meet the existing requirements. No adjustment to the unit price bid will be made because of a change in quantity from the Engineer's estimate.

Payment shall be made based on the final pay quantity indicated on the Sealed Proposal and will not be recalculated in the field.

Payment shall be based on final pay quantity per lineal feet of traffic stripes and per square feet for markings and shall include full compensation for furnishing all labor, material, tools, equipment, incidentals and for doing all work involved with placing traffic stripes and markings as shown on the Plans, as specified in these Special Provisions and as directed by the Engineer.

ITEM NO. 29 - COLORED PAVEMENT FOR BIKE LANES (GREEN)) TO PLACE
ITEM NO. 30 - COLORED PAVEMENT FOR BIKE LANES (4" WHITE) TO PLACE
ITEM NO. 31 - COLORED PAVEMENT FOR BIKE LANES (6" WHITE) TO PLACE
ITEM NO. 32 - COLORED PAVEMENT FOR BIKE LANES (MARKINGS) TO PLACE

Colored pavement, traffic stripes, and markings for bike lanes 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 City Standard Specifications, Sections 84 of the State Standard Specifications and these Special Provisions. All striping details shall be in conformance with the State Standard Plans (latest edition).

Colored pavement for bike lanes shall be placed on Capitol Mall (3rd Street to 9th Street) and in the area of Carlson Drive and H Street (see Appendix C).

Material Properties

The colored pavement material shall be a methyl methacrylate (MMA) acrylic based resin system used for color pavement marking and anti-skid surfacing. The resin, catalyst, and aggregate compounds shall be capable of full cure in a wide range of temperatures without requiring external heat sources.

Properties	**Unit of Measure**	**Test**
Neat Resin		
Tensile Strength	2000 psi (14MPa) min	ASTM D638
Elongation	70% min	ASTM D638
Tensile Modulus of Elasticity	1370 psi (9.5 MPa) min	ASTM D638
Hardness	15 – 20 Shore D	ASTM D2240
Water Absorption	0.25% max	ASTM D570
Density	13.42 lb/gal (1.6 gm/ml)	ASTM D2849
Pot Life	15 minutes @ 72°F (22°C)	AASHTO T237
Flash Point	50°F (10°C)	ASTM D1310
Solids Content	99%	ASTM D1644
Skid Resistant	45 minimum	ASTM E274
Aggregate		
Specific Gravity	2.65	ASTM C128
Hardness	7.0	Mohs Scale

Material Color

The daytime chromaticity coordinates for the color used for green colored pavement shall be as follows:

1		2		3		4	
x	y	x	y	x	y	x	y
0.230	0.754	0.266	0.500	0.367	0.500	0.444	0.555

The daytime luminance factor (Y) shall be at least 7, but no more than 35.

The nighttime chromaticity coordinates for the color used for green colored pavement shall be as follows:

1		2		3		4	
x	y	x	y	x	y	x	y
0.230	0.754	0.336	0.540	0.450	0.500	0.479	0.520

Surface Preparation

Before applying colored pavement material, cover manholes, valve and monument covers, grates, or other exposed facilities located within the area of application, using a plastic or oil resistant construction paper secured by tape of adhesive to the facility being covered.

All surfaces that are to receive colored pavement material shall be thoroughly clean, dry, and free of all dirt, grease, and other contaminates that might interfere with proper adhesion

Clean the pavement surface using high pressure water, compressed air, sandblasting, shot-blasting, or mechanical abrasion. The surface should be visibly dry and the moisture content should be tested according to ASTM D4263 (modified to 2 hours). New asphalt shall have been placed for a minimum of 15 days prior to installation of the colored pavement material and surface oils shall not be present. The temperature of the pavement and air shall be between 40°F - 104°F (5°C - 40°C).

All areas to be coated shall be masked prior to application of primer and masked again prior to application of the colored pavement material.

Mixing and Application

Mixing and applying colored pavement material and primer shall be in accordance with the manufacturer's instructions.

Measurement

Colored Pavement for Bike Lanes (Green) shall be measured per square feet of green colored pavement material placed.

Colored Pavement for Bike Lanes (4" White) shall be measured in linear feet of material placed. This item shall include edgelines Detail 27B. No payment will be made for gaps in broken traffic stripes.

Colored Pavement for Bike Lanes (6" White) shall be measured in lineal feet of material placed. This item shall include bike lane lines Detail 39 and Detail 39A. No payment will be made for gaps in broken traffic stripes.

Colored Pavement for Bike Lanes (Markings) shall be measured per square feet of white material placed. This item shall include word and symbol markings to indicate bike lanes.

The quantities of colored pavement for bike lanes may be adjusted, deleted, or omitted as directed by the Engineer to meet the existing requirements. No adjustment to the unit price bid will be made because of a change in quantity from the Engineer's estimate.

Payment shall be at the unit price bid per square feet of green colored pavement material placed, per linear feet of white 4" and 6" traffic stripes placed using colored pavement material, and per square feet of white markings placed using colored pavement material and shall include full compensation for furnishing all labor, material, tools, equipment, incidentals and for doing all work involved with placing colored pavement for bike lanes as shown on the Plans, as specified in these Special Provisions and as directed by the Engineer.

ITEM NO. 33 - TRAFFIC SIGN TO PLACE

This item shall consist of manufacturing, furnishing and installing traffic signs on existing posts or new posts, shall be placed where shown on the Plans or as directed by the Engineer and shall conform to the applicable requirements of Sections 32 and 38 of the Standard Specifications and these Special Provisions. New posts will be paid by a separate item.

In addition to the areas being resurfaced, this item shall include work in the area of Carlson Drive and H Street (see Appendix C).

The Contractor shall notify the Engineer two (2) working days prior to the placement of the signs. The Contractor shall review the proposed sign location with the Engineer and a supervisor from the City's Traffic Signs and Markings section prior to installation of the sign. The Engineer may make adjustments to the proposed sign location in the field.

The Contractor shall use the sign sizes as shown in the State of California, Department of Transportation Traffic Manual, unless specified otherwise on the drawings.

Sign panels shall be not less than 0.080 inches thick aluminum panels. Sign facings shall be manufactured at high intensity grade (encapsulated lens type with heat activated adhesive or pressure sensitive) reflective sheeting except that sheeting for street name signs, R1, R2 and W series signs shall be 3M VIP Diamond Grade or approved equal. Signs shall meet the standards set forth in the California Department of Transportation Traffic Manual. A 3-inch by 1 1/2-inch "City of Sacramento" logo box with 1/2-inch white, red or black letters shall be centered and printed on the lower border of each sign blank prior to application of the reflective sheeting. As an alternative, the "City of Sacramento" logo with 1/2" letters may be placed in the border area.

Signs located at the side of the roadway shall have a minimum height of seven feet (7') from the adjacent ground to the bottom of the sign, unless specified otherwise. The height of a combination of signs in the median, such as an R7 with an R10, shall be 18 inches from the top of the island to the bottom of the lowest sign (R10) with a maximum one-inch separation between the two signs.

Each sign shall have the date of manufacture and a location number stenciled on the backside. Location information shall consist of each sign having an individual number which will be

recorded on a clean set of Plans during the sign installation and shall be turned in as part of the "Record Drawings".

A. Sign Posts
A 5/16-inch diameter cap screw with a plated rubber backwasher against the face of the sign and elastic stop nuts shall be placed through the sign and post at both top and bottom of each sign. A "V" notched piped saddle, to support the sign, shall be placed between the sign and the post.

B. Signal and Street Light Poles
Place a ¾-inch stainless steel banded strap and appropriate hardware at both top and bottom of each sign.

C. Sheeting Grade
Sheeting Grade shall use ASTM Type 11 or 3M DG Cubed specifications designed to enhance nighttime visibility of traffic control signs and objects. Type 11 or 3M DG Cubed sheeting shall have a precoated adhesive protected by an easily removable liner.

Payment shall be made at the unit price bid per each sign and shall include full compensation for furnishing all labor, materials, tools, equipment, incidentals and for doing all work involved in placing traffic signs on existing posts or new post as shown on plans, as specified in these Special Provisions and as directed by the Engineer.

ITEM NO. 34 - NEW POST TO PLACE

This item shall consist of installing new posts for traffic signs where shown on the Plans or as directed by the Engineer and shall conform to the applicable requirements of Sections 32 and 38 of the Standard Specifications and these Special Provisions.

In addition to the areas being resurfaced, this item shall include work in the area of Carlson Drive and H Street (see Appendix C).

The Contractor shall notify the Engineer two (2) working days prior to the placement of the posts. The Contractor shall review the proposed post location with the Engineer and a supervisor from the City's Traffic Signs and Markings section prior to installation of the post. The Engineer may make adjustments to the proposed post location in the field.

All posts shall have a minimum resisting Moment of 400 foot-pounds. All posts shall be capped. Post caps may be aluminum or galvanized steel. Bolts and miscellaneous metal hardware shall be galvanized or plated after fabrication in conformance with Section 75 "galvanizing" of the State of California, Department of Transportation Standard Specifications.

Payment shall be made at the unit price bid per each post, and shall include full compensation for furnishing all labor, materials, tools, equipment, incidentals and for doing all work involved in installing new posts for traffic signs as shown on plans, as specified in these Special Provisions and as directed by the Engineer.

ITEM NO. 35 - CHANGEABLE MESSAGE SIGN TO INSTALL

The work to be performed for this item, in general, includes furnishing and installing Changeable Message Signs as specified in the Special Provisions and as directed by the Engineer.

Payment shall be at the unit price bid per each and shall include full compensation for furnishing all labor, materials, tools and equipment, and incidentals for doing all work involved in installing changeable message signs, as specified in these Special provisions, and as directed by the Engineer.

ITEM NO. 36 - 6'X6' DETECTOR LOOP TO INSTALL

The detector loop shall be installed prior to the final lift of the overlay. Preformed detector loops are not permitted.

All loop installation shall be coordinated with the prime contractor. The detector loops shall conform to all City requirements.

After pavement planing or keycutting, the Engineer shall inspect the existing detector loops for damage. Damaged or inoperative loops shall be replaced as directed by the Engineer. The Engineer shall mark out the locations for the new detector loops to be installed and the existing pull boxes the detector loops shall be terminated in. All existing loops to be replaced shall be disconnected by saw-cutting in a minimum of two places. The Contractor shall install the new detector loop conductors into the specified pull boxes. Measurement for payment shall be based upon each detector loop installed as part of this item.

Contractor shall test each detector loop prior to installation of final lift of overlay to ensure a fully functional detector loop.

Payment shall be at the unit price bid per each and shall include full compensation for furnishing all labor, materials, tools and equipment, and incidentals for doing all work necessary with this line item, as specified in these Special Provision, and as directed by the Engineer.

ITEM NO. 37 - DETECTOR HANDHOLE TO INSTALL

The work to be performed for this item, in general, includes furnishing and installing all necessary equipment and materials to install detector handholes, as shown in the City of Sacramento Standard Specifications Sheet E-150 as directed by the Engineer. Detector handholes shall conform to all requirements of the City of Sacramento. Measurement for payment shall be based upon each detector handhole installed as part of this item.

Payment shall be at the unit price bid per each and shall include full compensation for furnishing all labor, materials, tools and equipment, and incidentals for doing all work necessary with this line item, as specified in these Special provision, and as directed by the Engineer.

ITEM NO. 38 - 1-1/2" CONDUIT TO INSTALL

ITEM NO. 39 - 2" CONDUIT TO INSTALL

ITEM NO. 40 - 3" CONDUIT TO INSTALL

The work to be performed for this item, in general, includes furnishing and installing all necessary equipment and materials to install PVC conduit. Installation of PVC conduit shall conform to these Special Provisions. Measurement for payment shall be based upon the lineal footage of conduit installed as part of this item.

Payment shall be at the price bid per lineal foot and shall include full compensation for furnishing all labor, materials, tools, equipment and incidentals for doing all work necessary with this line item, as specified in these Special Provisions, and as directed by the Engineer.

ITEM NO. 41 - DETECTOR LEAD-IN CABLE TO INSTALL

Installation of lead-in cable shall conform to these Special Provisions and the plan sheets. The work to be performed for this item, includes furnishing all necessary equipment, labor, materials, and all described work as shown in the plan sheets and these specifications.

Contractor to test each lead-in cable prior to and after installation to ensure a working detector lead-in cable. Contractor shall label and land each detector lead-in cable to terminals in traffic signal cabinet as directed by the City Inspector.

Payment shall be at the price bid per lineal foot and shall include full compensation for all labor, materials, tools, equipment and incidentals, and for doing all work involved with this line item, as shown on the plans, as specified in these Special Provisions, and as directed by the Engineer.

ITEM NO. 42 - DETECTOR LEAD-IN CABLE TO REMOVE

Removal of and disposal of detector lead-in cable shall conform to these Special Provisions and the plan sheets. The work to be performed for this item, including furnishing all necessary equipment, labor, materials, and all described work as shown in the plan sheets and these specifications.

Payment shall be at unit price bid per each intersection leg and shall include full compensation for all labor, materials, tools, equipment and incidentals, and for doing all work involved with this line item, as shown on the plans, as specified in these Special Provisions, and as directed by the Engineer.

ITEM NO. 43 - PULL BOX NO. 5 TO INSTALL

ITEM NO. 44 - PULL BOX NO. 6 TO INSTALL

The work to be performed for this item, in general, includes furnishing and installing all necessary equipment and materials to install and adjust to grade new pull boxes with the lowering of conduits as needed in the field and as directed by the Engineer. Installation of pull boxes shall conform to these Special Provisions. Measurement for payment shall be based upon each pull box installed and adjusted to grade, with the lowering of conduits included as part of this item. Included in the price is the removal and disposal of the existing pull box.

Payment shall be at the unit price bid per each and shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals for doing all work involved with this line item, as specified in these Special Provisions, and as directed by the Engineer.

ITEM NO. 45 - INSTALL #10 THW CONDUCTOR

Installation of conductor shall conform to these Special Provisions and the plan sheets. The work to be performed for this item, including furnishing all necessary equipment, labor, materials, and all described work as shown in the plan sheets and these specifications.

Payment shall be at the price bid per lineal foot and shall include full compensation for all labor, materials, tools, equipment and incidentals, and for doing all work involved with this line item, as shown on the Plans, as specified in these Special Provisions, and as directed by the Engineer.

ITEM NO. 46 - VIDEO DETECTION CAMERA SYSTEM TO INSTALL

The work to be performed for this item, in general, includes furnishing all necessary equipment and materials to provide and install a video detection camera system.

The City of Sacramento will furnish the video detection camera, 28" riser pole, interface panel/video isolation, and video detection cards. Contractor will pickup and install all City furnished equipment.

Contractor shall make all hardware, conductor and cable connections to ensure a fully functional video detection system.

In general the contractor shall:

- Install camera on riser pole on traffic signal mastarm. Contractor shall furnish and install water tight cordgrip. City to furnish video detection camera and riser pole.
- Furnish and install power and coaxial video cables from the City furnished camera to the video isolation card thru conduit. Contractor shall use snap-n-seal one-piece Type F compression and F81 connectors with heat shrink.
- Contractor shall install the City furnished video isolation card and city furnished video detection card. Contractor shall connect power to all equipment listed.
- Contractor to provide and install network patch coax cable from video isolation card to each video detection card.
- Contractor to provide and install Cat 5 Ethernet cable between each video detection card and network switch.
- Contractor to provide and install SDLC cable between the main video detection card and traffic signal controller.
- Contractor to provide and install NTSC monitor as indicated on planset.

Splicing in Handhole: All Video detection Coax and Power cable splicing shall be done in the handhole of the traffic signal standard. Video cable located in the handhole shall be spliced with one-piece compression connectors for coax cable: Type F Snap-N-Seal or approved equal. Cable

ends shall be connected by using Precision F81 connector or approved equal. Connector shall be heat shrinked after the signal is turned-on. Tubing shall extend two inches past the end of connectors. Contractor will use manufacturer approved installation tools.

Cabinet Connection of Video Detection: All BNC connectors shall be one-piece compression connectors for coax cable or approved equal. Contractor will use manufacturer approved installation tools. Video cable located in the cabinet shall be spliced with one-piece compression connectors for coax cable: Type F Snap-N-Seal or approved equal.

Contractor shall be responsible for providing and installing all necessary hardware to stand and install all City furnished equipment.

Payment shall be at the unit price bid per each and shall include full compensation for furnishing all labor, materials, tools, equipment and incidentals, for doing all work involved with this line item as shown on the Plans, as specified in these Special Provisions and as directed by the Engineer.

ITEM NO. 47 - SURGE SUPPRESSOR TO INSTALL

The work to be performed for this item, in general, includes furnishing all necessary equipment and materials to provide and install surge suppressor.

Contractor shall make all hardware, conductor and cable connections. See Section 3 "Electrical Work Provisions" of these specifications for equipment type and model.

Payment shall be at the unit price bid per each and shall include full compensation for furnishing all labor, materials, tools, equipment and incidentals, for doing all work involved with this line item as shown on the Plans, as specified in these Special Provisions and as directed by the Engineer.

ITEM NO. 48 - NETWORK SWITCH SYSTEM TO INSTALL

The work to be performed for this item, in general, includes furnishing all necessary equipment and materials to provide and install network switch system.

The Contractor shall provide and install network switch with power supply, din rail, and all hardware. Contractor shall make all hardware, conductor and cable connections. See Section 3 "Electrical Work Provisions" of these specifications for equipment type and model number.

Payment shall be at the unit price bid per each and shall include full compensation for furnishing all labor, materials, tools, equipment and incidentals, for doing all work involved with this line item as shown on the Plans, as specified in these Special Provisions and as directed by the Engineer.

ITEM NO. 49 - INTEGRATION OF DETECTOR LOOP AND VIDEO DETECTION

The Contractor will integrate the detector loop and video detection system. The work to be performed for this item, includes furnishing all necessary equipment, labor, materials, and all described work as shown in the plan sheets and these specifications.

Video Detection: The manufacturer representative of the video detection equipment shall be onsite to configure the video detection system. The system shall be initially configured to detect vehicles and bicycles for the existing roadway configuration. After the proposed roadway configuration is constructed to the satisfaction of the Engineer, the manufacturer representative shall return to the project site and re-configure the video detection system for the new layout of the roadway. All unused pins shall be disabled. Equipment shall be free of errors and conflicts. Detection Zone shall be drawn in top half of video screen. Detection Zone shall cover two cars or 65'. Approximately 4 cars shall be visible in screen. The manufacturer representative shall configure the monitor to show the following: detection zones, 22 font for text, x1 for signal head display, remove title of intersection, and remove time stamp.

The system detection file shall be given to the City for each intersection in CD format. Included shall be an image of each intersection leg.

Detection Rack Reconfiguration: Contractor shall reconfigure the detection rack. All loop detector cards shall be mounted on the detector rack that is solely designed for the loop detection. All video detection cards shall be mounted on detector rack that is solely designated for video detection. The mixing of loop and video detection cards on same rack is not permitted unless otherwise specified in writing by the Engineer. The Engineer shall designate the racks to be used for loop and video detection. The Engineer shall specify new locations of detector cards. The new locations of detector cards shall be labeled with phasing. Contractor shall remove and salvage detector cards for loops to be removed as part of this project.

Program Card Reconfiguration: Contractor shall reconfigure the program cards for the new layout of detection cards and loop layout.

Contractor shall configure and program both the video detection camera/system and traffic signal controller to detect vehicles for a fully functional traffic signal system. The Contractor shall notify the Traffic Signal Maintenance Shop, (916) 808-6635 and Traffic Operations at (916) 808-5067, ten (10) working days prior to the installation date of equipment.

Payment shall be at the unit price bid per each intersection leg and shall include full compensation for furnishing all labor, materials, tools, equipment and incidentals, for doing all work involved with this line item as shown on the Plans, as specified in these Special Provisions and as directed by the Engineer.

3. ELECTRICAL WORK PROVISIONS

3.1 SCOPE AND LOCATION OF WORK

The electrical work to be performed under these Special Provisions includes furnishing and installing all necessary equipment and material for the work as indicated in these Special Provisions and Plans.

3.2 CITY FURNISHED EQUIPMENT

The Contractor shall pick-up all City furnished equipment at the City Corporation Yard. The City has two corporation yards: Corporate Center South, 5730 24th Street, Building 11, Sacramento, California and the Corporate Center North, 918 Del Paso Road, Sacramento, California, and deliver these items to the job site. *Contractor is responsible to provide machinery and manpower to unload and load all city furnished equipment.* Loading, unloading, pick-up, and delivery of these items will be considered included in the price bid for various items and no additional compensation will be allowed therefor.

The Contractor shall schedule the equipment pick-up with the City Inspector. Equipment pick-up shall be done in the presence of the City Inspector or his designated representative.

The Contractor shall be responsible for all damages that occur in connection with the care and protection of all materials and equipment until the completion and final acceptance of the work by the City.

The Contractor's responsibility for City supplied equipment shall be in accordance with Section 6-1.02, "State-Furnished Materials," of the State Standard Specifications.

The Contractor shall install all City furnished equipment and make all wire connections as directed by the Engineer. City forces will program all controllers, conflict monitors, and detector sensor units. The Contractor shall notify the Traffic Signal Maintenance Shop, (916) 433-6314, ten (10) working days prior to the date of installation.

3.3 CONDUIT MATERIAL

Conduit shall be installed prior to final lift of Overlay.

Conduit to be installed underground shall be Schedule 40 polyvinyl chloride (PVC) or Schedule 40 polyethylene conduit as described herein unless otherwise indicated or specified. PVC conduit shall comply with the specifications in Section 34-10 of the City Standard Specifications. High-density polyethylene conduit shall comply with the following specifications:

Conduit shall be fabricated from polyethylene shall be in conformance with applicable ASTM and NEMA standards and Article 347 of the National Electrical Code. Non-black polyethylene conduit shall contain not less than 2500 parts per million (ppm) of a hindered amain ultraviolet light stabilizer. Ultraviolet stabilization additive for black polyethylene conduit shall consist of a carbon black loading of 2.5% ± 0.5% by weight.

Conduit shall be manufactured from high-density polyethylene resin designated as Type III, Category 5, Class C, Grade P34 material in accordance with ASTM D1248.

3.4 CONDUIT INSTALLATION

Conduit installation shall be in accordance with Section 34-9, 34-10 of the Standard Specifications and as modified by these Special Provisions. "Jet-rodding" is not permitted.

Conduits terminating in pull boxes, standards, pedestals and cabinets shall rise vertically and shall not slope in any direction. Conduits terminating in standards, pedestals, and cabinets shall terminate one and one-half inches (1½") above finished grade. Conduits shown on the Plans to be adjacent and parallel to each other shall be installed in the same trench or drill hole unless otherwise specified or directed by the Engineer. Under the sidewalk, conduit shall be laid to a depth of not less than eighteen inches (18") below the sidewalk grade.

Conduits shall be installed by trenching or directional drilling method.

All applicable requirements in these Special Provisions to locate, and to protect existing utilities, utility laterals, obstructions, and other facilities in the area shall be conformed to and no additional compensation will be allowed therefor. Contractor is responsible for any damage and the repair of any existing facilities damaged by his/her trenching or drilling operations. Contractor is responsible for any potholing necessary and cost for potholing shall also be included in price paid for applicable items of work and no additional compensation will be allowed therefor. All trenching or drilling work shall be contained within the City right-of-way. If utilities or other obstacles are encountered at the specified conduit depth, any additional drilling required to avoid the obstacle shall be made at the Contractor's expense and no additional compensation will be allowed therefor. Location of trenching and drill holes shall take into consideration minimal impact to the street pavement while still meeting the requirements of these Special Provisions.

A. Trenching Method

Installation of conduit by trenching shall be in conformance with the Plans and these Special Provisions. See plan sheets for trench details. Trenches shall be backfilled or covered at the end of each work day. All conduit installed by trenching shall be anchored every 15 feet to the bottom of the trench, with an approved method, so as to prevent the conduit from floating when the concrete is backfilled into the trench.

1. Trenches in reconstructed roadways shall be backfilled with slurry portland cement per cubic yard and fine type aggregate as defined in the Standard Specifications Section 10-5. A red oxide in the amount of 5 lbs. per cubic yard shall be mixed uniformly throughout the slurry cement. See plan sheets for amount of sack slurry and depth of conduit(s).

2. Trenches in existing roadways shall use the "T-Trench" method. The portion over the trench shall be paved with asphalt concrete, Type A with ¾" aggregate (coarse); except on residential streets where the base course shall be Type A, ¾" aggregate (coarse) and

surface coarse shall be Type B, ½" aggregate, (medium), per Section 22 of the City Standard Specifications, unless otherwise directed by the Engineer. See plan sheets for width and thickness of asphalt concrete over trench. Trenches shall be backfilled with slurry portland cement per cubic yard and fine type aggregate as defined in the Standard Specifications Section 10-5. A red oxide in the amount of 5 lbs. per cubic yard shall be mixed uniformly throughout the slurry cement. See plan sheets for amount of sack slurry.

B. Directional Drilling Method

Installation of conduit by directional drilling shall be in conformance with the Plans and these Special Provisions.

Conduits shall be installed such that the top of the conduit(s) are not less than eighteen inches (18") below the finished grade in sidewalk areas and not less than thirty inches (30") in all other areas except as otherwise specified or directed by the Engineer.

Prior to the start of directional drilling, the Contractor shall submit a plan which identifies location and size of proposed drill holes, describes process for identifying/locating existing utility services and other underground utilities or obstructions, identifies a proposed "drilling corridor" to avoid conflicts with existing utilities, services and other facilities. This plan shall be submitted to the Engineer a minimum of ten (10) working days prior to the start of work. The Contractor will not be allowed to directional drill until an approved plan is on file with the Engineer

Directional drilling shall be performed by the technique of creating and directing a bore hole along a predetermined path to a specified targeted location where indicated on the plans to install conduits. The technique shall involve the use of mechanical and hydraulic equipment to change the boring course and shall use instrumentation to monitor the location and orientation of the boring head assembly along the predetermined course. Drilling shall be accomplished with fluid-assisted mechanical cutting. Unless otherwise approved, boring fluids shall be a mixture of bentonite and water or polymers and additives. Bentonite sealants and water will be used to lubricate the drilling head. It is mandatory that minimum pressures and flow rates be used during drilling operations so as not to fracture the subgrade material around and/or above the bore. Uncontrolled jetting (where the primary purpose is to use fluid force to erode soil for creation of the final bore hold diameter) is prohibited. The drilling system shall utilize small-diameter fluid jets to fracture, and mechanical cutters to cut and excavate the soil as the head advances forward.

All drilling shall be located a minimum of three feet (3') from the center of all existing maintenance holes. Drilling that run parallel to any sanitary sewer or storm drainage lines shall maintain a minimum clearance of three feet (3') measured from the centerline of the sewer or drainage line to the adjacent side of the drill hole. Drilling that crosses any sewer or drainage line shall cross at 90 degrees to the line or at a minimum of 45 degrees if a 90 degree crossing is not possible.

3.5 CONDUCTORS

Conductors shall be in accordance with Section 34-12 of the Standard Specifications, except for the following:

1. If the existing ground wire (green 1#10 THW) is used as a pullwire, a new ground wire shall be pulled with the new conductors or cables.

2. Unless otherwise noted, insulation Types THHN and THWN are not approved for installation.

3. The electrolier leads from base to lamp socket shall be No. 12 THW solid wire with 45 mils insulation suitable for 600-volt service for historic decorative, post top and mast arm electroliers.

3.6 DETECTOR CONDUCTOR LOOP

A. Loop Conductors

Each loop conductor shall be continuous, unspliced, Type RHW-USE neoprene-jacketed or Type USE crosslinked polyethylene insulated No. 12 stranded copper wire. Conductor insulation thickness shall be 40 mils minimum.

B. Loop Conductor Installation

Detector loop installation shall conform to these Special Provisions and the State Standard Plans, Sheet ES-5A.

Unless otherwise specified, each loop shall be three (3) turns of conductors for each detector loop. Unless otherwise shown or noted on the Plans, each new detector loop shall be 6' x 6' and centered in the travel lane.

Slots cut in the pavement shall be blown out with compressed air and dried and inspected for any sharp objects or corners which shall be removed prior to installation of loop conductors.

The loop conductors shall be installed in the slots using a 5/16" to 1/4" wooden paddle. As it is installed, the wire shall be kept under slight tension and shall be kept in the slots with suitable cardboard wedges. The cardboard wedges shall not be removed until the loop sealant operation requires removal.

Loop conductors shall be installed without splices and shall terminate in the Nearest pull box. The detector loops shall be joined in the nearest pull box in combination of series and parallel so that optimum sensitivity is obtained at the sensor unit. Final splices between loops and lead-in cable shall not be made until the operation of the loops under actual traffic conditions is approved by the Engineer. Each detector loop shall be identified and tagged by loop number, start (S), and finish (F). For example: Phase 4D1-1S & Phase 4D1-1F; Phase 4D1-2S & Phase 4D1-2F.

All loop conductors for each direction of travel for the same phase of a traffic signal system in the same pull box, shall be spliced to a cable which shall be run from the pull box adjacent to the loop detector to a sensor unit mounted in the controller cabinet. Splices to the cable shall be made in pull boxes only. All splices to the lead in cable and between loops and the lead in cable shall be soldered as specified in State Specifications in Section 86-2.09C, "Connectors and Terminals". Open flame soldering will not be permitted.

Each detector loop circuit shall be tested for continuity, circuit resistance, and insulation resistance at the controller location. The loop circuit resistance shall not exceed 0.50 ohms plus 0.35 ohms per 100 feet of lead-in cable. The insulation resistance shall be performed between each circuit conductor and ground. The meggared insulation resistance shall not be less than 200 megohms. The Contractor shall replace any detector loop that fails this requirement at the Contractor's expense.

1. Depth of Loops and Conductors in the Traveled Way

All conductors and conductor loops installed in the traveled way shall be installed so that the top of the conductor is a minimum of one-inch (1") below the surface grade of the street.

2. Inductive Loop Sealant

Only the following methods may be used for inductive loop sealant:

Asphaltic Emulsion and Sand Method

1) Immediately after the loop wires have been installed, the slot shall be filled with an anionic asphaltic emulsion conforming to the State Standard Specifications for Rapid Setting No. 1 (RSI).

2) Dry 20 mesh sandblasting sand shall then be poured in and around the slot. A suitable and approved tool shall then be used to work the asphaltic emulsion up through the dry sand.

3) The slot will then be inspected for any dry spots in the sandfill. Any dry sand spots will then be wetted with more asphaltic emulsion.

4) More dry sandblasting sand shall then be added to the slot and the asphalt emulsion will again be worked up through the sand until a uniform mix of asphaltic emulsion and sand with no voids completely fills the slot to the level of the surrounding road surface.

5) A final thin layer of sand will then be added to surrounding surface to absorb the excess asphaltic emulsion.

6) The traveled way may be opened to vehicular traffic immediately after installation of the asphaltic emulsion and sand loop sealant.

Hot-Melt Rubberized Asphalt Sealant Method

Hot-melt rubberized asphalt sealant shall conform to, and be installed in accordance with State Specifications Section 86-5.01A(5) and as directed by the Engineer.

Sackrit Method

After conductors are installed in the slots cut in the pavement, paint binder shall be applied to all vertical surfaces of slots in accordance with the provisions in Section 94, "Asphaltic Emulsions", of the State Standard Specifications. The slots shall then be filled with asphaltic concrete sealant.

Asphaltic concrete sealant shall be a mixture of sand and liquid asphalt. The percentage of sand in the asphaltic concrete sealant shall conform to the following:

Screen Size	Percentage Passing
#4	100%
#8	91%
#16	63%
#30	39%
#50	24%
#100	10%
#200	7%

The sand shall be uniformly mixed with six percent (6%) SC800 liquid asphalt conforming to Section 93 of the State Standard Specifications.

Temperature of sealant material during installation shall be above 70 degrees F. Air temperature during installation shall be above 50 degrees F. Sealant placed in the slots shall be compacted by use of an eight-inch (8") diameter 1/8" thick steel hand roller or other tools approved by the Engineer. Compacted sealant shall be flush with the pavement surface. Excess sealant remaining after rolling shall be reused. Traffic may be released immediately over compacted material.

C. Abandonment of Loop Conductor

Each detector loop shall be saw-cut in a minimum of two places.

3.7 DETECTOR HANDHOLES

Where shown on the Plans, detector loops shall be sawcut into detector handholes. Detector handholes shall be Type B and shall be installed as shown in Traffic Signals/Street Lighting

Standard Details in the Plans sheets, unless otherwise noted or directed by the Engineer. No splicing will be allowed in the detector handholes. For detector handholes to be removed, holes or depressions resulting from the removed handhole shall be filled, compacted, brought to grade, and filled to match surrounding materials.

3.8 DETECTOR LEAD-IN CABLE

Detector lead-in cable shall be "Canoga" Type 30003, or approved equal. Detector lead-in cable shall conform to the following Special Provisions:

Lead-in cable shall consist of four (4) No. 18 A.W.G. stranded copper conductors insulated with nine (9) mils minimum of polypropylene, color coded, parallel laid, twisted together with four to six turns per foot. An amorphous interior moisture penetration barrier shall be provided to prevent hosing, siphoning, or capillary absorption of water along cable interstices. The outer jacket shall be thirty (30) mils minimum in thickness, high density polyethylene conforming to ASTM Designation: D-1248, 65T for Dielectric Material, Type I, Class C, Grade 5, J3. The diameter of the cable shall be approximately .25 inch.

Aluminum-polyester shielding shall be applied around the conductors.

The detector lead-in cable shall be continuous from the pull box adjacent to the conductor loops to the controller unless otherwise shown on the Plans.

Splicing of detector lead-in cables to loop conductors and splicing of detector cables when called for on the Plans shall be as follows:

1. Splices shall be made in pull boxes only. All splices to lead in cable shall be soldered.

2. The ends of the splice shall then be inserted into an approved insulated spring type connector of the correct size.

3. The splice shall then be insulated by "Method B" of the State Standard Plans Sheet ES-13, or as directed by the Engineer.

4. When detector cables and detector loops are initially installed, precautions shall be taken to insure the cables and loops remain water tight prior to splicing. If splicing is not to be done immediately after installation, the ends of the conductors and cables shall be dipped in electrical insulating liquid which shall render them water tight. The insulating liquid shall be fast drying, resistant to oils, acids, alkalies and corrosive atmospheric conditions and shall be compatible with the insulations used in the conductors and cables.

All conductors and cables shall be installed and splices shall be made in a dry environment.

3.9 INSPECTION

Inspection shall be in accordance with Section 34-22 of the Standard Specifications and these Specifications.

3.10 PULL BOXES

Shall be in accordance with Section 34-11 of the Standard Specifications, except for the following:

1) All new pull boxes shall be set in place prior to pouring any new sidewalk.

2) Existing pull boxes damaged by the installation of new conduits shall be removed and replaced at the Contractor's expense as directed by the Engineer.

3) All pull boxes shall be placed in sidewalk areas unless otherwise specified on the plans or directed by the Engineer, and shall not be placed in driveways, in vehicular traveled lanes, or in any part of the new sidewalk handicap ramp areas. Unless otherwise specified, pull boxes shall be placed a minimum of 5 feet from existing driveways.

4) Contractor shall cut, remove and replace the concrete to the nearest joint when installing new pull boxes.

5) New pull boxes shall have a minimum of 6" of new concrete around all sides in sidewalks.

6) For pull boxes to be removed, holes or depressions resulting from the removed pull box shall be filled, compacted, brought to grade, and filled to match surrounding materials.

7) Pull boxes shall be placed as shown according to the details shown on the Plans and according to these Special Provisions.

8) Install pull box on top of crushed rock foundation. Adjust pull box to grade. The crushed rock foundation shall have a minimum of 12" in depth and continue to extend a minimum of 6" beyond the outside edge of the pull box. Compact crushed rock while maintaining integrity of conduit. Conduit and pull boxes shall not be damaged nor cracked.

9) In instances where the pull box is installed in a planter box or dirt areas, the pull box shall be set to grade with a concrete ring, as shown in the standard detail drawings.

10) All No. 5 and No. 6 Pull Boxes shall have steel security lids with locking key bolt.
    a. Pull Box Lid shall be manufactured by LockLid Secure Utility Enclosure Lids manufactured by Jensen MetalTech or approved equal. (#5 PB - Locklid 1324 Lid LL K-S TrxPlt Sac Glv; #6 PB – LockLid 1730 Lid LL K-SD TrxPlt Sac Glv)
    b. Lid shall be ¼" thick minimum galvanized steel.
    c. Lid shall be manufactured with slip resistant surface.
    d. Lid shall be non-traffic rated, unless otherwise specified.
    e. Lid shall be equipped with a lock mechanism which can be secured from the top of lid.
    f. Lock shall be recessed in a1 inch diameter circle. Lock shall be a Secure Keyed Bryce Fastener, or approved equal.
    g. A steel welding plug shall be provided by the manufacturer to be inserted into the 1 inch diameter recessed lock. (Locklid # Plugs Sac Stl Plgs LkLd Lids, or approved equal).

h. Lid shall be flush with top of pull box when the lid is completely secured and locked to the pull box.
i. No. 5 pull boxes shall have a single cam locking system, or approved equal.
j. No. 6 pull boxes shall have a double cam locking system, or approved equal.
k. Lid shall have a grounding lug.
l. Supply five sets of keys for the locks.
m. Supply two sets of lifting tools for the lid.
n. Lid shall be free of scratches, defects, and debris. Lids shall be installed new.

3.11 VIDEO DETECTION

In general video detection system shall be used to provide real time detection of vehicles, bicycles and motorcycles entering the camera's field of view with an accuracy a 95% or more, when compared to conventional inductive loops. The video detection system will only be used to provide detection at the intersection stop bar. The system shall be able to interface with a NEMA TS1, TS2 type1, TS2 type-2, 332 controller cabinet assemblies and/or associated logic levels inputs/outputs.

Communication to the video detection system shall be Ethernet and use standard TCP/IP protocols. The communications shall allow the detection system to be fully programmed and monitored remotely from the Traffic Operation Center (TOC) and programmed locally at the intersection.

Programming and monitoring of the video detection system shall be done through vendor provided software and built-in Web-browser interface and will allow the viewing and configuration of all video detection system features. All software must be able to operate on Windows XP and Windows 7 platforms. The programming window (image used to draw detection zones) shall have a resolution of 640X480 or greater. All software windows shall be able to be maximized to match the computer display.

The video detection system shall be able to stream MPEG-4 video over the network to view locally, at the Traffic Operation Center (TOC) and over the internet. The video shall be viewable via the vendor provided video player or any standard digital video player such as QuickTime, at rates varying from 5 fps to 30 fps up to 5 megabits per second. The video detection system shall also provide an analog output with NTSC format to view locally using an analog monitor. Detector actuation shall be visible in both the analog and MPEG-4 video outputs.

Cameras and/or associated hardware or firmware must provide image stabilization. Cameras must be color and provide a minimum of 470 lines of resolution. Cameras must have variable focal length (zoom control) that can be configured from the traffic controller cabinet. Video detection camera and associated hardware shall be able to operate from- 34° to + 165° Celsius. All interfaces between the camera and the video detection system shall be opto-isolated.

The video detection system shall provide remote system diagnostics with the ability to check detector outputs, and loss of video sync. The video detection system shall be able to drop a false vehicle call if no movement is detected in the video where a detection zone is programmed and when phase assigned to that zone is green. The system shall also be able to interface to existing

Green, Yellow and Red phase colors in all cabinet types, and the phase color shall be displayable on the video image. Cameras and/or interface hardware shall be able to detect the absence of video and/or have the ability to detect vehicles. If an absence of video is detected, the interface hardware shall input a user assignable recall on the phase. If the video detection camera cannot detect vehicles due to fog, smoke, and other environmental factors, the user shall have the ability to min recall, max recall, or apply a fixed time to a given phase.

Video Detection data collection

The video detection system shall be able to provide the following:

1. Store count data for a minimum of Five days
2. 24-hour count with a variable time sampling rate.
3. Speed data for free flowing segments
4. Occupancy for free flowing segments
5. Vehicle Classify based on length

Video Detection System Hardware

Equipment shall be an Econolite Autoscope Rackvision Terra with *Autoscope Image Sensors (AIS) Camera* or City Traffic Engineer approved equivalent.

The following equipment outline is for one approach.

For one approach, RackVision and AIS cameras with NEMA TS2 connections to controller. For intersection with multiple approaches, additional equipment is required.

	Qty	Hardware
Per Leg	1	Autoscope RackVision Terra MVP
	1	Cat5e network patch cable RJ45 Male to RJ45 Male Cat5, 6' length
	1	Autoscope Image Sensors (AIS) Camera
	1	Mounting brackets (model AMBKTM15S)
	1	AIS cable to length distance from Camera to Hand Hole Cover
	FT	Coaxial Cable Belden 9290 RG6 or approved equal.
	FT	Camera Power Belden 601203 multi-conductor meeting IMAS Spec 19-1
Per Intersection	1	AIP4 interface panel
	1	SDLC cable (model ACBLP0E05 P/N)for TS2 connection to the controller
	1	NTSC Monitor with BNC interfaces for signal cabinet
		Three (3) years System warrantee from of date of acceptance

For one approach, RackVision and AIS cameras with NEMA TS1 and logic level connection to controller. For intersection with multiple approaches, additional equipment is required.

	Qty	Hardware
Per Leg	1	Autoscope RackVision Terra MVP
	1	MVP Wiring Harness (model 33457G57) for logic inputs/outputs
	1	Autoscope Image Sensors (AIS) Camera
	1	Mounting brackets (model AMBKTM15S)
	1	AIS cable to length distance from Camera to Hand Hole Cover
	FT	Coaxial Cable Belden 9290 RG6 or approved equal.
	FT	Camera Power Belden 601203 multi-conductor meeting IMAS Spec 19-1
Per Intersection	1	AIP4 interface panel
	1	NTSC Monitor with BNC interfaces for signal cabinet
		Three (3) years System warrantee from of date of acceptance

Installation

Camera shall be placed to minimize occlusions of left turn lanes. Occlusions can be minimized by installing the camera on the mastarm, in line with the lane striping between the left turn lane and the through lanes. Cameras installed on signal mastarm shall use Econolite 28" extended camera mount. At intersection where the left and through movements go together as standard operation and left are not intended to turn separately the camera can be mounted on a luminaire arm with standard camera mounting bracket.

Camera shall be aimed so that the area of detection is in the top half of the video image. Typically the stopbar should be in the center of the screen, and at least four (4) cars shall be visible behind the stopbar, in the top half of the video image. No horizon shall be allowed in the video image.

Contractor shall work with the Econolite Representative and the City of Sacramento Traffic Signal Maintenance Shop to insure that all channels are programmed and detection calls are being inputted into the controller. Connect the wiring harness to the I/O rack and make connections to the +24V load switches.

Video detection system installed in traffic signal cabinets with network switches installed or scheduled to be installed shall use NEMA TS2 connections to controller. Contractor shall connect SDLC (model ACBLP0E05 P/N or approved equal) to connect MVP terra card and the traffic signal controller. Contractor shall work with the Econolite Representative and the City of Sacramento Traffic Signal Maintenance Shop to insure that all channels are programmed and detection calls are being inputted into the controller.

Network patch coax cable shall be connected between the video isolation card and each video detection card.

Cat 5 cable shall be connected between the Video Detection Card and the network witch.

All penetration through signal poles or mastarms shall use Hayco Liquid \Tight Cordgrips or approved equal. Penetration shall be at the bottom of the mastarm.

Surge Suppressor Power Strip
Surge Suppressors shall meet the following requirements:

- 120 VAC
- 60 Hz
- All metal housing
- Isolated filter banks
- 2350 joule/97,000 amps rating
- 6 outlets
- 6 foot cord

Surge Suppressors shall be manufactured by Tripp-Lite Power Protection, Model ISOBAR6ULTRA or approved equal.

For Type R cabinet, the Surge Suppressor shall be mounted to the cabinet channel rail, and must be wired to the load side of the 15-amp main breaker in the cabinet.

Network Switch
Network Switch shall meet the following requirements:

- Industrial grade
- DIN rail mountable
- Ethernet connectivity
- Operate under 14 degrees Fahrenheit to 140 degrees Fahrenheit, and under vibration and shock
- Uses copper and fiber uplink options
- Twelve (12) 10/100 ports
- Two (2) 100 BASE-LX (single mode fiber) uplinks
- Enhanced Image (EI) software
- 5-year warranty

Network Switch shall be manufactured by Cisco, Model 2955S-12 or approved equal.

For Type R cabinet, network switch shall be mounted on a DIN rail attached to aluminum stock for support. The DIN rail and aluminum stock shall be mounted to the cabinet channel rails.

For Type 332 cabinet, network switch shall be mounted on a DIN Rail Adapter for use on an EIA 19" rack in a 332 cabinet. DIN Rail Adapter shall be by Cisco, Model STK-RACKMNT-2955 or approved equal.

The Contractor is responsible for making all connections per manufacturer recommendations.

Power Supply for Network Switch
Power Supply for Network Switch shall meet the following requirements:

- Compatible with Cisco Catalyst Series 2955 Series industrial grade switch
- DIN rail mountable
- Input: 100-120 VAC or 200-240 VAC, manually selected AC, 50-60 Hz
- Operate under 14 degrees Fahrenheit to 140 degrees Fahrenheit, and under vibration and shock
- Output: 24 VDC, 2.5 amps
- 5-year warranty

Power Supply for Network Switch shall be manufactured by Cisco, Model PWR-2955-AC or approved equal.

For Type R cabinet, power supply for network switch shall be mounted on a DIN rail attached to aluminum stock for support. The DIN rail and aluminum stock shall be mounted to the cabinet channel rails.

For Type 332 cabinet, power supply for network switch shall be mounted on a DIN Rail Adapter for use on a 19" rack in a 332 cabinet. DIN Rail Adapter shall be by Cisco, Model STK-RACKMNT-2955 or approved equal.

The Contractor is responsible for making all connections and shall be made per manufacturer's recommendations to insure that the switch is powered. See Plans for further details.

Cable Splicing

All video detection cable splicing shall be done in the hand hole cover of the traffic signal standard shaft. Video cable located in the handhole shall be spliced with one-piece compression connectors for coax cable: Use Type F Thomas & Betts Snap N-Seal or approved equal. Cable ends shall be connected by using Thomas & Betts precision F81 connector or approved equal. Connection shall be heat shrunk after signal is turned-on. Tubing shall extend two inches past the end of connectors. Contractor shall use manufacturer approved installation tools.

All BNC connectors shall be Thomas & Betts Snap-N-Seal one-piece compression connectors for coax cable or approved equal. Contractor shall use manufacturer approved installation tools.

Software and Programming

An Econolite Representative shall be onsite for the installation and configuration of the Video Detection System at no additional cost to the City. The system shall be programmed to provide stopbar detection. All channels shall be configured per the City's detector programming sheet and the Contractor and Econolite Representative shall work with City of Sacramento Traffic Signal Maintenance Shop to insure the detection calls are being inputted into the controller.

General Aiming and Programming Notes for Video Detection

1. No horizon shall be allowed in video.
2. Camera shall be aimed such that the stopbar is between the top half and the top ¾ of the video image.
3. Four to Five cars shall be visible between the stopbar and the top of the video image.
4. The Camera shall be rotated so the stopbar is horizontal in the video image.
5. Detection Zone shall be approximately 65' long or 2 cars
6. Maximum detectable width is 6 lanes and bike lane.
7. Detector labels shall include assigned phase number and assigned channel number.
8. The phase status shall be displayed.

Technical Support & Warranty

1. All hardware associated with the video detection system shall be warranted for a minimum of three years.
2. The vendor shall provide all firmware and software upgrades to the City of Sacramento free of charge during the warranty period of the product.
3. Technical support shall be free of charge during the warranty period of the product.
4. Vendor shall provide 24/7 technical support.
5. Vendor shall provide training in the operation, setup, and maintenance of the video detection system, at no additional cost to the city.

The following communication equipment shall be provided, installed and configured per the Plans and Special Provisions.

3.12 WIRING

Wiring shall be in accordance with Section 34-13 of the Standard Specifications, except for the following:

1. After taping, all splices shall be painted with an approved electrical coating that will resist oil, acids, alkalies, and adverse environmental conditions.

2. Pull ropes used to pull conductors in conduit shall be a minimum of three-eighths inch (3/8") in diameter.

APPENDIX A (ELECTRICAL PLANS)

E-1 NATOMAS BOULEVARD AND PARKWAY PLAZA APARTMENT ENTRY

E-2 NATOMAS BOULEVARD AND NORTH PARK DRIVE

E-3 POWER INN ROAD AND LEMON HILL AVENUE

E-4 POWER INN ROAD AND FRUITRIDGE ROAD

E-5 WYNDHAM DRIVE AND BRUCEVILLE ROAD

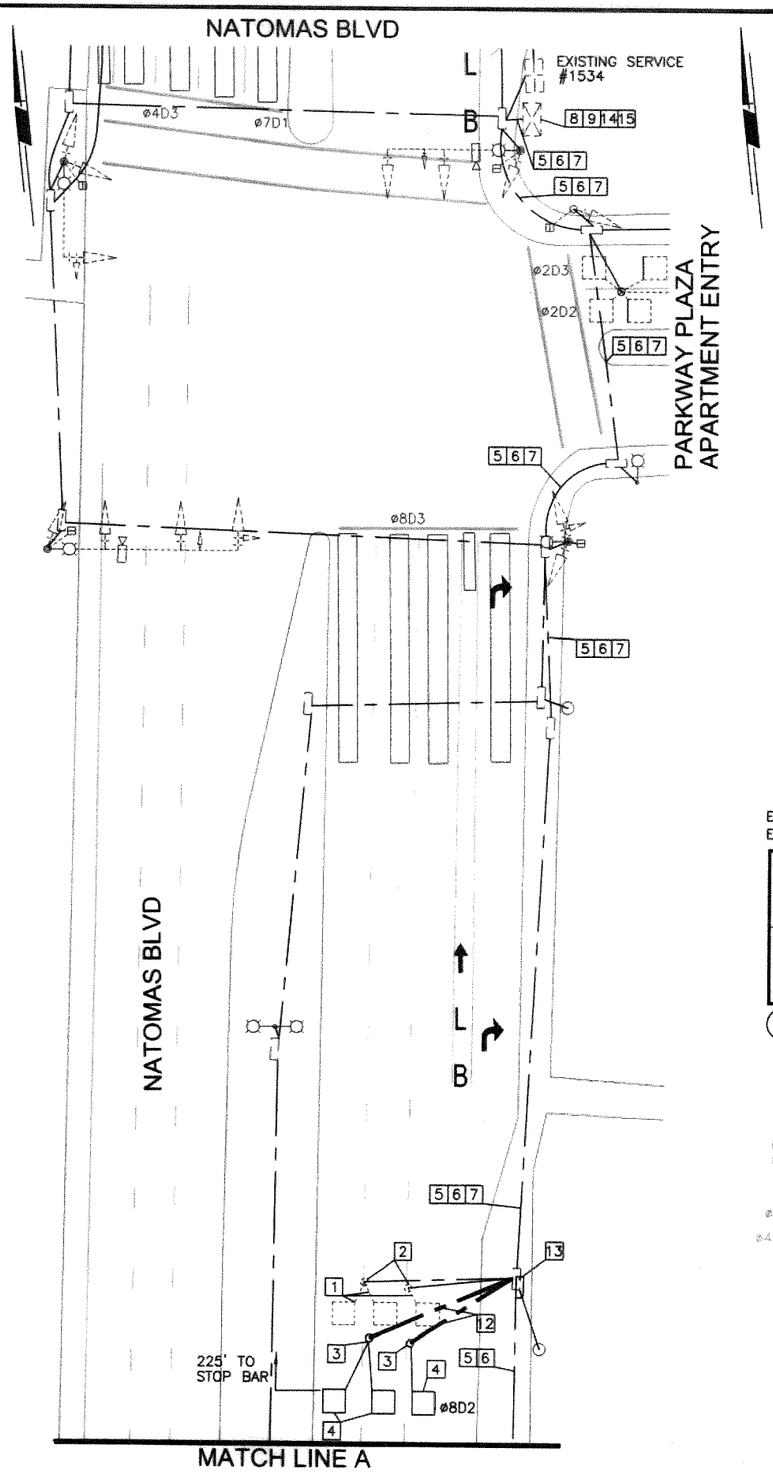
E-6 NORTHGATE BOULEVARD AND SAN JUAN ROAD

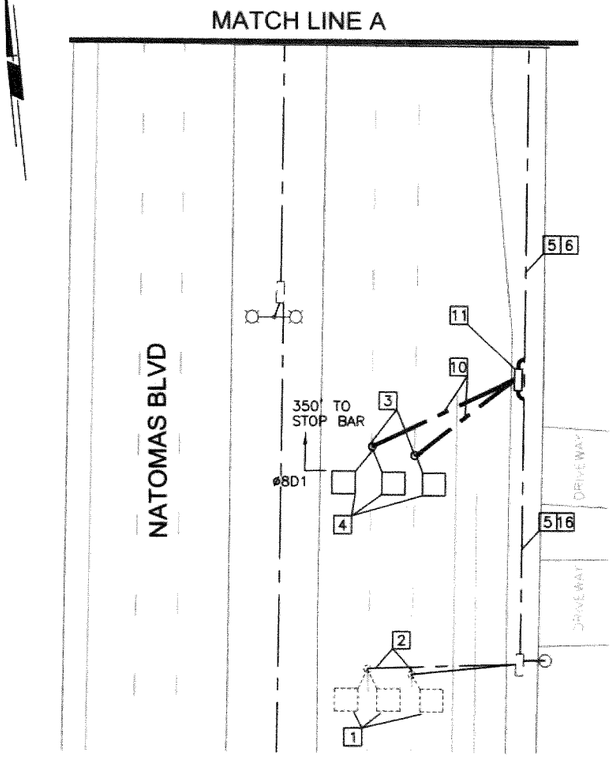
E-7 NORTHGATE BOULEVARD AND POTOMAC AVENUE

E-8 STANDARD ELECTRICAL DETAILS

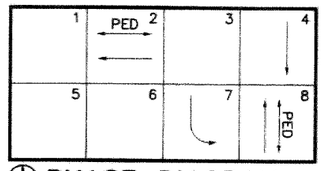
E-9 STANDARD DETAILS FOR TRAFFIC SIGNALS NO. 1

E-10 STANDARD DETAILS FOR TRAFFIC SIGNALS NO. 2





E-3584B (TRAFFIC SIGNAL)
E-3342 (STREETLIGHT)



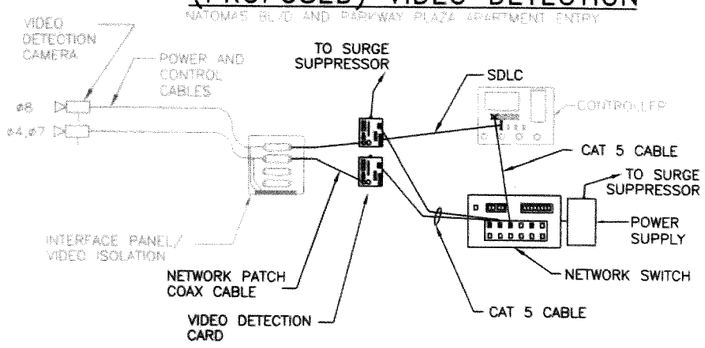
NATOMAS BLVD 85% DESIGN SPEED 50 MPH. 350', 225'
EXISTING:
NATOMAS BLVD AND PARKWAY PLAZA APARTMENT DRIVEWAY
INTERSECTION #XXXX
TYPE "P" CABINET, TRACONEX, EDI SSM 1211 CONFLICT MONITOR,
RACK MOUNT AUTOSCOPE RACKVISION (ø4,ø7, AND ø8), VIDEO ISOLATION CARD,
RACK MOUNT LOOP DETECTOR CARDS
TSA OPTICOM,
CORNING FIBER HUB.

PHASE DIAGRAM

(EXISTING)

(PROPOSED) VIDEO DETECTION

NATOMAS BLVD AND PARKWAY PLAZA APARTMENT ENTRY



CONSTRUCTION NOTES:

1. ABANDON EXISTING DETECTOR LOOP.
2. ABANDON EXISTING DETECTOR HANDHOLE.
3. INSTALL NEW DETECTOR HANDHOLE.
4. INSTALL NEW DETECTOR LOOP. QUANTITIES SHOWN ON DRAWING.
5. REMOVE ALL EXISTING ø8 DETECTOR LEAD-IN CABLES.
6. INSTALL NEW ø8D1 DETECTOR LEAD-IN CABLE FROM DETECTOR LOOP TO TRAFFIC SIGNAL CABINET.
7. INSTALL NEW ø8D2 DETECTOR LEAD-IN CABLE FROM DETECTOR LOOP TO TRAFFIC SIGNAL CABINET.
8. REMOVE ALL EXISTING ø8 DETECTOR LEAD-IN CABLES.
9. VEHICULAR DETECTOR LOOP: CONTRACTOR SHALL LABEL PHASING AND LAND NEW DETECTOR LEAD-IN CABLES ø8D1 AND ø8D2 TO THE TERMINAL STRIP, REPROGRAM DETECTOR CARD TO REFLECT NEW LAYOUT OF LOOP DETECTION, AND MAKE ALL WIRE/CABLE CONNECTIONS. REMOVE UN-USED DETECTOR CARDS. SEE SPECIAL PROVISIONS FOR ADDITIONAL NOTES.
10. PLACE 1-1/2"C - INSTALL DETECTOR LOOP CABLES FOR ø8D1.
11. PLACE NEW No. 5 PULL BOX AND ADJUST TO GRADE. INTERCEPT EXISTING CONDUITS AND CONDUCTORS AND EXTEND INTO NEW PULL BOX.
12. PLACE 1-1/2"C - INSTALL DETECTOR LOOP CABLES FOR ø8D2.
13. REMOVE EXISTING PULL BOX AND PLACE NEW No. 5 PULL BOX, AND ADJUST TO GRADE.
14. VIDEO DETECTION: CITY OF SACRAMENTO SHALL FURNISH THE FOLLOWING: TWO (2) AUTOSCOPE RACKVISION TERRA MACHINE VISION PROCESSOR (MVP) RACK MOUNT. CONTRACTOR SHALL INSTALL ALL CITY FURNISHED VIDEO DETECTION EQUIPMENT.

    CONTRACTOR SHALL SUPPLY AND INSTALL ONE (1) NETWORK SWITCH WITH POWER SUPPLY AND 1 DIN RAIL FOR MOUNTING. INSTALL POWER CABLE FROM POWER SUPPLY TO NETWORK SWITCH.

    CONTRACTOR TO REMOVE AND SALVAGE EXISTING TWO (2) AUTOSCOPE RACKVISION VIDEO CARDS. CONTRACTOR TO REMOVE UNUSED LOOP DETECTION CARDS.

    CONTRACTOR SHALL PROVIDE AND INSTALL THE FOLLOWING: ONE (1) SDLC CABLE (INSTALL BETWEEN VIDEO DETECTION CARD AND CONTROLLER), TWO (2) CAT 5E NETWORK PATCH CABLE RJ45 MALE TO RJ45 MALE CAT5 6 FEET LENGTH (INSTALL BETWEEN VIDEO DETECTION CARD AND NETWORK SWITCH), ONE (1) CAT 5E NETWORK PATCH CABLE RJ45 MALE TO RJ45 MALE CAT5 6 FEET LENGTH (INSTALL BETWEEN NETWORK SWITCH AND CONTROLLER), AND TWO (2) COAXIAL CABLE BELDEN 9290 RG6 (INSTALL BETWEEN VIDEO ISOLATION CARD AND VIDEO DETECTION CARD).

    CONTRACTOR SHALL PROVIDE AND INSTALL ONE (1) NTSC MONITOR.

    CONTRACTOR TO PROVIDE AND INSTALL ONE (1) SURGE SUPPRESSOR, TRIPP-LITE (ISOBAR6ULTRA) OR APPROVED EQUAL. SURGE SUPPRESSOR SHALL BE MOUNTED ON RIGHT WALL OF CABINET.

    THE CONTRACTOR SHALL MAKE ALL WIRE/CABLE/POWER CONNECTIONS FOR A FULLY FUNCTIONAL SYSTEM. CONTRACTOR TO CONNECT POWER TO VIDEO DETECTION CARDS. SEE SPECIAL PROVISIONS FOR ADDITIONAL NOTES.
15. VIDEO CONFIGURATION: THE MANUFACTURER REPRESENTATIVE OF THE VIDEO DETECTION EQUIPMENT SHALL BE ONSITE TO CONFIGURE THE VIDEO DETECTION SYSTEM TO THE DETECTION ZONES AS SHOWN. THE SYSTEM SHALL BE INITIALLY CONFIGURED TO DETECT VEHICLES AND BICYCLES FOR THE EXISTING ROADWAY CONFIGURATION. AFTER THE FINAL ROADWAY CONFIGURATION IS CONSTRUCTED TO THE SATISFACTION OF THE CITY INSPECTOR, THE MANUFACTURER REPRESENTATIVES SHALL RETURN TO THE PROJECT SITE AND RE-CONFIGURE THE VIDEO DETECTION SYSTEM FOR THE NEW LAYOUT OF THE ROADWAY. THE VIDEO SCREEN SHALL BE CONFIGURED TO SHOW THE FOLLOWING: DETECTION ZONES, 22 FONT FOR TEXT, X1 FOR SIGNAL HEAD DISPLAY, REMOVE TITLE OF INTERSECTION, AND REMOVE TIME STAMP. SEE SPECIAL PROVISIONS FOR ADDITIONAL NOTES.
16. INSTALL 3#6 THW (STREETLIGHT) INTO EXISTING CONDUIT.

REGISTERED PROFESSIONAL ENGINEER
JOHN M. MATOBA
No.E16805
Exp.6/30/14
ELECTRICAL
STATE OF CALIFORNIA

NOTES:

THIS PLAN IS ACCURATE FOR ELECTRICAL WORK ONLY. CONTRACTOR SHALL PROVIDE AND INSTALL EQUIPMENT, UNLESS OTHERWISE SPECIFIED.

REVISIONS NO.	DESCRIPTION	DATE	BY

RESEARCH PLAN NUMBERS

FIELD BOOK

SCALE 1"=20'

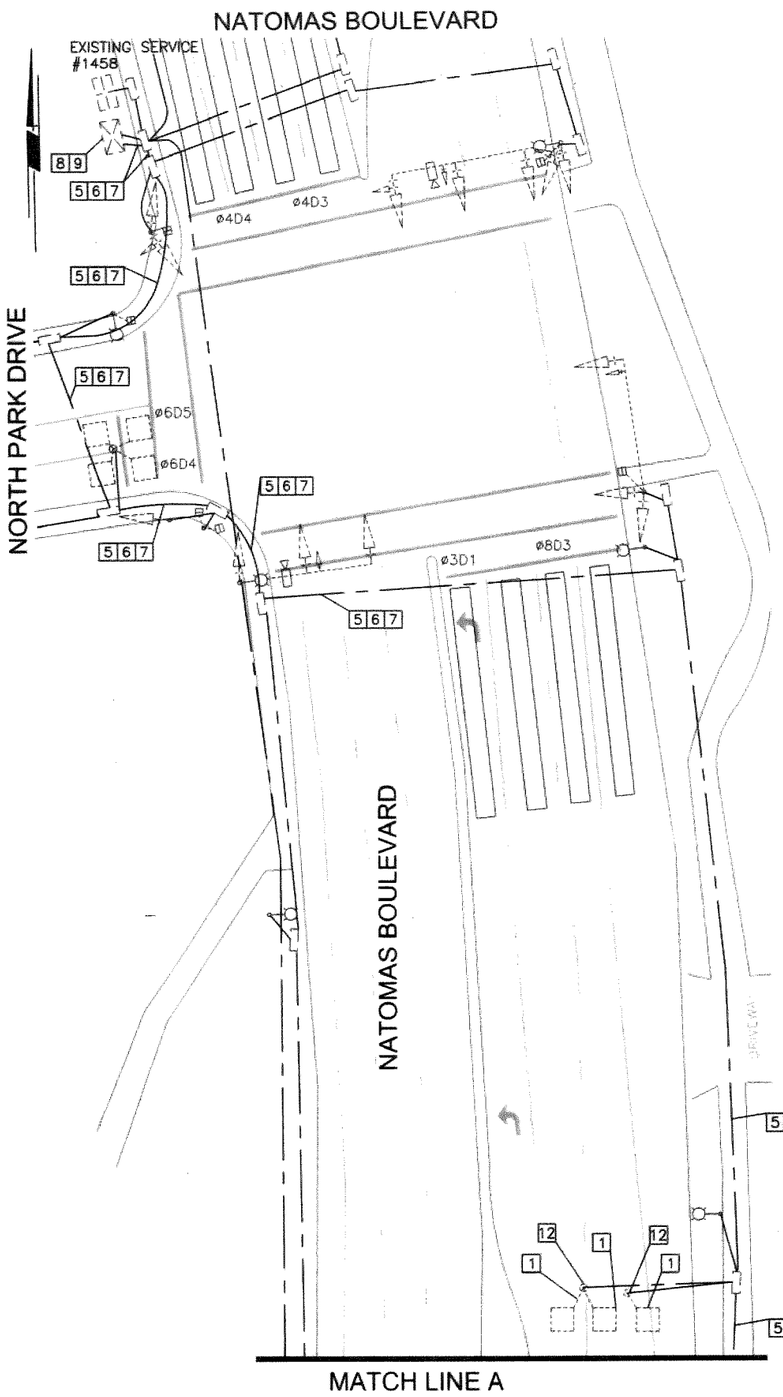
CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

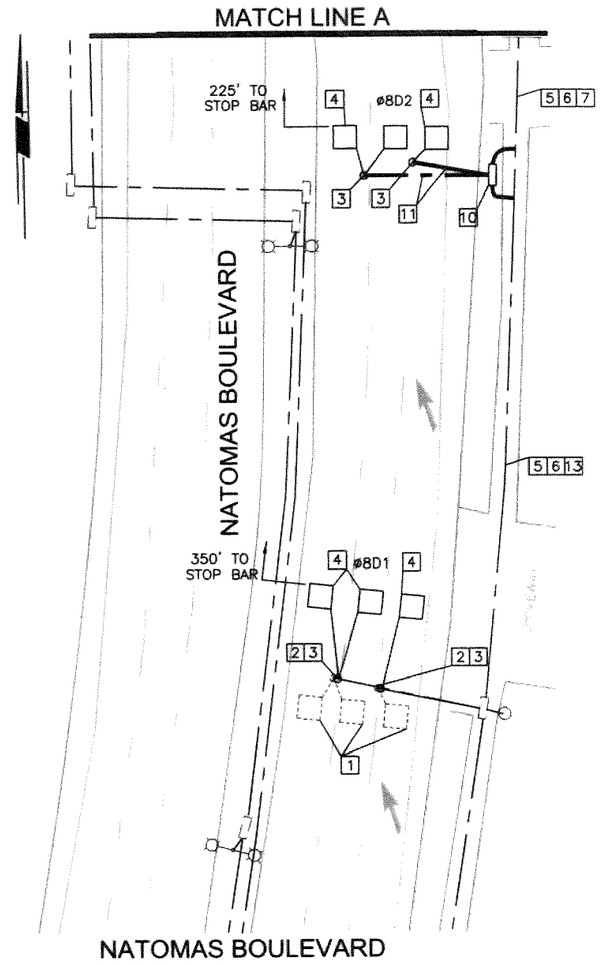
DRAWN BY: A. DEL CARMEN DATE (3/2013)
DESIGN BY: J. MATOBA R.C.E. DATE
CHECKED BY: S. CHATUSRIPITAK R.C.E. DATE

ELECTRICAL
2013 OVERLAY - NATOMAS BOULEVARD
NATOMAS BOULEVARD AND PARKWAY PLAZA APARTMENT ENTRY
TRAFFIC SIGNAL

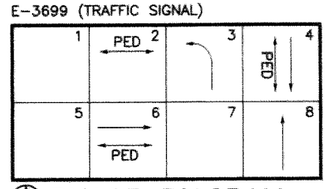
R15132019

SHEET E-1 10





E-3699 (TRAFFIC SIGNAL)



PHASE DIAGRAM

(EXISTING)

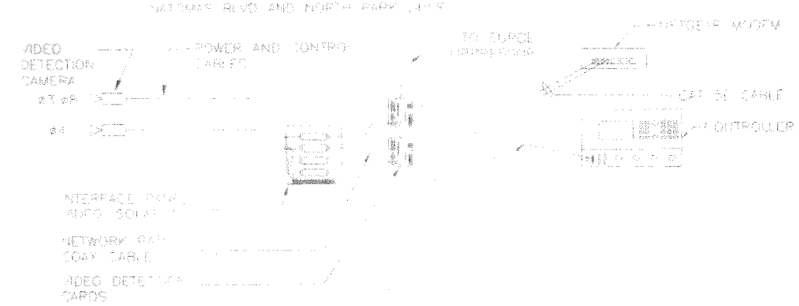
NATOMAS BOULEVARD 85% DESIGN SPEED 50 MPH. 350', 225'

EXISTING:
NATOMAS BLVD AND NORTH PARK DRIVE
INTERSECTION #XXXX
TYPE 'R' CABINET, ECONOLITE ASC/2S-2, IDC LCD-12P CONFLICT MONITOR
RACK MOUNT AUTOSCOPE RACKVISION TERRA (ø4 AND ø3,ø8), VIDEO ISOLATION CARD,
RACK MOUNT LOOP DETECTOR CARDS,
OPTICOM GPS EV,
CORNING FIBER, NETGEAR AUTO 10/100

CONSTRUCTION NOTES:

1. ABANDON EXISTING DETECTOR LOOP.
2. REMOVE EXISTING DETECTOR HANDHOLE.
3. INSTALL NEW DETECTOR HANDHOLE.
4. INSTALL NEW DETECTOR LOOP. QUANTITIES SHOWN ON DRAWING.
5. REMOVE ALL EXISTING ø8 DETECTOR LEAD-IN CABLES.
6. INSTALL NEW ø8D1 DETECTOR LEAD-IN CABLE FROM DETECTOR LOOP TO TRAFFIC SIGNAL CABINET.
7. INSTALL NEW ø8D2 DETECTOR LEAD-IN CABLE FROM DETECTOR LOOP TO TRAFFIC SIGNAL CABINET.
8. REMOVE ALL EXISTING ø8 DETECTOR LEAD-IN CABLES.
9. VEHICULAR DETECTOR LOOP: CONTRACTOR SHALL LABEL PHASING AND LAND NEW DETECTOR LEAD-IN CABLES ø8D1 AND ø8D2 TO THE TERMINAL STRIP, REPROGRAM DETECTOR CARD TO REFLECT NEW LAYOUT OF LOOP DETECTION, AND MAKE ALL WIRE/CABLE CONNECTIONS. REMOVE UN-USED DETECTOR CARDS. SEE SPECIAL PROVISIONS FOR ADDITIONAL NOTES.
10. PLACE NEW No. 5 PULL BOX AND ADJUST TO GRADE. INTERCEPT EXISTING CONDUITS AND CONDUCTORS AND EXTEND INTO NEW PULL BOX.
11. PLACE 1-1/2"C - INSTALL DETECTOR LOOP CABLES FOR ø8D2.
12. ABANDON EXISTING DETECTOR HANDHOLE.
13. INSTALL 3#6 THW (STREETLIGHT) INTO EXISTING CONDUIT.

(EXISTING) VIDEO DETECTION



NOTES:

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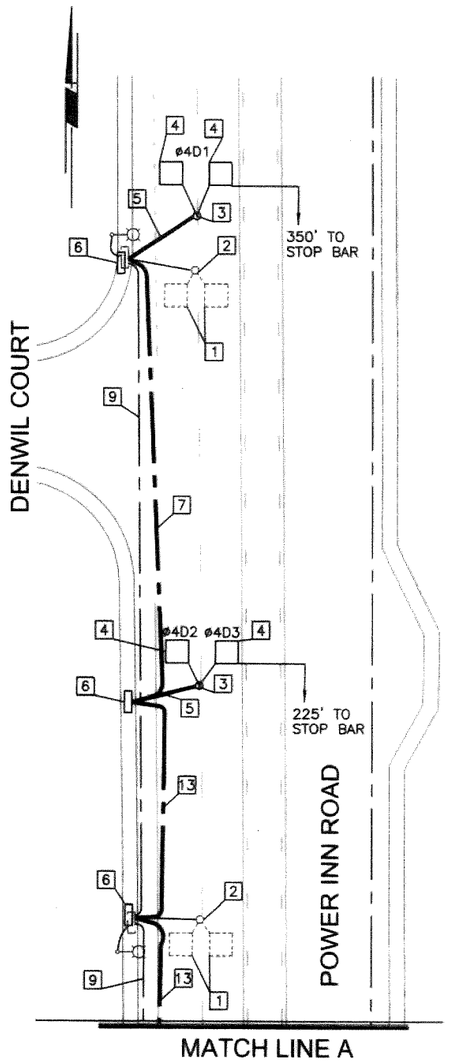
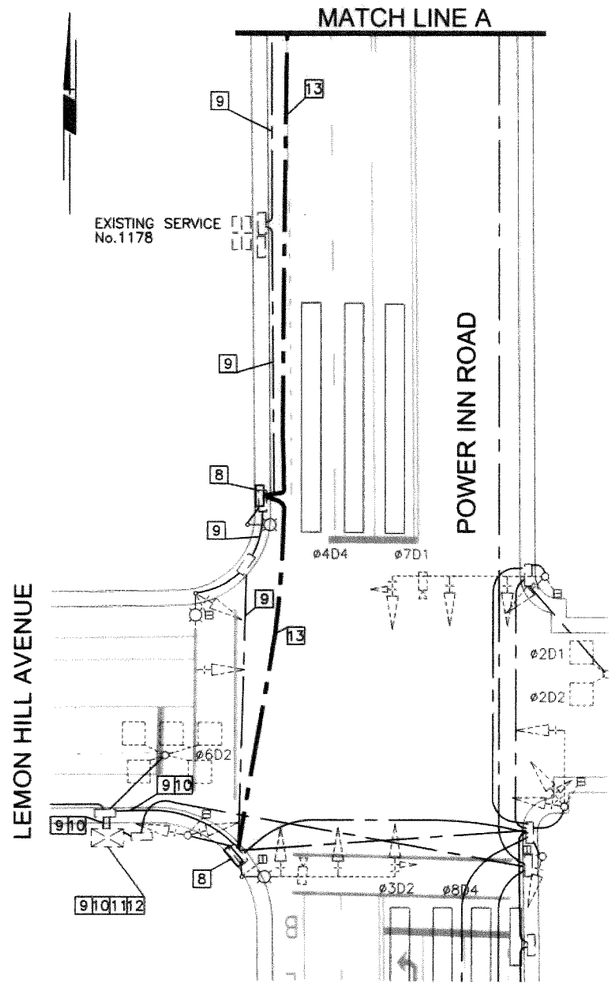
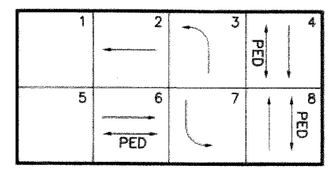
CAD FILE: P:\Engineering\Services\TechElec\Drawings\2012 Overlay

REVISIONS				RESEARCH PLAN NUMBERS	FIELD BOOK	CITY OF SACRAMENTO DEPARTMENT OF PUBLIC WORKS			ELECTRICAL 2013 OVERLAY - NATOMAS BOULEVARD NATOMAS BOULEVARD AND NORTH PARK DRIVE TRAFFIC SIGNAL	R15132019	SHEET E-2
NO.	DESCRIPTION	DATE	BY		SCALE 1"=20'	DRAWN BY: A. DEL CARMEN DATE	DESIGN BY: J. MATOBA R.C.E. DATE	CHECKED BY: S. CHATUSRIPITAK R.C.E. DATE			210 of 248 10





E-2585 (TRAFFIC SIGNAL)
E-3168D (POWER INN RD INTERCONNECT)
E-4142 (ITS PROJECT)

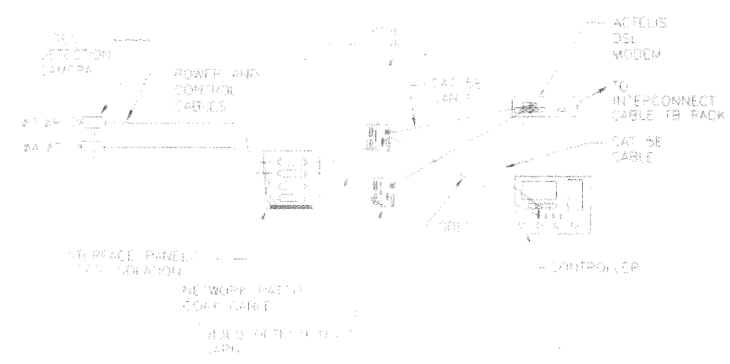


PHASE DIAGRAM
(EXISTING)

POWER INN ROAD 85% DESIGN SPEED 50 MPH. 350', 225'

EXISTING:
POWER INN ROAD AND LEMON HILL AVENUE
INTERSECTION #531
TYPE "P" CABINET, MCCAIN ATC6X, EDI SSM-12LE CONFLICT MONITOR
SHELF MOUNT AUTOSCOPE RADVISION TERRA (ø1,ø8 AND ø2,ø4 VIDEO DETECTION AND SHELF MOUNT LOOP DETECTOR ø6,ø8)
OPTICOM GPS EV
ACELIS DSL MODEM

(EXISTING) VIDEO DETECTION



CONSTRUCTION NOTES:

1. ABANDON EXISTING DETECTOR LOOP.
2. ABANDON EXISTING DETECTOR HANDHOLE.
3. INSTALL NEW DETECTOR HANDHOLE.
4. INSTALL NEW DETECTOR LOOP. QUANTITIES SHOWN ON DRAWING.
5. PLACE 1-1/2"C – 2 DETECTOR LOOP CABLES AND 1#10 THW GROUND.
6. REMOVE EXISTING PULL BOX AND PLACE NEW No. 5 PULL BOX AND ADJUST TO GRADE.
7. PLACE 2"C – 1 DETECTOR LEAD-IN CABLE (ø4D1) AND 1#10 THW GROUND.
8. REMOVE EXISTING PULL BOX AND PLACE NEW No. 6 PULL BOX AND ADJUST TO GRADE.
9. REMOVE ALL EXISTING DETECTOR LEAD-IN CABLES ø4 AND ø7 FROM ABANDONED LOOP TO TRAFFIC SIGNAL CONTROLLER CABINET.
10. INSTALL 3 DETECTOR LEAD-IN CABLES (ø4D1, ø4D2. ø4D3) INTO EXISTING CONDUIT.
11. REMOVE ALL EXISTING ø4 and ø7 DETECTOR LEAD-IN CABLES.
12. VEHICULAR DETECTOR LOOP: CONTRACTOR SHALL LABEL PHASING AND LAND NEW DETECTOR LEAD-IN CABLES ø4D1, ø4D2, ø4D3 TO THE TERMINAL STRIP, REPROGRAM DETECTOR CARD TO REFLECT NEW LAYOUT OF LOOP DETECTION, AND MAKE ALL WIRE/CABLE CONNECTIONS. REMOVE UN-USED DETECTOR CARDS. SEE SPECIAL PROVISIONS FOR ADDITIONAL NOTES.
13. PLACE 2"C – 3 DETECTOR LEAD-IN CABLES (ø4D1, ø4D2, ø4D3) AND 1#10 THW GROUND.

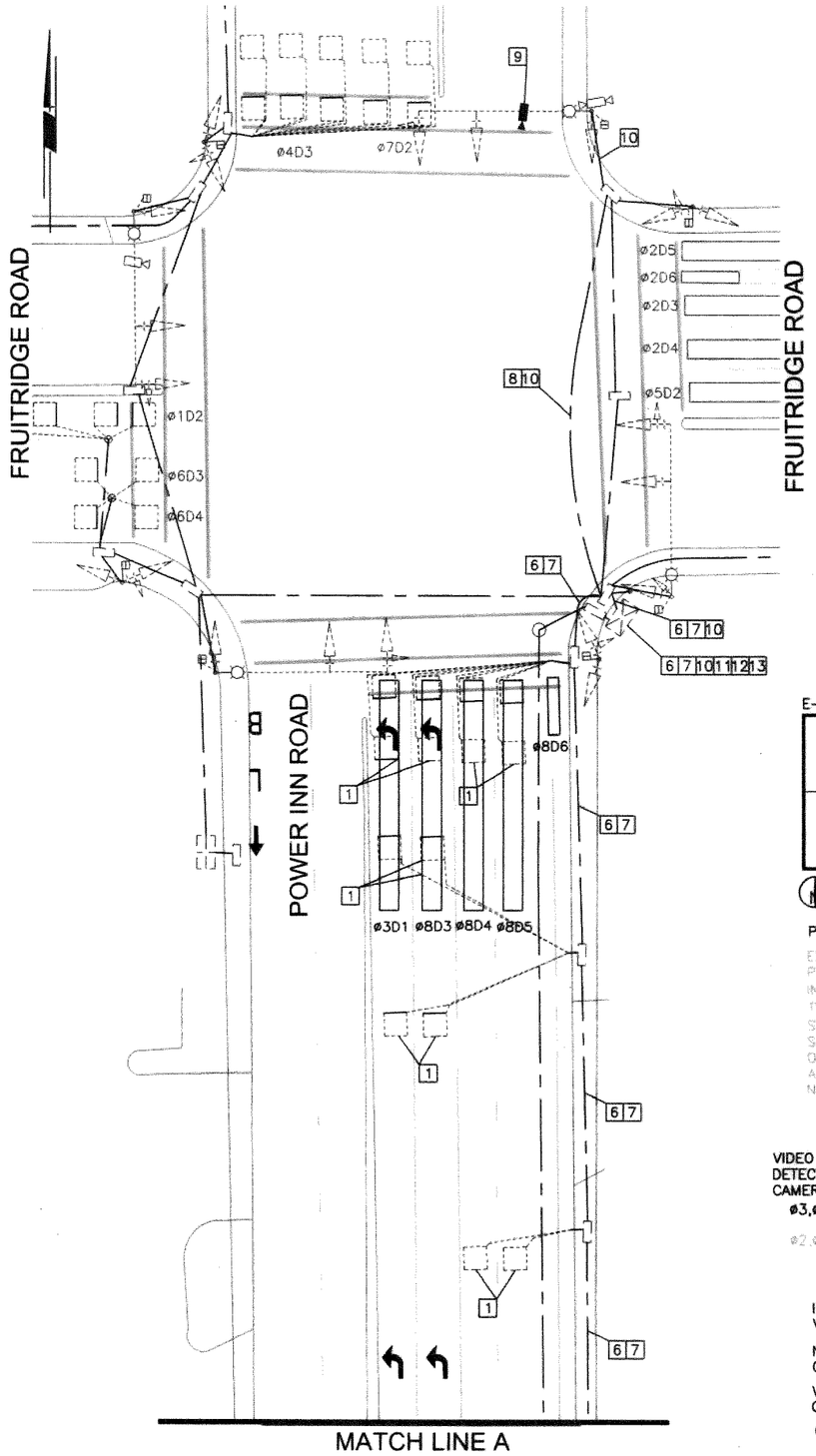
REGISTERED PROFESSIONAL ENGINEER
JOHN MATOBA
No. E18605
Exp.6/30/14
ELECTRICAL
STATE OF CALIFORNIA

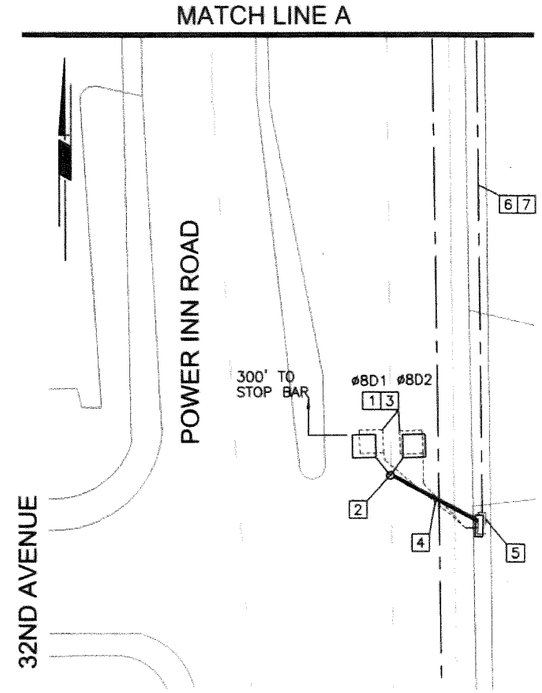
NOTES:

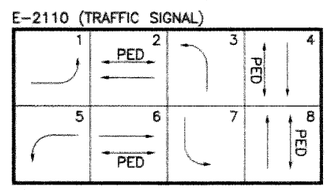
THIS PLAN IS ACCURATE FOR ELECTRICAL WORK ONLY. CONTRACTOR SHALL PROVIDE AND INSTALL EQUIPMENT, UNLESS OTHERWISE SPECIFIED.

CAD FILE: P: Engineering\Services\TechElec\Drawings\2012 Overlay

REVISIONS				RESEARCH PLAN NUMBERS	FIELD BOOK	CITY OF SACRAMENTO DEPARTMENT OF PUBLIC WORKS			ELECTRICAL 2013 OVERLAY - POWER INN ROAD POWER INN ROAD AND LEMON HILL AVENUE TRAFFIC SIGNAL	R15132019	SHEET
NO.	DESCRIPTION	DATE	BY		SCALE 1"=20'	DRAWN BY: A. DEL CARMEN DATE	DESIGN BY: J. MATOBA R.C.E. DATE	CHECKED BY: S. CHATUSRIPITAK R.C.E. DATE			E-3 10





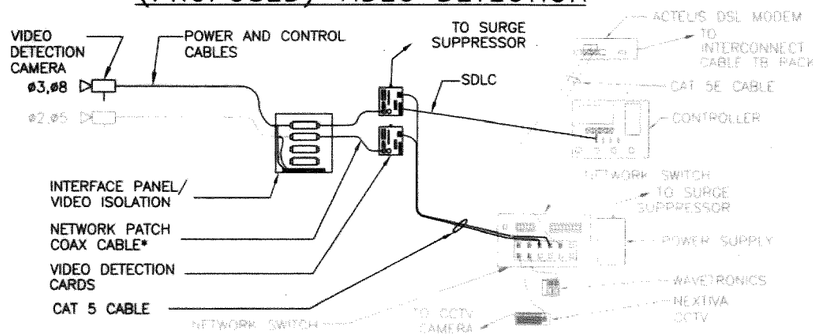


PHASE DIAGRAM
(EXISTING)

POWER INN ROAD 85% DESIGN SPEED 45 MPH. 300'.

EXISTING:
POWER INN ROAD AND FRUITRIDGE ROAD
INTERSECTION #XXXX
TYPE "R" CABINET, McCAIN ATC eX, MULTISONICS
SHELF MOUNT AUTOSCOPE RACKVISION CARD (X2) AND (X2) SINGLE EDCO VIDEO CARD
SHELF MOUNT LOOP DETECTOR CARDS,
OPTICOM GPS EV,
ACTELIS DSL MODEM, CISCO NETWORK SWITCH, SOBAR SURGE SUPPRESSOR,
NEXTIVA CCTV

(PROPOSED) VIDEO DETECTION



CONSTRUCTION NOTES:

1. ABANDON EXISTING DETECTOR LOOP.
2. INSTALL NEW DETECTOR HANDHOLE.
3. INSTALL NEW DETECTOR LOOP. QUANTITIES SHOWN ON DRAWING.
4. PLACE 1-1/2"C – 2 DETECTOR LOOP CABLES AND 1#10 THW GROUND.
5. REMOVE EXISTING PULL BOX AND PLACE NEW No. 5 PULL BOX AND ADJUST TO GRADE.
6. REMOVE ALL EXISTING DETECTOR LEAD-IN CABLES ø3 AND ø8 FROM ABANDONED LOOP TO TRAFFIC SIGNAL CONTROLLER CABINET.
7. INSTALL 2 DETECTOR LEAD-IN CABLES INTO EXISTING CONDUIT FOR ø8D1, ø8D2.
8. EXISTING 2-1/2"C – 12#14 THW TS DISPLAYS, 4#14 THW PED DISPLAYS, 4#14 THW PPB, 2 DETECTOR CABLES (ø2D1, ø2D2), 3#14 THW SPARES, 1#10 THW NEUTRAL, 2#8 THW STREETLIGHT, 1 CCTV CABLE.
9. CITY OF SACRAMENTO TO FURNISH THE ECONOLITE VIDEO DETECTION CAMERA, 28" RISER POLE, MOUNTING HARDWARE, AND CAMERA WHIP FOR INSIDE OF THE POLE ROUTING. CONTRACTOR TO PICK-UP AND INSTALL ALL CITY FURNISHED EQUIPMENT. CAMERA SHALL BE MOUNTED ON THE 28" RISER POLE ON THE TRAFFIC SIGNAL MASTARM. INSTALL THE CAMERA WHIP FROM THE VIDEO DETECTION CAMERA THRU THE MASTARM TO THE HANDHOLE OF THE TRAFFIC SIGNAL SHAFT. CONTRACTOR TO PROVIDE AND INSTALL COAXIAL VIDEO AND POWER CABLES FOR THE CAMERA. INSTALL CABLES FROM THE CAMERA WHIP IN THE HANDHOLE, THRU CONDUIT AND PULL BOXES, TO THE TRAFFIC SIGNAL CONTROLLER CABINET. ALL SPLICING SHALL BE IN THE HANDHOLE WITH ONE PIECE COMPRESSION CONNECTORS AND HEAT SHRINK WRAPPING. SEE STANDARD DETAILS AND SPECIFICATION FOR FURTHER INFORMATION.
10. INSTALL 1 SET OF VIDEO DETECTION CAMERA CABLES (POWER AND VIDEO) INTO EXISTING CONDUIT FROM VIDEO DETECTION CAMERA TO TRAFFIC SIGNAL CABINET.
11. VEHICULAR DETECTOR LOOP: CONTRACTOR SHALL LABEL PHASING AND LAND NEW DETECTOR LEAD-IN CABLES ø8D1 AND ø8D2 TO THE TERMINAL STRIP, REPROGRAM DETECTOR CARD TO REFLECT NEW LAYOUT OF LOOP DETECTION, AND MAKE ALL WIRE/CABLE CONNECTIONS. REMOVE UN-USED DETECTOR CARDS. SEE SPECIAL PROVISIONS FOR ADDITIONAL NOTES.
12. VIDEO DETECTION: CITY OF SACRAMENTO SHALL FURNISH THE FOLLOWING: ONE (1) AIP4 INTERFACE PANEL/VIDEO ISOLATION CARD AND TWO (2) AUTOSCOPE RACKVISION TERRA MACHINE VISION PROCESSOR (MVP) SHELF MOUNT. CONTRACTOR SHALL INSTALL ALL CITY FURNISHED VIDEO DETECTION EQUIPMENT.

    CONTRACTOR TO REMOVE AND SALVAGE EXISTING AUTOSCOPE RACKVISION VIDEO CARD. REMOVE AND SALVAGE EXISTING SINGLE EDCO VIDEO ISOLATION CARD.

    CONTRACTOR SHALL PROVIDE AND INSTALL THE FOLLOWING: ONE (1) SDLC CABLE (INSTALL BETWEEN VIDEO DETECTION CARD AND CONTROLLER), TWO (2) CAT 5E NETWORK PATCH CABLE RJ45 MALE TO RJ45 MALE CAT5 6 FEET LENGTH (INSTALL BETWEEN VIDEO DETECTION CARD AND NETWORK SWITCH), AND TWO (2) COAXIAL CABLE BELDEN 9290 RG6 (INSTALL BETWEEN VIDEO ISOLATION CARD AND VIDEO DETECTION CARD),

    CONTRACTOR SHALL PROVIDE AND INSTALL ONE (1) NTSC MONITOR.

    CONTRACTOR TO PROVIDE AND INSTALL ONE (1) SURGE SUPPRESSOR, TRIPP-LITE (ISOBAR6ULTRA) OR APPROVED EQUAL. SURGE SUPPRESSOR SHALL BE MOUNTED ON RIGHT WALL OF CABINET.

    CONTRACTOR SHALL PROVIDE AND INSTALL COAXIAL CABLE BELDEN 9290 RG6 AND CAMERA POWER BELDEN 601203 MULTI-CONDUCTOR FROM VIDEO ISOLATION CARD TO VIDEO DETECTION CAMERA ON MASTARM THRU CONDUIT.

    THE CONTRACTOR SHALL MAKE ALL WIRE/CABLE/POWER CONNECTIONS FOR A FULLY FUNCTIONAL SYSTEM. CONTRACTOR TO CONNECT POWER TO VIDEO DETECTION CARDS. SEE SPECIAL PROVISIONS FOR ADDITIONAL NOTES.
13. VIDEO CONFIGURATION: THE MANUFACTURER REPRESENTATIVE OF THE VIDEO DETECTION EQUIPMENT SHALL BE ONSITE TO CONFIGURE THE VIDEO DETECTION SYSTEM TO THE DETECTION ZONES AS SHOWN. THE SYSTEM SHALL BE INITIALLY CONFIGURED TO DETECT VEHICLES AND BICYCLES FOR THE EXISTING ROADWAY CONFIGURATION. AFTER THE FINAL ROADWAY CONFIGURATION IS CONSTRUCTED TO THE SATISFACTION OF THE CITY INSPECTOR, THE MANUFACTURER REPRESENTATIVES SHALL RETURN TO THE PROJECT SITE AND RE-CONFIGURE THE VIDEO DETECTION SYSTEM FOR THE NEW LAYOUT OF THE ROADWAY. THE VIDEO SCREEN SHALL BE CONFIGURED TO SHOW THE FOLLOWING: DETECTION ZONES, 22 FONT FOR TEXT, X1 FOR SIGNAL HEAD DISPLAY, REMOVE TITLE OF INTERSECTION, AND REMOVE TIME STAMP. SEE SPECIAL PROVISIONS FOR ADDITIONAL NOTES.

NOTES:

THIS PLAN IS ACCURATE FOR ELECTRICAL WORK ONLY. CONTRACTOR SHALL PROVIDE AND INSTALL EQUIPMENT, UNLESS OTHERWISE SPECIFIED.

REGISTERED PROFESSIONAL ENGINEER JOHN M. MATOBA No. E 8605 Exp. 6/30/14 ELECTRICAL STATE OF CALIFORNIA

CAD FILE: P: Engineering\Services\TechElec\Drawings\2012 Overlay

REVISIONS			
NO.	DESCRIPTION	DATE	BY

RESEARCH PLAN NUMBERS

FIELD BOOK

SCALE 1"=20'

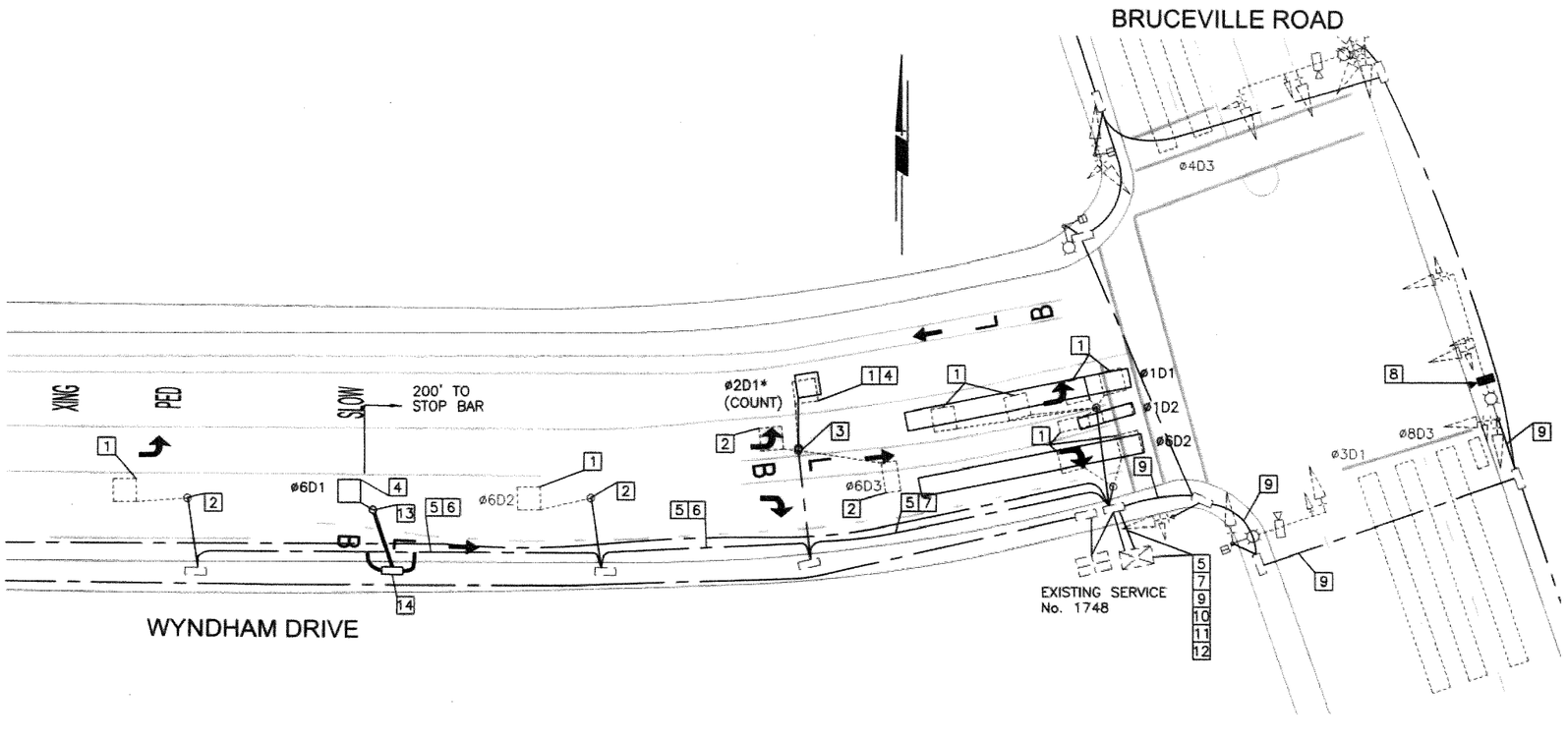
CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: A. DEL CARMEN DATE
DESIGN BY: J. MATOBA R.C.E. DATE
CHECKED BY: S. CHATUSRIPITAK R.C.E. DATE

ELECTRICAL
2013 OVERLAY - POWER INN ROAD
POWER INN ROAD AND FRUITRIDGE ROAD
TRAFFIC SIGNAL

R15132019

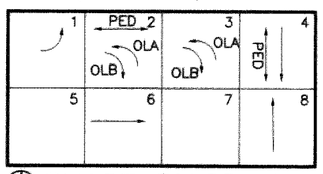
SHEET E-4 OF 10



(PROPOSED) VIDEO DETECTION

BRUCEVILLE RD AND WYNDHAM DRIVE

E-3675 (TRAFFIC SIGNAL)

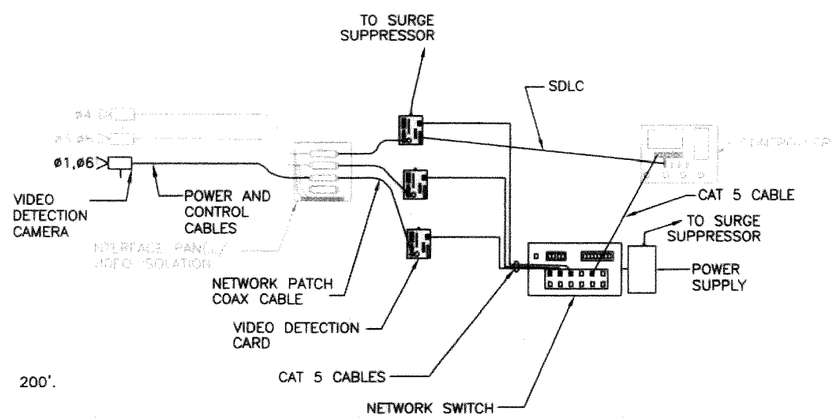


PHASE DIAGRAM

(EXISTING)

WYNDHAM DRIVE 85% DESIGN SPEED 35 MPH. 200'.

EXISTING:
WYNDHAM DRIVE AND BRUCEVILLE ROAD
INTERSECTION #XXXX
TYPE "R" CABINET, TRACONEX, NAZTEC SERIES 500 CONFLICT MONITOR,
RACK MOUNT AUTOSCOPE RACKVISION, ISOLATION CARD,
RACK MOUNT LOOP DETECTOR CARDS
OPTICOM 754



NOTES:

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REGISTERED PROFESSIONAL ENGINEER JOHN M. MATOBA No. E18608 Exp. 6/30/14 ELECTRICAL STATE OF CALIFORNIA

CONSTRUCTION NOTES:

1. ABANDON EXISTING DETECTOR LOOP.
2. ABANDON EXISTING DETECTOR HANDHOLE.
3. REMOVE EXISTING DETECTOR HANDHOLE. INSTALL NEW DETECTOR HANDHOLE.
4. INSTALL NEW DETECTOR LOOP. QUANTITIES SHOWN ON DRAWING.
5. REMOVE ALL EXISTING DETECTOR LEAD-IN CABLES ø1 AND ø6 FROM ABANDONED LOOPS TO TRAFFIC SIGNAL CONTROLLER CABINET.
6. INSTALL 1 DETECTOR LEAD-IN CABLE INTO EXISTING CONDUIT.
7. INSTALL 2 DETECTOR LEAD-IN CABLES INTO EXISTING CONDUIT FOR ø6D1, ø2D1
8. CITY OF SACRAMENTO TO FURNISH THE ECONOLITE VIDEO DETECTION CAMERA, 28" RISER POLE, MOUNTING HARDWARE, AND CAMERA WHIP FOR INSIDE OF THE POLE ROUTING. CONTRACTOR TO PICK-UP AND INSTALL ALL CITY FURNISHED EQUIPMENT. CAMERA SHALL BE MOUNTED ON THE 28" RISER POLE ON THE TRAFFIC SIGNAL MASTARM. INSTALL THE CAMERA WHIP FROM THE VIDEO DETECTION CAMERA THRU THE MASTARM TO THE HANDHOLE OF THE TRAFFIC SIGNAL SHAFT. CONTRACTOR TO PROVIDE AND INSTALL COAXIAL VIDEO AND POWER CABLES FOR THE CAMERA. INSTALL CABLES FROM THE CAMERA WHIP IN THE HANDHOLE, THRU CONDUIT AND PULL BOXES, TO THE TRAFFIC SIGNAL CONTROLLER CABINET. ALL SPLICING SHALL BE IN THE HANDHOLE WITH ONE PIECE COMPRESSION CONNECTORS AND HEAT SHRINK WRAPPING. SEE STANDARD DETAILS AND SPECIFICATION FOR FURTHER INFORMATION.
9. INSTALL 1 SET OF VIDEO DETECTION CAMERA CABLES (POWER AND VIDEO) INTO EXISTING CONDUIT FROM VIDEO DETECTION CAMERA TO TRAFFIC SIGNAL CABINET.
10. VEHICULAR DETECTOR LOOP: CONTRACTOR SHALL LABEL PHASING AND LAND NEW DETECTOR LEAD-IN CABLES ø2D1 AND ø6D1 TO THE TERMINAL STRIP, REPROGRAM DETECTOR CARD TO REFLECT NEW LAYOUT OF LOOP DETECTION, AND MAKE ALL WIRE/CABLE CONNECTIONS. SEE SPECIAL PROVISIONS FOR ADDITIONAL NOTES.
11. VIDEO DETECTION: CITY OF SACRAMENTO SHALL FURNISH THE FOLLOWING: THREE (3) AUTOSCOPE RACKVISION TERRA MACHINE VISION PROCESSOR (MVP) RACK MOUNT. CONTRACTOR SHALL INSTALL ALL CITY FURNISHED VIDEO DETECTION EQUIPMENT.

    CONTRACTOR SHALL SUPPLY AND INSTALL ONE (1) NETWORK SWITCH WITH POWER SUPPLY AND 1 DIN RAIL FOR MOUNTING. INSTALL POWER CABLE FROM POWER SUPPLY TO NETWORK SWITCH.

    CONTRACTOR TO REMOVE AND SALVAGE EXISTING TWO (2) AUTOSCOPE RACKVISION VIDEO CARDS. CONTRACTOR TO REMOVE UNUSED LOOP DETECTION CARDS.

    CONTRACTOR SHALL PROVIDE AND INSTALL THE FOLLOWING: ONE (1) SDLC CABLE (INSTALL BETWEEN VIDEO DETECTION CARD AND CONTROLLER), THREE (3) CAT 5E NETWORK PATCH CABLE RJ45 MALE TO RJ45 MALE CAT5 6 FEET LENGTH (INSTALL BETWEEN VIDEO DETECTION CARD AND NETWORK SWITCH), ONE (1) CAT 5E NETWORK PATCH CABLE RJ45 MALE TO RJ45 MALE CAT5 6 FEET LENGTH (INSTALL BETWEEN NETWORK SWITCH AND CONTROLLER), AND THREE (3) COAXIAL CABLE BELDEN 9290 RG6 (INSTALL BETWEEN VIDEO ISOLATION CARD AND VIDEO DETECTION CARD).

    CONTRACTOR SHALL PROVIDE AND INSTALL ONE (1) NTSC MONITOR.

    CONTRACTOR TO PROVIDE AND INSTALL ONE (1) SURGE SUPPRESSOR, TRIPP-LITE (ISOBAR6ULTRA) OR APPROVED EQUAL. SURGE SUPPRESSOR SHALL BE MOUNTED ON RIGHT WALL OF CABINET.

    CONTRACTOR SHALL PROVIDE AND INSTALL COAXIAL CABLE BELDEN 9290 RG6 AND CAMERA POWER BELDEN 601203 MULTI-CONDUCTOR FROM VIDEO ISOLATION CARD TO VIDEO DETECTION CAMERA ON MASTARM THRU CONDUIT.

    THE CONTRACTOR SHALL MAKE ALL WIRE/CABLE/POWER CONNECTIONS FOR A FULLY FUNCTIONAL SYSTEM. CONTRACTOR TO CONNECT POWER TO VIDEO DETECTION CARDS. SEE SPECIAL PROVISIONS FOR ADDITIONAL NOTES.
12. VIDEO CONFIGURATION: THE MANUFACTURER REPRESENTATIVE OF THE VIDEO DETECTION EQUIPMENT SHALL BE ONSITE TO CONFIGURE THE VIDEO DETECTION SYSTEM TO THE DETECTION ZONES AS SHOWN. THE SYSTEM SHALL BE INITIALLY CONFIGURED TO DETECT VEHICLES AND BICYCLES FOR THE EXISTING ROADWAY CONFIGURATION. AFTER THE FINAL ROADWAY CONFIGURATION IS CONSTRUCTED TO THE SATISFACTION OF THE CITY INSPECTOR, THE MANUFACTURER REPRESENTATIVES SHALL RETURN TO THE PROJECT SITE AND RE-CONFIGURE THE VIDEO DETECTION SYSTEM FOR THE NEW LAYOUT OF THE ROADWAY. THE VIDEO SCREEN SHALL BE CONFIGURED TO SHOW THE FOLLOWING: DETECTION ZONES, 22 FONT FOR TEXT, X1 FOR SIGNAL HEAD DISPLAY, REMOVE TITLE OF INTERSECTION, AND REMOVE TIME STAMP. SEE SPECIAL PROVISIONS FOR ADDITIONAL NOTES.
13. INSTALL NEW DETECTOR HANDHOLE.
14. PLACE NEW No. 5 PULL BOX AND ADJUST TO GRADE. INTERCEPT EXISTING CONDUITS AND CONDUCTORS AND EXTEND INTO NEW PULL BOX.

CAD FILE: P: Engineering\Services\TechElec\Drawings\2012 Overlay

REVISIONS NO.	DESCRIPTION	DATE	BY

RESEARCH PLAN NUMBERS

FIELD BOOK

SCALE 1"=20'

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: A. DEL CARMEN DATE 3/2013
DESIGN BY: J. MATOBA R.C.E. ____ DATE ____
CHECKED BY: S. CHATUSRIPITAK R.C.E. ____ DATE ____

ELECTRICAL

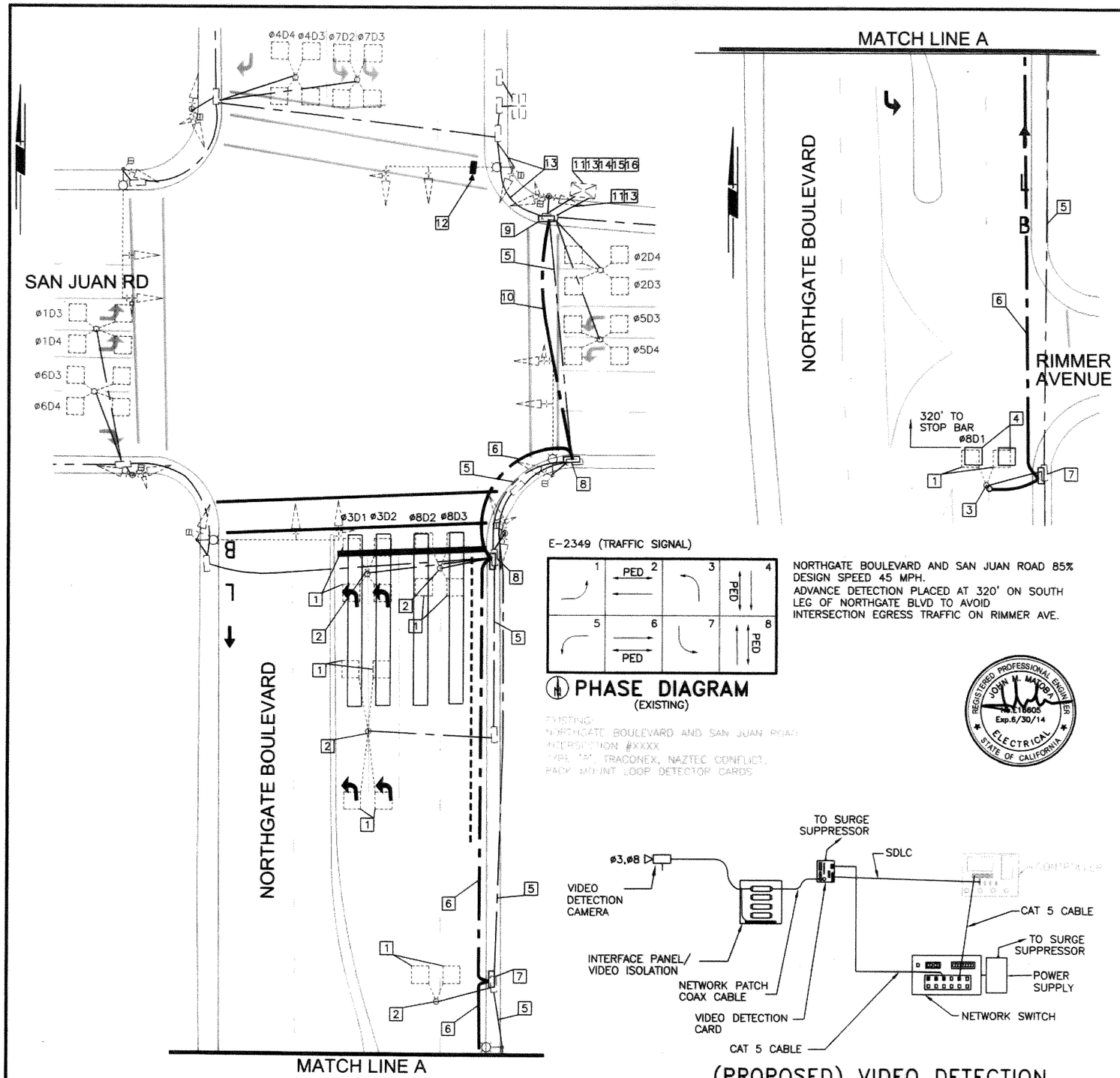
2013 OVERLAY - WYNDHAM DRIVE

WYNDHAM DRIVE AND BRUCEVILLE ROAD

TRAFFIC SIGNAL

R15132019

SHEET E-5 OF 10



(PROPOSED) VIDEO DETECTION

NORTHGATE BLVD AND SAN JUAN ROAD

CONSTRUCTION NOTES:

1. ABANDON EXISTING DETECTOR LOOP.
2. ABANDON EXISTING DETECTOR HANDHOLE.
3. REMOVE EXISTING DETECTOR HANDHOLE. INSTALL NEW DETECTOR HANDHOLE.
4. INSTALL NEW DETECTOR LOOP. QUANTITIES SHOWN ON DRAWING.
5. REMOVE ALL EXISTING DETECTOR LEAD-IN CABLES ø3 AND ø8 FROM ABANDONED LOOPS TO TRAFFIC SIGNAL CONTROLLER CABINET.
6. PLACE 2"C – 1 DETECTOR LEAD-IN CABLE (ø8D1) AND 1#10 THW GROUND.
7. REMOVE EXISTING PULL BOX AND PLACE NEW No. 5 PULL BOX AND ADJUST TO GRADE.
8. REMOVE EXISTING PULL BOX AND PLACE NEW No. 6 PULL BOX AND ADJUST TO GRADE.
9. REMOVE EXISTING PULL BOX AND PLACE NEW No. 44 PULL BOX AND ADJUST TO GRADE.
10. PLACE 3"C – 1 DETECTOR LEAD-IN CABLE (ø8D1) AND 1#10 THW GROUND.
11. INSTALL 1 DETECTOR LEAD-IN CABLE (ø8D1) INTO EXISTING CONDUIT.
12. CITY OF SACRAMENTO TO FURNISH THE ECONOLITE VIDEO DETECTION CAMERA, 28" RISER POLE, MOUNTING HARDWARE, AND CAMERA WHIP FOR INSIDE OF THE POLE ROUTING. CONTRACTOR TO PICK-UP AND INSTALL ALL CITY FURNISHED EQUIPMENT. CAMERA SHALL BE MOUNTED ON THE 28" RISER POLE ON THE TRAFFIC SIGNAL MASTARM. INSTALL THE CAMERA WHIP FROM THE VIDEO DETECTION CAMERA THRU THE MASTARM TO THE HANDHOLE OF THE TRAFFIC SIGNAL SHAFT. CONTRACTOR TO PROVIDE AND INSTALL COAXIAL VIDEO AND POWER CABLES FOR THE CAMERA. INSTALL CABLES FROM THE CAMERA WHIP IN THE HANDHOLE, THRU CONDUIT AND PULL BOXES, TO THE TRAFFIC SIGNAL CONTROLLER CABINET. ALL SPLICING SHALL BE IN THE HANDHOLE WITH ONE PIECE COMPRESSION CONNECTORS AND HEAT SHRINK WRAPPING. SEE STANDARD DETAILS AND SPECIFICATION FOR FURTHER INFORMATION.
13. INSTALL 1 SET OF VIDEO DETECTION CAMERA CABLES (POWER AND VIDEO) INTO EXISTING CONDUIT FROM VIDEO DETECTION CAMERA TO TRAFFIC SIGNAL CABINET.
14. VEHICULAR DETECTOR LOOP: CONTRACTOR SHALL LABEL PHASING AND LAND NEW DETECTOR LEAD-IN CABLES ø8D1 TO THE TERMINAL STRIP, REPROGRAM DETECTOR CARD TO REFLECT NEW LAYOUT OF LOOP DETECTION, AND MAKE ALL WIRE/CABLE CONNECTIONS. REMOVE UN-USED DETECTOR CARDS. SEE SPECIAL PROVISIONS FOR ADDITIONAL NOTES.
15. VIDEO DETECTION: CITY OF SACRAMENTO SHALL FURNISH THE FOLLOWING: ONE (1) AIP4 INTERFACE PANEL/VIDEO ISOLATION CARD AND ONE (1) AUTOSCOPE RACKVISION TERRA MACHINE VISION PROCESSOR (MVP) RACK MOUNT. CONTRACTOR SHALL INSTALL ALL CITY FURNISHED VIDEO DETECTION EQUIPMENT.

    CONTRACTOR SHALL SUPPLY AND INSTALL ONE (1) NETWORK SWITCH WITH POWER SUPPLY AND 1 DIN RAIL FOR MOUNTING. INSTALL POWER CABLE FROM POWER SUPPLY TO NETWORK SWITCH.

    CONTRACTOR SHALL SUPPLY AND INSTALL ONE (1) SURGE SUPPRESSOR POWER STRIP, TRIPP-LITE POWER PROTECTION, MODEL ISOBAR6ULTRA OR APPROVED EQUAL.

    CONTRACTOR TO REMOVE UNUSED LOOP DETECTION CARDS.

    CONTRACTOR SHALL PROVIDE AND INSTALL THE FOLLOWING: ONE (1) SDLC CABLE (INSTALL BETWEEN VIDEO DETECTION CARD AND CONTROLLER), TWO (2) CAT 5E NETWORK PATCH CABLE RJ45 MALE TO RJ45 MALE CAT5 6 FEET LENGTH (INSTALL BETWEEN VIDEO DETECTION CARD AND NETWORK SWITCH, INSTALL BETWEEN NETWORK SWITCH AND CONTROLLER), AND ONE (1) COAXIAL CABLE BELDEN 9290 RG6 (INSTALL BETWEEN VIDEO ISOLATION CARD AND VIDEO DETECTION CARD).

    CONTRACTOR SHALL PROVIDE AND INSTALL ONE (1) NTSC MONITOR.

    CONTRACTOR SHALL PROVIDE AND INSTALL COAXIAL CABLE BELDEN 9290 RG6 AND CAMERA POWER BELDEN 601203 MULTI-CONDUCTOR FROM VIDEO ISOLATION CARD TO VIDEO DETECTION CAMERA ON MASTARM THRU CONDUIT.

    THE CONTRACTOR SHALL MAKE ALL WIRE/CABLE/POWER CONNECTIONS FOR A FULLY FUNCTIONAL SYSTEM. CONTRACTOR TO CONNECT POWER TO VIDEO DETECTION CARDS. SEE SPECIAL PROVISIONS FOR ADDITIONAL NOTES.
16. VIDEO CONFIGURATION: THE MANUFACTURER REPRESENTATIVE OF THE VIDEO DETECTION EQUIPMENT SHALL BE ONSITE TO CONFIGURE THE VIDEO DETECTION SYSTEM TO THE DETECTION ZONES AS SHOWN. THE SYSTEM SHALL BE INITIALLY CONFIGURED TO DETECT VEHICLES AND BICYCLES FOR THE EXISTING ROADWAY CONFIGURATION. AFTER THE FINAL ROADWAY CONFIGURATION IS CONSTRUCTED TO THE SATISFACTION OF THE CITY INSPECTOR, THE MANUFACTURER REPRESENTATIVES SHALL RETURN TO THE PROJECT SITE AND RE-CONFIGURE THE VIDEO DETECTION SYSTEM FOR THE NEW LAYOUT OF THE ROADWAY. THE VIDEO SCREEN SHALL BE CONFIGURED TO SHOW THE FOLLOWING: DETECTION ZONES, 22 FONT FOR TEXT, X1 FOR SIGNAL HEAD DISPLAY, REMOVE TITLE OF INTERSECTION, AND REMOVE TIME STAMP. SEE SPECIAL PROVISIONS FOR ADDITIONAL NOTES.

NOTES:

THIS PLAN IS ACCURATE FOR ELECTRICAL WORK ONLY. CONTRACTOR SHALL PROVIDE AND INSTALL EQUIPMENT, UNLESS OTHERWISE SPECIFIED.

REGISTERED PROFESSIONAL ENGINEER JOHN M. MATOBA No. E18605 Exp. 6/30/14 ELECTRICAL STATE OF CALIFORNIA

CAD FILE: P:\Engineering\Services\TechElec\Drawings\2012 Overlay

REVISIONS			
NO.	DESCRIPTION	DATE	BY

RESEARCH PLAN NUMBERS

FIELD BOOK

SCALE 1"=20'

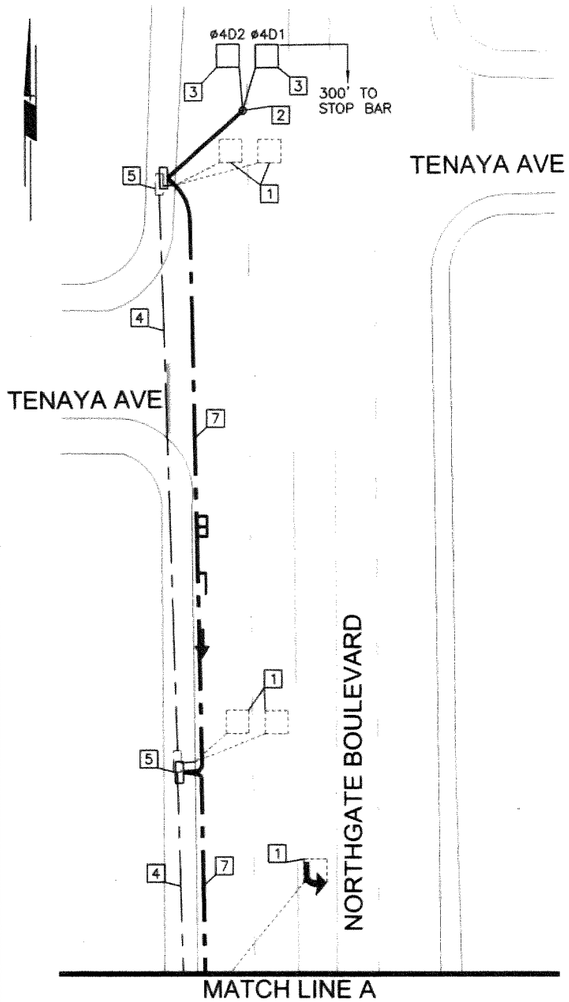
CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

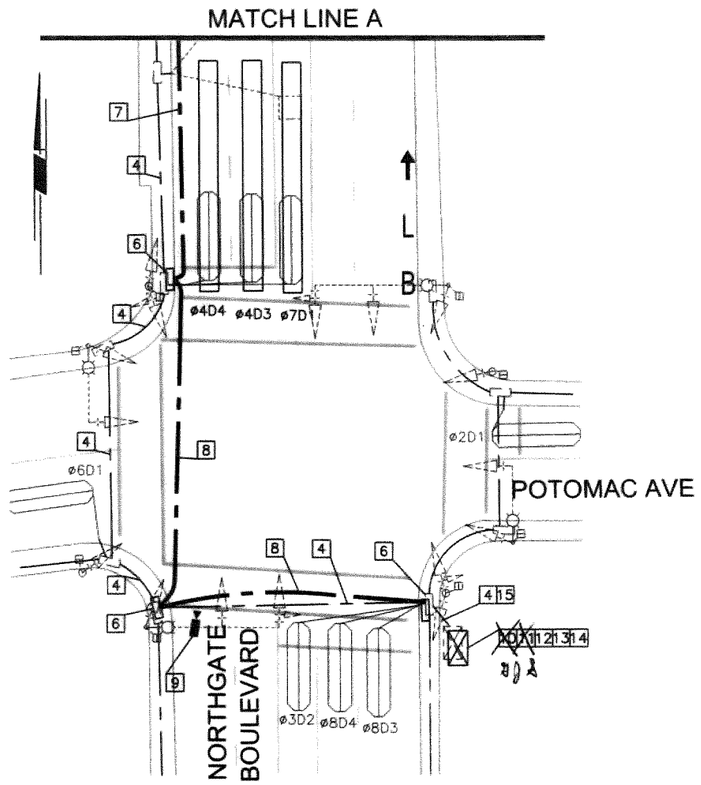
DRAWN BY: A. DEL CARMEN DATE 3/2013
DESIGN BY: J. MATOBA R.C.E. ____ DATE ____
CHECKED BY: S. CHATUSRIPITAK R.C.E. ____ DATE ____

ELECTRICAL
2013 OVERLAY - NORTHGATE
NORTHGATE BOULEVARD AND SAN JUAN ROAD
TRAFFIC SIGNAL

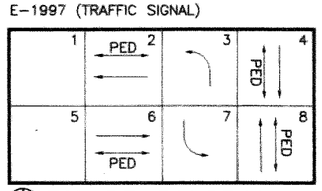
R15132019

SHEET E-6
~~21~~ of 248
10





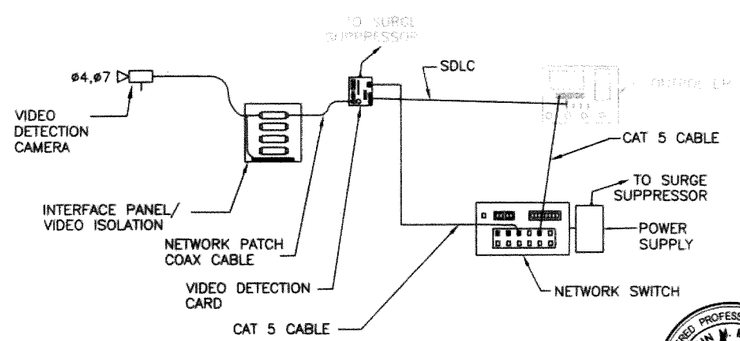
E-1997 (TRAFFIC SIGNAL)



PHASE DIAGRAM
(EXISTING)

NORTHGATE BOULEVARD AND POTOMAC AVENUE 85% DESIGN SPEED 45 MPH. 300'.

EXISTING:
NORTHGATE BOULEVARD AND POTOMAC AVENUE
INTERSECTION #[illegible]
TYPE 'R' MULTI-CONDUCTOR CABINET, TRACONEX, MULTI-CONDUCTOR, TRAFFIC MONITOR,
SHELF MOUNT [illegible] DETECTORS
RACK MOUNT [illegible] DETECTOR CARDS
NO EV



(PROPOSED) VIDEO DETECTION
NORTHGATE BLVD AND POTOMAC AVENUE

REGISTERED PROFESSIONAL ENGINEER JOHN J. MATOBA No. E 6605 Exp. 6/30/14 ELECTRICAL STATE OF CALIFORNIA

NOTES:
THIS PLAN IS ACCURATE FOR ELECTRICAL WORK ONLY. CONTRACTOR SHALL PROVIDE AND INSTALL EQUIPMENT, UNLESS OTHERWISE SPECIFIED.

CONSTRUCTION NOTES:

1. ABANDON EXISTING DETECTOR LOOP.
2. INSTALL NEW DETECTOR HANDHOLE.
3. INSTALL NEW DETECTOR LOOP. QUANTITIES SHOWN ON DRAWING.
4. REMOVE ALL EXISTING DETECTOR LEAD-IN CABLES ø4 AND ø7 FROM ABANDONED LOOPS TO TRAFFIC SIGNAL CONTROLLER CABINET.
5. REMOVE EXISTING PULL BOX AND PLACE NEW No. 5 PULL BOX AND ADJUST TO GRADE.
6. REMOVE EXISTING PULL BOX AND PLACE NEW No. 6 PULL BOX AND ADJUST TO GRADE.
7. PLACE 2"C – 2 DETECTOR LEAD-IN CABLES (ø4D1, ø4D2) AND 1#10 THW GROUND.
8. PLACE 3"C – 2 DETECTOR LEAD-IN CABLES (ø4D1, ø4D2), 1 SET OF VIDEO DETECTION CABLES (POWER AND CONTROL CABLES), AND 1#10 THW GROUND.
9. CITY OF SACRAMENTO TO FURNISH THE ECONOLITE VIDEO DETECTION CAMERA, 28" RISER POLE, MOUNTING HARDWARE, AND CAMERA WHIP FOR INSIDE OF THE POLE ROUTING. CONTRACTOR TO PICK-UP AND INSTALL ALL CITY FURNISHED EQUIPMENT. CAMERA SHALL BE MOUNTED ON THE 28" RISER POLE ON THE TRAFFIC SIGNAL MASTARM. INSTALL THE CAMERA WHIP FROM THE VIDEO DETECTION CAMERA THRU THE MASTARM TO THE HANDHOLE OF THE TRAFFIC SIGNAL SHAFT. CONTRACTOR TO PROVIDE AND INSTALL COAXIAL VIDEO AND POWER CABLES FOR THE CAMERA. INSTALL CABLES FROM THE CAMERA WHIP IN THE HANDHOLE, THRU CONDUIT AND PULL BOXES, TO THE TRAFFIC SIGNAL CONTROLLER CABINET. ALL SPLICING SHALL BE IN THE HANDHOLE WITH ONE PIECE COMPRESSION CONNECTORS AND HEAT SHRINK WRAPPING. SEE STANDARD DETAILS AND SPECIFICATION FOR FURTHER INFORMATION.
10. ~~CONTRACTOR TO REMOVE EXISTING TRAFFIC SIGNAL CABINET FROM FOUNDATION. CABINET SHALL BE DISPOSED OF. EXISTING FOUNDATION AND ANCHOR BOLTS TO REMAIN. CONTRACTOR TO DISCONNECT ALL CONDUCTORS AND CABLES FROM SERVICE POWER, GROUNDING SYSTEM, LOAD BAY, TERMINAL STRIPS, DETECTOR PANELS, AND OTHER CONNECTIONS TO EQUIPMENT. ALL COMPONENTS, SUCH AS LOAD SWITCHES, DETECTOR LOOP CARDS, CONTROLLER, CONFLICT MONITOR, ETC., SHALL BE REMOVED AND SALVAGED TO THE CITY.~~ To be completed by City
11. ~~CONTRACTOR TO INSTALL CITY FURNISHED TYPE 'R' TRAFFIC SIGNAL CABINET ON EXISTING FOUNDATION. CONTRACTOR TO RE-CONNECT ALL CONDUCTORS AND CABLES TO THE LOAD BAY, FIELD INPUT PANEL, DETECTOR PROGRAMMING PANELS, FIELD LUGS, LOAD BAY, AND POWER PANEL TO ENSURE A FULLY OPERATIONAL TRAFFIC SIGNAL SYSTEM. NEW CABINET SHALL BE INSTALLED ON EXISTING FOUNDATION. CONTRACTOR TO PICK-UP CABINET FROM CITY OF SACRAMENTO SOUTH AREA CORPORATION YARD.~~ To be completed by City
12. VIDEO DETECTION: CITY OF SACRAMENTO SHALL FURNISH THE FOLLOWING: ONE (1) AIP4 INTERFACE PANEL/VIDEO ISOLATION CARD AND ONE (1) AUTOSCOPE RACKVISION TERRA MACHINE VISION PROCESSOR (MVP) RACK MOUNT. CONTRACTOR SHALL INSTALL ALL CITY FURNISHED VIDEO DETECTION EQUIPMENT.

    CONTRACTOR SHALL SUPPLY AND INSTALL ONE (1) NETWORK SWITCH WITH POWER SUPPLY AND 1 DIN RAIL FOR MOUNTING. INSTALL POWER CABLE FROM POWER SUPPLY TO NETWORK SWITCH.

    CONTRACTOR SHALL PROVIDE AND INSTALL ONE (1) NTSC MONITOR.

    CONTRACTOR SHALL PROVIDE AND INSTALL THE FOLLOWING: ONE (1) SDLC CABLE (INSTALL BETWEEN VIDEO DETECTION CARD AND CONTROLLER), TWO (2) CAT 5E NETWORK PATCH CABLE RJ45 MALE TO RJ45 MALE CAT5 6 FEET LENGTH (INSTALL BETWEEN VIDEO DETECTION CARD AND NETWORK SWITCH, INSTALL BETWEEN NETWORK SWITCH AND CONTROLLER), AND ONE (1) COAXIAL CABLE BELDEN 9290 RG6 (INSTALL BETWEEN VIDEO ISOLATION CARD AND VIDEO DETECTION CARD).

    CONTRACTOR SHALL PROVIDE AND INSTALL COAXIAL CABLE BELDEN 9290 RG6 AND CAMERA POWER BELDEN 601203 MULTI-CONDUCTOR FROM VIDEO ISOLATION CARD TO VIDEO DETECTION CAMERA ON MASTARM THRU CONDUIT.

    THE CONTRACTOR SHALL MAKE ALL WIRE/CABLE/POWER CONNECTIONS FOR A FULLY FUNCTIONAL SYSTEM. CONTRACTOR TO CONNECT POWER TO VIDEO DETECTION CARDS. SEE SPECIAL PROVISIONS FOR ADDITIONAL NOTES.
13. VEHICULAR DETECTOR LOOP: CONTRACTOR SHALL LABEL PHASING AND LAND DETECTOR LEAD-IN CABLES TO THE TERMINAL STRIP, REPROGRAM DETECTOR CARD TO REFLECT NEW LAYOUT OF LOOP DETECTION, AND MAKE ALL WIRE/CABLE CONNECTIONS. SEE SPECIAL PROVISIONS FOR ADDITIONAL NOTES.
14. VIDEO CONFIGURATION: THE MANUFACTURER REPRESENTATIVE OF THE VIDEO DETECTION EQUIPMENT SHALL BE ONSITE TO CONFIGURE THE VIDEO DETECTION SYSTEM TO THE DETECTION ZONES AS SHOWN. THE SYSTEM SHALL BE INITIALLY CONFIGURED TO DETECT VEHICLES AND BICYCLES FOR THE EXISTING ROADWAY CONFIGURATION. AFTER THE FINAL ROADWAY CONFIGURATION IS CONSTRUCTED TO THE SATISFACTION OF THE CITY INSPECTOR, THE MANUFACTURER REPRESENTATIVES SHALL RETURN TO THE PROJECT SITE AND RE-CONFIGURE THE VIDEO DETECTION SYSTEM FOR THE NEW LAYOUT OF THE ROADWAY. THE VIDEO SCREEN SHALL BE CONFIGURED TO SHOW THE FOLLOWING: DETECTION ZONES, 22 FONT FOR TEXT, X1 FOR SIGNAL HEAD DISPLAY, REMOVE TITLE OF INTERSECTION, AND REMOVE TIME STAMP. SEE SPECIAL PROVISIONS FOR ADDITIONAL NOTES.
15. INSTALL ONE SET OF VIDEO DETECTION CAMERA CABLES (POWER AND VIDEO) INTO EXISTING CONDUIT.

CAD FILE: P: Engineering\Services\TechEtec\Drawings\2012 Overlay

REVISIONS NO.	DESCRIPTION	DATE	BY

RESEARCH PLAN NUMBERS

FIELD BOOK

SCALE 1"=20'

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: A. DEL CARMEN DATE 3/2013
DESIGN BY: J. MATOBA R.C.E. DATE
CHECKED BY: S. CHATUSRIPITAK R.C.E. DATE

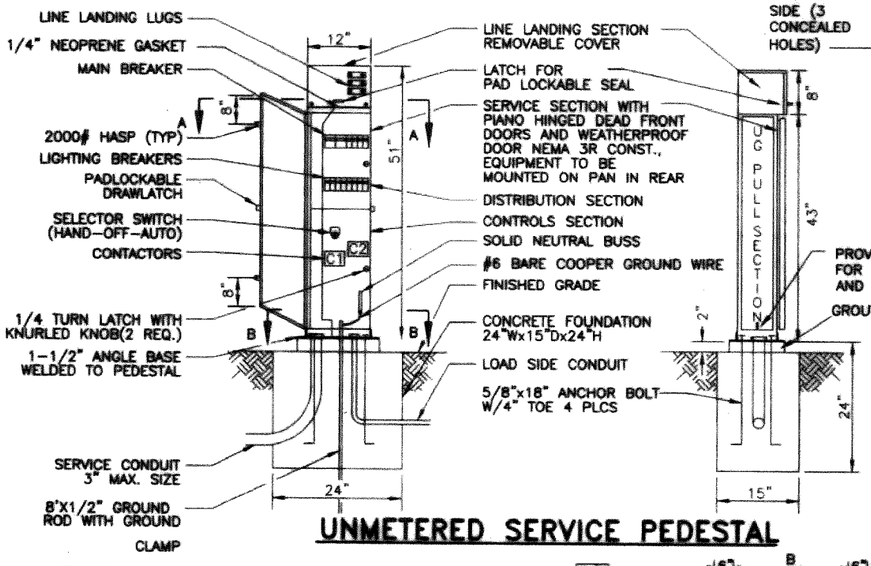
ELECTRICAL
2013 OVERLAY - NORTHGATE
NORTHGATE BOULEVARD AND POTOMAC AVENUE
TRAFFIC SIGNAL

R15 2019

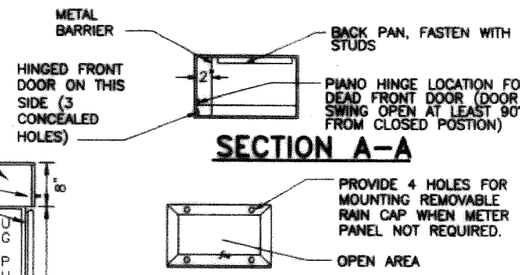
SHEET E-7 OF 10

EXISTING	NEW	DESCRIPTION
	CIRCUIT NO.	ELECTROLIER FOR POST TOP LUMINAIRE
	CIRCUIT NO.	ELECTROLIER WITH MAST ARM FOR MAST ARM MOUNTED LUMINAIRE
		OVERHEAD CONDUCTOR
		CONDUIT
		PULL BOX
		SERVICE PEDESTSAL
		SMUD SERVICE POLE
		SMUD SERVICE SIDEWALK BOX

EXISTING	NEW	DESCRIPTION
	TYPE III	TYPICAL I.E.S. LIGHT PATTERN OF LUMINAIRE
	1	INDICATES CONSTRUCTION NOTE No. 1
		TELEPHONE CABLE (UNDERGROUND)
		GAS LINE (UNDERGROUND)
		SMUD CABLE (UNDERGROUND)

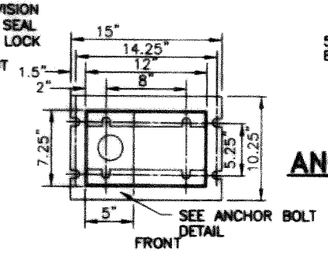


UNMETERED SERVICE PEDESTAL

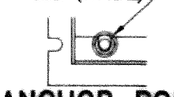


SECTION A-A

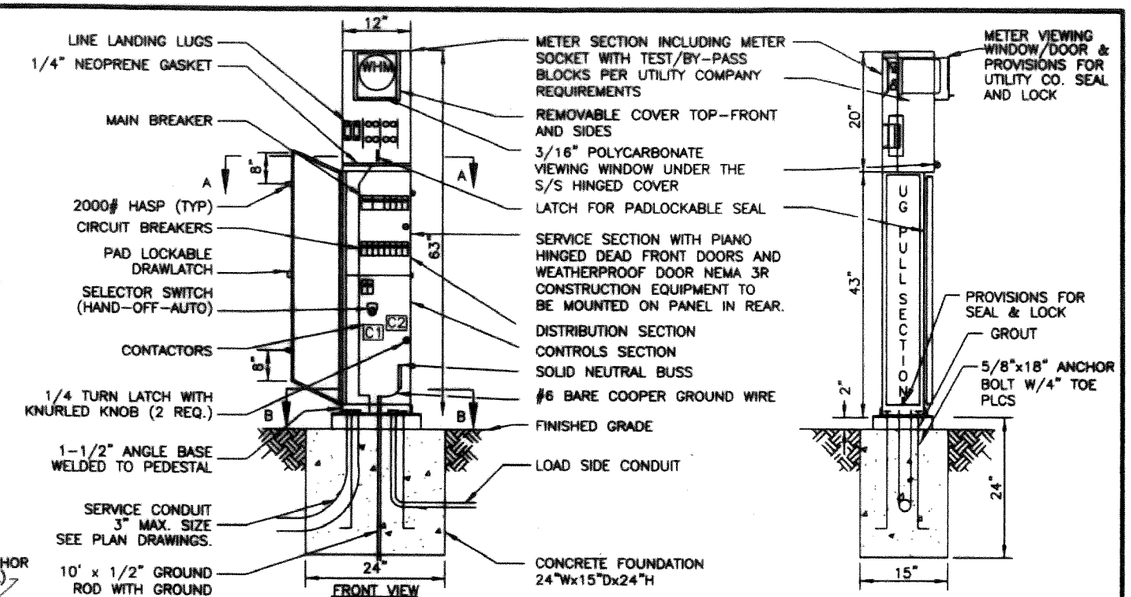
SECTION B-B



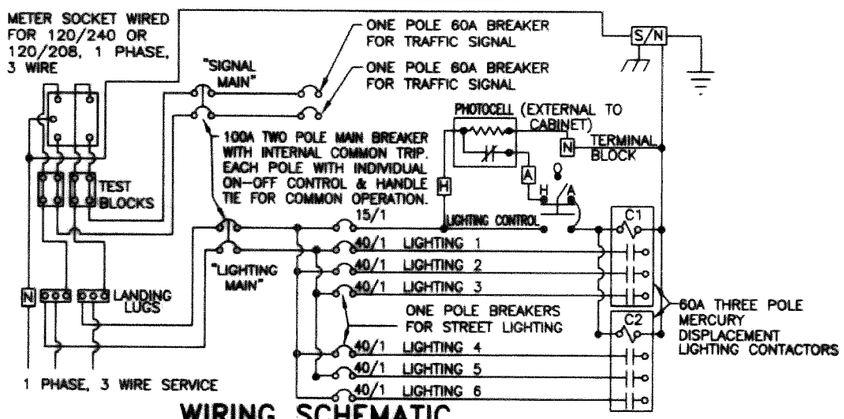
BASE PLATE DETAIL



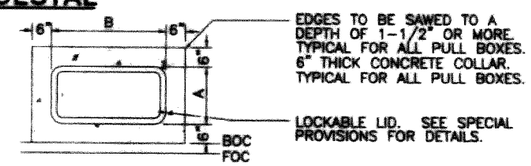
ANCHOR BOLT



METERED SERVICE PEDESTAL

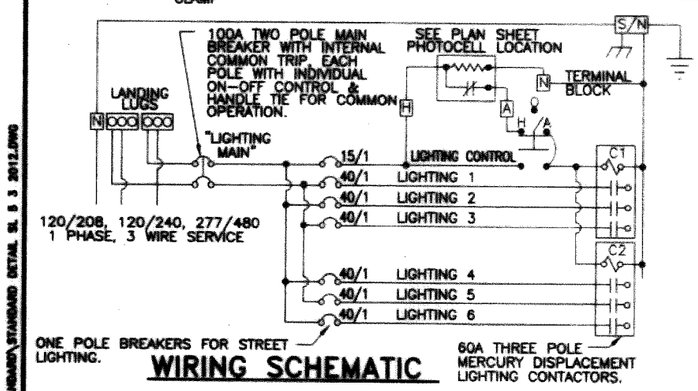


WIRING SCHEMATIC



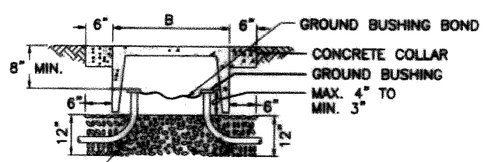
PULL BOX DIMENSIONS		
PULL BOX	A	B
3-1/2	13-3/4"	19"
5	18"	27-1/2"
5A	16"	25"
6	22"	35"

CONCRETE PULL BOX

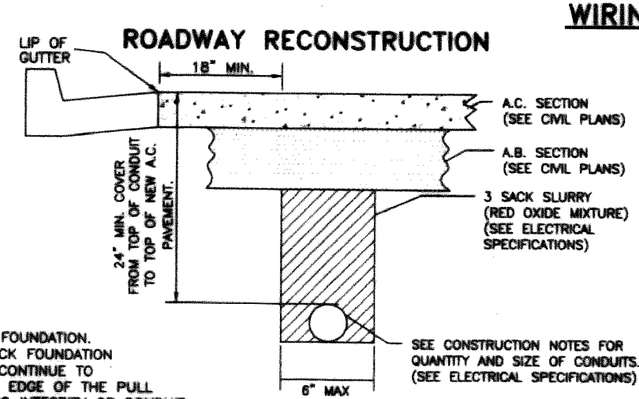


WIRING SCHEMATIC

1. EXTERIOR 14 GAUGE #304D STAINLESS STEEL INTERIOR DEAD FRONT PANEL AND BACK PAN SHALL BE 14 GAUGE STEEL PAINTED WHITE ELECTRICALLY WELDED AND REINFORCED WHERE REQUIRED.
2. CONSTRUCTION IS NEMA 3R AND 12, RAINTIGHT AND DUSTTIGHT.
3. ALL NUTS, BOLTS, SCREWS AND HINGES SHALL BE STAINLESS STEEL.
4. NUTS, BOLTS & SCREWS ARE NOT USED ON THE OUTSIDE OF PEDESTAL.
5. PHENOLIC NAMEPLATES TO IDENTIFY ALL OPERATOR CONTROLS
6. CONTROL WIRING WILL BE MARKED AT BOTH ENDS BY PERMANENT WIRE MARKERS.
7. A PLASTIC COVERED WIRING DIAGRAM WILL BE ATTACHED TO THE INSIDE OF THE FRONT DOOR.
8. PEDESTAL WILL BE FACTORY WIRED AND CONFORM TO REQUIRED NEMA STANDARDS.
9. PEDESTAL(S) WILL BE U.L. LISTED AS INDUSTRIAL CONTROL PANELS U.L. 508 FILE NO. E62062
10. WIRING BETWEEN CIRCUIT BREAKER AND CONTACTOR SHALL BE A #6 THWN OR THHN MINIMUM.
11. SEE STANDARD SPECIFICATIONS FOR ADDITIONAL DETAILS.



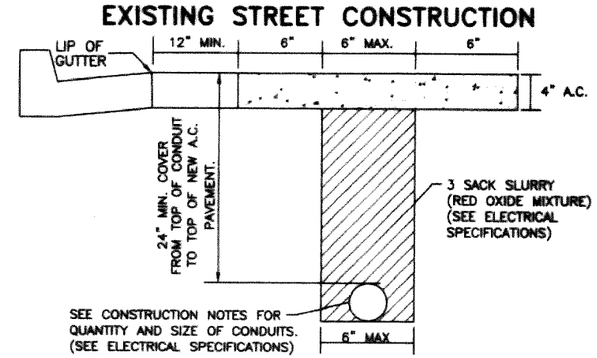
INSTALL PULL BOX ON TOP OF CRUSHED ROCK FOUNDATION. ADJUST PULL BOX TO GRADE. THE CRUSHED ROCK FOUNDATION SHALL HAVE A MINIMUM OF 12" IN DEPTH AND CONTINUE TO EXTEND A MINIMUM OF 6" BEYOND THE OUTSIDE EDGE OF THE PULL BOX. COMPACT CRUSHED ROCK WHILE MAINTANING INTEGRITY OF CONDUIT. CONDUIT AND PULL BOX SHALL NOT BE DAMAGED NOR CRACKED.



ROADWAY RECONSTRUCTION

TRENCH

NOT TO SCALE



EXISTING STREET CONSTRUCTION

T-TRENCH

NOT TO SCALE

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REVISIONS			
NO.	DESCRIPTION	DATE	BY

BENCH MARK ELEV. _____
DESCRIPTION

FIELD BOOK

SCALE N.T.S.

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: STAFF DATE 07/06/12
DESIGN BY: STAFF R.C.E. _____ DATE _____
CHECKED BY: S. CHATUSRIPITAK R.C.E. _____ DATE _____

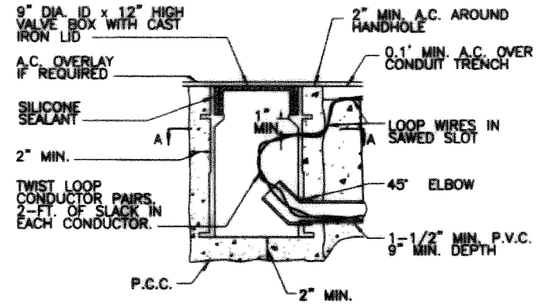
ELECTRICAL
STANDARD ELECTRICAL DETAILS

APPROVED BY: SOMPOT CHATUSRIPITAK, SENIOR ELECTRICAL ENGINEER P.E. E-13633 DATE: 7/10/12

SHEET E-8 of 10

LEGEND

EXISTING	PROPOSED	
		EMERGENCY VEHICLE DETECTOR (EV)
		TRAFFIC SIGNAL FACE WITH BACK PLATE
		TRAFFIC SIGNAL FACE WITH 12" ARROW SECTIONS
		TYPE 1 STANDARD AND ATTACHED TRAFFIC SIGNAL FACES
		STANDARD WITH SIGNAL MAST ARM ONLY AND ATTACHED TRAFFIC SIGNAL FACES
		STANDARD WITH SIGNAL AND LUMINAIRE MAST ARMS AND ATTACHED TRAFFIC SIGNAL FACES AND LUMINAIRE
DETECTOR HANDHOLE	DETECTOR HANDHOLE	INDUCTIVE LOOP DETECTOR, WITH DETECTOR HANDHOLE AND LOCATION OF SAWCUTS
		VIDEO DETECTION ZONE
		ELECTROLIER, TYPE 15 STANDARD WITH MAST ARM WITH CIRCUIT No. INDICATED.
		PEDESTRIAN SIGNAL FACE, 2 SECTIONS (ELECTROLIER/APPURTENANCE) WITH CIRCUIT No. INDICATED.
		CONTROLLER CABINET
		SERVICE PEDESTAL
		CONCRETE PULL BOX No. 5 MINIMUM
ppb	PPB	PEDESTRIAN PUSH BUTTON
		FIRE ALARM BOX
		TRAFFIC SIGNAL CONDUIT
		OVERHEAD CONDUCTOR
		PEDESTRIAN PUSH BUTTON POST
		S.M.U.D. SERVICE BOX
		POWER POLE
		VIDEO DETECTION CAMERA
		CCTV



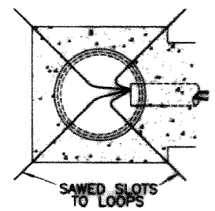
TYPE 'B' DETECTOR

TYPE 'B' DETECTOR HANDHOLE INSTALLATION REQUIREMENTS:

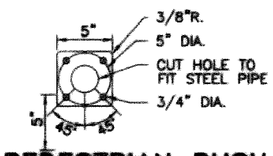
1. OUTLINE OF TRENCH SHALL BE SAW CUT TO A MINIMUM DEPTH OF 3" EXCEPT WHERE AC OVERLAY IS TO BE PLACED.
2. THE PRECAST VALVE BOX WITH CAST IRON LID SHALL BE FABRICATED OF CALCIUM CARBONATE AND POLYESTER RESINS WITH FIBERGLASS REINFORCING AND DESIGNED FOR HEAVY TRAFFIC LOADS.
3. CAST IRON LID SHALL BE MARKED "DETECTOR" AND SHALL BE SECURED IN PLACE BY APPLYING WATERPROOF SILICONE SEALANT. VALVE BOX SHALL BE CENTERED ON LANE LINE, UNLESS OTHERWISE SHOWN ON THE PLANS.
4. THE EXCAVATION AROUND THE HANDHOLE SHALL BE BACKFILLED WITH P.C.C. EXCEPT THE TOP 2" IN AC SURFACED ROADWAYS SHALL BE BACKFILLED WITH AC.
5. THE HANDHOLE SHALL BE PROTECTED WITH COLD PATCH OR OTHER SUITABLE PROTECTION UNTIL PERMANENT AC BACKFILL IS PLACED.

GENERAL NOTES

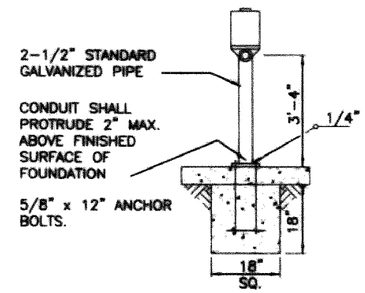
1. ALL WORK TO BE PERFORMED SHALL BE IN ACCORDANCE WITH: CITY OF SACRAMENTO DESIGN & PROCEDURES MANUAL DATED SEPTEMBER 1990., CITY STANDARDS SPECIFICATIONS DATED JUNE 2007, THE LATEST CAL TRANS STANDARD PLANS, AND THE LATEST CALIFORNIA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD).
2. ALL MATERIAL TO BE REMOVED AND SALVAGED, SHALL BE DELIVERED TO THE CITY CORPORATE CENTER SOUTH, 5730 – 24TH STREET SACRAMENTO, CALIFORNIA WITHOUT DAMAGE.
3. ALL TERMINAL COMPARTMENTS LOCATED ON STANDARDS SHALL BE MOUNTED ON THE SIDE FARTHEST FROM VEHICULAR TRAFFIC. UNLESS OTHERWISE SPECIFIED, OR DIRECTED BY THE ENGINEER.
4. PULL BOXES SHALL BE PLACED IN SIDEWALK AREAS AND SHALL NOT BE PLACED IN DRIVEWAYS, IN VEHICULAR TRAFFIC LANES, OR IN SIDEWALK HANDICAPPED RAMP AREAS.
5. CONDUCTORS BETWEEN BASE OF ELECTROLIER AND LUMINAIRE SHALL BE No. 10 THW MINIMUM.
6. THREE FEET OF SLACK SHALL BE PROVIDED IN EACH PULL BOX FOR EACH CONDUCTOR.
7. EXACT LOCATIONS OF ALL STANDARDS, PEDESTALS AND CABINETS WILL BE DETERMINED BY THE ENGINEER PRIOR TO INSTALLATION, AND SHALL BE AT LEAST 3 FEET FROM FACE OF CURB.
8. LUMINAIRE MAST ARMS SHALL BE 8 FEET IN LENGTH UNLESS OTHERWISE SPECIFIED.
9. ALL TRAFFIC SIGNAL HEADS SHALL HAVE A BACK PLATE.
10. AT ALL JUNCTIONS SUCH AS PULL BOXES, ELECTROLIER BASES, AND PEDESTALS WHERE PVC CONDUITS ARE INSTALLED, ALL RIGID GALVANIZED CONDUITS AT THESE LOCATIONS SHALL BE PROVIDED WITH GROUNDING BUSHINGS AND CONNECTED TO THE GROUNDING CONDUCTORS.
11. ALL LUMINAIRES SHALL BE SUPPLIED WITHOUT PHOTO CELL RECEPTACLES UNLESS OTHERWISE SPECIFIED.
12. PULL ROPES USED TO PULL CONDUCTORS IN CONDUIT SHALL BE A MINIMUM OF 1/4" IN DIAMETER.
13. SEE SPECIAL PROVISIONS FOR LOOP CONDUCTOR AND LEAD-IN SPECIFICATIONS.
14. LOOP DIMENSIONS SHALL BE 6' x 6' SQUARES OR 6' DIAMETER CIRCULAR LOOPS UNLESS OTHERWISE SHOWN ON THE PLANS.



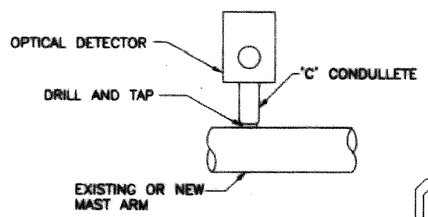
SECTION A–A
DETECTOR HANDHOLE



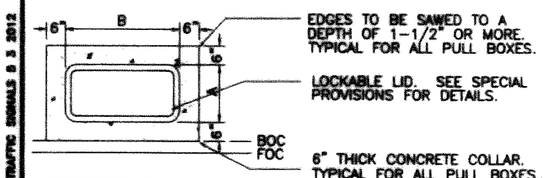
PEDESTRIAN PUSH BUTTON PLATE



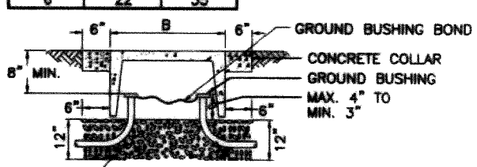
PEDESTRIAN PUSH BUTTON POLE



OPTICAL DETECTOR
NO SCALE

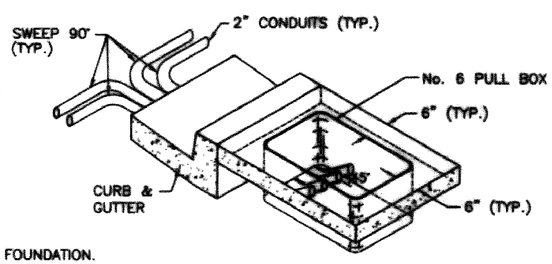


PULL BOX DIMENSIONS		
PULL BOX	A	B
3-1/2	13-3/4"	19"
5	18"	27-1/2"
5A	16"	25"
6	22"	35"

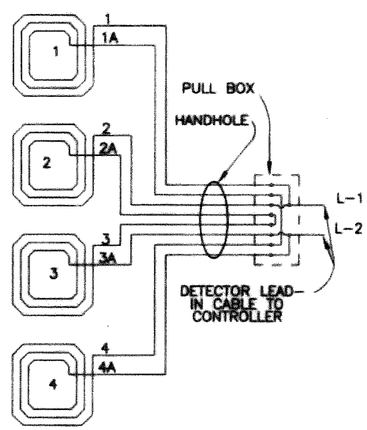


INSTALL PULL BOX ON TOP OF CRUSHED ROCK FOUNDATION. ADJUST PULL BOX TO GRADE. THE CRUSHED ROCK FOUNDATION SHALL HAVE A MINIMUM OF 12" IN DEPTH AND CONTINUE TO EXTEND A MINIMUM OF 6" BEYOND THE OUTSIDE EDGE OF THE PULL BOX. COMPACT CRUSHED ROCK WHILE MAINTANING INTEGRITY OF CONDUIT. CONDUIT AND PULL BOX SHALL NOT BE DAMAGED NOR CRACKED.

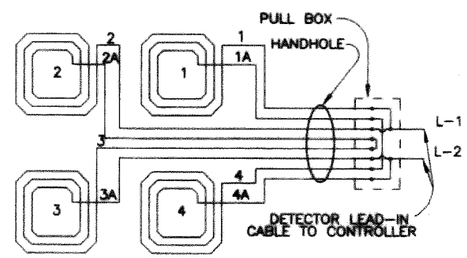
CONCRETE PULL BOX



PULL BOX WITH SWEEP 90°

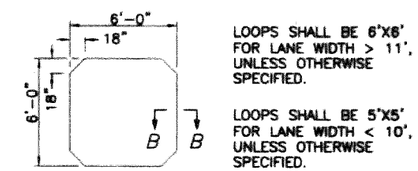


FOUR LOOPS IN TURN LANE



FOUR LOOPS IN THRU LANES

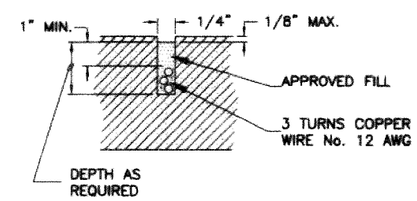
LOOP WINDING PATTERNS



LOOPS SHALL BE 6'X6' FOR LANE WIDTH > 11', UNLESS OTHERWISE SPECIFIED.

LOOPS SHALL BE 5'X5' FOR LANE WIDTH < 10', UNLESS OTHERWISE SPECIFIED.

6'X6' LOOP



SECTION B–B
LOOP SAW CUTTING DETAIL

REVISIONS			
NO.	DESCRIPTION	DATE	BY

BENCH MARK ELEV. _____
DESCRIPTION

FIELD BOOK
SCALE N.T.S.

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: STAFF DATE 07/06/12
DESIGN BY: STAFF R.C.E. _____ DATE _____
CHECKED BY: S. CHATUSRIPITAK R.C.E. _____ DATE _____

ELECTRICAL
STANDARD DETAILS FOR TRAFFIC SIGNALS No. 1

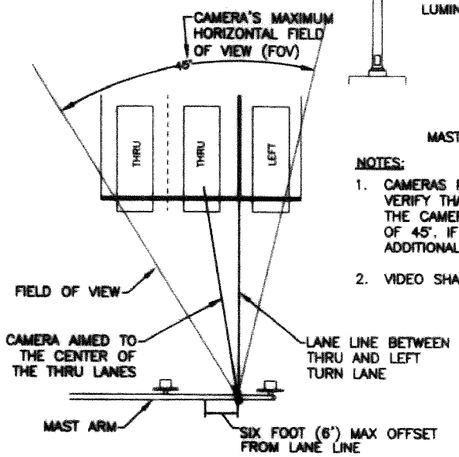
APPROVED BY : SOMPOT CHATUSRIPITAK, SENIOR ELECTRICAL ENGINEER
P.E. E-13633 DATE : 7/10/12

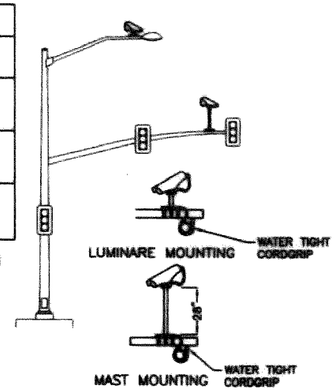
SHEET E-9 of 10

CAD FILE: P:\TECHELD\DRAWINGS\STANDARD\STANDARD DETAILS FOR TRAFFIC SIGNALS 8 3 2012

VIDEO DETECTION FIELD OF VIEW AND MOUNTING DETAIL

VIDEO DETECTION		
NUMBER OF APPROACH LANES	QTY OF CAMERAS	CAMERA MOUNTING
6 LANES + BIKE LANE OR LESS	1	MAST ARM
GREATER THAN 6 LANES + BIKE LANE	2	LUMINAIRE ARM
SPLIT PHASE	1	LUMINAIRE ARM





NOTE:

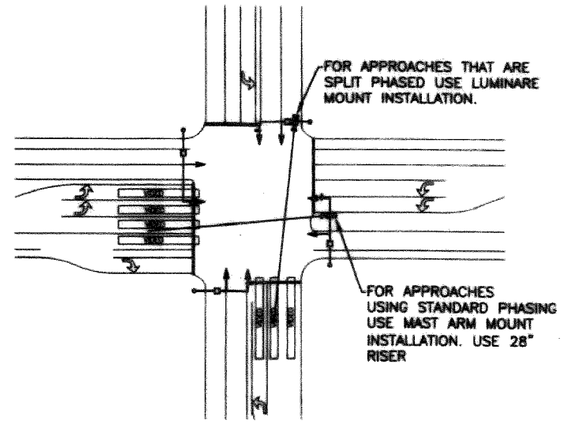
NOTES:

1. CAMERAS FIELD OF VIEW (FOV) SHALL BE CHECKED TO VERIFY THAT THE CAMERA CAN DETECT ALL LANES. THE CAMERA SHALL HAVE A MAXIMUM HORIZONTAL FOV OF 45°. IF ALL LANES DO NOT FIT IN THE FOV THEN ADDITIONAL CAMERAS OR LOOPS WILL BE REQUIRED.
2. VIDEO SHALL BE USED FOR STOPBAR DETECTION ONLY.

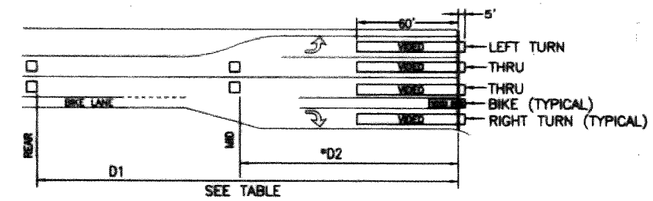
NOTE: DETAIL DEMOSTRATES FOV AND AIMING ONLY. DOES NOT DENOTE THE AMOUNT OF DETECTED LANES.

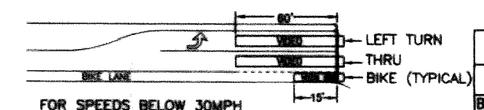
SINGLE CAMERA DETECTION MOUNTING

FOR APPROACHES 6 LANES + BIKE LANE OR LESS



TYPICAL DETECTOR LAYOUT VIDEO & LOOPS





FOR SPEEDS BELOW 30MPH

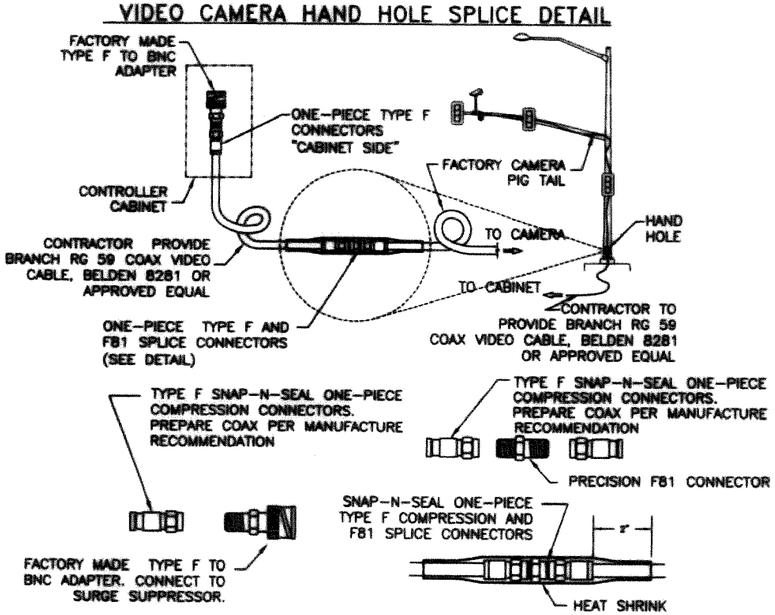
LOOP DISTANCE		
DESIGN OR 85TH SPEED	REAR D1	MID D2*
BELOW 30 MPH	N/A	
30 MPH	175'	
35 MPH	200'	
40 MPH	250'	
*45 MPH	300'	200'
*50 MPH	350'	225'
*55 MPH	405'	250'

'*' MID (D2) LOOP TO BE INSTALLED AT THE DISCRETION OF THE CITY TRAFFIC ENGINEER.

NOTES:

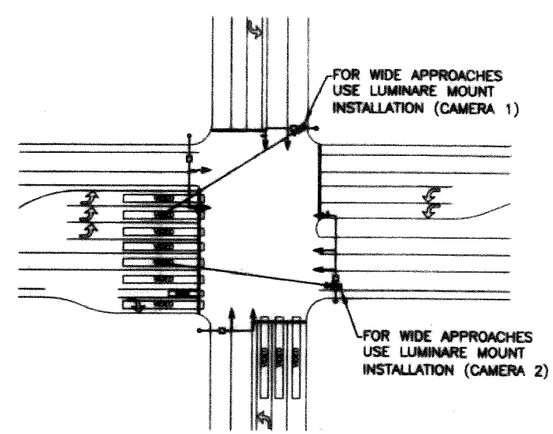
1. NOMINAL LOOP SIZE TO BE 6'x6'.
2. EACH REAR AND MID LOOP SHALL HAVE A ONE DLC.

VIDEO CAMERA HAND HOLE SPLICE DETAIL

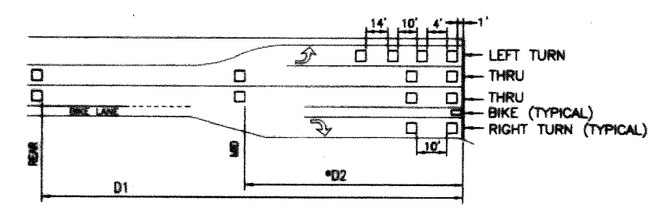


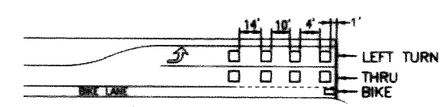
DUAL CAMERA DETECTION MOUNTING

FOR APPROACHES GREATER THAN 6 LANES + BIKE LANE



DETECTOR LAYOUT LOOPS





FOR SPEEDS BELOW 30MPH

LOOP DISTANCE		
DESIGN OR 85TH SPEED	REAR D1	MID D2*
BELOW 30 MPH	N/A	
30 MPH	175'	
35 MPH	200'	
40 MPH	250'	
*45 MPH	300'	200'
*50 MPH	350'	225'
*55 MPH	405'	250'

'*' MID (D2) LOOP TO BE INSTALLED AT THE DISCRETION OF THE CITY TRAFFIC ENGINEER.

NOTES:

1. NOMINAL LOOP SIZE TO BE 6'x6'. IF LANE WIDTH IS 11' OR LESS LOOP SIZE TO BE 5'X5'. IF 5'X5' LOOPS ARE USED THEN 2' SHOULD BE ADDED TO LOOP SPACING
2. FRONT LOOPS SHALL HAVE ONE DLC PER LANE
3. EACH REAR AND MID LOOP SHALL HAVE A ONE DLC.
4. BIKE LOOPS SHALL BE 2'X4'

CAD FILE:

REVISIONS			
NO.	DESCRIPTION	DATE	BY

RESEARCH PLAN NUMBERS

FIELD BOOK

SCALE: NTS

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: STAFF DATE 07/06/2012
DESIGN BY: STAFF R.C.E. DATE
CHECKED BY: S. CHATUSRIPITAK R.C.E. DATE

ELECTRICAL
STANDARD DETAILS FOR TRAFFIC SIGNALS No. 2

APPROVED BY: SOMPHAK CHATUSRIPITAK, SENIOR ELECTRICAL ENGINEER
P.E. E-13633 DATE: 7/10/12

SHEET E-10 OF 10

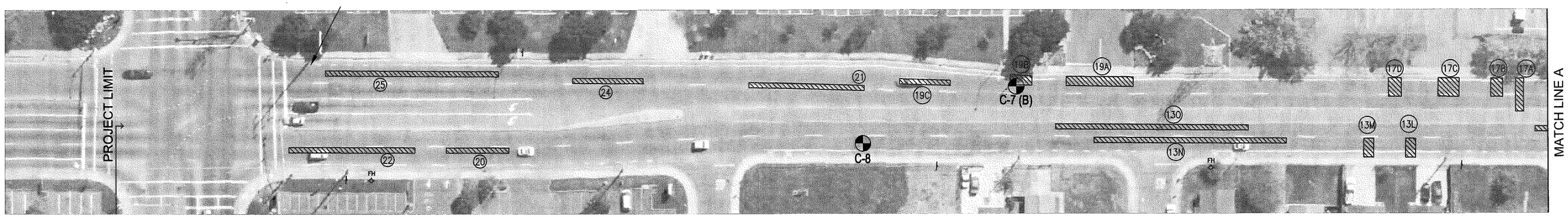
APPENDIX B (BASE REPAIR PLANS AND SPREADSHEETS)

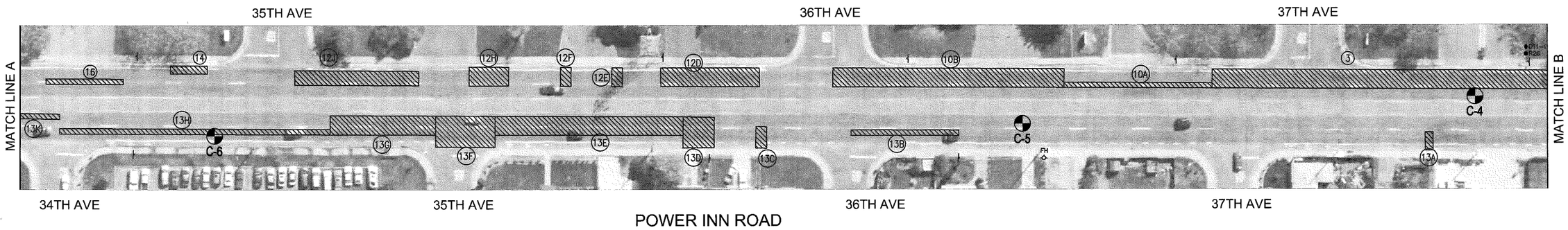
C-1 POWER INN ROAD (PLAN AND SPREADSHEET)

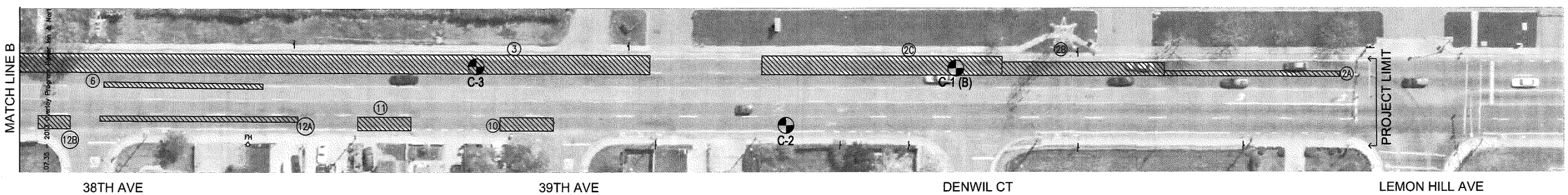
C-2 NORTHGATE ROAD (PLAN AND SPREADSHEET)

C-3 WYNDHAM DRIVE (PLAN SHEET)

C-4 J STREET BETWEEN 13TH STRRET AND 16TH STREET (PLAN SHEET)







CAD FILE:

REVISIONS			
NO.	DESCRIPTION	DATE	BY

BENCH MARK ELEV. _____
DESCRIPTION

FIELD BOOK
SCALE
HORIZ. ____
VERT. ____

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: _____ DATE _____
DESIGNED BY: _____ R.C.E. _____ DATE _____
CHECKED BY: _____ R.C.E. _____ DATE _____

IMPROVEMENT PLANS FOR
2013 STREET OVERLAY PROJECT
POWER INN ROAD
FRUITRIDGE ROAD TO LEMON HILL AVENUE

PN: R15132019

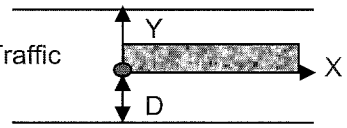
SHEET
C-1

4

City of Sacramento DOT
Power Inn Road (Section 1)
Approximate Base Repair Locations

Street: Power Inn Road
Begin: Lemon Hill Ave **End: Fruitridge Road**
Survey Date: 3/31/2013

Direction of Traffic



Base Repair No.	Lane Dir.	Lane No.	Distance From Edge of Pavement, D (ft)	Base Repair Length, X (ft)	Base Repair Width, Y (ft)	Base Repair Area (sf) (1),(2)	Comment
Northbound Lanes							
2A	NB	2	9	133	4	532	Moderate to high severity fatigue cracking w/ pumping, material loss and cold patches
2B	NB	2	4	123	10	1230	Moderate to high severity fatigue cracking w/ pumping, material loss and cold patches
2C	NB	2	0	182	14	2548	Moderate to high severity fatigue cracking w/ pumping, material loss and cold patches
3	NB	2	0	731	14	10234	Moderate to high severity fatigue cracking w/ pumping, material loss and cold patches and transverse cracks w/ pumping
10A	NB	2	10	112	4	448	Moderate to high severity fatigue cracking w/ pumping, material loss, cold patches and rutting and transverse cracks w/ pumping
10B	NB	2	0	175	14	2450	Moderate to high severity fatigue cracking w/ material loss and cold patches
12D	NB	2	0	75	14	1050	Moderate to high severity fatigue cracking w/ material loss and cold patches
12E	NB	2	0	8	14	112	Moderate to high severity fatigue cracking w/ material loss and cold patches
12F	NB	2	0	8	14	112	Moderate to high severity fatigue cracking w/ material loss and cold patches
12H	NB	2	0	30	14	420	Moderate to high severity fatigue cracking w/ material loss and cold patches
12J	NB	2	3	94	11	1034	Moderate to high severity fatigue cracking w/ material loss and cold patches
14	NB	2	0	28	6	168	Moderate to high severity fatigue cracking w/ pumping, material loss and cold patches and transverse cracks w/ pumping

City of Sacramento DOT
Power Inn Road (Section 1)
Approximate Base Repair Locations

16	NB	2	10	58	4	232	Moderate to high severity fatigue cracking w/ pumping, material loss and cold patches and transverse cracks w/ pumping
17A	NB	2	0	6	25	150	Moderate to high severity fatigue cracking w/ material loss and cold patches
17B	NB	2	0	9	14	126	Moderate to high severity fatigue cracking w/ material loss and cold patches
17C	NB	2	0	16	14	224	Moderate to high severity fatigue cracking w/ material loss and cold patches
17D	NB	2	0	10	14	140	Moderate to high severity fatigue cracking w/ material loss and cold patches
19A	NB	2	0	51	7	357	Moderate to high severity fatigue cracking w/ material loss and cold patches
19B	NB	2	0	17	8	136	Moderate to high severity fatigue cracking w/ material loss and cold patches
19C	NB	2	10	39	4	156	Moderate to high severity fatigue cracking w/ pumping, material loss and cold patches and transverse cracks w/ pumping
21	NB	2	16	89	4	356	Moderate to high severity fatigue cracking w/ material loss, cold patches and pumping
24	NB	2	12	54	4	216	Moderate to high severity fatigue cracking w/ pumping, material loss and cold patches
25	NB	2	7	133	4	532	Moderate severity fatigue cracking w/ pumping, material loss, rutting and shoving
Northbound Lanes							
10	SB	2	3	40	10	400	Moderate to high severity fatigue cracking w/ pumping, material loss and cold patches and transverse cracks w/ pumping
11	SB	2	3	40	10	400	Moderate to high severity fatigue cracking w/ pumping, material loss and cold patches and transverse cracks w/ pumping
12A	SB	2	10	150	4	600	Moderate to high severity fatigue cracking w/ pumping, material loss and cold patches
12B	SB	2	4	24	10	240	Moderate to high severity fatigue cracking w/ pumping, material loss and cold patches
13A	SB	2	0	6	14	84	Moderate to high severity fatigue cracking w/ pumping, material loss and cold patches and transverse cracks w/ pumping and bumps

City of Sacramento DOT
Power Inn Road (Section 1)
Approximate Base Repair Locations

13B	SB	2	10	82	4	328	Moderate to high severity fatigue cracking w/ material loss and cold patches
13C	SB	2	0	8	16	128	Moderate to high severity fatigue cracking w/ material loss and cold patches
13D	SB	1&2	0	24	24	576	Moderate to high severity fatigue cracking w/ material loss and cold patches
13E	SB	1&2	10	142	14	1988	Moderate to high severity fatigue cracking w/ material loss and cold patches
13F	SB	2	0	45	24	1080	Moderate to high severity fatigue cracking w/ material loss and cold patches
13G	SB	1&2	10	81	14	1134	Moderate to high severity fatigue cracking w/ material loss and cold patches
13H	SB	2	10	204	4	816	Moderate to high severity fatigue cracking w/ material loss and cold patches
13K	SB	1	20	40	14	560	Moderate to high severity fatigue cracking w/ material loss and cold patches
13L	SB	2	0	8	14	112	Moderate to high severity fatigue cracking w/ material loss and cold patches
13M	SB	2	0	8	14	112	Moderate to high severity fatigue cracking w/ material loss and cold patches
13N	SB	2	10	148	4	592	Moderate to high severity fatigue cracking w/ material loss and cold patches
13O	SB	1	20	147	4	588	Moderate to high severity fatigue cracking w/ material loss and cold patches
20	SB	2	6	48	4	192	Moderate to high severity fatigue cracking w/ material loss and cold patches
22	SB	2	10	97	4	388	Moderate to high severity fatigue cracking w/ material loss and cold patches

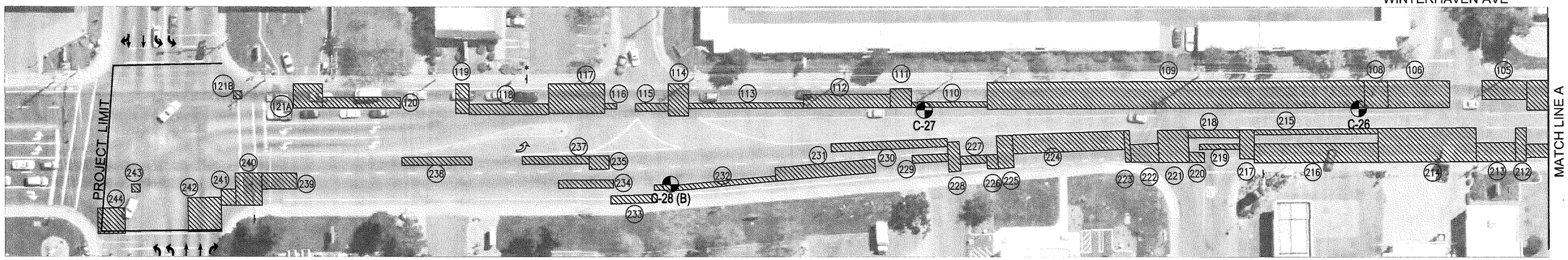
Total Area of Base Repairs (sf) 33281

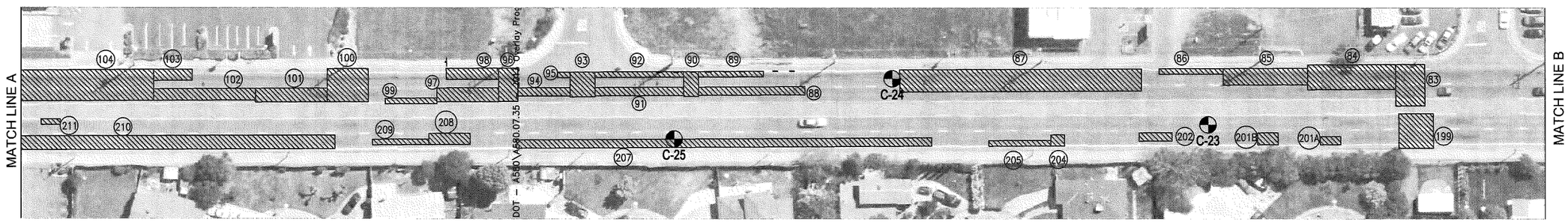
Notes:

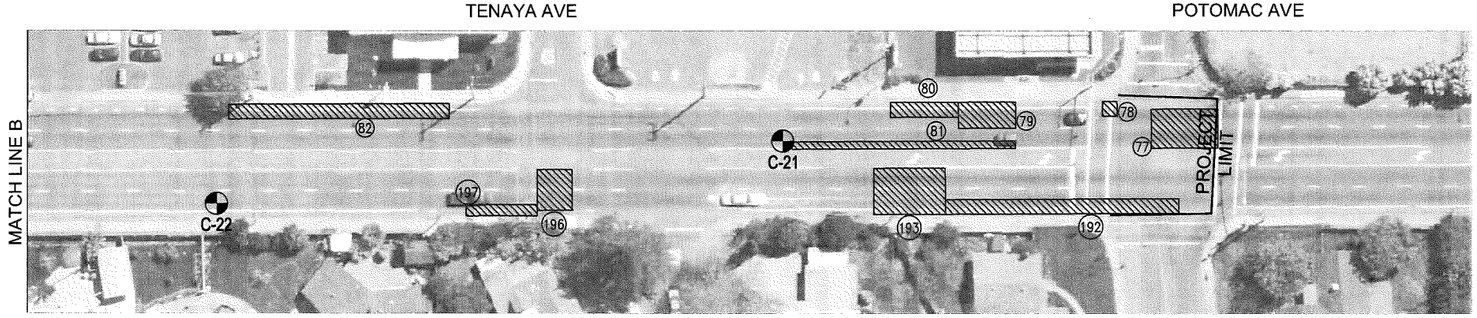
(1) 0+00 Station is at Lemon Hill Avenue curb line.

(1) Base repairs are based on moderate to high severity fatigue cracking and rutting.

(2) Base repair locations, dimensions and quantities are approximate and are for initial planning and cost estimating purpose only. The base repair locations, dimensions and quantities should be verified during development of design plans and prior to construction.







CAD FILE:

REVISIONS			
NO.	DESCRIPTION	DATE	BY

BENCH MARK ELEV. _____
DESCRIPTION

FIELD BOOK

SCALE
HORIZ. ____
VERT. ____

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: _____ DATE _____
DESIGNED BY: _____ R.C.E. _____ DATE _____
CHECKED BY: _____ R.C.E. _____ DATE _____

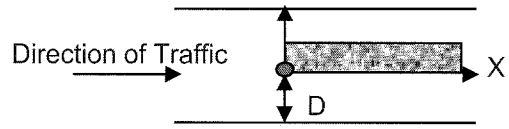
IMPROVEMENT PLANS FOR
2013 STREET OVERLAY PROJECT
NORTHGATE BOULEVARD
SAN JUAN ROAD TO POTOMAC AVENUE

PN: R15132019

SHEET C-2 OF 4

City of Sacramento DOT
Northgate Boulevard (Section 2B)
Approximate Base Repair Locations

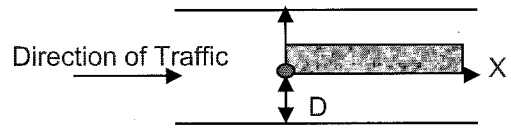
Street: **Northgate Boulevard**
Begin: **Potomac Avenue** **End: San Juan Road**
Survey Date: **3/29/2013**



Base Repair No.	Lane Dir.	Lane No.	Distance From Edge of Pavement, D (ft)	Base Repair Length, X (ft)	Base Repair Width, Y (ft)	Base Repair Area (sf) (1),(2)	Comment
Northbound Lanes							
77	NB	1&2	4	36	21	756	Moderate severity fatigue cracking to high severity fatigue cracking w/pumping
78	NB	2	0	8	8	64	Moderate severity fatigue cracking to high severity fatigue cracking w/pumping
79	NB	2	0	31	14	434	Moderate severity fatigue cracking to high severity fatigue cracking w/pumping
80	NB	2	0	37	8	296	Moderate severity fatigue cracking to high severity fatigue cracking w/pumping
81	NB	1	21	121	4	484	Moderate severity fatigue cracking to high severity fatigue cracking
82	NB	2	0	120	8	960	High severity fatigue cracking w/pumping & rutting
83	NB	1,2	0	21	30	630	Moderate severity fatigue cracking to high severity fatigue cracking w/pumping, bumps, & patches
84	NB	1&2	0	64	18	1152	Moderate severity fatigue cracking to high severity fatigue cracking w/pumping & rutting
85	NB	2	3	61	12	732	Moderate severity fatigue cracking to high severity fatigue cracking w/pumping & rutting
86	NB	2	3	46	4	184	High severity fatigue cracking w/pumping & rutting
87	NB	1&2	3	175	16	2800	Moderate severity fatigue cracking to high severity fatigue cracking w/pumping, bumps, & patches
88	NB	1	14	77	6	462	Moderate severity fatigue cracking to high severity fatigue cracking w/pumping & rutting
89	NB	2	3	47	4	188	Moderate severity fatigue cracking to high severity fatigue cracking w/pumping & rutting
90	NB	1&2	3	11	18	198	Moderate severity fatigue cracking to high severity fatigue cracking w/pumping, rutting & material loss
91	NB	1	14	64	6	384	Moderate severity fatigue cracking to high severity fatigue cracking w/pumping & rutting

City of Sacramento DOT
Northgate Boulevard (Section 2B)
Approximate Base Repair Locations

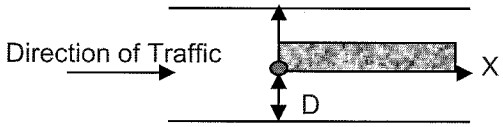
Street: Northgate Boulevard
Begin: Potomac Avenue **End:** San Juan Road
Survey Date: 3/29/2013



Base Repair No.	Lane Dir.	Lane No.	Distance From Edge of Pavement, D (ft)	Base Repair Length, X (ft)	Base Repair Width, Y (ft)	Base Repair Area (sf) (1),(2)	Comment
92	NB	2	3	64	4	256	Moderate severity fatigue cracking to high severity fatigue cracking w/pumping & rutting
93	NB	1&2	3	18	18	324	Moderate severity fatigue cracking to high severity fatigue cracking w/pumping & bumps
94	NB	1	14	38	6	228	Moderate severity fatigue cracking to high severity fatigue cracking w/pumping
95	NB	2	3	9	4	36	Moderate severity fatigue cracking to high severity fatigue cracking w/pumping & rutting
96	NB	1&2	0	14	24	336	Moderate severity fatigue cracking to high severity fatigue cracking w/pumping, material loss & rutting
97	NB	1	15	45	10	450	Moderate severity fatigue cracking to high severity fatigue cracking w/pumping, bumps, & patches
98	NB	2	0	38	8	304	High severity fatigue cracking w/pumping, rutting & material loss
99	NB	1	21	38	4	152	Moderate severity fatigue cracking to high severity fatigue cracking w/cold patch
100	NB	1&2	0	30	24	720	Moderate severity fatigue cracking to high severity fatigue cracking w/pumping, depression & patch
101	NB	1	15	52	10	520	Moderate severity fatigue cracking to high severity fatigue cracking w/material loss & cold patch
102	NB	1	15	74	21	1554	High severity fatigue cracking w/pumping & rutting
103	NB	2	0	24	8	192	High severity fatigue cracking w/pumping & rutting
104	NB	1&2	0	112	22	2464	Moderate severity fatigue cracking to high severity fatigue cracking w/pumping, rutting, & material loss
105	NB	2	0	33	14	462	Moderate severity fatigue cracking to high severity fatigue cracking w/pumping, & patches
106	NB	1&2	0	46	20	920	Moderate severity fatigue cracking to high severity fatigue cracking w/pumping, & patches

City of Sacramento DOT
Northgate Boulevard (Section 2B)
Approximate Base Repair Locations

Street: **Northgate Boulevard**
Begin: **Potomac Avenue** **End: San Juan Road**
Survey Date: **3/29/2013**



Base Repair No.	Lane Dir.	Lane No.	Distance From Edge of Pavement, D (ft)	Base Repair Length, X (ft)	Base Repair Width, Y (ft)	Base Repair Area (sf) (1),(2)	Comment
108	NB	1,2	0	18	20	360	Moderate severity fatigue cracking to high severity fatigue cracking w/pumping & material loss
109	NB	1&2	0	283	20	5660	Moderate severity fatigue cracking to high severity fatigue cracking w/pumping, rutting, material loss & cold patches
110	NB	1	14	57	4	228	Moderate severity fatigue cracking to high severity fatigue cracking w/material loss & cold patches
111	NB	1&2	4	16	14	224	Moderate severity fatigue cracking to high severity fatigue cracking w/pumping, rutting, material loss
112	NB	1&2	10	65	8	520	Moderate severity fatigue cracking to high severity fatigue cracking w/pumping, rutting, material loss
113	NB	1	14	87	4	348	Moderate severity fatigue cracking to high severity fatigue cracking w/pumping & rutting
114	NB	1&2	0	15	24	360	Moderate severity fatigue cracking to high severity fatigue cracking w/pumping & heavy material loss
115	NB	1	14	25	6	150	Moderate severity fatigue cracking to high severity fatigue cracking w/material loss
116	NB	1	14	9	4	36	Moderate severity fatigue cracking w/pumping
117	NB	1&2	0	42	22	924	Moderate severity fatigue cracking to high severity fatigue cracking w/pumping, rutting, material loss
118	NB	1	14	60	8	480	Moderate severity fatigue cracking to high severity fatigue cracking w/ rutting
119	NB	1&2	0	10	22	220	Moderate severity fatigue cracking to high severity fatigue cracking w/pumping & rutting & deression
120	NB	1&2	10	59	8	472	Moderate severity fatigue cracking to high severity fatigue cracking
121A	NB	1&2	0	22	18	396	Moderate severity fatigue cracking to high severity fatigue cracking w/pumping, rutting & shovinh

City of Sacramento DOT
Northgate Boulevard (Section 2B)
Approximate Base Repair Locations

Street: **Northgate Boulevard**
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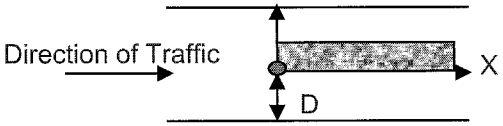
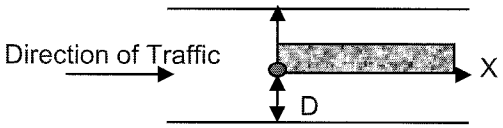
Survey Date: **3/29/2013**



Base Repair No.	Lane Dir.	Lane No.	Distance From Edge of Pavement, D (ft)	Base Repair Length, X (ft)	Base Repair Width, Y (ft)	Base Repair Area (sf) (1),(2)	Comment
121B	NB	2	3	6	6	36	Moderate severity fatigue cracking to high severity fatigue cracking w/pumping, rutting & shovinh
Southbound Lanes							
192	SB	2	0	127	8	1016	Moderate severity fatigue cracking to high severity fatigue cracking w/pumping, rutting & material loss
193	SB	1&2	0	39	25	975	Moderate severity fatigue cracking to high severity fatigue cracking w/pumping & depressions
196	SB	1&2	3	19	22	418	Moderate severity fatigue cracking to high severity fatigue cracking w/pumping & material loss
197	SB	2	0	39	6	234	Moderate severity fatigue cracking to high severity fatigue cracking
199	SB	1&2	0	25	25	625	Moderate severity fatigue cracking to high severity fatigue cracking w/pumping
201A	SB	2	3	15	4	60	Moderate severity fatigue cracking to high severity fatigue cracking w/pumping & depressions
201B	SB	2	3	16	6	96	Moderate severity fatigue cracking to high severity fatigue cracking w/pumping & depressions
202	SB	2	6	24	6	144	Moderate severity fatigue cracking w/pumping
204	SB	2	3	10	8	80	Moderate severity fatigue cracking to high severity fatigue cracking w/pumping, material loss & cold patches
205	SB	2	3	45	4	180	Moderate severity fatigue cracking to high severity fatigue cracking
207	SB	2	3	301	4	1204	Moderate severity fatigue cracking to high severity fatigue cracking w/material loss, cold patches & pumping
208	SB	2	6	30	8	240	Moderate severity fatigue cracking to high severity fatigue cracking

City of Sacramento DOT
Northgate Boulevard (Section 2B)
Approximate Base Repair Locations

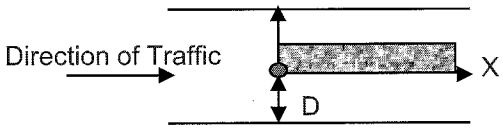
Street: **Northgate Boulevard**
Begin: **Potomac Avenue** **End: San Juan Road**
Survey Date: **3/29/2013**



Base Repair No.	Lane Dir.	Lane No.	Distance From Edge of Pavement, D (ft)	Base Repair Length, X (ft)	Base Repair Width, Y (ft)	Base Repair Area (sf) (1),(2)	Comment
209	SB	2	4	41	4	164	Moderate severity fatigue cracking to high severity fatigue cracking w/material loss & cold patches
210	SB	2	3	244	10	2440	Moderate severity fatigue cracking to high severity fatigue cracking w/material loss, cold patches, pumping, rutting & bumps
211	SB	1	21	14	4	56	Moderate severity fatigue cracking to high severity fatigue cracking
212	SB	1&2	0	8	25	200	Moderate severity fatigue cracking to high severity fatigue cracking w/pumping, material loss, cold patches & bumps
213	SB	2	0	29	14	406	Moderate severity fatigue cracking to high severity fatigue cracking w/pumping, rutting, material loss, cold patches
214	SB	1&2	0	74	25	1850	Moderate severity fatigue cracking to high severity fatigue cracking w/pumping, rutting, material loss, cold patches
215	SB	1	21	93	4	372	Moderate severity fatigue cracking to high severity fatigue cracking
216	SB	2	0	93	14	1302	Moderate severity fatigue cracking to high severity fatigue cracking w/pumping, rutting, material loss, cold patches
217	SB	1&2	3	11	22	242	Moderate severity fatigue cracking to high severity fatigue cracking w/pumping
218	SB	1	19	39	6	234	Moderate severity fatigue cracking to high severity fatigue cracking
219	SB	2	8	31	4	124	Moderate severity fatigue cracking to high severity fatigue cracking
220	SB	2	0	11	7	77	Moderate severity fatigue cracking to high severity fatigue cracking w/pumping

City of Sacramento DOT
Northgate Boulevard (Section 2B)
Approximate Base Repair Locations

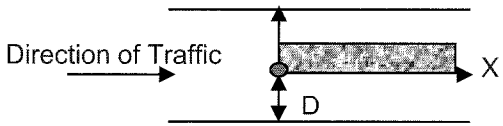
Street: Northgate Boulevard
Begin: Potomac Avenue **End:** San Juan Road
Survey Date: 3/29/2013



Base Repair No.	Lane Dir.	Lane No.	Distance From Edge of Pavement, D (ft)	Base Repair Length, X (ft)	Base Repair Width, Y (ft)	Base Repair Area (sf) (1),(2)	Comment
221	SB	1&2	0	23	25	575	Moderate severity fatigue cracking to high severity fatigue cracking w/pumping, rutting, material loss, cold patches
222	SB	2	0	21	14	294	Moderate severity fatigue cracking to high severity fatigue cracking w/pumping & material loss
223	SB	1&2	0	4	25	100	Moderate severity fatigue cracking to high severity fatigue cracking w/pumping
224	SB	1&2	11	84	14	1176	Moderate severity fatigue cracking to high severity fatigue cracking w/pumping, rutting, material loss
225	SB	1&2	3	12	22	264	Moderate severity fatigue cracking to high severity fatigue cracking w/pumping, rutting, material loss, cold patches
226	SB	2	3	8	10	80	Moderate severity fatigue cracking to high severity fatigue cracking w/pumping, rutting, material loss
227	SB	2	8	20	6	120	Moderate severity fatigue cracking to high severity fatigue cracking w/pumping, rutting, material loss
228	SB	1&2	3	9	22	198	Moderate severity fatigue cracking to high severity fatigue cracking w/pumping, rutting, material loss
229	SB	2	10	27	6	162	Moderate severity fatigue cracking to high severity fatigue cracking w/pumping & material loss
230	SB	1	22	87	6	522	Moderate severity fatigue cracking to high severity fatigue cracking w/pumping, material loss, cold patches
231	SB	2	8	79	10	790	Moderate severity fatigue cracking to high severity fatigue cracking w/pumping, material loss, rutting
232	SB	2	10	96	4	384	Moderate severity fatigue cracking to high severity fatigue cracking w/pumping, material loss, rutting
233	SB	2	0	35	6	210	Moderate severity fatigue cracking to high severity fatigue cracking

City of Sacramento DOT
Northgate Boulevard (Section 2B)
Approximate Base Repair Locations

Street: **Northgate Boulevard**
Begin: **Potomac Avenue** **End: San Juan Road**
Survey Date: **3/29/2013**



Base Repair No.	Lane Dir.	Lane No.	Distance From Edge of Pavement, D (ft)	Base Repair Length, X (ft)	Base Repair Width, Y (ft)	Base Repair Area (sf) (1),(2)	Comment
234	SB	2	12	41	6	246	Moderate severity fatigue cracking to high severity fatigue cracking w/pumping, rutting, material loss
235	SB	1	26	15	10	150	Moderate severity fatigue cracking to high severity fatigue cracking w/pumping
237	SB	1	30	50	6	300	Moderate severity fatigue cracking to high severity fatigue cracking w/pumping, rutting, material loss
238	SB	1	30	53	6	318	Moderate severity fatigue cracking to high severity fatigue cracking
239	SB	2	12	26	12	312	Moderate severity fatigue cracking to high severity fatigue cracking w/pumping & depressions
240	SB	2	0	20	24	480	Moderate severity fatigue cracking to high severity fatigue cracking w/pumping, cold patches, material loss, depressions
241	SB	2	6	11	12	132	Moderate severity fatigue cracking to high severity fatigue cracking w/pumping
242	SB	2	0	25	25	625	Moderate severity fatigue cracking to high severity fatigue cracking w/pumping
243	SB	2	30	6	6	36	Moderate severity fatigue cracking to high severity fatigue cracking w/pumping
244	SB	2	0	20	20	400	Moderate severity fatigue cracking to high severity fatigue cracking w/pumping

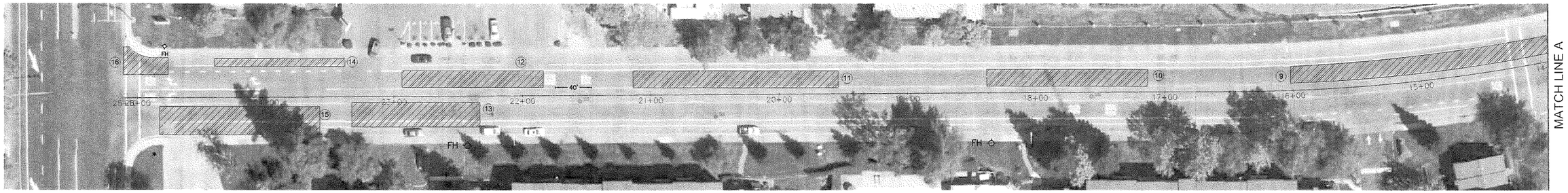
Notes:

Total Area of Base Repairs (sf) 49,669

(1) 0+00 Station is at Arden Garden Highway curb line.

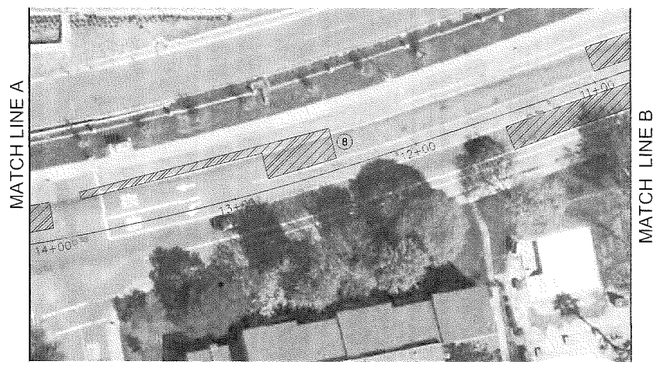
(1) Base repairs are based on moderate to high severity fatigue cracking and rutting.

(2) Base repair locations, dimensions and quantities are approximate and are for initial planning and cost estimating purpose only. The base repair locations, dimensions and quantities should be verified during development of design plans and prior to construction.



VALLEY HI DRIVE

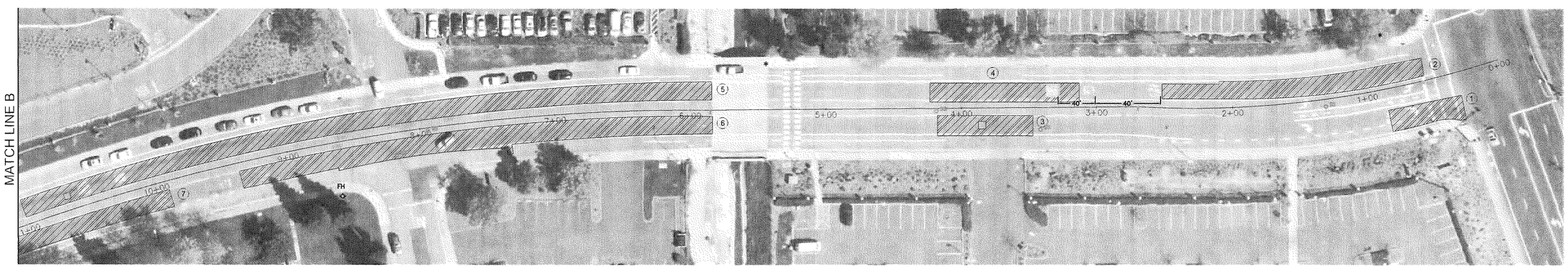
WYNDHAM DRIVE



LINDBROOK WY

NO.	W x L	AREA	BEGINNING STATION
1	16' x 55'	872 SF	0+32
2	13' x 195'	2533 SF	0+55
3	15' x 70'	1050 SF	3+13
4	14' x 110'	1540 SF	3+48
5	13' x 520'	6737 SF	5+84
6	13' x 352'	4990 SF	5+84
7	13' x 160'	2054 SF	9+91
8	16' x 137'	1096 SF	12+42
9	14' x 200'	2755 SF	13+98
10	13' x 125'	1625 SF	17+13
11	13' x 160'	2080 SF	19+54
12	13' x 110'	1430 SF	21+84
13	19' x 100'	1900SF	22+33
14	6' x 102'	612 SF	23+38
15	22' x 125'	2750SF	23+58
16	13' x 35'	544SF	24+76

* DIMENSIONS SHOWN ARE MAXIMUM DIMENSIONS OF IRREGULAR SHAPED BASE REPAIRS AND THEREFORE DO NOT EQUATE TO BASE REPAIR AREA SHOWN.



ARROYO VISTA

WYNDHAM DRIVE

BRUCEVILLE ROAD

CAD FILE:

REVISIONS			
NO.	DESCRIPTION	DATE	BY

BENCH MARK ELEV. _____
DESCRIPTION

FIELD BOOK

SCALE
HORIZ. 1"=40'
VERT. ____

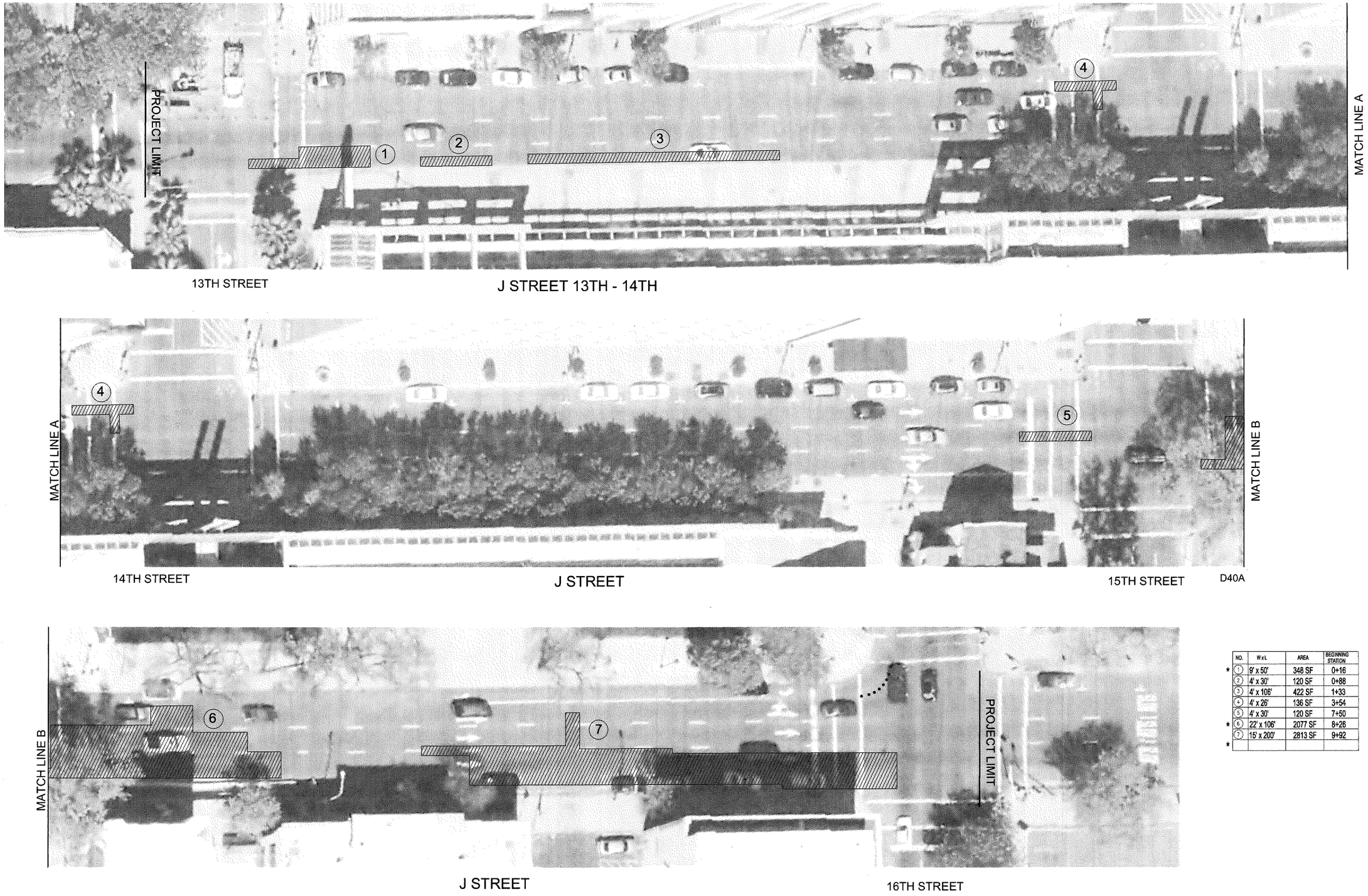
CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: _____ DATE _____
DESIGNED BY: _____ R.C.E. _____ DATE _____
CHECKED BY: _____ R.C.E. _____ DATE _____

BASE REPAIR PLANS FOR
2013 STREET OVERLAY PROJECT
WYNDHAM DRIVE
VALLEY HI DRIVE TO BRUCEVILLE ROAD

PN: R15132019

SHEET C-3 OF 4



	NO.	W x L	AREA	BEGINNING STATION
*	1	9' x 50'	348 SF	0+16
	2	4' x 30'	120 SF	0+88
	3	4' x 106'	422 SF	1+33
	4	4' x 26'	136 SF	3+54
	5	4' x 30'	120 SF	7+50
*	6	22' x 106'	2077 SF	8+26
	7	15' x 200'	2813 SF	9+92
*				

CAD FILE:

REVISIONS			
NO.	DESCRIPTION	DATE	BY

BENCH MARK ELEV. _____
DESCRIPTION

FIELD BOOK
SCALE
HORIZ. 1"=40'
VERT. ____

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: _____ DATE _____
DESIGNED BY: _____ R.C.E. _____ DATE _____
CHECKED BY: _____ R.C.E. _____ DATE _____

BASE REPAIR PLANS FOR
2013 STREET OVERLAY PROJECT
J STREET
13TH ST TO 16TH ST

PN: R15132019

SHEET
C-4
OF
4

APPENDIX C (SIGNING AND STRIPING PLANS)

S-1 COVER SHEET

S-2 NATOMAS BOULEVARD – NORTH BEND DRIVE TO MATCH LINE B

S-3 NATOMAS BOULEVARD – MATCH LINE A TO NORTH PARK DRIVE

S-4 NORTHGATE BOULEVARD – SAN JUAN ROAD TO POTOMAC AVENUE

S-5 J STREET – 3RD STREET TO 4TH STREET & 13TH STREET TO 14TH STREET

S-6 J STREET – 14TH STREET TO 16TH STREET

S-7 CAPITOL MALL – 3RD STREET TO 9TH STREET

S-8 POWER INN ROAD – FRUITRIDGE ROAD TO LEMON HILL AVENUE

S-9 WYNDHAM DRIVE – VALLEY HI DRIVE TO BRUCEVILLE ROAD

S-10 CARLSON DRIVE AND H STREET

GENERAL NOTES

1. ALL WORK SHALL BE DONE IN ACCORDANCE WITH: CITY OF SACRAMENTO DESIGN & PROCEDURES MANUAL, DATED SEPTEMBER 1990. CITY STANDARD SPECIFICATIONS, DATED JUNE 2007, CALTRANS STANDARD PLANS 2010 EDITION, AND THE CALIFORNIA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD), 2012 EDITION.
2. THIS PLAN IS ACCURATE FOR SIGNING AND STRIPING WORK ONLY.
3. ALL EXISTING SIGNING, STRIPING, AND MARKINGS TO REMAIN, UNLESS OTHERWISE NOTED. CONFLICTS BETWEEN EXISTING AND PROPOSED SHALL BE RESOLVED BY THE ENGINEER.
4. EXACT POSITION AND LOCATION OF ALL ROAD SIGNS SHALL BE DETERMINED IN THE FIELD BY THE ENGINEER.
5. REMOVAL OF EXISTING STRIPING AND PAVEMENT MARKINGS SHALL BE ACCOMPLISHED BY SANDBASTING OR OTHER APPROVED GRINDING METHOD.
6. CROSSWALKS SHALL BE 12 FEET WIDE INCLUDING THE 12" SOLID PAVEMENT MARKINGS AND SHALL BE WHITE UNLESS OTHERWISE NOTED.
7. ALL SIGNING AND STRIPING WORK SHALL BE COORDINATED WITH THE ELECTRICAL WORK AS DIRECTED BY THE ENGINEER.
8. LANE WIDTHS ADJACENT TO CURBS ARE MEASURED TO THE FACE OF CURB.
9. TRAFFIC SIGNS SHALL BE INSTALLED BEHIND THE SIDEWALK WHEN THE SIDEWALK IS IMMEDIATELY ADJACENT TO THE CURB. SIGNS SHALL BE INSTALLED BETWEEN THE CURB AND SIDEWALK WHEN THE SIDEWALK IS DETACHED. SIGNS IN THE PEDESTRIAN AREAS SHALL HAVE A CLEARANCE FROM THE GROUND OF AT LEAST SEVEN FEET. IF THIS CLEARANCE REQUIREMENT IS NOT SATISFIED AFTER THE INSTALLATION OF ADDITIONAL SIGN PANELS, CONTRACTOR SHALL INSTALL A NEW SIGN POST.
10. ALL ROADWAY SIGNS (REGULATORY, WARNING, GUIDE, SCHOOL ZONE SIGNS AND OBJECT MARKERS) SHALL INCLUDE ASTM TYPE XI SHEETING. FOR ALL OTHER SIGNS, USE ASTM TYPE II SHEETING. SCHOOL ZONE SIGNAGE SHALL BE FLUORESCENT YELLOW-GREEN WHERE YELLOW IS INDICATED IN THE MUTCD.
11. MOUNT SIGNS USING BANDING ON SIGNAL AND STREET LIGHT POLES WHERE FEASIBLE. SEE ELECTRICAL PLANS FOR POLE LOCATIONS.
12. CONTRACTOR SHALL VERIFY WITH THE ENGINEER THE EXACT STREET NAME AND STREET ADDRESS FOR PLACEMENT ON STREET NAME SIGNS PRIOR TO ORDERING SIGNS.
13. ALL SIGNS REGULATING PARKING SHALL BE DOUBLE SIDED AND SIDE MOUNTED.
14. AT NEW SIGNALIZED LOCATIONS, REMOVE EXISTING STOP SIGNS, STOP LEGENDS AND STANCHIONS AT THE TIME SIGNAL IS TURNED ON.

CITY OF SACRAMENTO

STRIPING PLANS FOR

2013 OVERLAY PROJECT

ACCEPTED BY: _____ _____

HECTOR BARRON, R.C.E 45485 — DATE
CITY TRAFFIC ENGINEER
(SIGNING AND STRIPING)

PROPOSED PLANS NOT FOR CONSTRUCTION

INDEX OF SHEETS

S-1 COVER SHEET
S-2 NATOMAS BOULEVARD – NORTH BEND DR TO MATCH LINE B
S-3 NATOMAS BOULEVARD – MATCH LINE B TO NORTH PARK DR
S-4 NORTHGATE BLVD – SAN JUAN ROAD TO POTOMAC AVE
S-5 J STREET – 3RD TO 4TH
S-6 J STREET – 13TH ST TO 16TH ST
S-7 CAPITOL MALL – 3RD ST TO 9TH ST
S-8 POWER INN ROAD – FRUITRIDGE RD TO LEMON HILL
S-9 WYNDHAM DRIVE – VALLEY HI DR TO BRUCEVILLE RD
S-10 H STREET & CARLSON DRIVE

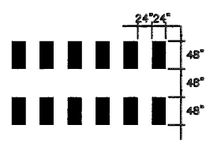
LEGEND:

- INSTALL ROADSIDE SIGN
- REMOVE ROADSIDE SIGN
- RELOCATE ROADSIDE SIGN
- EXISTING ROADSIDE SIGN TO REMAIN
- ROADSIDE SIGN LOCATION
- INSTALL TYPE IV (L/R) ARROW
- INSTALL TYPE VI ARROW
- INSTALL TYPE I 10' ARROW
- INSTALL TYPE VII (L/R) ARROW
- BIKE ROUTE PER MUTCD FIGURE 9C-9
- BIKE LANE PER MUTCD FIGURE 9C-3(c)
- FIRE HYDRANT

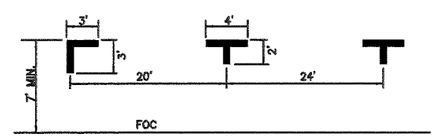
CONSTRUCTION NOTES:

ALL STREET SIGNS TO BE INSTALLED/ RELOCATED BY CONTRACTOR

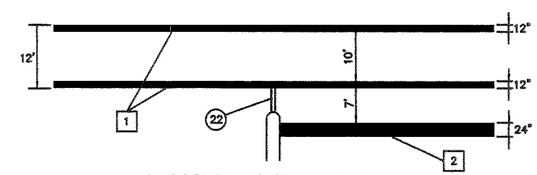
1. 12" CROSSWALK/LIMIT LINE
2. 24" WHITE ADVANCE LIMIT LINE (AT SIGNALIZED INTERSECTIONS ONLY), 7' FROM CROSSWALK
3. 24" WHITE LIMIT LINE



TRIPLE FOUR CROSSWALK DETAIL
NTS



4" WHITE STRIPING TYPICAL PARKING STALL DETAIL
NTS



CROSSWALK & SUPPLEMENTAL STOP BAR DETAIL
NTS

PROJECT TITLE (PN: R15132019)

CAD FILE:

REVISIONS			
NO.	DESCRIPTION	DATE	BY

BENCH MARK ELEV. _____
DESCRIPTION

FIELD BOOK
SCALE
HORIZ. _____
VERT. _____

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

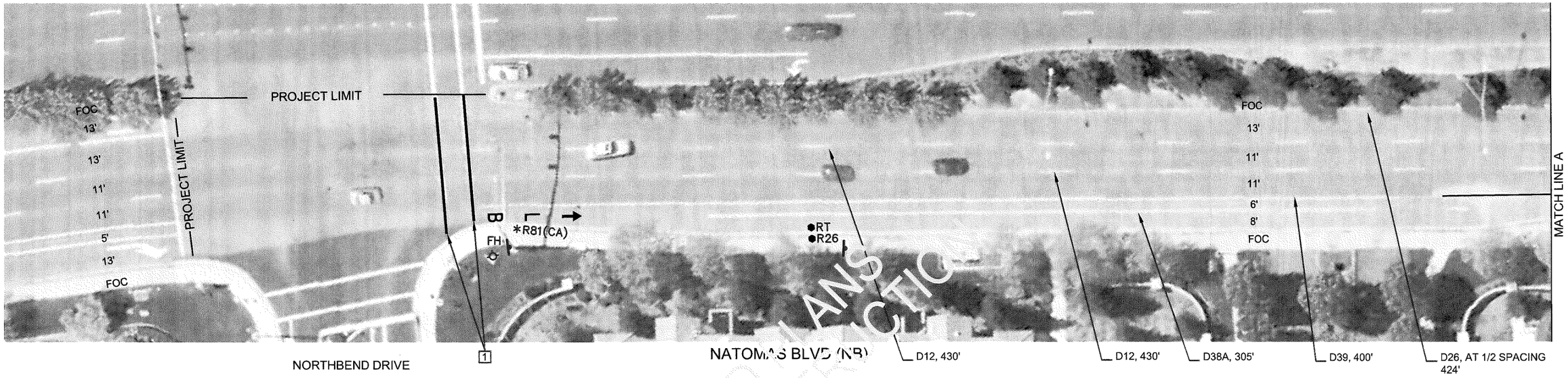
DRAWN BY: K CHAHAL
DATE 2013
DESIGN BY: _____
R.C.E. _____ DATE _____
CHECKED BY: ALEKSEY GOLOVESHKIN
R.C.E. 70880 DATE 2013

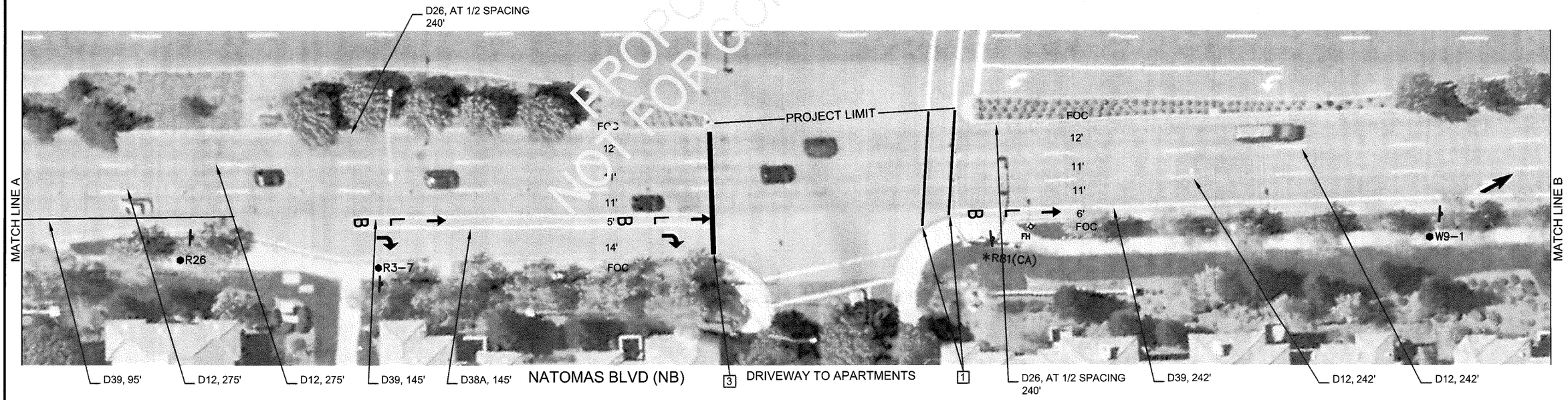
REGISTERED PROFESSIONAL ENGINEER ALEKSEY GOLOVESHKIN NO. C 70880 Exp. 6/30/13 CIVIL STATE OF CALIFORNIA

SIGNING AND STRIPING PLANS FOR
2013 STREET OVERLAY PROJECT
COVER SHEET

PN:R15132019

SHEET S-1 OF 10





PROPOSED PLANS NOT FOR CONSTRUCTION

CAD FILE:

REVISIONS			
NO.	DESCRIPTION	DATE	BY

BENCH MARK ELEV. _____
DESCRIPTION

FIELD BOOK
SCALE
HORIZ. 1"=20'
VERT. ____

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

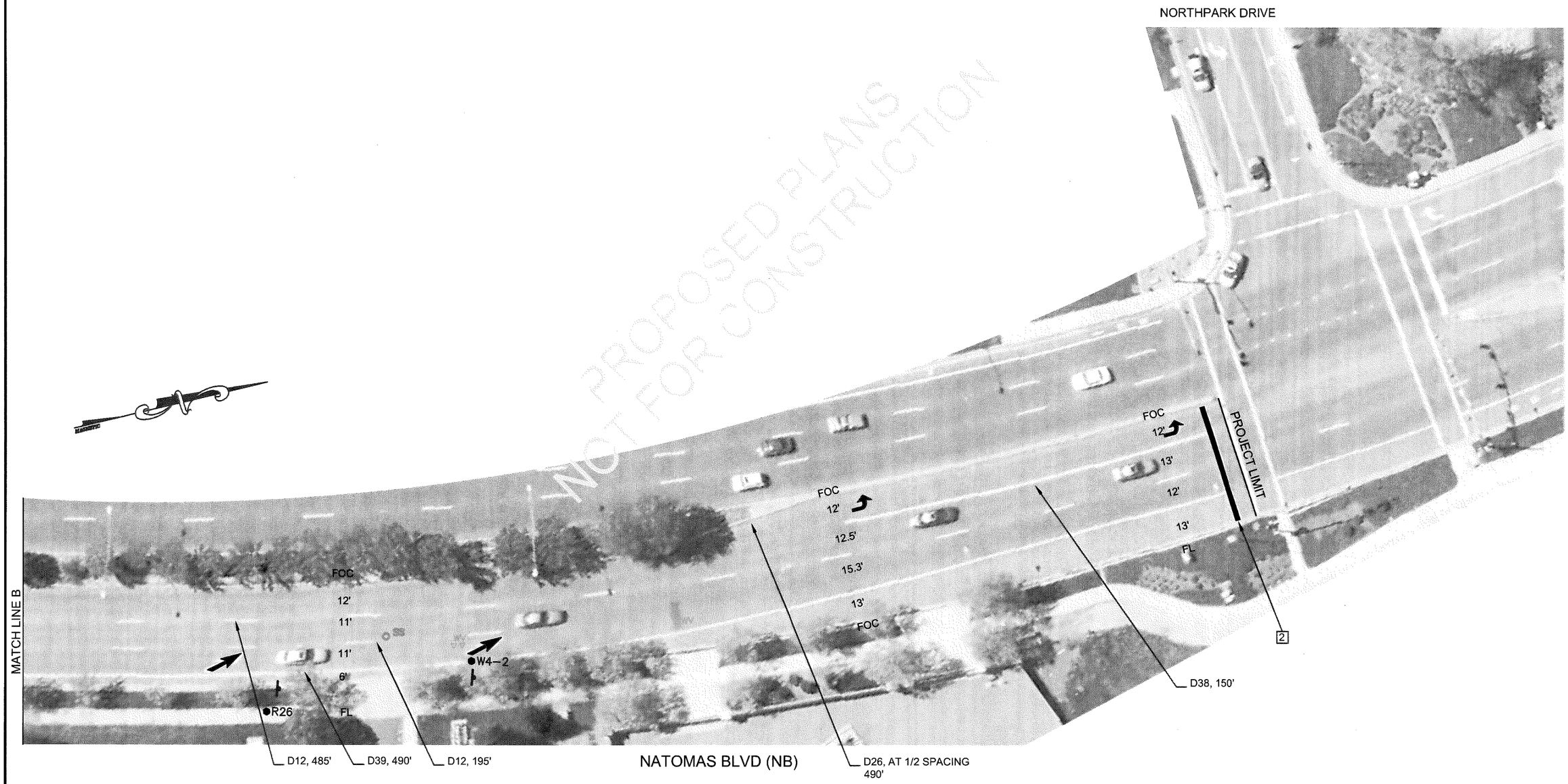
DRAWN BY: K CHAHAL
DATE 2013
DESIGNED BY: _____
R.C.E. _____ DATE _____
CHECKED BY: ALEKSEY GOLOVESHKIN
R.C.E. 70880 DATE 2013

REGISTERED PROFESSIONAL ENGINEER
Name Lastname
NO. C NUMBER
Exp. Date
CIVIL
STATE OF CALIFORNIA

SIGNING AND STRIPING PLANS FOR
2013 STREET OVERLAY PROJECT
NATOMAS BOULEVARD
NORTH BEND DRIVE TO MATCH LINE B

PN: R15132019

SHEET S-2 OF 10



PROPOSED PLANS
NOT FOR CONSTRUCTION

CAD FILE:

REVISIONS			
NO.	DESCRIPTION	DATE	BY

BENCH MARK ELEV. _____
DESCRIPTION

FIELD BOOK
SCALE
HORIZ. 1"=20'
VERT. ____

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

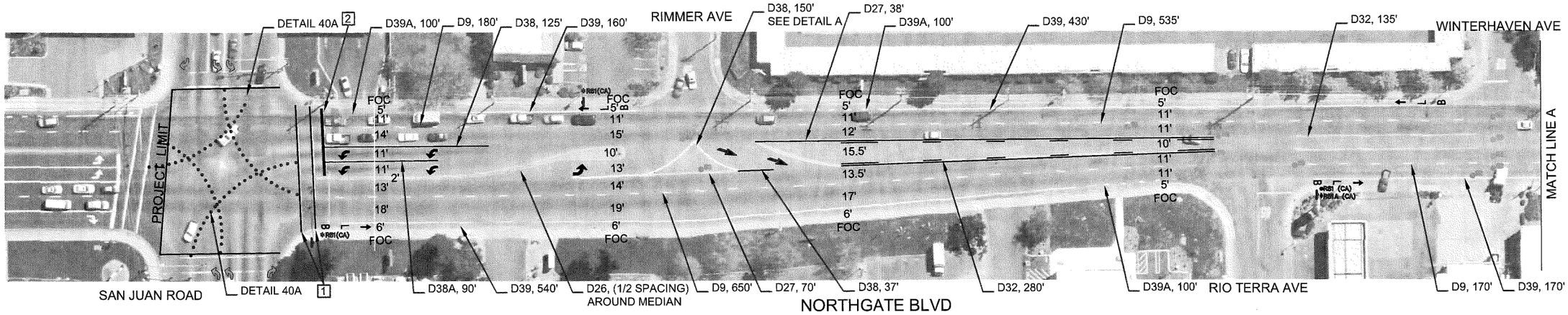
DRAWN BY: K CHAHAL
DATE 2013
DESIGNED BY: _____
R.C.E. _____ DATE _____
CHECKED BY: ALEKSEY GOLOVESSHKIN
R.C.E. 70880 DATE 2013

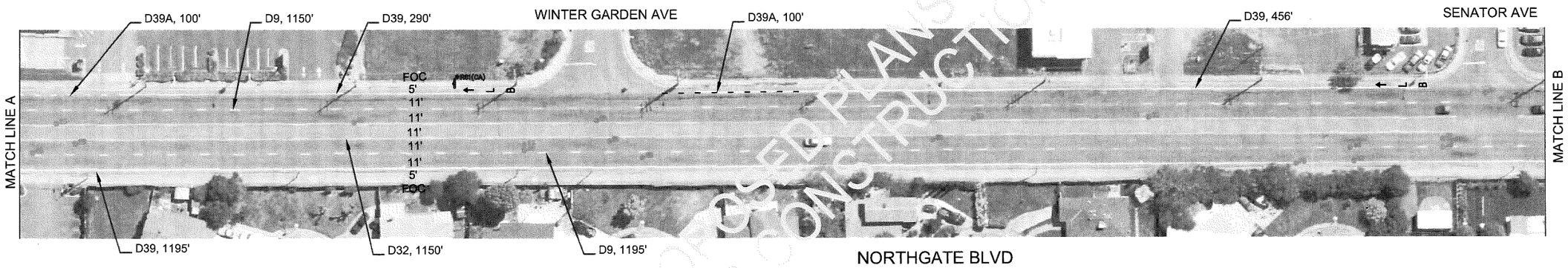
REGISTERED PROFESSIONAL ENGINEER
Name Lastname
No. C NUMBER
Exp. Date
CIVIL
STATE OF CALIFORNIA

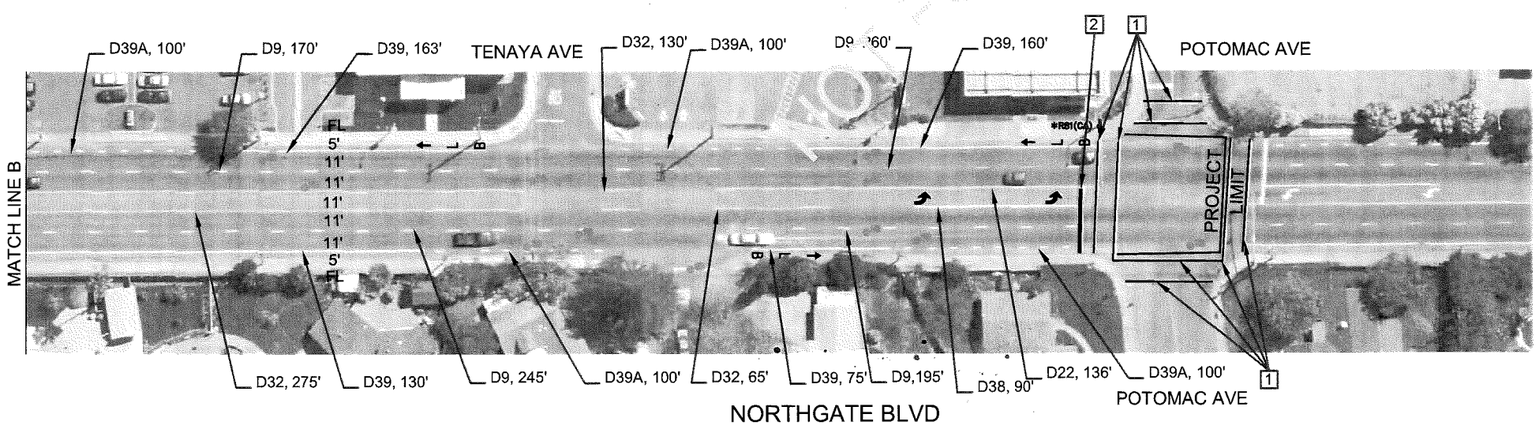
SIGNING AND STRIPING PLANS FOR
2013 STREET OVERLAY PROJECT
NATOMAS BLVD
MATCH LINE B TO NORTH PARK DRIVE

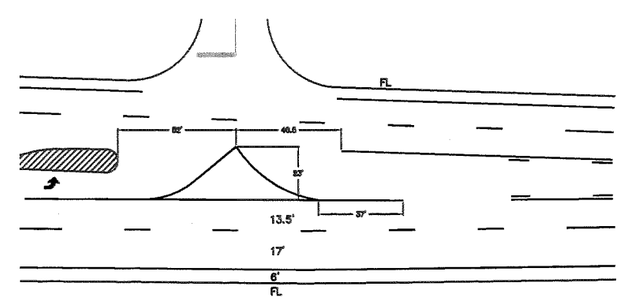
PN: R15132019

SHEET S-3 OF 10









DETAIL A
NTS

PROPOSED PLANS
NOT FOR CONSTRUCTION

CAD FILE:

REVISIONS			
NO.	DESCRIPTION	DATE	BY

BENCH MARK ELEV. _____
DESCRIPTION

FIELD BOOK
SCALE
HORIZ. 1"=40'
VERT. ____

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

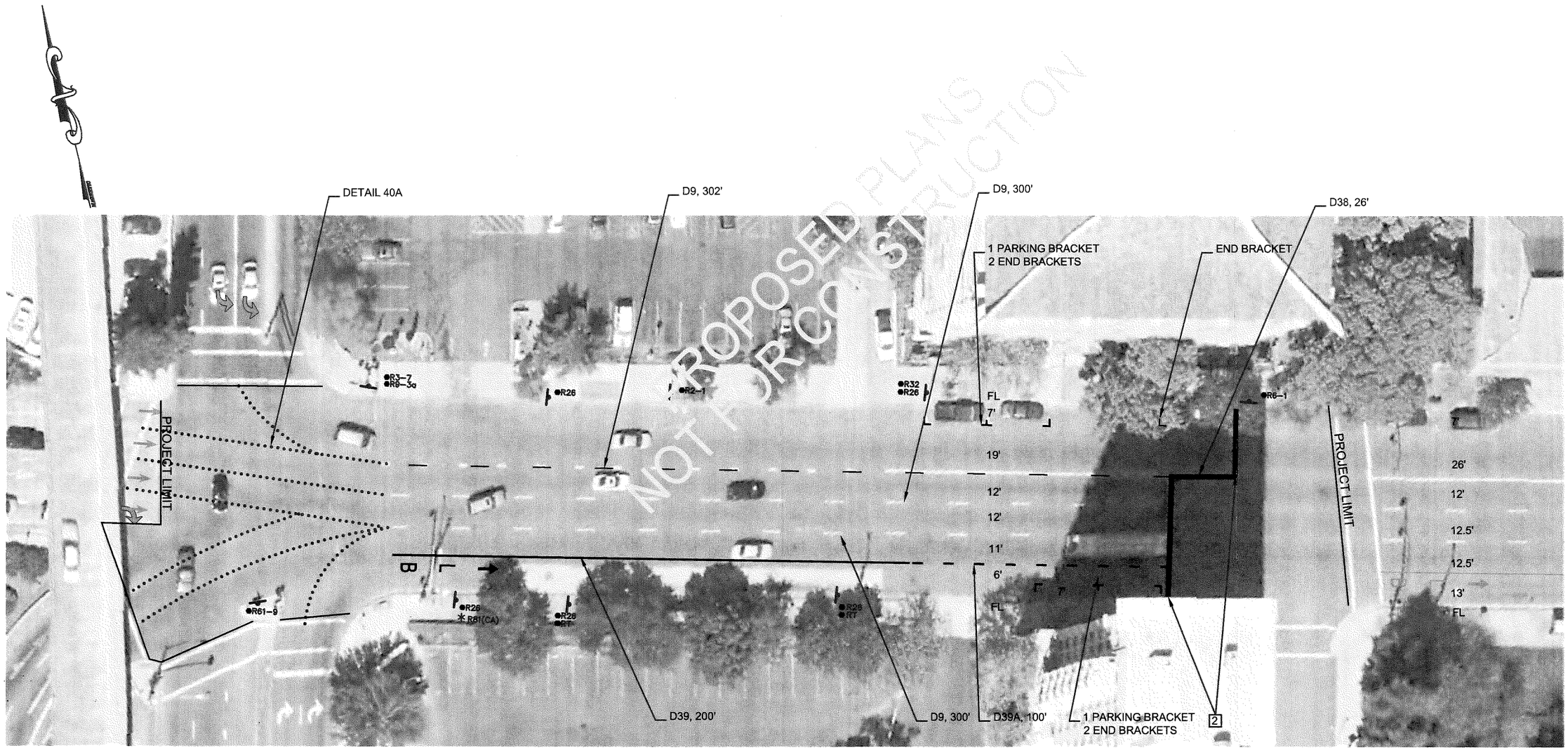
DRAWN BY: K CHAHAL
DATE 2013
DESIGNED BY:
R.C.E. DATE
CHECKED BY: ALEKSEY GOLOVESHKIN
R.C.E. 70880 DATE 2013

REGISTERED PROFESSIONAL ENGINEER
Name Lastname
NO. C NUMBER
Exp. Date
CIVIL
STATE OF CALIFORNIA

SIGNING AND STRIPING PLANS FOR
2013 STREET OVERLAY PROJECT
NORTHGATE BOULEVARD
SAN JUAN ROAD TO POTOMAC AVENUE

PN: R15132019

SHEET S-4 OF 10



3RD STREET

J STREET 3RD ST - 4TH ST

4TH STREET

CAD FILE: 1=

REVISIONS NO.	DESCRIPTION	DATE	BY

BENCH MARK ELEV. _____
DESCRIPTION

FIELD BOOK 9999
SCALE HORIZ. 1"=20' VERT. ____

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

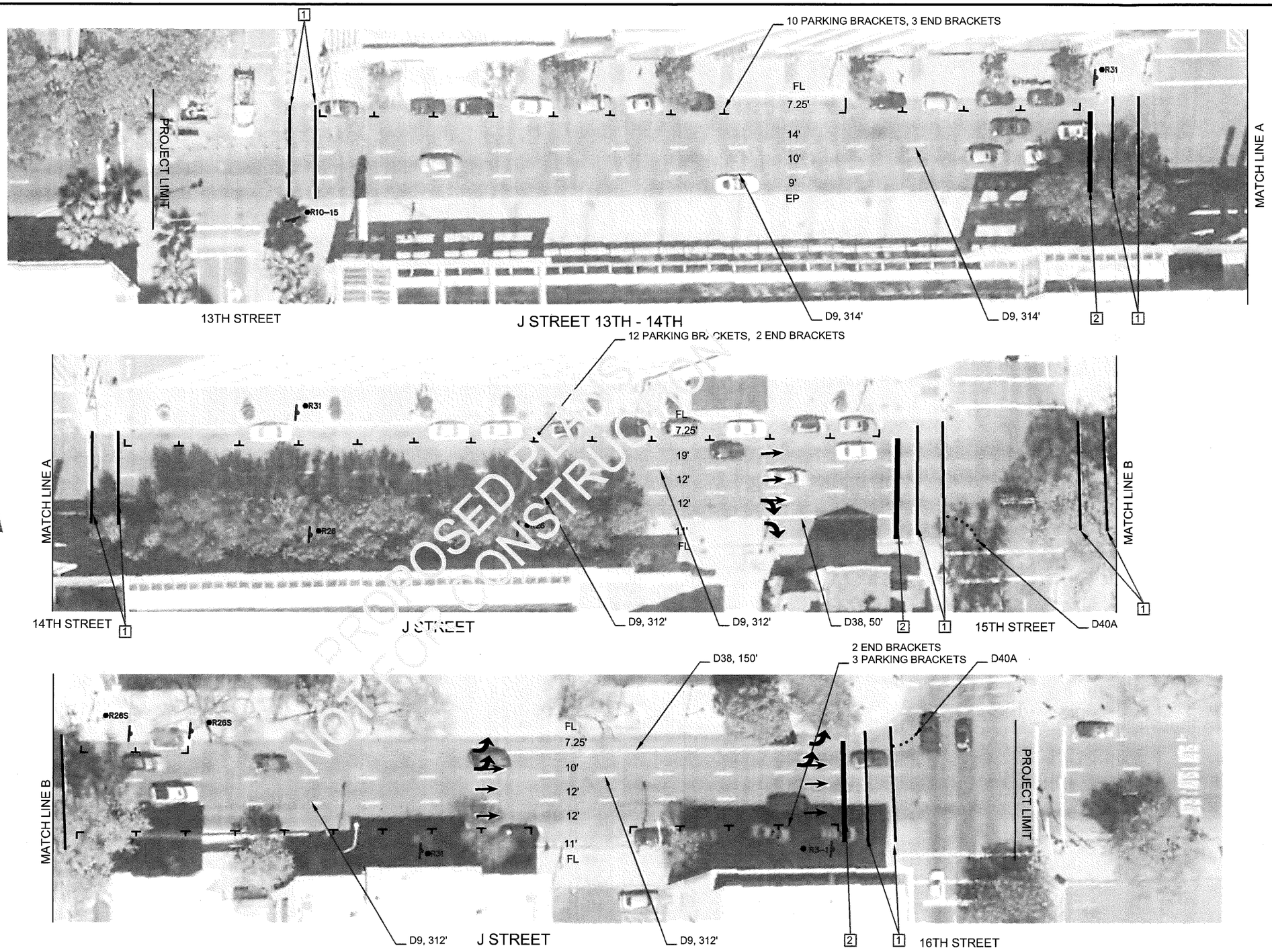
DRAWN BY: TECHNICIAN DATE YEAR
DESIGNED BY: TECHNICIAN R.C.E. 99999 DATE YEAR
CHECKED BY: ENGINEER R.C.E. 99999 DATE YEAR

REGISTERED PROFESSIONAL ENGINEER Name Lastname NO. C NUMBER Exp. Date CIVIL STATE OF CALIFORNIA

SIGNING AND STRIPING PLANS FOR
2013 STREET OVERLAY PROJECT
J STREET
3RD ST TO 4TH ST

PN: R15132019

SHEET S-5 OF 10



PROPOSED REPORT
NOT FOR CONSTRUCTION

CAD FILE:

REVISIONS			
NO.	DESCRIPTION	DATE	BY

BENCH MARK ELEV. _____
DESCRIPTION

FIELD BOOK

SCALE
HORIZ. 1"=20'
VERT. ____

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

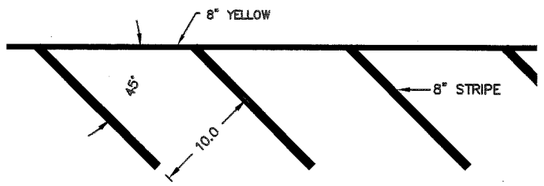
DRAWN BY: K CHAHAL
DATE 2013
DESIGNED BY: _____
R.C.E. _____ DATE _____
CHECKED BY: ALEKSEY GOLOVESHKIN
R.C.E. 70880 DATE 2013

REGISTERED PROFESSIONAL ENGINEER
Name Lastname
NO. C NUMBER
Exp. Date
CIVIL
STATE OF CALIFORNIA

SIGNING AND STRIPING PLANS FOR
2013 STREET OVERLAY PROJECT
J STREET
13TH ST TO 16TH ST

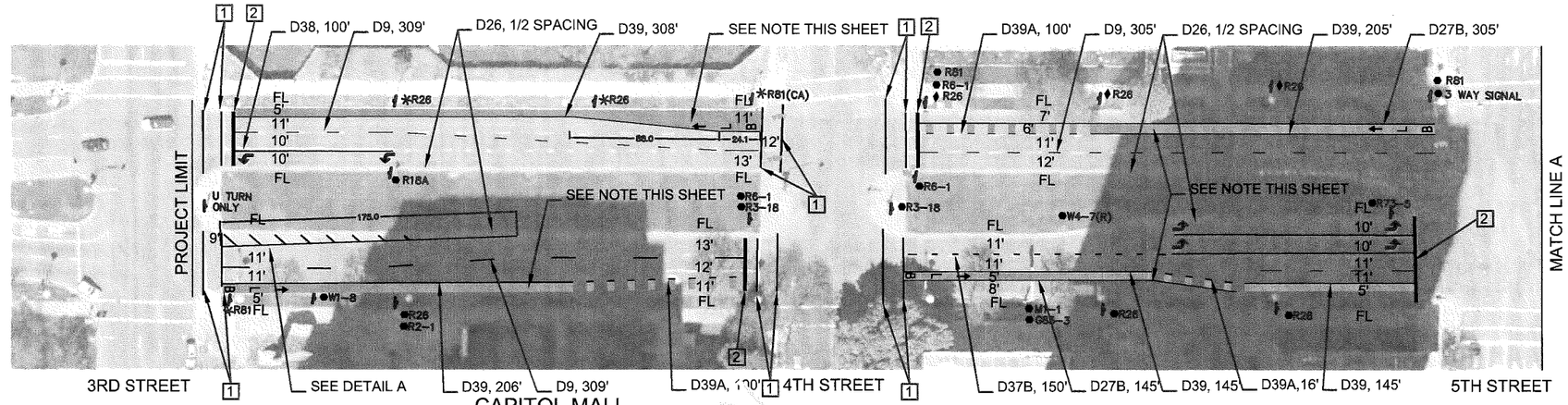
PN: R15132019

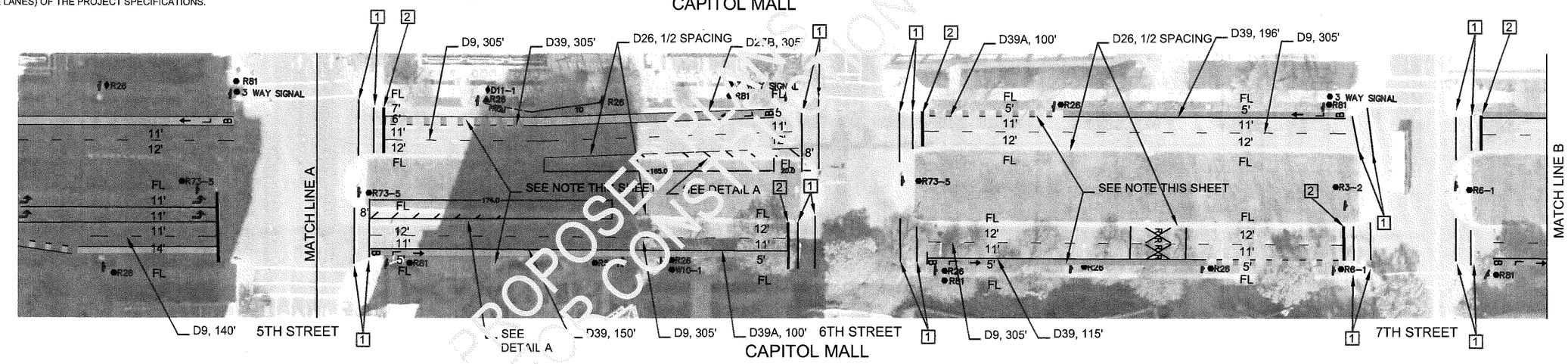
SHEET S-6 OF 10

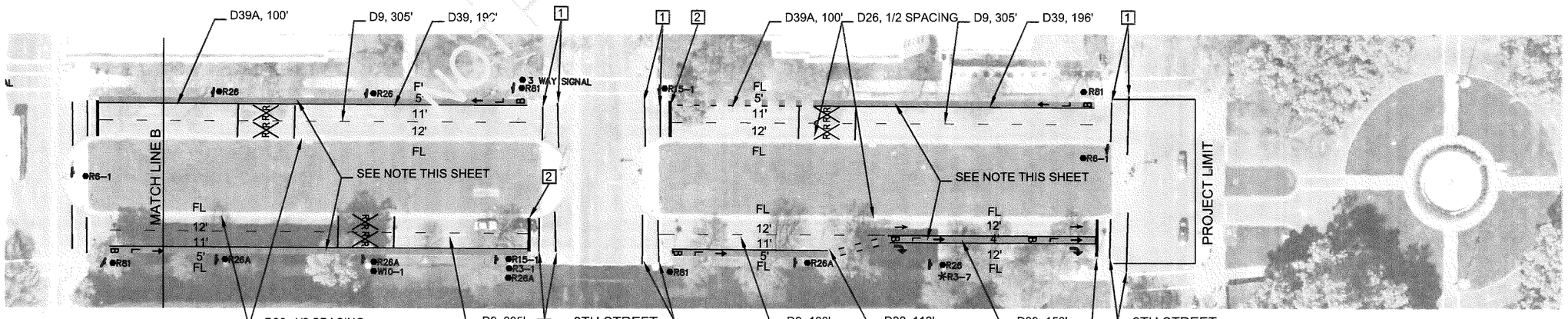


DETAIL A (YELLOW)
NTS

NOTE: SPECIAL BIKE LANE TREATMENT (GREEN COLORED PAVEMENT AND ASSOCIATED BIKE LANE STRIPING) IS NOT THERMOPLASTIC AND MUST BE PLACED IN ACCORDANCE WITH ITEMS 30 - 33(COLORED PAVEMENTS FOR BIKE LANES) OF THE PROJECT SPECIFICATIONS.







PROPOSED FOR CONSTRUCTION

CAD FILE: 1=

REVISIONS			
NO.	DESCRIPTION	DATE	BY

BENCH MARK ELEV. _____
DESCRIPTION

FIELD BOOK
SCALE
HORIZ. 1"=40'
VERT. ____

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

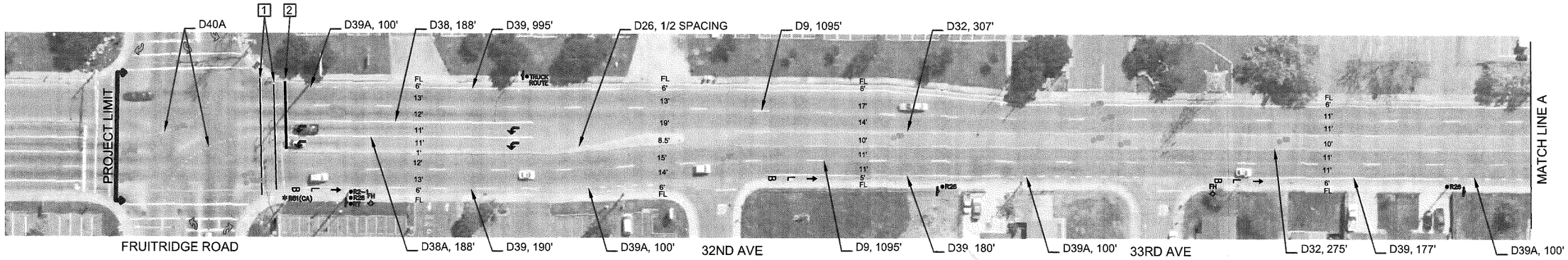
DRAWN BY: K CHAHAL
DATE 2013
DESIGNED BY: _____
R.C.E. _____ DATE _____
CHECKED BY: E. S. TOBEY
R.C.E. 69752 DATE 2013

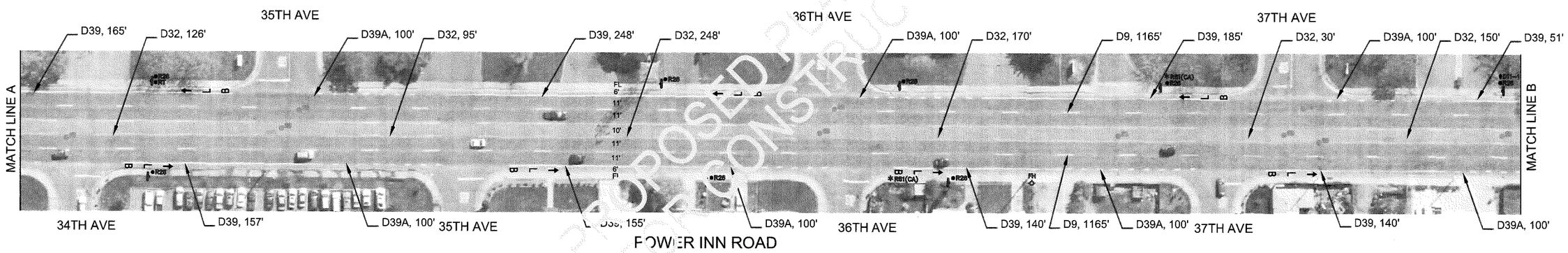
REGISTERED PROFESSIONAL ENGINEER EDWARD S. TOBEY NO. C 69752 Exp. 6/30/13 CIVIL STATE OF CALIFORNIA

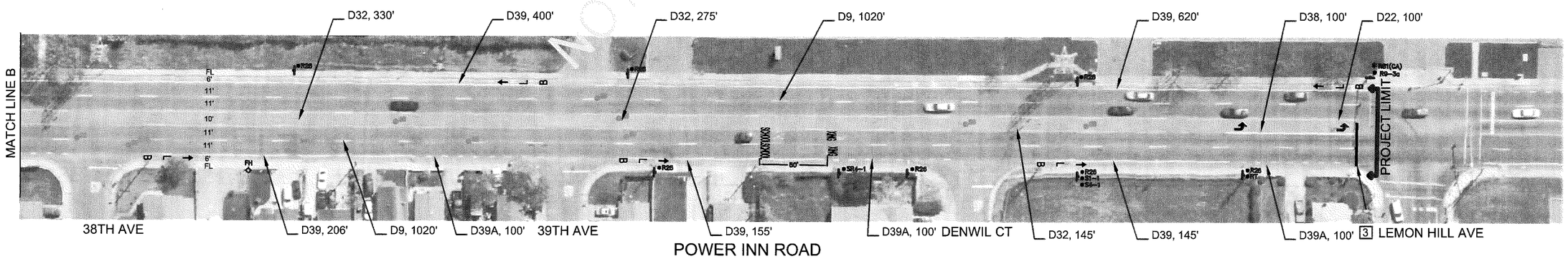
SIGNING AND STRIPING PLANS FOR
2013 STREET OVERLAY PROJECT
CAPITOL MALL
3RD STREET TO 9TH STREET

PN: R15132019

SHEET S-7 OF 10







NOT FOR PROPOSED PLANS CONSTRUCTION

CAD FILE:

REVISIONS			
NO.	DESCRIPTION	DATE	BY

BENCH MARK ELEV. _____
DESCRIPTION

FIELD BOOK

SCALE
HORIZ. 1"=40'
VERT. ____

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

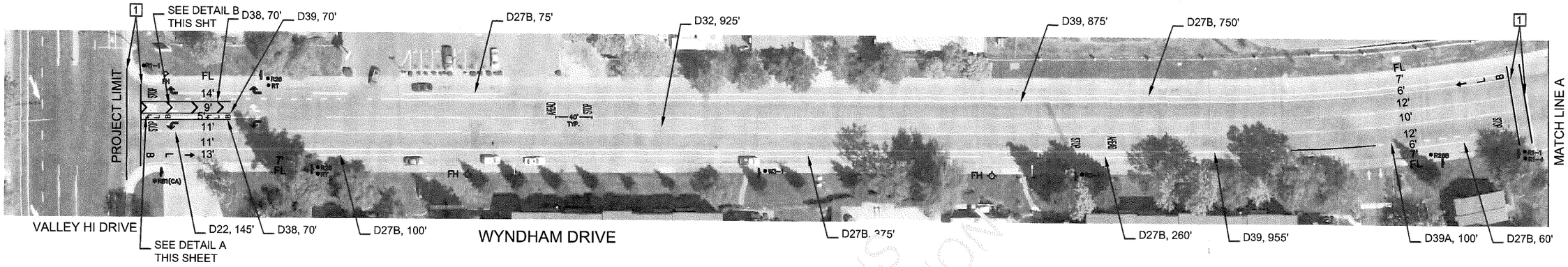
DRAWN BY: K CHAHAL
DATE 2013
DESIGNED BY: _____
R.C.E. _____ DATE _____
CHECKED BY: ALEKSEY GOLOVESHKIN
R.C.E. 70880 DATE 2013

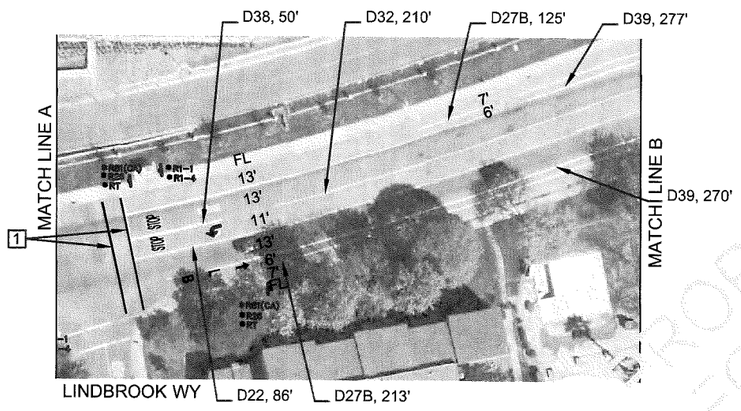
REGISTERED PROFESSIONAL ENGINEER ALEKSEY GOLOVESHKIN NO. C 70880 Exp. 6/30/2013 CIVIL STATE OF CALIFORNIA

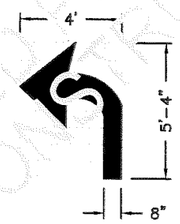
SIGNING AND STRIPING PLANS FOR
2013 STREET OVERLAY PROJECT
POWER INN ROAD
FRUITRIDGE ROAD TO LEMON HILL AVENUE

PN: R15132019

SHEET S-8 OF 10

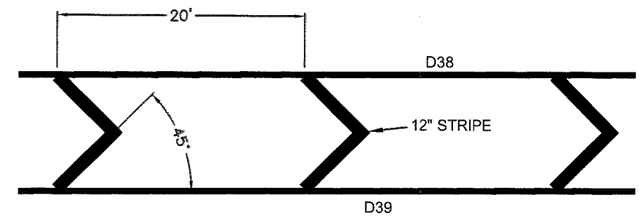




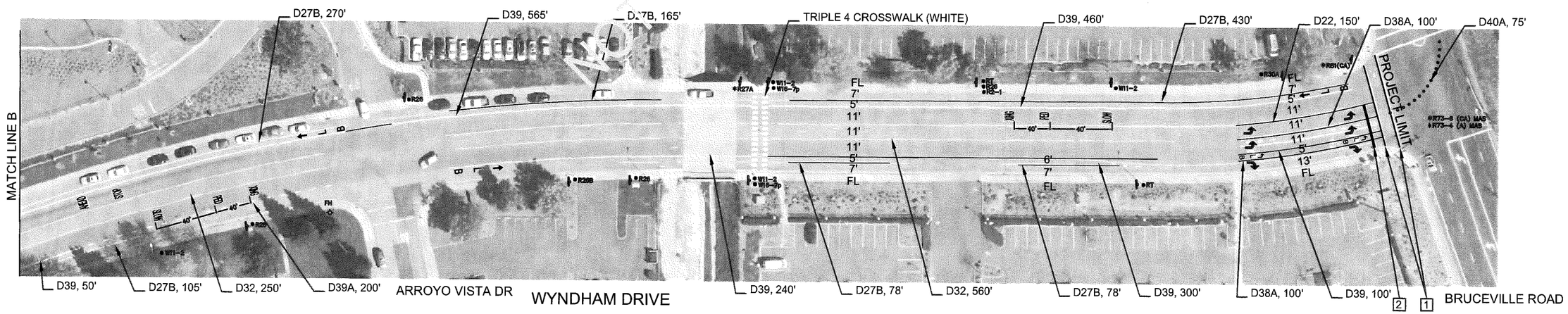


DETAIL A

MODIFIED TYPE IV (L) ARROW (FOR USE AT BIKE LANE TURN ONLY LOCATIONS)



DETAIL B



CAD FILE:

REVISIONS			
NO.	DESCRIPTION	DATE	BY

BENCH MARK ELEV. _____
DESCRIPTION

FIELD BOOK

SCALE
HORIZ. 1"=40'
VERT. ____

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: K CHAHAL
DATE 2013
DESIGNED BY: _____
R.C.E. _____ DATE _____
CHECKED BY: ALEKSEY GOLOVESHKIN
R.C.E. 70880 DATE 2013

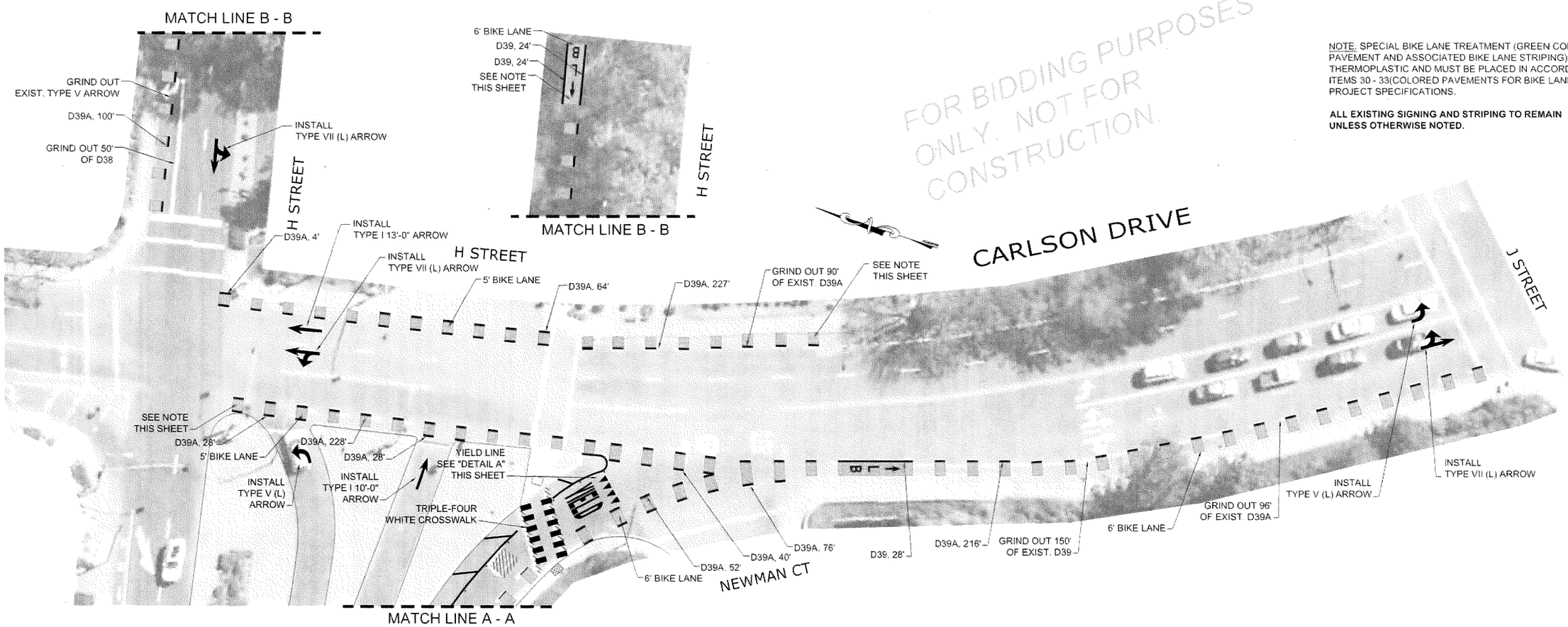
REGISTERED PROFESSIONAL ENGINEER ALEKSEY GOLOVESHKIN NO. C 70880 Exp. 6/30/13 CIVIL STATE OF CALIFORNIA

SIGNING AND STRIPING PLANS FOR
2013 STREET OVERLAY PROJECT
WYNDHAM DRIVE
VALLEY HI DRIVE TO BRUCEVILLE ROAD

PN: R15132019

SHEET S-9 OF 10

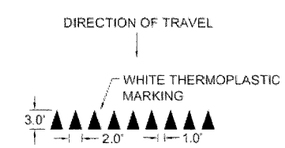
PROPOSED PLANS FOR CONSTRUCTION



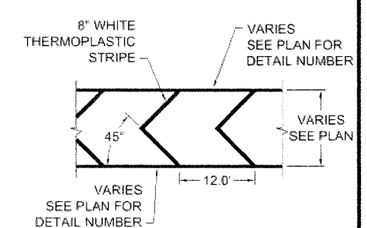
FOR BIDDING PURPOSES ONLY. NOT FOR CONSTRUCTION.

NOTE: SPECIAL BIKE LANE TREATMENT (GREEN COLORED PAVEMENT AND ASSOCIATED BIKE LANE STRIPING) IS NOT THERMOPLASTIC AND MUST BE PLACED IN ACCORDANCE WITH ITEMS 30 - 33(COLORED PAVEMENTS FOR BIKE LANES) OF THE PROJECT SPECIFICATIONS.

ALL EXISTING SIGNING AND STRIPING TO REMAIN UNLESS OTHERWISE NOTED.



DETAIL A (YIELD LINE)
SCALE: 1"=12'
CALTRANS DWG. # A24E



DETAIL B (CHEVRON STRIPING)
SCALE: 1"=12'

CAD FILE: S:\Transportation\Techs\Pedro\h-carlson\Fehr & Peers\H-Carlson Option A - S10.dwg

REVISIONS	BENCH MARK		CITY OF SACRAMENTO DEPARTMENT OF PUBLIC WORKS			SIGNING AND STRIPING PLANS FOR 2013 STREET OVERLAY PROJECT CARLSON DRIVE H STREET TO J STREET	PN: R15132019	S-10
	SEE SHEET C-1	1"= 20'	STAFF MAY 2013	MAY 2013	JUNE 2013			10

APPENDIX D (CORE LOCATIONS AND MEASUREMENTS)

POWER INN ROAD BETWEEN FRUITRIDGE ROAD AND LEMON HILL AVE

NORTHGATE BOULEVARD BETWEEN SAN JUAN RD AND POTOMAC AVE

Table 2 - 2013 Sacramento DOT Overlay Program
Core Locations and Measurements

Section No.	Street Name	Begin	End	No. of Cores	Core No. [1],[7]	Direction	Lane	Station (ft) [2]	Depth to Fabric (in)	Depth to Overlay (in)	Total AC Thickness (in) [3]	Total PCC Thickness (in)	AB Thickness (in) [4],[5],[6]	Moisture Content (%) [4]	Plasticity Index [4]	R-Values [4]
1	Power Inn Road	Lemon Hill Avenue (0+00)	Fruitridge Road (31+77)	8	C-1	NB	2	3+25	1.75	1.75, 3.625	8.375	NONE	16.125	18.1	14	8
					C-2	SB	2	4+54	2.25	2.25, 3.75, 6.125	8.25	NONE				
					C-3	NB	2	6+88	1.5	1.5, 3.875, 5.125	8.0	NONE				
					C-4	NB	1	10+89	2.0	2.0, 2.375	5.875	NONE				
					C-5	SB	1	14+31	2.125	2.125, 4.25, 6.125	13.25	NONE	8.875 [6]			
					C-6	SB	2	20+42	2.0	2.0, 4.875	14.125	NONE				
					C-7(a)	NB	2	25+97	1.875	1.875, 3.125, 5.5, 7.125	10.75	NONE				
					C-7(b) [7]	NB	2	25+97	1.875	1.875, 3.75	10.5	NONE	13.0	17.0	19	17
					C-8	SB	2	27+15	NONE	1.375, 3.125, 5.625	8.125	NONE				
2	Northgate Boulevard (Section B)	Potomac Avenue (60+45)	San Juan Road (88+52)	8	C-21	NB	1	62+37	NONE	2.125, 4.0	6.875	NONE				
					C-22	SB	2	65+46	NONE	2.0, 4.5	6.625	NONE				
					C-23	SB	1	68+93	NONE	2.875, 4.125, 8.0	10.0 [3]	NONE				
					C-24	NB	2	71+21	NONE	1.5	4.875	NONE				
					C-25	SB	2	72+80	NONE	2.0, 4.125	6.25	NONE				
					C-26	NB	1	78+96	NONE	2.125	7.25	NONE				
					C-27	NB	1	82+22	NONE	1.0, 1.75, 3.875	6.5	NONE				
					C-28	SB	2	84+14	NONE	2.875	4.625	NONE	11.375	16.5	20	5

Notes:

(1) Core numbers are intended to be numerically sequential throughout both streets. However, some core numbers were skipped due to interfering utilities or obstructions.

(2) Core locations are provided based on FWD measurements with defined project stationing, with a beginning station of 0+00.

(3) Core C-23 (Northgate Boulevard) is likely not representative of the majority of the pavement thickness throughout the section.

(4) Bulk samples of subgrade were collected for both street sections in anticipation of reconstruction recommendations. Laboratory testing for bulk sample locations included moisture content, plasticity index, and R-value. The thickness of aggregate base (AB) was also measured at all bulk sample locations.

(5) Aggregate base was noted under every core in both Power Inn Road and Northgate Boulevard.

(6) No subgrade sample was collected at core C-5 (Power Inn Road) due to suspected utility interference.

(7) An additional subgrade sample was taken at Core C-7(b), located next to Core C-7(a), on Power Inn Road due to the utility conflict at Core C-5.