



PUBLIC WORKS DEPARTMENT

**SPECIAL PROVISIONS
FOR**

**LOCAL STREET RESURFACING PROGRAM
FY21-22 SB1 – CAPE SEAL
PROJECT NO. WT22003E**

BID OPENING: Thursday, February 1, 2024 @ 2:00 p.m.

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DIVISION I – GENERAL PROVISIONS

SECTION 1 – GENERAL

1-1.01 TERMS AND DEFINITIONS

Wherever in the Standard Specifications, Special Provisions, Notice to Contractors, Proposal, Contract, or other contract documents the following terms are used; the intent and meaning shall be interpreted as follows:

City or Owner -	City of Stockton
Director -	Director of Public Works, City of Stockton
Standard Specifications -	City of Stockton, Standard Plans and Specifications, and any amendments or revisions thereto (Revised 9/27/16)
Caltrans Specifications -	Current and latest State of California, Department of Transportation, and any amendments or revisions thereto.
Laboratory -	City of Stockton's Department of Public Works or consultant laboratory
Department -	Department of Public Works, City of Stockton
Engineer -	City Engineer, City of Stockton, acting either directly or through properly authorized Engineer, agents and consultants
MUTCD -	Latest edition of California Manual on Uniform Traffic Control Devices (MUTCD), and any amendments and revisions thereto
Working Day -	Defined as any eight (8) hour day, except as follows: Saturdays, Sundays, City-observed holidays, and days on which the Contractor is prevented by inclement weather or conditions resulting immediately therefrom adverse to the current controlling operation or operations, as determined by the Engineer, from proceeding with at least 75 percent of the normal labor and equipment force engaged on that operation or operations for at least 60 percent of the total daily time being currently spend on the controlling operation or operations.

1-1.02 SPECIFICATIONS

The work described herein shall be done in accordance with the current City of Stockton, Department of Public Works Standard Specifications and Plans, and the latest Editions of the State of California, Department of Transportation Standard Specifications and Standard Plans, California MUTCD, as referenced therein, and in accordance with the following Special Provisions. To the extent the California Department of Transportation Standard Specifications implements the STATE CONTRACT ACT, they shall not be applicable since the City of Stockton is not subject to said ACT.

In case of conflict or discrepancy between any of the Contract Documents, the order of documents listed below shall be the order of precedence, with the first item listed having the highest precedence.

- a. Contract Change Order
- b. Contract
- c. Project Special Provisions
- d. Project Plans
- e. City Standard Specifications
- f. City Standard Drawings
- g. Revised Caltrans Standard Specifications
- h. Caltrans Standard Specifications
- i. Revised Caltrans Standard Plans
- j. Caltrans Standard Plans
- k. Supplemental Project Information

With regards to discrepancies or conflicts between written dimensions given on drawings and the scaled measurements, the written dimensions shall govern.

With regards to discrepancies or conflicts between large-scale drawings and small-scale drawings, the larger scale shall govern.

With regards to discrepancies or conflicts between detailed drawings and referenced standard drawings or plans, the detailed drawings shall govern.

In the event where provisions of codes, safety orders, contract documents, referenced manufacturer's specifications or industry standards are in conflict, the more restrictive and higher quality shall govern.

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

The Contractor shall examine carefully the site of the work and the plans and specifications therefore. Contractor shall investigate and satisfy himself/herself as to conditions to be encountered, the character, quality and quantity of surface, subsurface materials or obstacles to be encountered, the work to be performed, materials to be furnished, and as to the requirements of the bid, plans and specifications of the contract.

1-1.03 PLANS

The bidder's attention is directed to the provisions in Section 1-1.03, "Definitions" of the Standard Specifications and Section 1-1.07 of the Caltrans Specifications.

See Instructions to Bidders for complete instructions and documentation forms.

See following page

SECTION 2 – BIDDING

2-1.01 GENERAL

The bidder's attention is directed to the "Notice to Contractors" for the date, time and location of the mandatory pre-bid meeting, if applicable. Refer to the City of Stockton's Bid Flash webpage: <http://www.stocktongov.com/services/business/bidflash/default.html>

The bidder's attention is directed to the provisions in Section 2, "Bidding," of the Standard Specifications and these special provisions for the requirements and conditions which the bidder must observe in the preparation for the submission of the bid.

The Bidder's Bond form mentioned in the last paragraph in Section 2-1.34, "Bidder's Security," of the Standard Specifications will be found following the signature page of the Proposal.

In conformance with Public Contract Code Section 7106, a Non-collusion Affidavit is included in the Proposal. Signing the Proposal shall also constitute a signature of the Non-collusion Affidavit.

The contractor, sub-recipient or subcontractor shall not discriminate on the basis of race, color, national origin, or sex in the performance of this contract. The contractor shall carry out applicable requirements of Title 49 CFR (Code of Federal Regulations) part 26 in the award and administration of US DOT assisted contracts. Failure by the contractor to carry out these requirements is a material breach of this contract, which may result in the termination of this contract or such other remedy, as the recipient deems appropriate. Each subcontract signed by the bidder must include this assurance.

2-1.02 BID PROTEST

In case of Bid protests, attention is directed to the provisions in Section 2-1.51, "Bid Protests" of the Standard Specifications. The party filing the protest must have submitted a bid for the work. A subcontractor of a bidder may not submit a bid protest.

A copy of bid protests is to be sent to the following address:

Attention: *Thinh Phan*
City of Stockton
Public Works Department
1465 South Lincoln Street
Stockton, CA 95206

SECTION 3 – CONTRACT AWARD AND EXECUTION

3-1.01 CONTRACT AWARD

The bidder's attention is directed to the provisions in Section 3, " Contract Award and Execution," of the Standard Specifications and these special provisions for the requirements and conditions concerning award and execution of the contract.

Bid protests are to be delivered to the following address: Department of Public Works, 1465 South Lincoln Street, Stockton, CA 95206, Attn: *Thinh Phan*. The award of the contract, if it be awarded, will be to the lowest responsible bidder whose proposal complies with all the requirements prescribed.

3-1.02 CONTRACT EXECUTION

The contract shall be executed by the successful bidder and shall be returned, together with the contract bonds, to the Agency so that it is received within 10 days, not including Saturdays, Sundays and legal holidays, after the bidder has received the contract for execution. Failure to do so shall be just cause for forfeiture of the proposal guaranty. The executed contract documents shall be delivered to:

City of Stockton
Public Works Department
Attn: *Thinh Phan*
1465 South Lincoln Street
Stockton, CA 95206

3-1.03 CONTRACT BONDS

Contract Bonds shall conform to the requirements set forth in Section 3-1.05, "Contract Bonds", of the Standard Specifications, except for the second paragraph which shall be replaced with the following:

"The Faithful Performance bond will be retained by the City of Stockton for twelve (12) months following recordation of the Notice of Completion (or partial completion) to guarantee the correction of failure attributed to workmanship and materials. Upon recordation of the Notice of Completion (or partial completion), the amount of the Faithful Performance bond may be reduced to **ten percent (10%)** of the actual cost of the constructed improvements".

SECTION 4 – SCOPE OF WORK

4-1.01 DIFFERING SITE CONDITIONS

Attention is directed to the provisions in Section 4-1.06, "Differing Site Conditions," of the Caltrans Specifications and the Standard Specifications. Contractor shall notify the Engineer if he/she finds physical conditions differing materially from contract documents.

4-1.01 EXTRA WORK

Section 4-1.05, "Changes and Extra Work" of the Caltrans Specifications is amended by adding the following between the second and third paragraphs:

"If, in the opinion of the Engineer, such work cannot reasonably be performed concurrently with other items of work, and if a controlling item of work is delayed thereby, an adjustment of contract time will be made."

4-1.02 CLEANUP

The Contractor's attention is directed to Sections 4-1.13, "Cleanup," of the Caltrans Specifications.

The Contractor shall conduct and cause all working forces at the site to maintain the site in a neat orderly manner throughout the construction operations. The work shall be conducted in a manner that will control the dust. When ordered to provide dust control, the Contractor shall use water to reduce the dusty conditions all to the satisfaction of the Engineer. During construction, the Contractor shall remove all rubbish and debris as it is generated. Upon completion of the work, the Contractor shall remove all equipment, debris, and shall leave the site in a neat, clean condition all to the satisfaction of the Engineer.

See following page

SECTION 5 – CONTROL OF WORK

5-1.01 PERMITS

The Contractor's attention is directed to Sections 5-1.20B, "Permits, Licenses, Agreements, and Certifications," of the Caltrans Specifications and these Special Provisions.

The following is not an all-inclusive list of the required permits and/or licenses, if applicable:

- Contractor's License. A valid California Class A Contractor License.
- Business License. The contractor shall possess prior to the execution of the contract and maintain throughout the duration of the contract, a valid City of Stockton business license.
- City of Stockton Encroachment Permit – The Contractor is responsible for obtaining a permit and pay fees.
- Construction Notification, dust control – The Contractor is responsible for the preparation and submittal of the San Joaquin Valley Air Pollution Control District Construction Notification Form. More information can be found at the following web site: <http://www.valleyair.org>.
- Construction Water – The Contractor is responsible for obtaining a permit and pay fees for the water meter from California Water Service or City of Stockton, as applicable, for construction water obtained from a City hydrant. This permit shall be approved by the City of Stockton Fire Department.

Full compensation for conforming to the provisions in this section including applicable permit fees shall be considered as included in the prices paid for the various contract items of work involved, and no additional compensation will be allowed, therefore.

5-1.02 SUBMITTALS

The following is a list of anticipated submittals for the project. The list is provided to aid the Contractor in determining the scope of work, but is not intended to be all-inclusive and additional submittals may be required:

- DAS-140 & DAS-142
- Local Hire Employment Ordinance – Good Faith Effort
- Monthly Local Employment Ordinance Compliance Report
- Water Pollution Control Program (WPCP) by a QSD, Best Management Practices
- Emergency Contacts/Authorized Representatives
- Traffic Control Plan
- Project Schedule (Critical Path Method)
- City of Stockton Construction and Demolition Debris Recycling Report
- City of Stockton Encroachment Permit
- City of Stockton Business License
- Public Notifications (Flyer, News Release letter, etc)
- Staging Agreements with Private Property Owner (if applicable)
- Slurry Seal Mix Design (Type II)
- Rubberized Chip Seal Mix Design
- 3rd Party License Material Testing Lab Caltrans Certifications

- Test Results of Initial Test Samples
- Calibration Sheets (Within 6 months of start of Construction using Type II Slurry Seal & Rubberized Chip Seal)
- Form CalRecycle 168
- Certificate of Compliance for Scrap Crumb Rubber
- Form CalRecycle 739-TRP

The Contractor shall transmit each submittal to the Engineer for review and approval. Submittals shall be sequentially numbered on the submittal list form. Resubmittals shall be identified with the original number and a sequential resubmittal suffix letter. The original submittal shall be numbered X. The first resubmittal shall be numbered X-a and so on. Identify on the form the date of the submittal, and Contractor, Subcontractor or supplier. Any incomplete submittals will be returned for resubmittal.

Schedule submittals to expedite the Project, and deliver to Engineer at the Engineer's office, see Section 10-1.01, "Order of Work," of these Special Provisions.

For each submittal for review, allow 15 calendar days excluding delivery time to and from the Contractor.

When revised for resubmission, identify all changes made since the previous submission.

Distribute copies of reviewed submittals as appropriate. Instruct parties to promptly report any inability to comply with requirements.

Within 10 calendar days after Notice of Award submit a complete list of all submittals to be submitted and the dates when they will be submitted. **All submittals shall be submitted within 30 calendar days from the date the Notice of Award; otherwise project working days will commence, with or without the issuance of the Notice to Proceed.**

Wherever called for in the Contract Documents, or where required by the Engineer, the Contractor shall furnish to the Engineer for review, 1 set, plus one reproducible copy, of each shop drawing submittal. The term "Shop Drawings" as used herein shall be understood to include detail design calculations, shop drawings, fabrication and installation drawings, erection drawings, lists, graphs, catalog sheets, datasheets, and similar items. Whenever the Contractor is required to submit design calculations as part of a submittal, such calculations shall bear the signature and seal of an engineer registered in the appropriate branch and in the state of California, unless otherwise directed.

Normally, a separate submittal form shall be used for each specific item or class of material or equipment for which a submittal is required. Transmittal of submittal of various items using a single form will be permitted only when the items are taken together constitute a manufacturer's "package" or are so functionally related that expediency indicates review of the group or package as a whole. A multi-page submittal shall be collated into sets, and each set shall be stapled or bound, as appropriate, prior to transmittal to the Engineer.

Except as may otherwise be indicated herein, the Engineer will return prints of each submittal to the Contractor with their comments noted on the submittal. The Contractor shall make complete

and acceptable submittals to the Engineer by the second submission of a submittal item. The City reserves the right to withhold monies due to the Contractor to cover additional costs of the Engineer's review beyond the second submittal.

If a submittal is returned to the Contractor marked "NO EXCEPTIONS TAKEN", formal revision and resubmission of said submittal will not be required.

If a submittal is returned to the Contractor marked "MAKE CORRECTIONS NOTED", formal revision and resubmission of said submittal will not be required.

Full compensation for conforming to the provisions in this section shall be considered as included in the prices paid for the various contract items of work involved, and no additional compensation will be allowed, therefore.

5-1.03 Required Forms to be Submitted

The contractor is required to complete the following forms for the crumb rubber usage in rubberized binder or asphalt-rubber binder in chip-seal application.

1. Form CalRecycle 168 – Reliable Contractor Declaration (before the award of the contract)
2. Certificate of Compliance for Scrap Crumb Rubber and/or High Natural Rubber (at the commencement of the project)
3. Form CalRecycle 739-TRP – Rubberized Pavement Certification (at the end of construction)

These forms are available for download at:

<http://www.calrecycle.ca.gov/Grants/Forms/default.htm>

It is the Contractor's responsibility to determine the eligibility and other requirements described in the forms, especially Form CalRecycle 168. Failure to meet the eligibility criteria would render the bid **non-responsive**. Provide a certification and backup documentation, including blending or run sheets for Rubberized binder or Tire Rubber Modified binder (terminal blend or asphalt rubber/field blend) showing that the binder contains a minimum of 300 pounds tire-derived crumb rubber per binder ton per ton of rubberized binder (equivalent to 15% by weight).

Submit a Certificate of Compliance that certifies only California-generated waste tires, processed in California shall be used in the crumb rubber portion of chip-seal.

Full compensation for conforming to the provisions in this section shall be considered as included in the prices paid for the various contract items of work involved, and no additional compensation will be allowed, therefore.

5-1.04 RECORDS

The Contractor's attention is directed to Sections 5-1.27, "Records," of the Caltrans Specifications.

The cost accounting records for the contract shall be maintained separately from other contracts, during the life of the contract, and for a period of not less than 3 years after the date of

acceptance of the contract. If the Contractor intends to file claims against the City, the Contractor shall keep the cost accounting records specified above until the complete resolution of all claims has been reached.

Full compensation for conforming to the provisions in this section shall be considered as included in the prices paid for the various contract items of work involved, and no additional compensation will be allowed, therefore.

5-1.05 JOB SITE APPEARANCE

The Contractor shall maintain a neat appearance to the work.

Debris developed during construction shall be disposed of concurrently with its generation. The Contractor shall pay to the City of Stockton the sum of Two Hundred Fifty Dollars (\$250) for every calendar day where debris has remained on the job site overnight.

Full compensation for conforming to the provisions in this section shall be considered as included in the prices paid for the various contract items of work and no additional compensation will be allowed, therefore.

5-1.06 PROPERTY PRESERVATION/EXISTING FACILITIES (If Applicable)

The Contractor’s attention is directed to Sections 5-1.36, “Property and Facility Preservation,” and Section 15, “Existing Facilities,” of the Caltrans Specifications.

The Contractor's attention is directed to the existence of certain underground facilities that may require special precautions to be taken by the Contractor to protect the health, safety, and welfare of workers and of the public. Facilities requiring special precautions include, but are not limited to, conductors of petroleum products, oxygen, chlorine, and toxic or flammable gases, natural gas in pipelines six (6) inches or greater in diameter, or pipelines operating at pressures greater than 60 psi (gage); underground electric supply system conductors or cables with potential to ground of more than 300 V, either directly buried or in duct or conduit, which do not have concentric grounded or other effectively grounded metal shields or sheaths.

The Contractor shall notify the Engineer and the appropriate regional notification center for operators of subsurface installations at least two (2) working days, prior to performing any excavation or other work close to any underground pipeline, conduit, duct, wire, or other structure. Regional notification centers include, but are not limited to, the following:

Notification Center	Telephone Number
Underground Service Alert – Northern California (USA)	811
	(800) 227-2600

Immediately upon encountering unknown existing facilities, the Contractor shall notify the Engineer in writing of the situation, request coverage of the work as extra work, and aid the Engineer in determining due diligence. Failure to do so may result in forfeiture of any rights to receive extra work compensation under Section 8-1.07, “Delays,” of the Caltrans Specifications.

Should the Contractor stop work, no compensation will be made for any "downtime" prior to written notifications being received by the Engineer or his representative.

Delays due to encountering unexpected facilities shall be determined and compensated in accordance with the provisions of Section 8-1.07, "Delays," of the Caltrans Specifications, and as herein modified. Delays due to encountering unexpected facilities shall be compensated as additional contract working days to the contractor. Contractor shall submit a written request to the Engineer requesting a time extension due to the delay. No other compensation is allowed.

Full compensation for conforming to the provisions in this section shall be considered as included in the prices paid for the various contract items of work involved, and no additional compensation will be allowed, therefore.

5-1.07 REQUEST FOR INFORMATION

The Contractor's attention is directed to Sections 5-1.42, "Request for Information" of the Caltrans Specifications.

Contractor shall submit a request for information upon recognition of any event or question of fact arising under the contract. The Engineer shall respond to the request for information within 5 working days.

Full compensation for conforming to the provisions in this section shall be considered as included in the prices paid for the various contract items of work involved, and no additional compensation will be allowed, therefore.

5-1.08 NOTICE OF POTENTIAL CLAIM

The Contractor shall not be entitled to the payment of any additional compensation for any cause, or for the happening of any event, thing or occurrence, including any act or failure to act, by the Engineer, unless he has given the Engineer due written notice of potential claim as herein specified, provided, however, that compliance with this section shall not be a prerequisite for matters within the scope of the protest provisions under "Changes and Extra Work", "Time of Completion" or within the notice provisions in "Liquidated Damages" not to any claim which is based on differences in measurements or errors of computation as to Contract quantities. The written notice of potential claim shall set forth the items and reasons which the Contractor believes to be eligible for additional compensation, the description of work, the nature of the additional costs and the total amount of the potential claim. If based on an act or failure to act by the Engineer, written notice for potential claim must be given to the Engineer prior to the Contractor commencing work; in all other cases, written notice for potential claims must be given to the Engineer within 15 days after the happening of the event, thing or occurrence giving rise to the potential claim.

It is the intention of this Section that potential differences between the parties of this Contract be brought to the attention of the Engineer at the earliest possible time appropriate action may be taken and settlement may be reached. The Contractor hereby agrees that he shall have no right to additional compensation for any claim that may be based on any act or failure by the Engineer or any event, thing or occurrence for which no written notice of potential claim was filed.

5-1.09 INSPECTIONS

All work under this contract shall be under the control and inspection of the City Engineer or his/her appointed representative. The Contractor shall notify the City of Stockton Public Works Department forty-eight (48) hours in advance of any construction. Contractor shall pay for overtime for inspection during City holidays, weekends and non-business hours.

5-1.10 RIGHTS IN LAND

The following is added to Section 5-1.32, "Areas for Use" of the Caltrans Specifications:

"All work, equipment parking, or any other activity associated with the project shall be confined to the project limits within the street rights-of-way. The Contractor's use of any other property exclusively in connection with this project shall be by a written agreement between the property owner and the Contractor. A certified copy of any such agreement shall be furnished to the Engineer prior to the use of such property by the Contractor."

Full compensation for conforming to the provisions in this section shall be considered as included in prices paid for the various contract items of work involved, and no additional compensation will be allowed, therefore.

5-1.11 STAGING AREA (If Applicable)

Attention is directed to the requirements specified in Section 5-1.32, "Areas for Use" of the Caltrans Specifications and these Special Provisions.

The street right-of-way shall be used only for activities that are necessary to perform the required work. The Contractor shall not occupy the right-of-way or allow others to occupy the right-of-way for material storage or other purposes that are not necessary to perform the required work.

The Contractor shall secure at his own expense any area required for plant sites, storage of equipment or materials, or for other purposes.

Full compensation for conforming to the provisions in this section shall be considered as included in prices paid for the various contract items of work involved, and no additional compensation will be allowed therefore.

SECTION 6 – BLANK

SECTION 7 – LEGAL RELATIONS AND RESPONSIBILITY TO THE PUBLIC

7-1.01 PUBLIC CONVENIENCE

Contractor's attention is directed to Section 12-1.01, "Maintaining Traffic" of these Special Provisions.

The Contractor shall notify San Joaquin Regional Transit District (SJRTD) (dispatcher (209) 948-0642) a minimum of five (5) working days prior beginning Work. Contractor shall coordinate with SJRTD if any bus stops and bus routes are affected.

The Contractor shall inform the City Fire Department, City Police Department, City Traffic Department, Municipal Utilities Department (MUD), Stockton Unified School District, and all affected utilities no later than seventy-two (72) hours before work is to begin. The Contractor

shall provide the City with the name and telephone number (business, home, and mobile) of three (3) representatives available at all times during the duration of the contract. Said names and telephone numbers shall be provided to the City of Stockton Public Works, Fire and Police Departments.

The Contractor shall circulate printed form letters, approved by the Engineer, explaining the project to be constructed and the length of time inconvenience will be caused by the project and deliver same to the residents and businesses to be affected at least seventy-two (72) hours before work is to commence. In addition, the Contractor shall provide temporary "No Parking" signs posted seventy-two (72) hours in advance of the work. Such signs shall be placed no further than fifty (50) feet apart. The additional "No-Parking" signs shall be removed on completion of the work and the opening of the street to traffic. The Contractor is responsible for the removal of any vehicles obstructing his operations.

Full compensation for conforming to the provisions in this section shall be considered as included in prices paid for the various contract items of work involved, and no additional compensation will be allowed, therefore.

7-1.02 PUBLIC SAFETY

The Contractor's attention is directed to Section 12-1.02, "Maintaining Traffic" of these Special Provisions. Nothing in the specifications voids the Contractor's public safety responsibilities.

All safety devices, their maintenance, and use shall conform to the latest requirements of OSHA and shall conform to the applicable provisions of Part 6 "Temporary Traffic Control", latest MUTCD California Supplement, the current edition of the "Manual on Uniform Traffic Control Devices (MUTCD)" and the latest "Work Area Traffic Control Handbook (WATCH)". It shall be the complete responsibility of the Contractor to protect persons from injury and to avoid property damage.' Adequate barricades, construction signs, flashers, and other such safety devices, as required, shall be placed and maintained during the progress of the construction work, until the project is completed. Whenever required, flagmen shall be provided to control traffic.

The Contractor shall provide for the proper routing of vehicles, bicyclists, and pedestrians in a manner that will hold congestion and delay of such traffic to practicable minimum by furnishing, installing, and maintaining all necessary temporary signs, barricades, and other devices and facilities, as approved by the City Traffic Engineer. As the work progresses, the Contractor shall relocate, subject to the City Traffic Engineer's approval, such devices and facilities as necessary to maintain proper routing. The Contractor shall maintain Americans with Disabilities Act (ADA) compliance through the work site (or approved alternate route) at all times during all phases of construction. The Contractor shall notify the City Traffic Engineer via the inspector a minimum of three (3) working days prior to the relocation of any traffic control devices.

Full compensation for furnishing, installing, moving, and removing of all necessary traffic control devices including, but not limited to, signing, striping, barricades, arrow boards, CMS, and flagging shall be included in the contract prices for "Traffic Control" and no additional compensation will be allowed, therefore. Section 12-1.04, "Payment," of the Caltrans Specifications is deleted.

7-1.03 PUBLIC NOTIFICATION

The Contractor shall circulate printed form letters/door hangers, approved by the Engineer, explaining the project to be done and the length of time inconvenience will be caused by the project and deliver same to the residents and/or businesses to be affected no earlier than 72 hours, nor later than 48 hours, before work is to commence. The Contractor shall install "Road Closed," arrows, detour signs, and barricades as necessary.

In addition, the Contractor shall provide temporary "Tow-away, No Parking" signs posted in advance of the work which signs shall be removed upon completion of the work and the opening of the street to traffic. The signs shall not be less than 12"x18" size, "Tow-away, No Parking" words shall be in white letters on red background, and must have Stockton Municipal Code 10-011.6, California Vehicle Code 22651(l)(n), Stockton Police Department telephone number 937-8354, and date and time of parking restriction clearly indicated on it. Such signs shall be placed no farther than fifty (50) feet apart. It shall be the Contractor's responsibility to arrange for the removal of any vehicles obstructing his/her operations.

The Contractor shall notify all residents and businesses affected by the construction, Utilities, School Districts, Sunrise Sanitation, Stockton Scavenger, and San Joaquin Regional Transit District at least 48 -72 hours prior to starting the work. Any changes to the original schedule/notification would prompt the re-notification by the Contractor. A list of agencies with the contact information is available below.

The Contractor shall inform the City Fire Comm, (209) 464-4648, no later than twenty-four (24) hours before work is to begin. Any changes in the Contractor's original schedule/notification shall be promptly reported to the City Fire Comm, so that they are fully informed at all times of the locations of street closures/construction.

<u>Agency</u>	<u>Phone</u>	<u>Fax</u>	<u>email address</u>
Lodi Unified School District (Transportation) 1305 E. Vine Street, Lodi, CA.	953-8170	331-7821	
Lincoln Unified School District (Transportation) 6749 Harrisburg Place, Stockton, CA	953-8596	957-3626	
Stockton Unified School District (Transportation) 2963 Sanguinetti Lane, Stockton, CA	933-7145	943-0079	
Waste Management 1240 Navy Drive, Stockton, CA	(530) 356-3756	948-4013	sjager@wm.com
Republic Services 1145 W. Charter Way, Stockton, CA	483-2934	466-2371	donald.gomez@awin.com
Stockton Police Dispatch	937-8377	937-8845	
Towed Vehicle Information	937-8354		

Stockton Fire Dispatch	464-4648	937-8013	
San Joaquin Regional Transit District (Bus Dispatch)	948-5566 ext. 652	948-8516	jram@sj-smart.com

Full compensation for conforming to the provisions in this section shall be considered as included in prices paid for the various contract items of work involved, and no additional compensation will be allowed, therefore.

SECTION 8 – PROSECUTION AND PROGRESS

8-1.01 SCHEDULE

Attention is directed to Section 8-1.02, “Schedule” of the Caltrans Specifications. The Contractor shall submit a schedule of construction to the City Engineer within five (5) working days following the Notice to Proceed.

The Contractor's construction schedule must be approved before any construction may commence.

Full compensation for conforming to the provisions in this section shall be considered as included in the prices paid for the various contract items of work involved, and no additional compensation will be allowed, therefore.

8-1.02 PRE-CONSTRUCTION CONFERENCE

The City of Stockton Public Works Department will schedule a pre-construction meeting with the Contractor following award of the contract and prior to commencing work (*Thin Phan and 209-937-8885*). This meeting will be held in the City of Stockton, Public Works Department.

Full compensation for conforming to the provisions in this section shall be considered as included in the prices paid for the various contract items of work involved, and no additional compensation will be allowed, therefore.

8-1.03 POST CONSTRUCTION CONFERENCE

The Contractor shall attend a post-construction meeting that will be arranged by the Public Works Department (*Thin Phan 209-937-8885*) after completion of work and prior to acceptance and final payment. The project engineer and the project Inspector will also attend this meeting. The purpose of the meeting will be to discuss the project and any related issues that can help improve future Public Works construction projects. This meeting will be held in the City of Stockton, Public Works Department.

Full compensation for conforming to the provisions in this section shall be considered as included in the prices paid for the various contract items of work involved, and no additional compensation will be allowed, therefore.

8-1.04 TIME OF COMPLETION

Attention is directed to the provisions in Section 8-1.05, “Time,” of the Caltrans Specifications and these Special Provisions.

The contract for the performance of the work and the furnishing of materials shall commence within ten (10) days from the Notice to Proceed date and shall be diligently prosecuted to completion before the expiration of the working days specified in this section from the date of said commencement.

The Contractor shall diligently prosecute the contract work to completion within thirty-five (35) working days. The days to finish the punch list, provided by the City, are included in the Original Working Days.

Should the Contractor choose to work on a Saturday, Sunday, or on a City Holiday recognized by the labor unions, the Contractor shall reimburse the City of Stockton the actual cost of engineering, inspection, testing, superintendent, and/or other overhead expenses, which are directly chargeable to the contract. The approximate cost is \$100 per hour. Should such work be undertaken at the request of the City, reimbursement will not be required.

Full compensation for conforming to the provisions in this section shall be considered as included in the prices paid for the various contract items of work involved, and no additional compensation will be allowed, therefore.

8-1.05 LIQUIDATED DAMAGES

Attention is directed to the provisions in Section 8-1.10, "Liquidated Damages," of the Caltrans Specifications and these Special Provisions.

The Contractor shall pay liquidated damages to the City of Stockton in the amount of **\$4,000.00 (four thousand)** per day for each and every calendar day that the work, with the exception of the plant establishment and maintenance period, remains incomplete after expiration of the contract working days specified in these Special Provisions.

In addition, the Contractor shall pay the following sums for the associated liquidated damages:

Failure to provide and/or non-compliance to or violation of accepted construction scheduling, per Section 5-1.08 and 5- 1.13	\$250.00	per each calendar day
Failure to provide and/or non-compliance with accepted Traffic Control Plans per Section 5-1.08	\$250.00	per each calendar day
Failure to provide adequate Project Site Maintenance 24/7, per Sections 5-1.08, and 5-1.17	\$250.00	per each calendar day
Failure to provide appropriate driveway access and pedestrian access, per Section 5-1.09, and 5-1.10	\$250.00	per each half-hour delay
Failure to follow proper procedure for storage of equipment and/or materials in public streets, per Section 5-1.27	\$250.00	per each calendar day/incident
Failure to provide adequate advance notices to RTD, Fire Com, Police, Schools for sidewalks and lane closures	\$250.00	per each day/incident

Full compensation for conforming to the provisions in this section shall be considered as included in the prices paid for the various contract items of work involved, and no additional compensation will be allowed therefore.

8-1.06 CITY OF STOCKTON HOLIDAY SCHEDULE FOR 2024

- Monday, January 01, 2024.....New Year's Day
- Monday, January 15, 2024.....Martin Luther King, Jr.'s Birthday
- Monday, February 12, 2024.....Lincoln's Birthday
- Monday, February 19, 2024.....Washington's Birthday
- Monday, May 27, 2024.....Memorial Day
- Thursday, July 04, 2024.....Independence Day
- Monday, September 04, 2024Labor Day
- Monday, October 14, 2024.....Indigenous Peoples Day
- Monday, November 11, 2024Veteran's Day
- Thursday and Friday, November 28 and 29, 2024.....Thanksgiving Holidays
- Wednesday, December 25, 2023.....Christmas Day Observance

Similar holidays are scheduled in year 2023.

Full compensation for conforming to the provisions in this section shall be considered as included in the prices paid for the various contract items of work involved, and no additional compensation will be allowed, therefore.

See following page

SECTION 9 – PAYMENT

9-1.01 GENERAL

Attention is directed to Section 9 of the Standard Specifications, Section 9, "Payment," of the Caltrans Specifications, and these Special Provisions. All measurements and payments for this work shall conform to all applicable provisions on Section 9 of the Caltrans Specifications.

All materials designated to be removed shall become the property of the Contractor, unless otherwise noted, and shall be disposed in accordance with local, state, and federal laws and ordinances.

Full compensation for performing the work in these specifications shall be included in the prices paid for the various contract items of work and no additional compensation will be allowed, therefore.

9-1.02 PAYMENTS

Attention is directed to Sections 9-1.16, "Progress Payments," and 9-1.17, "Payment After Contract Acceptance," of the Caltrans Specifications, and Sections 9-1.16A, "Progress Payments - General," and 9-1.17D, "Final Payment and Claims," of the Standard Specifications. No partial payment will be made for any materials that are furnished on hand, but not yet installed or incorporated in the work.

Full compensation for all labor, equipment, tools, materials, services, travel, and incidentals and for doing all the work and all other items required to complete the work in conformity with the Contract Documents will be included in the prices paid for the various contract items of work and no additional work compensation will be allowed, therefore. No other compensation will be made except for the items listed in the Bid Proposal. Work for which no separate payment has been provided will be considered as a subsidiary obligation of the Contract.

Schedule of Measurement and Payment:

1. Mobilization: paid by lump sum, shall include but not limited to, those necessary for the movement of personnel, equipment, supplies, and incidentals to the project site.
2. Traffic Control: paid by lump sum, shall include all preparatory work and operations, including, but not limited to, designing, furnishing, installing and maintaining traffic control and pedestrian access. Also, includes materials (including signs, cones, flashing arrows, and barricades and all other items shown on the traffic handling plans), tools, equipment, and incidentals (including overhead lighting, cellular phones and radios), and all incidentals for doing all work involved in traffic control, complete in place as specified in these Special Provisions and as directed by the Engineer.
3. Water Pollution Control: paid by lump sum, shall include preparing the WPCP, implementation of erosion control BMPs identified in WPCP, providing all labor, materials, tools equipment, and incidentals as described in Section 13 of the Caltrans Standard Specifications and these Special Provisions.

4. Removing Existing Pavement Striping, Marking and Legends: paid by lump sum, shall include removing and disposing of yellow thermoplastic traffic stripes, lead compliance, removing white thermoplastic traffic stripes, pavement markings and pavement markers and all preparatory work and operations, including, but not limited to installing and maintaining temporary striping.
5. Install Striping (Bid Item Nos. 5-12): Measurement and payment for the various striping item shall be as indicated below. Striping shall include installing thermoplastic traffic stripes, pavement markings, and markers as specified in the Caltrans Specification, the plans and these Special Provisions.
 - Striping, consisting of new Thermoplastic stripes with or without reflectors as necessary shall be measured and paid for on a linear foot basis.
 - Striping, consisting of applying Pavement Legends shall be measured and paid on a square foot basis.
 - Striping, consisting of applying pavement bump legends shall be measured and paid on each basis.
13. Slurry Seal: paid by the square yard, shall include all work associated with furnishing, placing, protecting, and cleaning up, complete in place.
14. Asphalt Rubberized Chip Seal: paid by the square yard, shall include all work associated with furnishing, placing, protecting, and cleaning up, complete in place.

9-1.03 INCREASE OR DECREASE QUANTITIES

The City reserves the right to make such alterations, deviations, additions to, or omissions from the plans and specifications, including the right to increase or decrease the quantity of any item or portion of the work or to omit any item or portion of the work, as may be deemed by the Engineer to be necessary or advisable and to require such extra work as may be determined by the Engineer to be required for the proper completion or construction of the whole work contemplated, without adjustment in the unit price as bid. Section 9-1.06B and Section 9-1.06C of the Caltrans Specifications shall not apply.

Any such changes will be set forth in a contract change order, which will specify, in addition to the work to be done in connection with the change made, adjustment of contract time, if any, and the basis of compensation for such work. A contract change order will not become effective until approved by the Public Works Director. City Manager and/or City Council approval may be necessary depending on the amount of the change order.

9-1.04 MOBILIZATION

Mobilization shall conform to the provisions in Section 9-1.16D, "Mobilization," of the Caltrans Standard Specifications and these Special Provisions.

Full compensation for any costs required to comply with the provisions in this section shall be considered to be included in the "Mobilization" price paid for on the contract items of work and no additional compensation will be allowed, therefore.

9-1.05 STOP NOTICE

Section 9-1.16E(4), "Stop Notice Withholds," of the Caltrans Specifications is amended to read as follows:

At its option, the Department of Public Works may at any time retain from the amounts due to the Contractor sufficient amount to cover claims which are filed pursuant to *Section 3179 et seq of the Code of Civil Procedures*.

9-1.06 QUANTITIES

The following estimate of the quantities of work to be done and materials to be furnished are **approximate only**, and are intended as a basis for the comparison of bids. The City does not expressly or by implications agree that the actual amount of work will correspond therewith, but reserves the right to increase or decrease the amount of any class or portion of the work without increase or decrease in the unit price bid or to omit portions of the work that may be deemed necessary or expedient by the Engineer.

ITEM NO.	DESCRIPTION	UNIT	ESTIMATED QUANTITY
1	Mobilization	LS	1
2	Traffic Control	LS	1
3	Water Pollution Control	LS	1
4	Removal Existing Pavement Striplings, Markings, and Legends	LS	1
5	Install Detail 9 Striping	LF	100
6	Install Detail 19 Striping	LF	200
7	Install Detail 22 Striping	LF	1,400
8	Install Detail 29 Striping	LF	1,100
9	Install Detail 32 Striping	LF	300
10	Install Detail 38 Striping	LF	600
11	Install Speed Bump Legend	EA	40
12	Install White Thermoplastic (All Pavement Legends)	SF	900
13	Slurry Seal (Type II)	SY	115,000
14	Asphalt Rubber Chip Seal	SY	102,000

Each bidder shall bid each item on the Bid Schedule. Failure to bid an item shall be just cause for considering the bid as non-responsive. The City reserves the right to include or delete any Schedule or portion thereof, or to reject all bids.

Official bid documents, including plans and specifications, are available on the City of Stockton website at: <http://www.stocktongov.com/services/business/bidflash/default.html>

All bids submitted for this project must conform to the requirements of the official bid documents, including plans and specifications.

See following page

DIVISION II – GENERAL CONSTRUCTION

SECTION 10 – GENERAL

10-1.01 ORDER OF WORK

The order of work shall conform to the Contractor's approved project schedule described in Section 8-1.01, "Schedule" of these Special Provisions.

Contractor's attention is directed to the Public Safety, Public Convenience, and Maintaining Traffic sections of these Special Provisions. Nothing in this section shall be construed as to relieve the Contractor of the responsibility to stage the work in a manner that complies with the requirements of these sections.

All permits and approvals as may be required for this project shall be secured or ordered immediately after award of the contract or their acquisition timing determined, such that the same is not a cause for delay. The cost of the permits shall be included in the total bid costs.

Minor deviations from these requirements may be allowed by the Engineer, if in the opinion of the Engineer, the prosecution of the contract will be better served and the work expedited. Any Contractor request for such deviations shall not be adopted without the Engineer's prior written approval.

Full compensation for conforming to the provisions in this section shall be considered as included in the prices paid for the various contract items of work involved, and no additional compensation will be allowed, therefore.

10-1.02 PRE-CONSTRUCTION SURVEY

The Contractor shall perform pre-construction and post-construction survey of all existing structures, pavements and other above ground facilities within the project limits prior to beginning any work, noting their condition by means of dated photographs and video.

Color photographs shall be taken with a digital camera at locations (property sites) that are appropriate to show pre-existing conditions and after constructed conditions. Each photograph shall show the date and time the photograph was taken and clearly be labeled showing the location, viewing direction, and any special features noted. Digital copies of photographs and videos shall be submitted to the City prior to approval of project.

Full compensation for conforming to the provisions in this section shall be considered as included in the prices paid for the various contract items of work involved, and no additional compensation will be allowed, therefore.

SECTION 11 – BLANK

SECTION 12 – TEMPORARY TRAFFIC CONTROL

12-1.01 MAINTAINING TRAFFIC

Attention is directed to Sections 7-1.03, "Public Convenience," 7-1.04, "Public Safety," and 12, "Temporary Traffic Control," of the Caltrans Specifications, 10.01, "Order of Work," of these

Special Provisions. Nothing in these Special Provisions shall be construed as relieving the Contractor from the responsibilities specified in these sections.

The Contractor shall furnish, and maintain in good working order, all barricades, arrow boards, CMS, and flashers, and provide flaggers as necessary to protect pedestrians and vehicular traffic.

The Contractor shall furnish and maintain all barricades, arrow boards, CMS, flashers, and any detour signs twenty-four (24) hours a day, including covering or removing signs during non-construction hours.

The Contractor shall provide adequate and continuous ingress and egress for all adjacent properties, except for the limited period of time it is necessary to perform work at a specific property. The Contractor shall diligently prosecute all work directly impacting businesses to completion. The Contractor shall coordinate limited closures with tenants or owners, as required by these Special Provisions, and as directed by the Engineer.

The Contractor shall submit to the City Engineer a detailed "Temporary Traffic Control Plan" for review and approval. The "Temporary Traffic Control Plan" shall be submitted no later than five (5) working days following the Notice to Proceed date and prior to commencing any work which requires implementation of any component of the "Traffic Control Plan." The plan shall be approved by the Engineer prior to its implementation by the Contractor.

The "Traffic Control Plan" shall conform to the typical traffic control details included in the requirements of Section 12-1.02, "Traffic Control System for Lane and Road Closure," of these Special Provisions. The Temporary Traffic Control Plan shall include, but not be limited to, detailed requirements for the following:

- Traffic control devices, including signs and markings.
- Construction detour routes, phasing and/or staging of both the roadway and sidewalk areas.
- Employee, Customer, and Business/Delivery access to adjacent property.
- Emergency vehicles access.
- Bus, refuse collection, and mail delivery access.
- Any parking zones to be removed on a temporary basis.
- Any temporary "No Parking" zones.
- Pedestrian and bicyclist access.

The "Temporary Traffic Control Plan" shall consider the impacts of changes in traffic volumes and capacities related to the construction activities, and their impact on vehicular and bicycle traffic and pedestrian operations, on roadway pavements, including provisions to restore construction-damaged pavements.

Traffic Lane and Sidewalk Closures

Lanes and sidewalks may be closed only as indicated in this section, "Maintaining Traffic," of these Special Provisions. Except for work required under Sections 7-1.03, "Public Convenience" and 7-1.04, "Public Safety" of Caltrans Specifications, work that interferes with public traffic shall be performed only as indicated. Traffic lane and sidewalk closures shall conform to the following requirements:

Lane closure, a maximum of one lane in each direction of travel and not more than twelve (12) feet wide, shall be permitted only between the hours of 8:30 a.m. and 4:30 p.m. Any extended working hours require the approval of the Engineer. The Engineer may restrict or alter the hours of work on a street due to high traffic or other considerations.

Personal vehicles of the Contractor's employees shall not be parked on the traveled way or shoulders, including any section closed to public traffic.

Adequate ingress and egress shall be maintained throughout the project limits for fire, police, and other emergency vehicles. The Contractor shall provide adequate ingress and egress for residences, property owners, and abutting business owners to their respective properties except when performing work at their specific locations.

Also, the Contractor shall provide adequate signing, barricades and flashers or portable flashing beacons, flaggers, and other equipment and personnel necessary to adequately control and direct traffic in a safe manner. The Contractor shall maintain all barricades, flashers and detour signs twenty-four (24) hours a day, including covering signs during non-construction hours. The Contractor shall also provide the City with the names and telephone numbers of three (3) representatives available at all times.

Whenever Contractor's vehicles or equipment are parked within six (6) feet of a traffic lane, the area shall be closed with fluorescent traffic cones or portable delineators placed on a taper in advance of the parked vehicles or equipment and along the edge of the traffic lane at twenty-five (25) foot intervals to a point not less than twenty-five (25) feet past the last vehicle or piece of equipment. A minimum of nine (9) cones or portable delineators shall be used for the taper. A W20-1 (Road Work Ahead) sign shall be mounted on a portable sign stand with flags. The sign shall be placed where directed by the Engineer.

Except as otherwise allowed by the Engineer, "long term" and temporary closures shall be removed, and the full width of the traveled way shall be open for use by public traffic when construction operations are not actively in progress during the working period or successive working periods.

The Contractor shall provide for pedestrian and wheelchair access to at least one (1) intersection corner within each block and the abutting sidewalk facilities along each block, at all times. Simultaneous closure of both intersection corners to pedestrian traffic within the same block is not allowed.

The Contractor shall maintain at least one (1) north/south crosswalk and one (1) east/west crosswalk open to pedestrian and wheelchair access, where it exists, at each intersection at all times.

Attention is directed to Part 6 of the California MUTCD. Nothing in these Special Provisions shall be construed as relieving the Contractor from his responsibility as provided in Part 6 of California MUTCD.

Full compensation for furnishing, installing, moving, removing, and all the necessary traffic control devices including, but not limited to, the necessary signs, striping, barricades, and flagging

shall be included in the contract prices paid for the various items of work of the bid schedule, and no additional compensation will be allowed, therefore.

Maintaining Pedestrian Access

Means of passage of pedestrian traffic around and through the work area shall be provided at all times. Path of travel shall comply with Americans with Disabilities Act (ADA) regulations.

The Contractor shall cause the least possible disruption to the affected properties and restore suitable pedestrian access immediately following completion of the active work in progress.

At least one (1) continuous ADA accessible walkway along one (1) side of the street shall be available at all times. At locations where work is actively in progress, the pedestrian walkway within a single block may temporarily be closed at one (1) end of the block along one (1) side of the street. Pedestrians shall be rerouted to the walkway on the opposite side of the street.

Minor deviations from the requirements of this section, which do not significantly change the cost of the work, maybe permitted upon the written request of the Contractor if, in the opinion of the Engineer, public traffic will be better served and the work expedited. These deviations shall not be adopted by the Contractor until the Engineer has approved them in writing. All other modifications will be made by contract change order.

Full compensation for furnishing a temporary traffic control plan, furnishing, installing, maintaining, and removing all components of the required traffic control system, traffic lane and sidewalk closures, temporary pavement delineation, maintaining driveway and pedestrian traffic, and for maintaining traffic as specified in the plans and these Special Provisions, and as directed by the Engineer, shall be included in the contract prices for "Traffic Control" and no additional compensation will be allowed, therefore.

12-1.02 TRAFFIC CONTROL SYSTEM FOR LANE AND ROAD CLOSURE

A traffic control system shall consist of closing traffic lanes and ramps in accordance with the provisions of Section 12, "Temporary Traffic Control," of the Caltrans Specifications, the provisions under "Public Safety," "Maintaining Traffic," and "Construction Area Signs" elsewhere in these Special Provisions.

The provisions in this section will not relieve the Contractor from the responsibility to provide additional devices or take the measures that may be necessary to comply with the provisions in Section 7-1.04, "Public Safety," of the Caltrans Specifications and these Special Provisions.

Traffic shall be controlled with stationary type lane closures. The Contractor's attention is directed to the provisions in section 81-3, "Pavement Markers," of the Caltrans Specifications. If any component in the traffic control system is displaced or ceases to operate or function as specified, from any cause, during the progress of the work, the Contractor shall immediately repair the component to its original condition or replace the component and shall restore the component to its original location.

When lane closures are made for work periods only, at the end of each work period, all components of the traffic control system, except portable delineators placed along open trenches or excavation adjacent to the traveled way shall be removed from the traveled way and

shoulder. If the Contractor so elects, the components may be stored at selected central locations, approved by the Engineer, within the limits of the highway right-of-way.

Each vehicle used to place, maintain, and remove components of a traffic control system shall be equipped with a Type II flashing arrow sign, which shall be in operation when the vehicle is being used for placing, maintaining, or removing the components. Vehicles equipped with Type II flashing arrow signs not involved in placing, maintaining, or removing the components when operated within a stationary type lane closure shall only display the caution display mode. The sign shall be controllable by the operator of the vehicle while the vehicle is in motion. The flashing arrow sign shown on the plans shall not be used on the vehicles which are doing the placing, maintaining, and removing of components of a traffic control system, and shall be in place before a lane closure requiring its use is completed.

Section 12-1.04, "Payment" of the Caltrans Specifications is amended as follows: "The Contractor shall pay fully the cost of furnishing all flaggers, including transporting flaggers, to provide for passage of public traffic."

Attention is directed to Part 6, "Temporary Traffic Control," of the California MUTCD.

Nothing in these Special Provisions shall be construed as relieving the Contractor from his responsibility as provided in Part 6 of California MUTCD.

Full compensation for furnishing all labor (including flagging costs), materials, signs, arrow boards, CMS, tools, equipment, and incidentals, and for doing all the work involved in lane closures, including placing, removing, storing, maintaining, moving to new locations, replacing, and disposing of the components of the traffic control system as specified in the Caltrans Specifications and these Special Provisions and as directed by the Engineer, shall be included in the contract "Traffic Control", and no additional compensation will be allowed, therefore.

The adjustment provisions in Section 4-1.05A, "Changes and Extra Work - General," of the Standard Specifications shall not apply to the item of traffic control system. Adjustments in compensation for traffic control system will be made only for an increased or decreased traffic control system required by changes ordered by the Engineer and will be made on the basis of the cost of the increased or decreased traffic control necessary. The adjustment will be made on a force account basis as provided in Section 9-1.04, "Force Account," of the Caltrans Specifications for increased work and estimated on the same basis in the case of decreased work.

Traffic control system required by work, which is classed as extra work, as provided in Section 4-1.05, "Changes and Extra Work," of the Caltrans Specifications, will be paid for as a part of the extra work.

SECTION 13 – WATER POLLUTION CONTROL

13-1.01 WATER POLLUTION CONTROL

Water pollution control shall conform to the requirements in Section 13, "Water Pollution Control," of the Caltrans Specifications, these Special Provisions, and as directed by the Engineer.

The Contractor shall develop and implement a Storm Water Pollution Prevention Plan (SWPPP), which specifies Best Management Practices (BMPs) that will prevent all construction pollutants

from contacting storm water and with the intent of keeping all products of erosion from moving off site into receiving waters. The Contractor shall inspect and maintain all BMPs.

Full compensation for furnishing, installing, maintaining, and removing all components of the required water pollution control devices as specified in the plans and these Special Provisions, and as directed by the Engineer, shall be included in the contract prices for "Water Pollution Control" and no additional compensation will be allowed, therefore.

SECTION 14 – ENVIRONMENTAL STEWARDSHIP

14-1.01 HAZARDOUS WASTE AND CONTAINMENT

When the presence of asbestos or hazardous substances are not shown on the plans or indicated in the specifications and the Contractor encounters materials which the Contractor reasonably believes to be asbestos or a hazardous substance as defined in Section 25914.1 of the Health and Safety Code, and the asbestos or hazardous substance has not been rendered harmless, the Contractor may continue work in unaffected areas reasonably believed to be safe. The Contractor shall immediately cease work in the affected area and report the condition to the Engineer in writing.

In conformance with Section 25914.1 of the Health and Safety Code, removal of asbestos or hazardous substances including exploratory work to identify and determine the extent of the asbestos or hazardous substance will be performed by separate contract.

If delay of work in the area delays the current controlling operation, the delay will be considered a right of way delay and the Contractor will be compensated for the delay in conformance with the provisions in Section 8-1.07, "Delays," of the Caltrans Specifications.

14-1.02 DUST CONTROL

Dust control shall conform to any requirements set forth in the San Joaquin Valley Air Pollution Control District Construction Notification Form, the provisions in Section 10-5, "Dust Control" of the Caltrans Specifications and these Special Provisions. Section 10-5 of the Caltrans Specifications shall be amended to include the following sentences:

"Use of water except for recycled, reclaimed, or other non-potable water for the purpose of dust control or other construction uses unless for health or safety purposes is prohibited. All dust control operations shall be performed by the Contractor at the time, location and in the amount ordered by the Engineer. The application of either water or dust palliative shall be under the control of the Engineer at all times."

Watering shall conform to the provisions of Section 10-6, "Watering," of the Caltrans Specifications and these Special Provisions.

Full compensation for conforming to the requirements of this section shall be considered as included in the prices paid for the various contract items of work involved, and no additional compensation will be allowed, therefore.

14-1.03 NOISE CONTROL REQUIREMENTS

Noise control shall conform to the provisions in Section 14-8.02, "Noise Control," of the Caltrans Specifications and these Special Provisions. Nothing in the Caltrans Specifications or these Special Provisions voids the Contractor's public safety responsibilities or relieves the Contractor from the responsibility to comply with other ordinances regulating noise level.

The Contractor shall comply with all local sound control and noise level rules, regulations and ordinances which apply to any work performed pursuant to the contract.

The noise level requirement shall apply to the equipment on the job or related to the job, including, but not limited to, trucks, transit mixers, or transient equipment that may or may not be owned by the Contractor. The use of loud sound signals shall be avoided in favor of light warnings except those required by safety laws for the protection of personnel.

Full compensation for conforming to the requirements of this section shall be considered as included in the prices paid for the various contract items of work involved, and no additional compensation will be allowed, therefore.

SECTION 37 – ASPHALT RUBBER CAPE SEAL

37-1.01 RUBBERIZED CAPE SEAL APPLICATION

The rubberized cape-seal application is defined herein as a chip-seal application using either: a) rubberized binder, or b) tire rubber modified binder, followed by a Type II slurry seal application as specified in the Special Provisions. Both binders for chip-seal are considered alternate to each other. The contractor can select any one of the above binders to bid providing the selected binder has a minimum 15% (by weight) recycled tire rubber per CalRecycle.

37-1.02 DESCRIPTION

GENERAL

Work covered by this section includes preparation and applying asphalt rubber cape seal to existing asphalt concrete pavement areas.

This project shall consist of a bituminous surface Stress Absorbing Membrane (SAM) composed of a single application of Asphalt-Rubber material and hot pre-coated 3/8" aggregate. Pre-maintenance (crack sealing and patching) of the existing pavement surface will be recommended by Contractor and approved by the Engineer.

This specification requires the application of a specified blend of asphalt-rubber binder material (i.e. a field blend product). This specification expressly determines that the asphalt-rubber binder material specified herein (i.e. a field blend product) and modified binder, rubber modified asphalt or PG 76-22TR (i.e. terminal blend products) are sufficiently different such that they are not functionally equivalent. Therefore, any substitutions for the asphalt-rubber binder material specified herein, such as but not limited to any rubber modified asphalt binder (i.e. a terminal blend product) will not be accepted.

37-1.03 MATERIAL COMPONENTS

ASPHALT CEMENT

The type and grade of PG asphalt cement utilized to manufacture the Asphalt Rubber binder shall be PG 58-22, PG 64-16, or PG 70-10 which shall comply with requirements in Table #1.

Table #1 – PG Asphalt Cement Grading Requirements

Climate	PG Grading
Cold	PG 58-22
Moderate	PG 64-16
Hot	PG 70-10

The exact grade of PG asphalt cement, if different than PG 64-16, shall be determined by the Asphalt Rubber supplier dependant on the specific project requirements.

GRANULATED RECLAIMED TIRE RUBBER

The CRM shall be produced primarily from the processing of whole automobile and truck tires. The rubber shall be produced by ambient temperature grinding processes only. The gradation of the CRM when tested in accordance with ASTM C-136 (dry sieve only) and using a 100 gram sample, shall meet the requirements in Table #2.

Table #2 - CRM Grading Requirements

Sieve Size	Reclaimed Tire CRM Percent Passing
#8 (2.36 mm)	100
#10 (2 mm)	95 - 100
#16 (1.18 mm)	45 - 75
#20 (. mm)	---
#30 (600 μm)	2 - 20
#50 (300 μm)	0 - 10
#200 (75 μm)	---

The use of CRM from multiple sources is acceptable provided that the overall blend of rubber meets the gradation requirements.

The individual CRM particles, irrespective of diameter, shall not be greater in length than 3/16 of an inch (5mm).

The CRM shall have a specific gravity of 1.15 ± 0.05 as determined by, and shall be free of loose fabric, wire and other contaminants except that up to 4 percent (by weight of rubber) calcium carbonate or talc may be added to prevent the rubber particles from sticking together. The

rubber shall be sufficiently dry so as to be free flowing and not produce a foaming problem when blended with the hot asphalt cement. The CRM shall be accepted by certification from the approved supplier. The Reclaimed Tire CRM material shall conform to the chemical analysis in Table # 3.

Table #3 - Reclaimed Tire CRM Chemical Requirements

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 %

Note: All reclaimed tire rubber CRM shall be certified to have originated in California, and the CRM material will also be certified to have been processed in California, through invoice and bill of lading.

ASPHALT RUBBER BINDER

The temperature of the blended PG asphalt cement shall not be less than 375° F nor more than 450° F when the CRM is homogeneously blended, in the field. The combined materials shall be reacted for a minimum of 45 minutes after the incorporation of all the CRM. The Asphalt Rubber binder shall meet the requirements in Table #4, when the reaction/interaction is complete.

Table #4 - Specification Limits for (Asphalt Rubber Binder)

		Hot Climate	Moderate Climate	Cold Climate
Apparent viscosity, 347° F Spindle 3 @ 12 RPM: cps (ASTM D2669)	Min	1500	1500	1500
	Max	3500	3500	3500
Cone Penetration, 77° F (25° C), 150g, 5 sec; 1/10 dm (ASTM D217)	Min	15	20	25
	Max	40	70	100
Softening Point, °F (° C) (ASTM D36)	Min	170° F (77° C)	160° F (71° C)	150° F (66° C)
Resilience, 77° F (25° C), % (ASTM D3407)	Min	45	35	25

The viscosity shall be conducted by using a hand-held HAAKE VISCOMETER, with rotor 1, 24mm in depth x 53mm in height, or equivalent. When applying Asphalt Rubber, the reacted Asphalt Rubber binder shall be maintained at a temperature of not less than 375° F and no more than 425° F. If material in a batch of Asphalt Rubber binder is not used within six hours after the reaction period is complete, heating of the material shall be discontinued. When applying Asphalt Rubber, if the Asphalt Rubber binder temperature cools below 300° F and is then reheated, it shall be considered a reheat cycle. The total number of reheat cycles shall not exceed two (2). The binder materials shall be uniformly reheated to a temperature of not less than 320° F for application. Additional scrap tire CRM may be added to the reheated Asphalt Rubber binder and reacted for a minimum of 45 minutes and shall not exceed 10 percent of the total binder weight. Reheated Asphalt Rubber binder shall conform to the requirements for blended Asphalt Rubber binder.

ASPHALT RUBBER BINDER FORMULATION

The Asphalt Rubber binder supplier, shall furnish to the Engineer within 15 days of the notice to proceed, the Asphalt Rubber binder formulations which shall contain the following information:

PG Asphalt Cement

Source of PG Asphalt

Grade of PG Asphalt

Percentage of PG Asphalt by total weight of the Asphalt Rubber mixture

Reclaimed Tire Rubber (CRM)

Source of CRM

Grade of CRM

Percentage of CRM by total weight of the Asphalt Rubber mixture

AGGREGATE COVER MATERIAL

Aggregate shall be composed of clean and durable crushed rock or crushed gravel conforming to the following requirements:

If the aggregate is to be crushed stone, it shall be manufactured from sound, hard, durable material of accepted quality and crushed to specification size. All strata, streaks and pockets of clay, dirt, sandstone, soft rock or other unsuitable material accompanying the sound rock shall be discarded and not allowed to enter the crusher.

If the aggregate material is to be crushed gravel, it shall consist of hard, durable fragments of stone or gravel of accepted quality and crushed to specification size. All strata, streaks, pockets of sand, excessively fine gravel, clay or other unsuitable material including all stones, rocks and boulders of inferior quality shall be discarded and not allowed to enter the crusher. The crushing of the gravel shall separate the #4, 3/8 and 1/2 inch sieves and shall have a minimum 95% of the particles with a minimum of one mechanically fractured face and 90% of the particles shall have a minimum of two mechanically fractured faces.

The crushed aggregate or crushed gravel shall not contain more than 8% by weight of flat or elongated pieces and shall be free from wood, roots and vegetable or other organic extraneous matter. The 3/8 inch crushed aggregate or crushed gravel shall have a minimum Cleanness Value (CV) of 80 and shall have a percentage of wear not more than 7 percent at 100 revolutions and not more than 30 percent at 500 revolutions, as determined by ASTM C131 or California Test Method 211.

The crushed aggregate for Asphalt Rubber binder applications shall meet the requirements for gradation given in Table 5.

If the aggregate material is to be from Recycled Asphalt Pavement (RAP) it shall be produced by crushing asphalt concrete pavement, free of detrimental quantities of deleterious materials, and have a minimum sand equivalent of 80 when tested in accordance with California Test 217. Grading shall conform to the requirements shown in Table 5.

Table 5 - Aggregate Gradation Requirements –Asphalt Rubber
3/8 inch Asphalt Rubber Aggregate Gradation

Sieve Size	Percent Passing
1/2 inch (12 mm)	95-100
3/8 inch (9 mm)	70 – 85
1/4 inch (4.75 mm)	0 – 15
#8 (2.36 mm)	0 – 5
#200 (75 μm)	0 – 1
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The aggregate to be utilized shall be hot pre-coated with 0.5 to 1.0 percent PG asphalt cement. The Engineer shall determine the appropriate amount of pre-coat. At no time shall the bag house fines be allowed to be reintroduced back into the hot coated aggregate. The pre-coated aggregate shall have a “salt and pepper” appearance and shall be supplied to the project site at 225° F to 325° F. When Recycled Asphalt Pavement (RAP) is used as aggregate, it shall not be preheated or precoated with asphalt.

37-1.04 EQUIPMENT

GENERAL

The equipment used by the contractor for pavement cleaning and excess aggregate removal shall include operational top dumping pick-up brooms.

ASPHALT RUBBER EQUIPMENT

All equipment utilized in the production and application of AR binder material shall be described as follows:

A PG asphalt cement heating tank with a hot oil heat transfer system or a retort heating system capable of heating the PG asphalt cement to the proper temperature for blending with the CRM.

An Asphalt Rubber mechanical blender shall have a two-stage continuous mixing process capable of producing a homogenous blend of PG asphalt cement and CRM, at the mix design specified ratios, as directed by the engineer. The mechanical blender shall be equipped with a granulated rubber feed system capable of supplying the PG asphalt cement feed system, as not to interrupt the continuity of the blending process. The maximum capacity of the primary blending vessel shall be 500 gallons. Both the primary and secondary blenders shall be equipped with an agitation device orientated vertically in the blending vessel. The mechanical blender shall be capable of fully blending the individual modifier particles (CRM) with the PG asphalt cement. A separate PG asphalt cement feed pump and finished product pump are required. This unit shall have a PG asphalt cement totalizing meter in gallons and a flow rate meter in gallons per minute.

A distributor truck equipped with a heating unit, and an internal mixing device capable of maintaining a uniform mixture of PG asphalt cement and CRM. It shall be equipped with a full circulating spreader bar and pumping system capable of applying the Asphalt Rubber binder material within a 5% tolerance of the specified application rate, and must achieve a uniform covering of the surface to be treated. The distributor shall have a boot board on the rear of the vehicle and a bootman shall accompany the distributor. The bootman shall ride in a position so that all the spray bar tips are in full view and readily assessable for unplugging, if a plugged tip should occur. The distributor truck shall also require a thermometer and a computer rate control (CRC)

AGGREGATE COVER MATERIAL SPREADER

The cover material (chip) spreader shall be a self-propelled machine with an aggregate receiving hopper in the rear, belt conveyors to carry the pre-coated aggregate to the front, and a full width spreading hopper. The spreader shall be in good mechanical condition and shall be capable of applying the cover aggregate uniformly across the spread width and at the specified application rate, and heat-treated belts should be installed on the chip spreader.

ROLLING EQUIPMENT

Sufficient rollers shall be used to cover the width of the aggregate spread with one pass. The first pass shall be made immediately behind the aggregate spreader as the aggregate is being placed. Three (3) complete passes with the pneumatic tire rollers shall be made. The pneumatic-tired rollers shall carry a minimum loading of 3,000 pounds on each wheel and a minimum pressure of 90 pounds per square inch in each tire. Foam-filled tires can be utilized.

HAULING EQUIPMENT

Trucks for hauling the pre-coated cover aggregate shall be tailgate discharge and shall be equipped with a device to lock onto the hitch of the cover material spreader. Haul trucks shall also be compatible with the cover aggregate spreader so that the dump bed will not push down

on the spreader when fully raised, or have too short of a bed which results in aggregate spillage while dumping into the receiving hopper.

37-1.05 CONSTRUCTION METHODS

GENERAL

Immediately prior to the application of the Asphalt Rubber binder chip seal application, the surface shall be clean in order to insure adequate adhesion of the Asphalt Rubber to the existing pavement surface.

WEATHER CONDITIONS

Asphalt Rubber binder material shall be applied only when the existing surface is dry and the atmospheric temperature is at least 65° F and rising. No material shall be applied when predicted chance of rain is higher than 75 % or when the wind is in excess of 20 mph, as directed by the Engineer.

ASPHALT RUBBER BINDER - MIXING AND REACTION

Concerning the Asphalt Rubber binder, the percentage of Reclaimed Tire Rubber CRM shall be a minimum of 18 percent by weight of the total Asphalt Rubber mixture; the exact CRM content shall be determined by the binder design submitted by the Asphalt Rubber supplier. During Asphalt Rubber binder manufacture the CRM percentage shall not fluctuate by more than 1 (one) percent by weight of total Asphalt Rubber mixture, as determined by the original laboratory binder design.

The temperature of the PG asphalt cement shall be between 375° F and 450° F at the addition of the CRM. The PG asphalt cement, CRM shall be combined and mixed together in the Asphalt Rubber binder, and reacted in the distributor truck or a reaction vessel for a minimum period of 45 minutes from the time the CRM is blended with the PG asphalt cement. The temperature of the Asphalt Rubber binder shall be above 375° F during the reaction period, but shall not exceed 425° F at any time.

When a job delay occurs after full reaction, the Asphalt Rubber binder may be allowed to cool. For application, the Asphalt Rubber binder shall be re-heated slowly just prior to application to a temperature between 375° F and 425° F. An additional quantity of PG asphalt cement and/or CRM may be added to only to Asphalt Rubber binder as required to produce a material with the appropriate viscosity.

APPLICATION OF ASPHALT RUBBER BINDER

Placement of the Asphalt Rubber shall proceed only under the following conditions:

The atmospheric temperature shall be at least 65° F and rising.

The atmospheric temperature shall not exceed 105° F.

The pavement surface temperature shall be at least 65° F and rising.

The pavement surface is clean and dry.

The wind conditions do not exceed 20 mph.

All of the construction equipment such as the Asphalt-Rubber distributor, aggregate spreader, haul trucks loaded with cover material, rollers and brooms are in position and ready to commence placement operations.

Chance of rain does not exceed 75%.

Asphalt Rubber binder shall be applied to the roadway following the mixing, reacting and blending of Asphalt Rubber binder at a rate of 0.55 to 0.65 gallons per square yard.

Distributor bar height, tip size, distribution, speed and shielding materials shall be utilized to reduce the effects of excess wind upon the spray distribution (fan), of each binder. The Engineer shall delay or reschedule work when high gusting or dusty winds in excess of 20 mph prevent or adversely affect binder or aggregate application.

The application of Asphalt Rubber binder to areas not accessible with the distributor bar on the distributor truck shall be accomplished by using a squeegee or other means approved by the Engineer.

The contractor shall comply with all Federal, State and Local environmental laws, regulations and ordinances.

APPLICATION OF AGGREGATE COVER MATERIAL

The 3/8 inch cover material shall be applied immediately onto the Asphalt Rubber membrane at a rate of 28 to 32 pounds per square yard. The actual rate selected within this range will be determined in the field based on the appearance of the Asphalt Rubber chip seal after initial rolling.

At the time of application, the temperature of the aggregate shall range from 225° F to 325° F. If Recycled Asphalt Pavement (RAP) is used as aggregate, this does not apply.

ROLLING

Sufficient rollers shall be used for the initial rolling to cover the width of the aggregate spread with one pass. The first pass shall be made immediately behind the cover material spreader (chip-box) as the aggregate is being placed. If the spreading is stopped for an extended period, the cover material spreader (chip-box) shall be moved ahead or off the chip seal surface so that all cover material may be immediately rolled. Three complete passes shall be made with the pneumatic rollers. If a steel wheel roller is used, the pneumatic tire rollers shall be operated in front of the steel wheel roller.

SWEEPING

Sweeping shall be a multi-step operation following final rolling of the aggregate. Mechanical pickup brooms shall be used to remove loose material without dislodging the aggregate set in the Asphalt-Rubber. The initial sweeping shall be performed within one-hour from the start of the Asphalt-Rubber Chip Seal placement.

The Asphalt-Rubber Chip Seal placement shall be maintained free of loose screenings for a minimum of two working days following placement. During this period, the surface shall be

swept as necessary to remove any loose cover material as directed by the Engineer. Final sweeping shall be completed, and all loose aggregate shall be removed prior to acceptance. The sweeping operations shall be accomplished with the use of nylon gutter brooms. The number of sweepers shall be determined by the amount of production for the day. One operational sweeper shall be working for every 10,000 square yards of chip seal placed for the day. Therefore, if a contractor is intending to perform 30,000 square yards per day, a minimum of 3 operated sweepers shall be used throughout the construction process.

Immediately upon opening the street to traffic, the Contractor shall start removing loose aggregate from parkways, sidewalks, and intersecting streets. Both operations shall continue until all excess or loose aggregate is removed from the roadway surface and abutting adjacent areas.

37-1.06 METHOD OF MEASUREMENT

Asphalt Rubber Binder

The Asphalt Rubber binder shall be measured by the square yard at the specified application rate for the Asphalt Rubber binder and approved by the Engineer.

Cover Aggregate Material

The quantity of the cover aggregate material shall be measured by the square yard and approved by the Engineer.

Payment shall be made at the contract unit price per square yard for the Asphalt Rubber binder application and the cover aggregate material per square yard.

These prices shall be full compensation for furnishing all materials and for all preparation, hauling, and application of the materials, including labor, equipment, tools and incidentals necessary to complete the item.

37-1.07 BASIS OF PAYMENT

Payment shall be made at the contract unit price per square yard for Asphalt Rubber binder application and the cover aggregate material per square yard.

These prices shall be full compensation for furnishing all materials and for all preparation, hauling and application of the materials, including labor, equipment, tools and incidentals necessary to complete the item and no additional compensation will be allowed, therefore.

37-1.08 SLURRY SEAL

Type II may be used for parking lots, streets, and arterials.

SCOPE

Slurry Seal shall consist of mixing asphalt emulsion, aggregate, and water and spreading the mixture on a surfacing or pavement where shown on the plans, as specified in these specifications and the special provisions, and as directed by the Engineer.

MATERIALS

The materials for slurry seal immediately prior to mixing shall conform to the following requirements:

Asphalt Emulsion

Asphalt emulsion shall be a cationic quick-setting type conforming to the requirements for PMCQS-1H grade under Caltrans Standard Specifications 2010, Section 94, Table 4, requirements for "Quick Setting Asphalt Emulsion".

Water

Water shall be potable, free of harmful salts and shall be of such quality that the asphalt will not separate from the emulsion before the slurry seal is in place in the work.

Aggregate

Aggregate shall consist of sound, durable, crushed stone or crushed gravel and approved mineral filler. Recycled Asphalt Pavement (RAP) may be substituted for crushed stone or crushed gravel. The material shall be free from vegetable matter and other deleterious substances. Aggregates shall be 100% crushed with no rounded particles. The percentage composition by weight of the aggregate shall conform to one of the following gradings:

SIEVE SIZES	TYPE II
3/8"	100
No. 4	90-100
No. 8	65-90
No. 16	40-70
No. 30	25-50
No. 200	5-15
Theoretical asphalt content, % dry aggregate	7.5-13.5
Approx. application rate (pound per square yard)	12-18

The aggregate shall also conform to the following quality requirements:

TESTS	CALIF. TEST	ASTM TEST	REQUIREMENTS
Sand Equivalent	217	D2419	70 Min.

PROPORTIONING

Asphalt emulsion shall be added at a rate of from 12 to 18%. A job mix design shall be submitted by the Contractor for approval by the Engineer that conforms to the specification limits, and that is suitable for the traffic, climate conditions, curing conditions and final use.

The Slurry Seal mixture shall be proportioned by the operation of a single start/stop switch or lever which automatically sequences the introduction of aggregate, emulsified asphalt, admixtures, if used, and water to the pugmill.

Calibrated flowmeters shall be provided to measure both the addition of water and liquid admixtures to the pugmill. If necessary for workability, a retarding agent, that will not adversely affect the seal, may be used.

Water, and retarder if used, shall be added to ensure proper workability and (a) permit uncontrolled traffic on the slurry seal no more than three (3) hours after placement without the occurrence of bleeding, raveling, separation or other distress; and (b) prevent development of bleeding, raveling, separation or other distress within seven (7) days after placing the slurry seal.

Uniformity of distribution of asphalt will be determined by extraction tests in accordance with California Test 310. The average bitumen ratio (pounds of asphalt per 100 pounds of dry aggregates) shall not vary more than five (5) percent above or below the amount designated by the Engineer. This requirement shall apply to samples taken from any location or operation designated by the Engineer.

MIXING

The Slurry Seal shall be mixed in a self-propelled mixing machine equipped with a continuous flow pugmill capable of accurately delivering and automatically proportioning the aggregate, emulsified asphalt, water and admixtures to a double shafted, multiblade pugmill mixer capable of minimum speeds of 200 revolutions per minute.

A minimum of two mixing machines shall be maintained on each project of a 10 cubic yard or larger capacity. The slurry seal retention time in the pugmill shall be less than three seconds. The mixing machine shall have sufficient storage capacity of aggregate, emulsified asphalt, and water to maintain an adequate supply to the proportioning controls.

The mixing machine shall be equipped with hydraulic controls for proportioning the material by volume to the mix. Each material control device shall be calibrated, properly marked, preset and lockable at the direction of the Engineer. The mixing machine shall be equipped with a water pressure system and nozzle type spray bars to provide a water spray immediately ahead of the spreader box.

The mixing machine shall be equipped with an approved fines feeder that provides a uniform, positive, accurately metered, pre-determined amount of a mineral filler, if used, at the same time and location that the aggregate is fed.

SPREADING EQUIPMENT

The slurry mixture shall be uniformly spread by means of a controlled spreader box. The spreader box shall be capable of spreading a traffic lane width and shall have strips of flexible rubber belting or similar material on each side of the spreader box and in contact with the

pavement to prevent loss of slurry from the box and the box shall have baffles, or other suitable means, to insure uniform application on super-elevated sections and shoulder slopes.

The rear flexible strike-off blade shall make close contact with the pavement and shall be capable of being adjusted to the various crown shapes so as to apply a uniform seal coat.

Slurry mixture, to be spread in areas inaccessible to the controlled spreader box, may be spread by other approved methods.

PLACING

The slurry seal shall not be placed if either the pavement or the air temperature is below 55°F and falling, but may be applied when both the air and pavement temperature is 50°F or above and rising. The mixture shall not be applied if high relative humidity prolongs the curing beyond a reasonable time.

Rate of application

The slurry seal mixture shall be of the proper consistency at all times so as to provide the application rate required by the surface condition. The application rate of slurry seal shall be spread at a rate of sixteen (16) pounds of dry aggregate per square yard. The completed spread shall be within ten (10%) percent of the specified rate. The slurry seal spread rates must be within the ranges shown in the following table:

Slurry seal Spread Rates

Type of aggregate	Range (lb of dry aggregate/sq yd)
II	16

Spread slurry seal uniformly within the specified rate. Do not spot, re-handle, or shift the mixture.

Longitudinal joints must correspond with lane lines. You may request other longitudinal joint patterns if they do not adversely affect the Slurry seal. Longitudinal joints must be straight and true.

Spread slurry seal in full lane widths. Do not overlap slurry seal between adjacent lanes more than 3 inches.

Use a material, such as building paper at transverse joints and over previously placed slurry seal to prevent double placement. Remove the material after use. Use hand tools to remove spillage.

The finished surface must be smooth and have uniform texture.

The mixture must be uniform and homogeneous after spreading and there must not be separation of the emulsion and aggregate after setting.

MEASUREMENT (BY SQUARE YARD)

Slurry seal will be measured and paid for by the square yard for the actual surface area covered.

PAYMENT (BY SQUARE YARD)

The contract price paid per square yard for slurry seal shall include full compensation for

furnishing all labor, materials, tools, equipment and incidentals and for doing all the work involved in the furnishing and placing the slurry seal complete in place, including cleaning the surface and protecting the slurry seal until it has set, all as shown on the plans, as specified in these specifications and as directed by the Engineer and no additional compensation will be allowed, therefore.

SECTION 84 – PAVEMENT STRIPING

84-1.01 TEMPORARY PAVEMENT STRIPING AND MARKING

The Contractor shall furnish, place, maintain and remove temporary marking (tape) in accordance with the provisions in Section 12-3.01, “General,” of the Caltrans Standard Specification and these Special Provisions. Nothing in these Special Provisions shall be construed as to reduce the minimum standards specified in the California MUTCD for streets and highways. Temporary pavement delineation shall not be applied over existing markings, and shall be maintained until replaced with permanent one. Any temporary pavement marking conflicting with new traffic pattern shall be promptly removed, or removed as directed by the Engineer.

Full compensation for furnishing, placing, maintaining and removing the temporary pavement markings shall be included in the contract price for various bid items, and no extra payments will be paid therefore.

84-1.02 THERMOPLASTIC STRIPING AND MARKINGS

The work herein provided for consists in general of installing thermoplastic striping and all associated work. The workflow is anticipated as follows:

1. The City marks the limits to be striped.
2. The Paving Contractor installs temporary pavement markers on the pavement.
3. The Contractor establishes the pre-marking as per the existing striping layout and pavement markings, per as-built plans, engineering plans, aerial photos, or photographs and videos, and as directed by the Engineer.
4. The Contractor installs cat-tracking within 72 hours of pavement completion.
5. The Engineer approves the cat-tracking.
6. The Contractor installs longitudinal thermoplastic striping (by ribbon gun or extruded shoe attachment) of minimum thickness of 0.09”.
7. The Contractor installs the retro-reflective pavement markers.
8. The Contractor installs pavement markers, crosswalk, parking Ts, arrows, STOP/YIELD, and other transverse marking and legends.
9. The Contractor removes the temporary pavement markers.

Contractor’s responsibility

The Contractor shall use striping plans, aerial photography, video, photographs, or any other methods to establish **pre-marking** on the pavement as per existing striping. The Contractor shall

install **cat-tracking** using these pre-marks and get approval of the Engineer before commencing permanent striping in thermoplastic. It is expected that some changes may occur compared to existing striping.

Within 10 working days of approval of the Engineer or his designee, the Contractor shall install all longitudinal thermoplastic striping, reflectors, pavement markers and other transverse markings and legends and provide all labor, materials, equipment and traffic control as per California Manual of Uniform Traffic Control Devices.

The supplied equipment shall be in good working condition at all times. The Engineer shall provide a notice to the Contractor at least 24 hours in advance. No premium shall be paid for night, weekend or holiday work. In general, it is expected that most of the work will be performed during weeknights (Sunday-Thursday) between 9:00 p.m. and 5:00 a.m. However, the working hours can be changed at any time with a 24-hour notice (via telephone, voicemail, fax, e-mail, or mail) to the Contractor. It shall be the Contractor's responsibility to keep all modes of communication in working conditions at all times.

The Contractor shall follow proper traffic control per Caltrans Standard Plans or current MUTCD Standard during work.

Equipment and processes for installation of long-line thermoplastic traffic striping should include or be capable of:

1. Working in conjunction (including truck-to-truck communication) with support vehicles for installation and protection of newly applied thermoplastic traffic striping within accepted operational guidelines for mobile construction operations during daytime or night time hours.
2. Installing thermoplastic material, with concurrent application of additional retro-reflective glass beads, to install, superimpose, or re-trace existing lines on tangents or curves in the width and dimensions specified.
3. Capability of installing solid and broken lines through the use of a calibrated skip-timer device.
4. The equipment should be able to carry a pre-melter of minimum capacity of 4,000 LB per color, and glass bead capacity of 3,000 LB to ensure continuous operation without interruption.
5. Maintain and prepare thermoplastic material in sufficient quantity and acceptable temperatures for efficient, high production application of thermoplastic material within a vehicle application speed range of 5 to 8 MPH.
6. Operating in conjunction, or concurrently with equipment designed to apply any manufacturer's recommended primer material required for proper bonding of the thermoplastic material to the road surface or existing traffic marking.

Traffic stripes and pavement marking shall conform to the dimensions and details shown on California MUTCD. Any discrepancies on measurement of completed stripes to their respective

California MUTCD details will be a pay deduct of their respective line item unit price. If the discrepancies are substantial, the traffic stripes must be removed and replaced.

The completed traffic stripes must have clean and well-defined edges without running or deformation, must be uniform, must be straight on tangent alignment and must be a true arc on curved alignment. The completed pavement markings must have clean and well-defined edges without running or deformation and must conform to the dimensions shown on the MUTCD standard. Minor variation maybe accepted at the Engineer's discretion.

The Contractor shall provide a qualified individual in-charge of quality-control during application operations who is not an active member of the installation crew. This requirement may be waived by the Engineer, if work results are satisfactory to the Engineer.

Thermoplastic traffic stripes and pavement markings shall conform to the provisions in Section 84-1, "General", and Section 84-2, "Thermoplastic Traffic Stripes and Pavement Markings," of the State Standard Specifications, and to these Special Provisions.

Material

Thermoplastic traffic stripes and pavement markings, where applicable, shall conform to the most current approved pre-qualified and tested signing and delineation materials and products list maintained by the California Department of Transportation. For this project, white and lead-free yellow Alkyd Resin Binder specification number **PTH-02ALKYD** (dated February 2009, or update) shall be used. The Contractor shall supply all material and provide the manifest of the material, which includes the manufacturing and/or shipping date.

Primer

If the striping is installed on asphalt-concrete surfaces, which have been paved more than two weeks, a primer specified by the manufacturer of thermoplastic material is to be used, and shall be applied as per the direction.

Striping

For pavement striping, use either **ribbon gun** or **extrusion dies** to install lines at a minimum thickness of 0.09 inches on the pavement surface in a melted state at a temperature of 400-440 °F.

The pavement surface to which thermoplastic material is applied shall be completely coated by the material and the voids of the pavement surface shall be filled.

Apply additional glass beads by drop-on or pressure spray methods at a uniform minimum rate of 0.72-0.92 lbs/square yard of markings. The Caltrans Specification Number for glass beads in Section 84-2, "Materials," of the Standard specifications is amended to read "8010-21C-22 (Type II)."

The bead shall be embedded approximately 60 percent for optimal retro-reflection and retention at a maximum striping truck speed of 8 mph. The Contractor shall adjust the striping truck speed so that the bead embedment is maintained at approximately 60 percent. The beads will likely pop out very quickly at less than 60 percent embedment and the light cannot enter the bead or return at 75-100 percent embedment.

84-1.03 REMOVAL OF EXISTING PAVEMENT STRIPING, MARKERS, AND MARKINGS

Legends, striping, markers, and markings that are to be removed by this contract shall conform to Section 15-2.02C, "Remove Traffic Stripes and Pavement Markings", of the Caltrans Standard Specifications and shall be removed by grinding or other City-approved method. All removed traffic stripes and pavement markings and excess material shall become the property of the Contractor and shall be disposed of in a legal and proper manner. Payment described in Section 15-2.02C(3) is not applicable to this contract.

Removal and disposal of existing traffic markings and excess material shall conform to Section 15, "Existing Highway Facilities," of the Caltrans Standard Specifications and as specified herein. Storm drain inlets adjacent to areas to be ground shall be protected from grindings, or any material or runoff entering the storm drain system.

84-1.04 PAVEMENT STRIPING AND MARKINGS

Thermoplastic traffic stripe (traffic lines) and pavement markings shall be applied in conformance with the provisions in Section 84, "Traffic Stripes and Pavement Markings," of the Caltrans Specifications and these Special Provisions.

Thermoplastic material shall be free of lead and chromium, and shall conform to the requirements in State Specification PTH-02ALKYD.

Retroreflectivity of the thermoplastic pavement markings shall conform to the requirements in ASTM Designation: D 6359-99. White thermoplastic pavement markings shall have a minimum initial retroreflectivity of 250 mcd·m⁻²·1x-1. Yellow thermoplastic pavement markings shall have a minimum initial retroreflectivity of 150 mcd·m⁻²·1x-1.

Thermoplastic pavement markings shall be applied at the minimum thickness and application rate as specified below. The minimum application rate is based on a solid stripe 4 inches in width.

Minimum Marking*	Minimum Application
Thickness (inches)	Rate (lb/ft)
0.098	0.34 lb/ft

*Minimum thickness for cross walk markings is 0.12 inches

Thermoplastic pavement markings shall be free of runs, bubbles, craters, drag marks, stretch marks, and debris.

Full compensation for furnishing all labor, materials, tools equipment, and incidentals as required and doing all work involved in installing various thermoplastic pavement striping and marking, complete in place, will be considered as included in the contract square foot price paid for in placing each type of thermoplastic pavement marking, and no additional compensation shall be allowed therefore.

Thermoplastic Traffic Stripe (Sprayable)

Sprayable thermoplastic traffic stripes (traffic lines) shall be applied in conformance with the provisions in Section 84, "Traffic Stripes and Pavement Markings," of the Standard Specifications and these special provisions.

Sprayable thermoplastic material shall be free of lead and chromium, and shall conform to the requirements in State Specification NO. PTH-02SPRAY.

Retroreflectivity of the sprayable traffic stripes shall conform to the requirements in ASTM Designation: D 6359-99. White sprayable thermoplastic traffic stripes shall have a minimum initial retroreflectivity of $250 \text{ mcd}\cdot\text{m}^{-2}\cdot1\text{x}^{-1}$. Yellow sprayable thermoplastic traffic stripes shall have a minimum initial retroreflectivity of $150 \text{ mcd}\cdot\text{m}^{-2}\cdot1\text{x}^{-1}$.

At the option of the Contractor, permanent traffic striping and pavement marking tape conforming to the provisions in "Prequalified and Tested Signing and Delineation Materials" of these special provisions may be placed instead of the sprayable thermoplastic traffic stripes. Permanent tape, if used, shall be installed in conformance with the manufacturer's specifications.

Where striping joins existing striping, as shown on the plans, the Contractor shall begin and end the transition from the existing striping pattern into or from the new striping pattern a sufficient distance to ensure continuity of the striping pattern.

Sprayable thermoplastic material shall be applied to the pavement at a minimum thickness of 0.098 inches and a minimum rate of 0.34 lb/ft. The minimum application rate is based on a solid stripe of 4 inches in width.

Full compensation for furnishing all labor, materials, tools equipment, and incidentals as required and doing all work involved in installing various thermoplastic pavement striping, complete in place, will be considered as included in the contract lineal foot price paid for placing each type of thermoplastic pavement striping, and no additional compensation shall be allowed therefore.

84-1.05 PAVEMENT MARKERS

Pavement markers shall be placed in conformance with the provisions in Section 85, "Pavement Markers," of the Caltrans Specifications and these Special Provisions.

The Contractor shall furnish the Engineer certificates of compliance.

Retroreflective pavement makers shall be marked as abrasion resistant on the body of the markers.

Retroreflective pavement markers placed in pavement recesses shall be cemented with a flexible, polymer-modified, hot-melt asphaltic adhesive conforming to the following requirements:

Specification	ASTM Designation	Requirement
Penetration, mm, 100 g, 5 seconds, 25°C	D 5	3.0 Maximum
Softening Point, °C	D 36	93 Minimum
Brookfield Thermosel Viscosity, Pa s, No. 27 Spindle, 20 RPM, 191°C	D 4402	2.5 - 6
Ductility, cm, 5 cm/min, 25°C	D 113	15 Minimum
Ductility, cm, 1 cm/min, 4°C	D 113	5 Minimum
Flexibility	D 3111 ^{1, 2, 3, 4}	No breaks or cracks
Notes:		

Modify ASTM Designation: D 3111, Paragraph 6, to "The test apparatus consists of a mandrel one inch in diameter by 3 inch to 6 inch in length, supported at each end."
Modify ASTM Designation: D 3111, Paragraph 7, to "The test specimen dimensions are one inch wide, 6 inch long, and 1/8 inch thick."
Modify ASTM Designation: D 3111, Paragraph 8, to "Condition the test specimens and apparatus for 4 hours at 19° F before testing."
Modify ASTM Designation: D 3111, Paragraph 10.5, to "Bend the test specimens 90° over the mandrel at a uniform rate in 10 seconds while maintaining intimate contact with the mandrel."

Testing of adhesive bond strength will be performed on sandblasted concrete brick surface in conformance with the requirements in California Test 669 and these special provisions. The concrete brick surface will be sandblasted in conformance with the requirements in California Test 423. The test plugs of 2-inch diameter will be conditioned at 221° F for a minimum of 2 hours before bonding to the sandblasted concrete surface. The adhesive sample will be heated to the application temperature as recommended by the manufacturer and a sample of 3 inch diameter in area will be poured onto the sandblasted concrete surface. The heated plug will immediately be pressed onto the puddle of hot adhesive to squeeze out excess adhesive. The excess adhesive extruding from under the plug will be removed. The assembly will be allowed to cure for 24 hours at 73°F ±3.6°F and then be tested to bond failure at a crosshead speed of 2 inches per minute. The reported peak load and the bond strength value will be the average of 3 tests, respectively. The same bond strength test will be performed on retroreflective pavement markers. Instead of placing the heated adhesive sample on the sandblasted concrete surface, it will be placed on the bottom of the pavement markers.

Pavement markers shall not be placed on new asphalt concrete surfacing or seal coat until the surfacing or seal coat has been opened to public traffic for a period of not less than 7 days when hot melt bituminous adhesive is used. Existing pavement markers, when no longer required for traffic lane delineation, shall be removed and disposed of as directed by the Engineer.

Pavement markings shall conform to the provisions in Sections 84-1.01, "General," and 84-3, "Painted Traffic Stripes and Pavement Markings," of the Caltrans Specifications and these Special Provisions.

Any necessary cat tracks, dribble lines, and layout work as shown on the Plans, as specified in these Specifications and the Special Provisions, as directed by the Engineer shall be considered as included in the price paid for the various items of work, and no separate payment will be made for this work.

Payment for pavement markers shall be considered as included in the price paid for the various pavement striping items of work, and no additional compensation will be allowed therefore.

Contractor shall install blue raised reflective pavement markers to mark fire hydrant locations. The blue reflective pavement markers should be placed 2 feet from the centerline stripe or approximately center of the pavement where there is no centerline stripe on the side nearest the fire hydrant. Full compensation for furnishing and placing of the blue raised reflective

pavement markers shall be considered as included in the prices paid for the various striping items of work and no separate payment will be made.