

**TOWN OF LOOMIS
PUBLIC WORKS DEPARTMENT**

**SPECIAL PROVISIONS AND SPECIFICATIONS
FOR CONSTRUCTION OF
LOOMIS TOWN CENTER
IMPLEMENTATION PLAN - PHASE 3**

**FEDERAL PROJECT No. CML-5442 (012)
FEDERAL PROJECT No. STPL-5442 (013)**

FOR USE IN CONNECTION WITH STANDARD SPECIFICATIONS DATED 2018, REVISED STANDARD SPECIFICATIONS DATED APRIL 2019, STANDARD PLANS DATED 2018, REVISED STANDARD PLANS DATED OCTOBER 2019, AND LABOR SURCHARGE AND EQUIPMENT RATES OF THE CALIFORNIA DEPARTMENT OF TRANSPORTATION, INsofar AS THE SAME MAY APPLY AND IN ACCORDANCE WITH THE SPECIAL PROVISIONS.

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LOOMIS TOWN CENTER IMPLEMENTATION PLAN - PHASE 3

FEDERAL PROJECT No. CML-5442 (012)

FEDERAL PROJECT No. STPL-5442 (013)

The technical special provisions contained herein have been prepared by or under the direction of the following Registered Persons.

ROADWAY

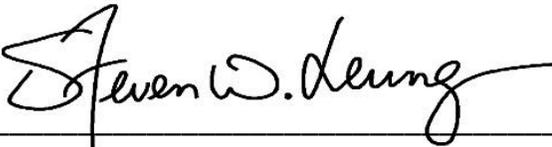


STEVEN ROBINSON

REGISTERED CIVIL ENGINEER



ELECTRICAL



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LOOMIS TOWN CENTER IMPLEMENTATION PLAN - PHASE 3

TABLE OF CONTENTS

SCOPE OF SPECIAL PROVISIONS.....	2
DISCREPANCIES AND OMISSIONS	2
1 GENERAL	3
4 SCOPE OF WORK	3
5 CONTROL OF WORK.....	3
6 CONTROL OF MATERIALS.....	6
7 LEGAL RELATIONS AND RESPONSIBILITY TO THE PUBLIC.....	7
8 PROSECUTION AND PROGRESS.....	8
9 PAYMENT	9
10 GENERAL	11
12 TEMPORARY TRAFFIC CONTROL	12
13 WATER POLLUTION CONTROL	17
14 ENVIRONMENTAL STEWARDSHIP	17
15 EXISTING FACILITIES	18
17 GENERAL	18
18 DUST PALLIATIVES.....	19
19 EARTHWORK.....	19
21 EROSION CONTROL	20
39 ASPHALT CONCRETE	20
47 EARTH RETAINING SYSTEM.....	21
51 CONCRETE STRUCTURES	29
73 CONCRETE CURBS AND SIDEWALKS.....	29
78 INCIDENTAL CONSTRUCTION.....	29
82 SIGNS AND MARKERS.....	30
83 RAILINGS AND BARRIERS.....	31
84 MARKINGS.....	32

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**SPECIAL PROVISIONS
FOR THE
TOWN OF LOOMIS
LOOMIS TOWN CENTER IMPLEMENTATION PLAN – PHASE 3**

SCOPE OF SPECIAL PROVISIONS

The work described in these Special Provisions shall be performed in conformance with the latest editions of the State Standard Specifications, Standard Special Provisions and Standard Plans, Town of Loomis Standard Plans, and County of Placer Engineering Design Plates except insofar as these Special Provisions may modify them.

Numbering in these Special Provisions conforms to that in the State Standard Specifications. The existence of a Section in these Special Provisions means that the corresponding Section in the State Standard Specifications is modified in some respect. Unless otherwise specified, the modified State Standard Specification Provisions are deleted entirely, and the provisions of these Special Provisions are substituted.

The construction materials, payments, etc., for items of work shown in the proposal and on the plans, but not specifically mentioned in these Special Provisions are referred to the Standard Construction Specifications and State Standard Specifications for conformance.

DISCREPANCIES AND OMISSIONS

Any discrepancies or omissions found in the Contract Documents shall be reported to the Engineer immediately. The Engineer will clarify discrepancies or omissions, in writing, within reasonable time.

In resolving inconsistencies among two or more Sections of the Contract Documents, precedence shall be given in the following order:

Special Provisions

State Standard Specifications and Amendments to the State Standard Specifications, Standard Special Provisions, and Plans

Drawings

Addenda shall take precedence over all Sections referenced therein. Figure dimensions on Drawings shall take precedence over general Drawings.

1 GENERAL

In section 1-1.07B, Replace the definition of “Department” with:

Town of Loomis or the Department of Transportation as defined in St & Hwy Code § 20 and authorized in St & Hwy Code § 90; its authorized representatives.

In section 1-1.07B, Replace the definition of “State” with:

Town or Loomis or the State of California, including its agencies, departments or divisions whose conduct or action is related to the work.

4 SCOPE OF WORK

Replace section 4-1.03 with:

The work to be performed consists, in general, of roadway cold plane and overlay, adding and replacing curb, gutter and sidewalk, minor drainage improvements, placing striping and pavement markings, installing signage, lighting, and all other works are shown on the contract documents.

Add to section 4-1.13:

The Contractor shall remove all temporary pavement delineation.

Prior to submitting the final payment request, the Contractor shall remove all reference markings (i.e. USA markings, striping reference points, utility reference points) placed during the course of work.

5 CONTROL OF WORK

Replace section 5-1.04 with:

5-1.04 ORDER OF WORK

The Contractor shall prepare a traffic control plan that conforms to Section 12, Temporary Traffic Control.

The work shall be performed in conformance with the phases of construction shown on the Contractor's Traffic Control Plan. Non conflicting work in subsequent phases may proceed concurrently with work in preceding phases.

Place and maintain Best Management Practices (BMP) in compliance with the Storm Water Pollution Prevention Plan, the BMP's shall remain in place until work is completed.

1. Prepare and submit SWPPP, Stage Construction Plan, and Traffic Control Plan

2. Place and maintain erosion control Best Management Practices (BMP), the BMP's shall remain in place until paving is completed.
3. Notify Underground Service Alert (USA) at (800) 642-2444 at least 72 hours in advance of beginning work on the project
4. Locate all underground utilities and protect-in-place
5. Place Traffic Control plan and Changeable Message Sign (CMS)
6. Place temporary striping for all stages of work
7. Complete work per Contractor's stage construction plans

The Contractor shall notify the Engineer, the property owner, and the occupant five (5) working days before beginning work on or adjacent to each private property, or commercial property.

Equipment shall be hand carried across private properties unless otherwise approved by the Engineer.

Businesses, Multifamily Residential, Commercial Properties – Access shall be maintained at all times.

Replace section 5-1.07 with:

5-1.07 COORDINATION

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

Replace section 5-1.08 with:

5-1.08 PUBLIC NOTIFICATION

The Contractor shall be required to notify the public, local residents, local businesses, local public, transit companies, local law enforcement agencies, local fire districts, local utility companies and any other persons or agencies affected by this project two (2) weeks prior to construction and 72 hours notification before work commences on the immediate property frontage.

The Contractor will be responsible for notifying residents and businesses of the proposed construction. Notifications shall be distributed to residents and businesses within a 100 foot radius of the job limits, including residents and businesses located on streets adjacent to the construction.

Contractor shall coordinate with Chamber of Commerce to hold monthly meetings with businesses and property owners to coordinate and inform them of upcoming work.

Notifications to affected residents and businesses within the project area shall consist of two (2) phases.

The first phase notifies the affected residents and businesses of the upcoming construction through the use of "door hanger" type formatted notifications. The notification shall state the street name, the working hours, and the anticipated begin and completion dates for each street. The Contractor shall distribute the door hanger notifications a minimum of 5 (five) working days in advance of the work.

At the pre-construction meeting, Contractor shall provide the Engineer a copy of the proposed

notification letter for acceptance.

Notifications shall be tucked neatly in doorjambs, handles, or partially under mats. Notifications shall not be glued, stapled, tacked, or otherwise attached to property. The Contractor shall take care to stay on designated walkways during delivery of notifications, and be polite to citizens encountered.

The second phase consists of the Contractor posting "No Parking" signs on barricades 48 hours prior to the work. The "No Parking" signs shall also include the exact working day that the work will take place. A warning indicating that vehicles will be towed away at the owner's expense shall also be included on the "No Parking" signs. In addition, the Contractor shall make available a 24-hour telephone number in case of emergencies and/or problems and shall post the telephone number on the "No Parking" signs. At the pre-construction meeting, Contractor shall submit to the Engineer a sample "No Parking" sign for acceptance. The Contractor shall be responsible for placing temporary "No Parking" signs in advance of any construction activity. Barricades shall be placed a maximum of 500 feet apart, on both sides of the affected street. (Not required for streets already marked "No Parking")

Failure to comply with the notification requirement will result in a stop work order. The Contractor shall maintain an updated and chronological record at the job site of all written notifications along with a list of recipients. Such records shall be made available upon request by the Engineer.

5-1.07A Payment

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.

Replace section 5-1.26 with:

This work shall consist of furnishing and setting construction stakes and marks by the Contractor to establish the lines and grades required for the completion of the work as shown on the plans and as specified in the Caltrans Standard Specifications and these Technical Specifications.

Prior to any construction work, the Contractor shall adequately survey the existing horizontal and vertical control points of all facilities that are to be restored to their original locations at the end of construction.

Before starting any survey work, the Contractor shall submit in writing for approval to the Engineer, the proposed procedures, methods, equipment, and typical stake markings to be used.

All procedures, methods, and typical markings shall be in accordance with Chapter 12, "Construction Surveys," of the Department's *Surveys Manual*.

Project control points and data are shown on the plans for the Contractor's use. Construction staking shall be performed as necessary to control the work. Construction stakes and marks shall be furnished and set with accuracy adequate to assure that the completed work conforms to the lines, grades, and sections shown on the plans.

In the event the Contractor's operations destroy any of the project control points, the Contractor shall replace project control points at his expense, subject to verification by the Engineer. The cost of any such verification by the Engineer will be deducted from any moneys due or to become due the Contractor. The Contractor will not be allowed any adjustment in contract time for such verification of project control points by the Engineer.

All computations necessary to establish the exact position of the work from the project control points shall be made by the Contractor. All computations, survey notes, and other records necessary to accomplish the work shall be neat, legible and accurate. Copies of such computations, notes, and other records shall be furnished to the Engineer prior to beginning work that requires their use.

Construction stakes shall be removed from the site of the work when no longer needed.

Upon completion of construction staking and prior to acceptance of the contract, all computations, survey notes, and other data used to accomplish the work shall be furnished to the Engineer and shall become the property of the Town.

Add to the end of section 5-1.32:

Personal vehicles of your employees must not be parked on the traveled way or shoulders, including sections closed to traffic.

Add after the third paragraph in section 5-1.36C(3):

Prior to commencing the work on Taylor Road the Contractor shall notify and coordinate with the Town, PG&E, PCSD, PCWA, Wave, and AT&T of the scheduled work two weeks in advance of the planned work. A representative of the utility company shall be present during the entire excavation operation. The use of powered equipment (including vacuum excavation) will not be allowed within two (2) feet radially of PG&E gas lines with the exception that powered equipment may be used to remove pavement or concrete as required.

All work on PCWA facilities shall be in conformance with the "PCWA Improvement Standards – Standard Specifications, Standard Drawings" 2017 Edition.

6 CONTROL OF MATERIALS

Replace section 6-1.02 with:

The Town will not furnish any materials required for this project. You are responsible for furnishing all materials and their costs, unless otherwise directed by the Engineer.

Add to section 6-2.01A:

Material testing for this project will be provided by the Contractor as set forth in Section 6 of the Standard Specifications and the most current Placer County's Quality Assurance Program. The Contractor shall perform all testing to verify compliance with the Specifications of any and all materials

furnished by the Contractor. The Contractor shall submit and receive the Engineer's approval of all compliance test results prior to incorporating materials into the project. The Contractor may elect to place material without the approved certificates of compliance and mix designs and shall be at the Contractor's own risk.

7 LEGAL RELATIONS AND RESPONSIBILITY TO THE PUBLIC

Add to section 7-1.04:

The Contractor shall cooperate with and notify the local police and fire departments, school districts, Refuse, ambulance services, and Public Works Division of proposed construction operations two (2) days before work is to begin.

The Contractor shall be responsible to notify and coordinate their schedule with schools that may be in or adjacent to the projects area.

Replace section 7-1.09 with:

7-1.09 PERMITS AND LICENSES

The Contractor shall obtain a business license from the Town of Loomis prior to performing the work.

The Contractor may use water from Town of Loomis fire hydrants provided that the required permits are obtained from **Placer County Water Agency** and the Contractor has paid the associated fees.

Replace section 7-1.10 with:

7-1.10 COOPERATION

The Contractor shall cooperate with other forces constructing, relocating, and/or modifying facilities within the project limits. The Contractor shall coordinate his work with that of others, including utility companies, to prevent delays.

It is understood and agreed that the Contractor has considered in his bid all of the permanent and temporary utility appurtenances in their present and/or relocated positions as shown on the plans or as described in the specifications, and that no additional compensation will be allowed for any delays, inconvenience, or damages sustained due to any interference from said appurtenances or the operation of moving them. In addition, the Contractor shall not be allowed any additional compensation for delays of inconvenience sustained by the Contractor due to the Town not having Town-supplied equipment ready for pick-up. In such a case, the Town may increase the number of working days for the contract.

Five (5) days prior to beginning work, the Contractor shall provide to the Engineer, in writing, the name and telephone number of a representative who is directly involved with this project, and under the supervision of the Contractor. The Contractor's representative may be contacted by Town staff during non-working hours including nights, weekends and holidays in the case of any public inconvenience

and/or emergency relating to the Contractor's operations. The contact representative shall not be replaced by another company employee for the duration of the project without a written explanation from the Contractor which has been approved by the Engineer. Should a new representative be used, he/she shall be knowledgeable of the project, the events, and/or revisions that may be occurring.

Add section 7-1.12:

7-1.12 RIGHTS IN LAND AND IMPROVEMENTS

The Contractor is responsible for making arrangements to stock-pile and store equipment outside the public right of way as work is performed. Personal vehicles of the Contractor's employees shall not be parked on the traveled way or shoulders, private property, including any Section closed to public traffic.

The Contractor shall secure easements at their own expense for any areas required for plant sites, storage of equipment or materials, or for any other purposes. Before occupying any easement area, the Contractor shall provide the Engineer a written statement from each property owner verifying easement acquisition.

Staging areas located on private property shall be restricted to properties where the property owner has given written authorization to the Contractor for use of said property. The Contractor shall submit, at the Pre-Construction meeting, documentation of the written authorization from the property owner(s). Prior to final acceptance of the project, the Contractor shall provide the Engineer a written statement of release from each property owner that granted an easement for the Contractor's operations.

8 PROSECUTION AND PROGRESS

Add to the end of section 8-1.03:

The Contractor's representative at this meeting shall include all major superintendents for the work and may include major Subcontractors and material suppliers.

In addition to the pre-construction meeting there will be a pre-paving meeting to discuss paving operations and layout, loop installation, working hours, traffic control plans, and the Subcontractors performing the work shall be present.

The Contractor shall be responsible to coordinate utilities relocations within the project area. Coordination of utilities within the project limits, including relocations and maintenance of existing facilities and additions thereto, shall be confirmed in writing by utility representatives and the Contractor at this meeting or within five (5) working days thereafter.

Replace section 8-1.04A with:

8-1.04A TIME OF COMPLETION

For the purposes of this contract, all work under the contract shall be completed within **80 WORKING DAYS** beginning on the first effective working day as specified in the Notice to Proceed.

A punch list will be created after all bid items have been completed by the Contractor and it shall be the Contractor's responsibility to notify the Engineer in writing that all bid items have been completed. The punch list will be provided within 48 hours of the written notification to the Engineer. All punch list items shall be completed within the specified contract working days. The project will not be accepted until all punch list items have been completed.

Delete the first two paragraphs of section 8-1.04B.

Add Section 8-1.05A CONSTRUCTION WORKING HOURS.

8-1.05A CONSTRUCTION WORKING HOURS

The construction working hours are Monday-Friday 7:00 AM to 5:00 PM.

Requests for authorization to perform work outside the hours listed above shall be made in writing at least 72 hours in advance.

9 PAYMENT

Delete section 9-1.07.

Add to section 9-1.16F:

As provided in California Public Contract Code 7200(b), you may not retain monies from progress payments to subcontractors, and subcontractors may not retain monies from their subcontractors. The exceptions provided in Public Contract Code 7200(c) shall not apply. You may require subcontractors to furnish payment and performance bonds issued by an admitted surety insurer.

Replace section 9-1.22 with:

All claims filed with the Town must be in writing and include the documents necessary to substantiate the claim. Claims must be filed within the time limits set forth in this contract. In no circumstances, however, may a claim be filed after the day of final payment. Nothing in this subsection is intended to extend the time limit or supersede notice requirements for the filing of claims as set forth elsewhere in this contract.

1) Claims of \$50,000.00 or Less

(a) The Town will respond in writing to all written claims less than or equal to fifty thousand dollars (\$50,000.00) within forty-five (45) calendar days of receipt of the claim. Within thirty (30) calendar days of receipt of the claim, the Town may request any additional documentation supporting the claim or relating to defenses or claims the Town may have against the claimant.

(b) If additional information is thereafter required, it shall be requested and provided pursuant to this subsection, upon mutual agreement of the Town and the claimant.

(c) The Town's written response to the claim, as further documented, shall be submitted to the claimant within fifteen (15) calendar days after receipt of the further documentation or within a period of time no greater than that taken by the claimant in producing the additional information, whichever is greater.

2) Claims Between \$50,000.01 and \$375,000.00

(a) The Town will respond in writing to all written claims between fifty thousand dollars and one cent (\$50,000.01) and less than or equal to three hundred seventy-five thousand dollars (\$375,000.00), within sixty (60) calendar days of receipt of the claim. Within thirty (30) calendar days of receipt of the claim, the Town may request, in writing, any additional documentation supporting the claim or relating to defense to the claim the Town may have against the claimant.

(b) If additional information is thereafter required, it shall be requested and provided pursuant to this Subdivision, upon mutual agreement of the Town and the claimant.

(c) The Town's written response to the claim, as further documented, shall be submitted to the claimant within thirty (30) calendar days after receipt of the further documentation or within a period of time no greater than that taken by the claimant in producing the additional information or requested documents, whichever is greater.

3) Claims in Excess of \$375,000.00. The Town shall, within a reasonable time after the presentation of any claim in excess of \$375,000.00, make a decision in writing on such claim.

4) Meet and Confer Conference

(a) If the claimant disputes the Town's written response, or the Town fails to respond within the time prescribed, the claimant may so notify the Town, in writing, either within fifteen (15) calendar days of receipt of the Town's response or within fifteen (15) calendar days of the Town's failure to respond within the time prescribed, respectively, and demand an informal conference to meet and confer for settlement of the issues in dispute. Upon a demand, the Town shall schedule a meet and confer conference within thirty (30) calendar days for settlement of the dispute.

(b) If, following the meet and confer conference, the claim or any portion thereof remains in dispute, the claimant may file a claim pursuant to Chapter 1 (commencing with Section 900) and Chapter 2 (commencing with Section 910) of Part 3 of Division 3.6 of Title 1 of the California Government Code. For the purposes of those provisions, the running of the period of time within which a claim must be filed shall be tolled from the time the claimant submits his or her written claim pursuant to this Section until the time that claim is denied as a result of the meet and confer process, including any period of time utilized by the meet and confer process.

5) Contractor's Duty During Claim Resolution. The Contractor shall proceed with the Work in accordance with the plans and specifications and determinations and instructions of the Town Engineer during the resolution of any claims disputes.

6) Certification. The Contractor shall certify in writing, at the time of submission of any claim, as follows:

I certify under penalty of perjury under the laws of the State of California, that the claim is made in good faith, that the supporting data are accurate and complete, and that the amount requested accurately reflects the monies due for work performed under the Contract for which the Town of Loomis is liable.

By: _____
(Contractor's signature)

7) Town Remedies. In the event the Contractor refuses or neglects to make good any loss or damage for which the Contractor is responsible under this Contract, the Town may itself, or by the employment of others, make good any such loss or damage, and the cost and expense of doing so, including any reasonable engineering, legal and other consultant fees, and any costs of administrative and managerial services, shall be charged to the Contractor. Such costs and expenses may be deducted by the Town from claims for payment made by the Contractor for work completed or remaining to be completed.

Assignment. In entering into a public works contract or a subcontract to supply goods, services, or materials pursuant to this contract, the Contractor and all subcontractors shall offer and agree to assign to the Town all rights, title, and interest in and to all causes of action it may have under section 4 of the Clayton Act (15 U.S.C. Sec. 15) or under the Cartwright Act (Chapter 2 [commencing with Section 16700] of Part 2 of Division 7 of the Business and Professions Code), arising from purchases of goods, services or materials pursuant to the public works contract or subcontract. This assignment shall be made and become effective at the time the Town tenders final payment to the Contractor, without further acknowledgment by the parties.

Contractor Waiver and Limitation. The Contractor agrees that it can be adequately compensated by money damages for any breach of this Contract which may be committed by the Town and hereby agrees that no default, act, or omission of the Town or the Engineer, shall constitute a material breach of the Contract entitling the Contractor to cancel or rescind the provisions of this Contract or (unless the Town shall so consent or direct in writing) to suspend or abandon performance of all or any part of the work.

The Contractor hereby waives any and all rights and remedies to which it might otherwise be or become entitled, save only its right to money damages.

Venue. Any litigation arising out of this Contract shall be brought in the Superior Court of Placer County, and the Contractor hereby waives the removal provisions of Code of Civil Procedure Section 394.

10 GENERAL

Add to the end of section 10-5:

Contractor shall be required to reduce particulate generation during construction, which will include:

- Construction site shall be watered before work begins and after work ends each day. Water shall also be applied to areas of high construction activity as necessary throughout the day to minimize the generation of dust;
- All equipment and engines shall be properly tuned and maintained;
- Electrical power from existing sources shall be used instead of diesel generators, to the extent possible;
- All roadways shall be cleaned up at the end of each day during construction;

- Dirt piles and haul trucks shall be covered at the end of each day during construction;
- All construction vehicles shall be cleaned prior to leaving the project site;
- Stabilization by the use of erosion control measure of disturbed areas following construction;
- Grading activities shall not be conducted during periods of high winds (greater than 25 mph).
- Minimize idling time to 10 minutes for all diesel powered equipment.
- Apply water to control dust as needed to prevent dust impacts offsite. Operational water truck(s) shall be on-site, as required, to control fugitive dust. Construction vehicles leaving the site shall be cleaned to prevent dust, silt, mud, and dirt from being released or tracked offsite.
- Spread soil binders on unpaved roads and employee/equipment packing areas and wet broom or wash streets if silt is carried over to adjacent public thoroughfares.
- Install wheel washers or wash all trucks, including Contractor's own vehicles and dump trucks, and equipment leaving the site.

No additional payment will be made for obtaining hydrant permit, paying associated hydrant permit fees or for following conditions of the hydrant permit or the conditions stated above for dust control.

12 TEMPORARY TRAFFIC CONTROL

Replace section 12-1.04 with:

The cost of furnishing all flaggers, including transporting flaggers and furnishing stands and towers for flaggers to provide for the passage of traffic through the work as specified in sections 7-1.03 and 7-1.04 is paid under Stage Construction and Traffic Handling bid item.

Replace the 3rd sub-item in item 1 in the list in the 1st paragraph of section 12-3.01A(3) with:

1.3. Contract number, county, route, and project limits

Replace second to last paragraph in section 12-3.11B(2):

Excavations for sign posts are not permitted for signs. All shall be mounted on temporary masts, or barricades, or affixed to existing roadside sign posts, as approved by the Engineer.

Replace section 12-3.11D:

Payment for construction area signs described for a traffic control system is included in the payment for the Stage Construction and Traffic Handling bid item.

Add to the beginning of section 12-3.32C:

Place at least one PCMS in each direction on Taylor Road and on King Road, westbound on Horseshoe Bar Road, and eastbound on Webb Street at locations approved by the Engineer. Start displaying the approved message on the PCMS 10 days before closing the lane. Keep the boards with the messages in place until work (including striping) is complete.

Place PCMSs at the locations above and in advance of the 1st warning sign for each:

1. Stationary lane closure
2. Shoulder closure
3. Speed reduction zone

Replace the second paragraph of section 12-4.01A with:

The Contractor shall cooperate with and notify the local sheriff and fire department, ambulance services, post office, refuse collectors, Placer County Transit, Loomis Union School District, Placer Union High School District, businesses and residents of proposed construction operations and traffic control operations a minimum of five working days before work is to begin in each work area. If changes are made to the traffic control plan, Contractor shall re-notify at least two working days before work is to begin. In addition, the Contractor shall make available a 24-hour telephone number in case of emergencies and/or problems.

The Contractor shall be responsible for placing "Construction Speed Limit" signs on both sides of the affected street one (1) hour prior to the Street being opened to traffic. The speed limit for the "Construction Speed Limit" signs cannot be less than 10 mph below the posted speed. At the pre-construction meeting, Contractor shall submit to the Engineer a sample "Construction Speed Limit" sign for acceptance. Signs shall be placed a maximum of 500 feet apart, on both sides of the affected street.

Emergency access to driveways, intersections, and residential streets shall be maintained at all times. If vehicles are parked in the working area, the Contractor shall not attempt to move the vehicle. The Contractor shall notify the Engineer immediately, and the Engineer shall make proper arrangements to remove the vehicle.

Replace the table in the definition of designated holidays in section 12-4.02A(2) with: Designated Holidays

Holiday	Date observed
New Year's Day	January 1st
Martin Luther King Day	January 20th
Lincoln's Birthday	February 12th
Washington's Birthday	3rd Monday in February
Memorial Day	Last Monday in May
Independence Day	July 4th
Labor Day	1st Monday in September
Columbus Day	October 14th
Veterans Day	November 11th
Thanksgiving Holiday	4th Thursday in November & following Friday
Christmas Day	December 25th

Replace *Reserved* in section 12-4.02C(3)(d) with:

Do not perform work on Town streets that interferes with traffic from 7 am to 8 pm Monday thru Friday or from 8 am to 5 pm Saturday and Sunday.

You may close lanes on Taylor Road during the hours shown on Chart no. 1 and Chart no. 2.

Replace *Reserved* in section 12-4.02C(3)(m) with:

Comply with the requirements for a complete Town street lane closure shown in the following chart:

Chart No. 1																									
Location: Taylor Road										Direction: Both															
Closure limits: Horseshoe Bar Road to King Road																									
Hour	24	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
Mon– Thu	1	1	1	1	1	1	1	1	N	N	N	N	N	N	N	N	N	N	N	N	N	1	1	1	1
Fri	1	1	1	1	1	1	1	1	N	N	N	N	N	N	N	N	N	N	N	N	N	1	1	1	1
Sat	1	1	1	1	1	1	1	1	1	N	N	N	N	N	N	N	N	N	N	1	1	1	1	1	1
Sun	1	1	1	1	1	1	1	1	1	N	N	N	N	N	N	N	N	N	N	1	1	1	1	1	1
Legend:																									
1 Provide at least 1 lane open in each direction of travel.																									
C Street may be closed.																									
N No lane closures allowed.																									
R Provide at least 1 through traffic lane not less than 10 feet in width for use by both directions of travel. (Reversing Control)																									
REMARKS: The number of through traffic lanes in each direction of travel is 1.																									

Chart No. 2																									
Location: Taylor Road								Direction: Both																	
Closure limits: Del Oro High School to Rippey Road																									
Hour	24	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
Mon– Thu	R	R	R	R	R	R	R	R	1	1	1	1	1	1	1	1	1	1	1	1	1	R	R	R	R
Fri	R	R	R	R	R	R	R	R	1	1	1	1	1	1	1	1	1	1	1	1	1	R	R	R	R
Sat	R	R	R	R	R	R	R	R	R	1	1	1	1	1	1	1	1	1	1	1	R	R	R	R	R
Sun	R	R	R	R	R	R	R	R	R	1	1	1	1	1	1	1	1	1	1	R	R	R	R	R	R
Legend:																									
1 Provide at least 1 lane open in each direction of travel.																									
C Street may be closed.																									
N No lane closures allowed.																									
R Provide at least 1 through traffic lane not less than 10 feet in width for use by both directions of travel. (Reversing Control)																									
REMARKS: The number of through traffic lanes in each direction of travel is 1.																									

Add to the end of the 1st paragraph of section 12-4.02C(7)(a):

except you may use a moving closure during traffic striping and pavement marker placement using a bituminous adhesive. Do not use a moving lane closure when grinding for recessed striping and recessed markers.

Add to the end of section 12-4.02C(7)(a):

Except where prohibited, use an impact attenuator vehicle:

1. To follow behind equipment and workers who are placing and removing components of a closure. Operate the flashing arrow sign in the arrow or caution mode during this activity, whichever applies. Follow at a distance that prevents intrusion into the work space from passing traffic.
2. As a shadow vehicle in a moving lane closure.

After placing components of a stationary traffic control system, you may place the impact attenuator vehicle in advance of the work area or at another authorized location to protect traffic and workers.

Replace section 12-7.04 with:

Payment for all materials and work defined in Section 12 shall be paid for at the contract lump sum price for Stage Construction and Traffic Handling as shown on the Bid Schedule.

13 WATER POLLUTION CONTROL

Replace section 13-3.04 with:

Payment for preparing the storm water pollution prevention plan is included in the contract lump sum price for Erosion Control as shown on the Bid Schedule.

Replace section 13-5.04 with:

Payment for required temporary soil stabilization is included in the contract lump sum price for Erosion Control as shown on the Bid Schedule.

Replace section 13-6.04 with:

Payment for required temporary sediment control is included in the contract lump sum price for Erosion Control as shown on the Bid Schedule.

Replace section 13-7.03D with:

Payment for required temporary construction entrance or roadway is included in the contract lump sum price for Erosion Control as shown on the Bid Schedule.

14 ENVIRONMENTAL STEWARDSHIP

Add after the 2nd paragraph of section 14-11.12A:

This project includes removal of yellow painted traffic stripe that will produce hazardous waste residue.

Add after the 1st paragraph of 14-11.12E:

After the Engineer accepts the analytical test results, dispose of yellow thermoplastic and yellow paint hazardous waste residue at a Class 1 disposal facility located in California 30 days after accumulating 220 lb of residue.

If less than 220 lb of hazardous waste residue and dust is generated in total, dispose of it within 30 days after the start of accumulation of the residue.

15 EXISTING FACILITIES

Add to the end of section 15-1.03C:

At least 2 business days before hauling the material to the salvaged material stockpile location, notify the Engineer and inform the Town at telephone no. (916) 652-1840.

The stockpile location is:

Town of Loomis Corporation Yard
3165 Rippey Road
Loomis, CA 95650

Replace section 15-1.03D with:

15-1.03D PROTECTION OF ROADWAY FACILITIES

The surfaces of all roadway facilities within the limits of work (i.e. manhole covers, water valve covers, monument lids, etc.) shall be protected from the paving operations. All material used to protect the facilities shall be removed and disposed of properly after the paving operations. After the paving work, the surfaces of all roadway facilities shall have a clean surface.

The Contractor shall carefully reference all facilities located in the work area and shall paint the locations of the facilities on the surface immediately after resurfacing.

Nothing herein shall be construed as relieving the Contractor of his/her responsibility for final cleanup of the site as provided in the Section 4-1.13, "Cleanup" of the State Standard Specifications.

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

Replace section 15-1.03E with:

15-1.03D RELOCATE BOULDERS

The Contractor shall move boulders in conflict with improvements shown on the plans as directed by the Engineer.

Payment for all labor and materials required to move boulders shall be included in the contract price for Relocate Boulder as shown on the Bid Schedule.

17 GENERAL

Replace the 1st paragraph of section 17-2.03B with:

Clear all construction areas above original ground of (1) all vegetation such as logs, upturned stumps, roots of downed trees, brush, grass, and weeds and (2) other objectionable material including concrete, masonry, bollards, railings, and debris.

Remove trees labeled for removal on the plans or as directed by the Engineer.

18 DUST PALLIATIVES

Replace section 18-1.04 with:

Payment for required dust palliatives is included in the contract lump sum price for Erosion Control as shown on the Bid Schedule.

19 EARTHWORK

Replace the 2nd, 3rd, and 4th paragraphs of section 19-2.03B with:

Dispose of surplus material. Ensure enough material is available to complete the embankments before disposing of it.

Replace section 19-11 with:

19-11 BASE REPAIR

19-11.01A General

Section 19-11 includes specifications for performing base repair.

19-11.01B Construction

The Contractor shall saw cut along neat lines around the perimeter of the pavement at locations determined by the Engineer. Remove all asphalt and base material to native ground or to a depth that removes the failing structural section material.

Replace the structural section to match the removed materials. The surface must have the same uniform smoothness, color, and texture as the adjacent surface. Compact the base and subbase material to a minimum relative compaction of 95 percent.

19-11.01C Payment

Payment for all labor and materials required for base repair shall be included in the contract price for Base Repair as shown on the Bid Schedule.

21 EROSION CONTROL

Replace section 21-2.04 with:

Payment for all required items in Section 21 is included in the contract lump sum price for Erosion Control as shown on the Bid Schedule.

39 ASPHALT CONCRETE

Replace the second paragraph of section 39-2.01B(3) with:

For a leveling course, the grade of asphalt binder for the HMA must be PG 64-10.

Replace *Reserved* in section 39-2.02B(3) with:

The grade of asphalt binder for Type A HMA shall be PG 64-10.

Replace the second paragraph of section 39-2.01D with:

Payment for tack coat is included in the payment for hot mix asphalt as shown on the Bid Schedule.

Replace the row for *Moisture susceptibility (min, psi, dry strength)* in the table in item 3 in the list in the paragraph of section 39-2.02A(4)(e) with:

For RAP substitution equal to or less than 15% moisture susceptibility (min, psi, dry strength)	AASHTO T 283	100
For RAP substitution greater than 15% moisture susceptibility (psi, dry strength)	AASHTO T 283	100-300 ^h

Replace the row for *Moisture susceptibility, dry strength* in the table in the 1st paragraph of section 39-2.02B(2) with:

For RAP substitution equal to or less than 15% moisture susceptibility (min, psi, dry strength)	AASHTO T 283	100
For RAP substitution greater than 15% moisture susceptibility (psi, dry strength)	AASHTO T 283	100-300 ^e

47 EARTH RETAINING SYSTEM

Replace section 47-4 with:

47-4 KEYSTONE RETAINING WALL

47-4.01 GENERAL

47-4.01A(1) Summary

Section 47-4 includes specifications for constructing keystone type retaining walls.

- A. Work shall consist of designing, furnishing and construction of a KEYSTONE HARDSCAPE Standard I unit retaining wall system or approved equal in accordance with these specifications and in reasonable close conformity with the lines, grades, design and dimensions shown on the plans.
- B. Work includes preparing foundation soil, furnishing and installing leveling pad, unit facing system, unit drainage fill and reinforced backfill to the lines and grades shown on the construction drawings.
- C. Work includes furnishing and installing geogrid soil reinforcement of the type, size, location and lengths designated on the construction drawings.

47-4.01A(2) Related Sections

Section 19 Earthwork

47-4.01A(3) Reference Documents

- A. American Association of State Highway and Transportation Officials (AASHTO)
 1. AASHTO M 252 Corrugated Polyethylene Drainage Pipe
 2. AASHTO M 288 Geotextile Specification for Highway Applications
- B. American Society for Testing and Materials (ASTM)
 1. ASTM C140 Sampling and Testing Concrete Masonry Units
 2. ASTM C1372 Specification for Dry-Cast Segmental Retaining Wall Units
 3. ASTM D442 Particle Size Analysis of Soils
 4. ASTM D698 Laboratory Compaction Characteristics of Soil – Standard Effort
 5. ASTM D1556 Standard Test Method for Density and Unit Weight of Soil In Place by the Sand Cone Method
 6. ASTM D1557 Laboratory Compaction Characteristics of Soil – Modified Effort
 7. ASTM D2487 Standard Classification of Soils for Engineering Purposes (Unified Soil Classification System)
 8. ASTM D2922 Standard Test Methods for Density of Soil and Soil-Aggregate in Place by Nuclear Methods (Shallow Depth)
 9. ASTM D3034 Standard Specification for Type PSM Poly (Vinyl Chloride) (PVC) Sewer pipe and Fittings
 10. ASTM D4318 Liquid Limit, Plastic Limit and Plasticity Index of Soils
 11. ASTM D4475 Horizontal Shear Strength of Pultruded Reinforced Plastic Rods

12. ASTM D4476 Flexural Properties of Fiber Reinforced Pultruded Plastic Rods
13. ASTM D4595 Standard Test Method for Tensile Properties of Geotextiles by Wide-Width Strip Method
14. ASTM D4873 Standard Guide for Identification, Storage and Handling of Geosynthetics
15. ASTM D5262 Standard Test Method for Evaluating the Unconfined Tension Creep Behavior of Geosynthetics
16. ASTM D5321 Standard Test Method for Determining the Coefficient of Soil and Geosynthetic or Geosynthetic and Geosynthetic Friction by the Direct Shear Method
17. ASTM D5818 Standard Practice for Obtaining Samples of Geosynthetics from a Test Section for Assessment of Installation Damage
18. ASTM D6637 Standard Test Method for Determining Tensile Properties of Geogrids by the Single or Multi-Rib Method
19. ASTM D6638 Standard Test Method for Determining Connection Strength Between Geosynthetic Reinforcement and Segmental Concrete Units
20. ASTM D6706 Standard Test Method for Measuring Geosynthetic Pullout Resistance in Soil
21. ASTM D6916 Standard Test Method for Determining the Shear Strength Between Segmental Concrete Units

C. National Concrete Masonry Association (NCMA)

1. NCMA SRWU-1 Test Method for Determining Connection Strength of SRW
2. NCMA SRWU-2 Test Method for Determining Shear Strength of SRW

47-4.01B Definitions

- A. **Standard I Unit** – a dry-stacked concrete retaining wall unit machine made from Portland cement, water, aggregates, manufactured by a licensed manufacturer of Keystone.
- B. **Structural Geogrid** – a polymeric material formed by a regular network of connected tensile elements with apertures of sufficient size to allow interlocking with surrounding soil, rock or earth and function primarily as reinforcement.
- C. **Unit Drainage Fill** – drainage aggregate that is placed within and immediately behind the Keystone concrete units.
- D. **Reinforced Backfill** – compacted soil that is placed within the reinforced soil volume as outlined on the plans.
- E. **Retained Soil** – the soil mass behind the reinforced backfill.
- F. **Foundation Soil** – the soil mass below the leveling pad and reinforced backfill.
- G. **Leveling Pad** – crushed stone, sand and gravel or unreinforced concrete material placed to provide a level surface for placement of the Keystone concrete units.

H. **Geosynthetic Reinforcement** – polymeric material designed specifically for soil reinforcement.

47-4.01C Submittals

Contractor shall submit a Manufacturer’s certification, prior to the start of work, that the retaining wall system components meet the requirements of this specification and the structure design.

Contractor shall submit construction drawings and design calculations for the retaining wall system prepared and stamped by a Professional Engineer registered in the state of the project.

47-4.01D Quality Assurance

Contractor shall submit a list of five (5) previously constructed projects of similar size and magnitude by the wall installer where the Compac or Standard retaining wall system has been constructed successfully. Contact names and phone numbers shall be listed for each project.

Contractor shall provide evidence that the design engineer has a minimum of five years documented experience in the design of reinforced soil structures. The design engineer shall provide proof of current professional liability insurance with an aggregate coverage limit of not less than \$2,000,000.

The Town shall provide quality assurance inspection and testing during earthwork and wall construction operations. Contractor shall provide all quality control testing and inspection not provided by the Town. The Town’s quality assurance program does not relieve the contractor of responsibility for quality control and wall performance.

Contractor shall check all materials upon delivery to assure that the proper type, grade, color, and certification have been received.

Contractor shall protect all materials from damage due to jobsite conditions and in accordance with manufacturer's recommendations. Damaged materials shall not be incorporated into the work.

47-4.02 MATERIALS

47-4.02A Keystone Concrete Retaining Wall Units

Keystone Standard I retaining wall units shall conform to the following architectural requirements

1. Face color - concrete gray, unless otherwise specified. The Engineer may specify standard manufacturers’ color.
2. Face finish - hard split in angular tri-plane or straight face configuration. Other face finishes will not be allowed without written approval of the Engineer.
3. Bond configuration - running with bonds nominally located at midpoint in vertically adjacent units.
4. Exposed surfaces of units shall be free of chips, cracks or other imperfections when viewed from a distance of 20 feet (6 m) under diffused lighting.

Keystone concrete units shall conform to the requirements of ASTM C1372 - Standard Specifications for Segmental Retaining Wall Units.

Keystone concrete units shall conform to the following structural and geometric requirements measured in accordance with ASTM C140 Sampling and Testing Concrete Masonry Units:

1. Compressive strength: ≥ 3000 psi (21 MPa).
2. Absorption: ≤ 8 % for standard weight aggregates.
3. Dimensional tolerances: $\pm 1/8$ " (3 mm) from nominal unit dimensions not including rough split face.
4. Unit Size: 8" (203 mm) (H) x 18" (457 mm) (W) x 18 to 21.5" (304 to 546 mm)(D) minimum.

Keystone concrete units shall conform to the following constructability requirements:

1. Vertical setback: $1/8$ inch (3 mm) \pm per course (near vertical) or $1 1/8$ inch (28 mm) + per course, per the design.
2. Alignment and grid attachment mechanism - fiberglass pins, two per unit.
3. Maximum horizontal gap between erected units shall be $\leq 1/2$ inch (13 mm).

47-4.02B Shear and Reinforcement Pin Connectors

Shear and reinforcement pin connectors shall be 1/2-inch (12 mm) diameter thermoset isophthalic polyester resin pultruded fiberglass reinforcement rods to provide connection between vertically and horizontally adjacent units and geosynthetic reinforcement, with the following requirements:

1. Flexural Strength in accordance with ASTM D4476: 128,000 psi (882 MPa) minimum.
2. Short Beam Shear in accordance with ASTM D4475: 6,400 psi (44 MPa) minimum.

Shear and reinforcement pin connectors shall be capable of holding the geogrid in the proper design position during grid pre-tensioning and backfilling.

47-4.02C Base Leveling Pad Material

Material shall consist of a compacted crushed stone base, sand and gravel or unreinforced concrete, as shown on the construction drawings.

47-4.02D Unit Drainage Fill

Unit drainage fill shall consist of clean 1 inch (25 mm) minus crushed stone or crushed gravel meeting the following gradation tested in accordance with ASTM D-422:

<u>Sieve Size</u>	<u>Percent Passing</u>
1 inch (25 mm)	100
3/4-inch (19mm)	75 – 100
No. 4 (4.75 mm)	0 – 10
No. 50 (300 um)	0 - 5

Drainage fill shall be placed within the cores of, between, and behind the units as indicated on the design drawings. Not less than 1.2 cubic foot (0.033 m3), of drainage fill shall be used for each square foot (0.093 m2) of wall face unless otherwise specified.

47-4.02E Reinforced Backfill

Reinforced backfill shall be free of debris and meet the following gradation tested in accordance with ASTM D-422:

<u>Sieve Size</u>	<u>Percent Passing</u>
1 1/2 inch (38 mm)	100
3/4-inch (19 mm)	75 – 100
No. 40 (425 um)	0 – 60
No. 200 (75 um)	0 – 35

Plasticity Index (PI) < 15 and Liquid Limit < 40, per ASTM D4318

The maximum aggregate size shall be limited to 3/4 inch (19 mm) unless installation damage tests have been performed to evaluate potential strength reductions to the geogrid design due to increased installation damage during construction.

Material can be site-excavated soils where the above requirements can be met. Soils not meeting the above criteria, including highly plastic clays and organic soils, shall not be used in the backfill or reinforced backfill soil mass.

Contractor shall submit reinforced fill sample and laboratory test results to the Architect/Engineer for approval, prior to the use of any proposed reinforced backfill material.

47-4.02F Geogrid Soil Reinforcement

Geosynthetic reinforcement shall consist of geogrids manufactured for soil reinforcement applications and shall be manufactured from high tenacity polyester yarn or high density polyethylene. Polyester geogrid shall be made from high tenacity polyester filament yarn with a molecular weight exceeded 25,000 g/m and with a carboxyl end group value less than 30. Polyester geogrid shall be coated with an impregnated PVC coating that resists peeling, cracking and stripping.

Ta – Long Term Allowable Tensile Design Load. Ta of the geogrid material shall be determined as follows:
 $Ta = Tult / (RFcr * RFd * RFid * FS)$. Ta shall be evaluated based on a 75 year design life.

1. Tult – Short Term Ultimate Tensile Strength. Tult shall be determined in accordance with ASTM D4595 or ASTM D6637. Tult is based on the minimum average roll values (MARV).
2. RFcr – Reduction Factor for Long Term Tension Creep. RFcr shall be determined from 10,000 hour creep testing performed in accordance with ASTM D5262. RFcr = 1.45 minimum.
3. RFd – Reduction Factor for Durability. RFd shall be determined from polymer specific durability testing covering the range of expected soil environments. RFd = 1.10 minimum.
4. RFid – Reduction Factor for Installation Damage. RFid shall be determined from product specific construction damage testing performed in accordance with ASTM D5818. Test results shall be provided for each product to be used with project specific or more severe soil types. RFid = 1.05 minimum.

5. FS – Overall Design Factor of Safety. FS shall be 1.5 unless noted for the maximum allowable working stress calculation.

The maximum design tensile load of the geogrid shall not exceed the laboratory tested ultimate strength of the geogrid/facing unit connection divided by a factor of safety of 1.5. The connection strength testing and computation procedures shall be in accordance with ASTM D6638 Connection Strength between Geosynthetic Reinforcement and Segmental Concrete Units or NCMA SRWU-1.

Ci – Coefficient of Soil Interaction. Ci values shall be determined per ASTM D6706 at a maximum 0.75 inch (19 mm) displacement.

The geogrid manufacturer shall have a Manufacturing Quality Control program that includes QC testing by an independent laboratory. The QC testing shall include Tensile Strength testing, Melt Flow Index testing for HDPE geogrids and Molecular Weight testing for polyester geogrids.

47-4.02G Drainage Pipe

If required, drainage pipe shall be perforated or slotted PVC pipe manufactured in accordance with ASTM D3034 or corrugated HDPE pipe manufactured in accordance with AASHTO M252.

47-4.02H Geotextile Filter Fabric

When required, geotextile filter fabric shall be a needle-punched nonwoven fabric that meets the requirements of AASHTO M288.

47-4.03 CONSTRUCTION

47-4.03A Excavation

Contractor shall excavate to the lines and grades shown on the construction drawings. The Town or Contractors QA/QC representative shall inspect the excavation and test the foundation soils and approve prior to placement of the leveling pad material or fill soils. Any over-excavation required to remove unsuitable soils shall be oversized from the front of the leveling pad and back of the geogrid reinforcement.

Over-excavation and replacement of unsuitable soils and replacement with approved compacted fill will be compensated as agreed upon with the Town.

47-4.03B Base Leveling Pad

Leveling pad material shall be placed to the lines and grades shown on the construction drawings to a minimum thickness of 6 inches (150 mm) and extend laterally a minimum of 6 inches in front and behind the Keystone wall unit.

Soil leveling pad materials shall be compacted to a minimum of 95% of Standard Proctor density per ASTM D697 or 92% Modified Proctor density per ASTM D1557.

Leveling pad shall be prepared to insure full contact with the base surface of the concrete units.

47-4.03C Keystone Unit Installation

First course of units shall be placed on the leveling pad at the appropriate line and grade. Alignment and

level shall be checked in all directions and insure that all units are in full contact with the base and properly seated.

Place the front of units side-by-side. Do not leave gaps between adjacent units. Layout of corners and curves shall be in accordance with manufacturer's recommendations.

Install shear/connecting pins per manufacturer's recommendations.

Place and compact drainage fill within and behind wall units. Place and compact reinforced backfill soil behind drainage fill.

Maximum stacked vertical height of wall units, prior to drainage fill and backfill placement and compaction, shall not exceed two courses.

47-4.03D Structural Geogrid Installation

Geogrid shall be installed with the highest strength direction perpendicular to the wall alignment.

Geogrid reinforcement shall be placed at the strengths, lengths and elevations shown on the construction drawings, or as directed by the engineer.

The geogrid shall be laid horizontally on compacted backfill and attached to the Keystone wall unit pins and within 1 inch of the face of the units. Place the next course of Keystone units over the geogrid. The geogrid shall be pulled taut and anchored prior to backfill placement on the geogrid.

Geogrid reinforcements shall be continuous throughout their embedment lengths and placed side-by-side to provide 100% coverage at each level. Spliced connections between shorter pieces of geogrid or gaps greater than 2 inches between adjacent pieces of geogrid are not permitted.

47-4.03E Reinforced Backfill Placement

Reinforced backfill shall be placed, spread and compacted in such a manner that minimizes the development of slack in the geogrid and installation damage to the geogrid.

Reinforced backfill shall be placed and compacted in lifts not to exceed 6 inches (150 mm) where hand operated compaction equipment is used, or 8 – 10 inches (200 to 250 mm) where heavy compaction equipment is used. Lift thickness shall be decreased to achieve the required density, as needed.

Reinforced backfill shall be compacted to a minimum of 95% of Standard Proctor density per ASTM D697 or 92% Modified Proctor density per ASTM D1557. The moisture content of the reinforced backfill material during compaction shall be uniformly distributed throughout each layer and shall be dry of optimum by 0 to 3 percentage points of moisture.

Only hand operated compaction equipment shall be allowed within 3 feet (1 M) from the back of the Keystone concrete units.

Tracked construction equipment shall not be operated directly upon the geogrid reinforcement. A minimum fill thickness of 6 inches (150 mm) is required prior to operation of tracked vehicles over the geogrid. Tracked vehicle turning should be kept to a minimum to prevent tracks from displacing the fill

and damaging or displacing the Keystone units or geogrid.

Rubber tired equipment may pass over geogrid reinforcement at slow speeds, less than 10 MPH. Sudden braking and turning shall be avoided.

At the end of each day's operation, the Contractor shall slope the last lift of reinforced backfill away from the wall units to direct runoff away from the wall face. The Contractor shall not allow surface runoff from adjacent areas to enter the wall construction site.

47-4.03F Cap Installation

Prior to placement of the cap, the upper surface of the top course of wall units shall be cleaned of soil and any other material.

Construct contraction joints a maximum of 12 feet apart.

Construction expansion joints at 60-foot intervals.

47-4.03G As-built Construction Tolerances

The following tolerances will be allowed:

1. Vertical alignment: ± 1.5 inches (40 mm) over any 10 foot (3 m) distance.
2. Wall batter: within 2 degrees of design batter. Overall wall batter shall be ≥ 0 degrees.
3. Horizontal alignment: ± 1.5 inches (40 mm) over any 10 foot (3 m) distance.
4. Corners and curves: ± 1 foot (300 mm) to theoretical location.
5. Maximum horizontal gap between erected units shall be $\leq 1/2$ inch (13 mm).

47-4.03H Field Quality Control

Quality Assurance – The Town shall engage inspection and testing services, including independent laboratories, to provide quality assurance and testing services during construction. This does not relieve the Contractor from securing the necessary construction quality control testing.

Quality assurance should include foundation soil inspection and testing and verification of the geotechnical design parameters and verification that the contractor's quality control testing is adequate as a minimum. Quality assurance shall also include observation of the construction for general compliance with the design drawings and project specifications. Quality assurance is usually best performed by the site geotechnical engineer.

Quality Control – The Contractor shall engage independent inspection and testing services to perform the minimum quality control testing described in the retaining wall design plans and specifications. Only qualified and experienced technicians and engineers shall perform quality control testing and inspection services.

Quality control testing shall include soil and backfill testing to verify soil types and strengths, compaction and moisture conditions and verification that the retaining wall is being constructed in accordance with the design plans and specifications.

47-4.04 PAYMENT

Payment for keystone retaining wall, including all wall materials, excavation, backfill, geogrid, and drainage, and installation, shall be included in the contract price for Keystone Retaining Wall as shown on the Bid Schedule.

51 CONCRETE STRUCTURES

Replace the 2nd paragraph in section 51-1.04 with:

Payment for drainage inlets, including all labor and materials to construct new inlet or modify inlet, is included in the contract price for Install Drainage Inlet as shown on the Bid Schedule. New drainage inlets may be cast in place or precast unless otherwise instructed by the Engineer.

73 CONCRETE CURBS AND SIDEWALKS

Replace section 73-1.04 with:

Payment for curb, gutter, or sidewalk work shall include payment for dowels placed into existing concrete.

Add to the beginning of section 73-3.03:

Before placing concrete, verify that forms and site constraints allow the required dimensioning and slopes shown. Immediately notify the Engineer if you encounter site conditions that will not accommodate the design details. Modifications ordered by the Engineer are change order work.

77 LOCAL INFRASTRUCTURE

Replace section 77-1 with:

77-1 SOUTH PLACER MUNICIPAL UTILITY DISTRICT

77-1.01A General

Section 77-1 includes specifications for sewer work. Perform all sewer work at locations shown on the plans. The workmanship will be prescribed by this special specification, in conformity with details shown on the plans and/or as directed/approved by the Engineer.

77-1.01B Materials

Furnish materials in accordance with the details shown on the plans.

77-1.01C Construction

Before performing sewer work, the Contractor shall contact the South Placer Municipal Utility District and the Engineer. After sewer construction is complete, the Contractor will again inspect the site with the Engineer for approval. Construct per the South Placer Municipal Utility District specifications and ordinances, available online at <https://spmud.ca.gov/specifications-and-ordinances>.

77-1.01D Payment

Payment for all sewer work, including all trenching, excavation, materials, backfill, and connections, shall be included in the contract price for Install Sewer Lateral Clean Out as shown on the Bid Schedule.

78 INCIDENTAL CONSTRUCTION

Replace section 78-6 with:

78-6 RELOCATE TRANSIT SHELTER

78-6.01A General

Section 78-6 includes specifications for resetting transit shelters.

78-6.01B Materials

Concrete anchor bolts shall be 1/2" diameter SS Simpson Strong Bolts or approved equal, or as shown on the plans.

78-6.01C Construction

Unbolt shelter from existing foundation and move to clear the way for your activities. Transit shelter may be disassembled and reassembled when reinstalled at Contractors expense. Remove bench and protect from damage.

When new transit shelter pad is constructed, anchor transit shelter to pad. Anchor bolts may be set in concrete while it is in the plastic stage, or by drilling and bonding. Drilling of anchor bolt holes and bonding of bolts must comply with the specifications for drilling and bonding dowels in section 51-1.03E(3). Place bench as shown on plans or as directed by the Engineer.

78-6.01D Payment

Payment for resetting transit shelter, including anchor bolt materials and installation, shall be included in the contract price for Reset Transit Shelter as shown on the Bid Schedule. No additional compensation will be allowed for disassembling and reassembling the transit shelter.

82 SIGNS AND MARKERS

Replace section 82-2.04 with:

Payment for furnishing and installing any type of sign panel is included in the payment of Roadside Sign.

Remove the last paragraph of section 82-3.04

83 RAILINGS AND BARRIERS

Replace section 83-2.10 with:

83-2.10 IRON RAILING

83-2.10A General

Section 83-2.10 includes specifications for constructing iron railings. Furnish and install iron railing at locations shown on the plans. The workmanship will be prescribed by this special specification, in conformity with details shown on the plans and/or as directed/approved by the Engineer.

83-2.10B Materials

Furnish materials in accordance with the details shown on the plans. The materials for the railing include posts, pickets, rails, post caps and all necessary fittings and appurtenances required for proper installation. The Contractor will provide the Engineer with the specifications of all items for the railing for approval before installation. Use only new materials.

83-2.10C Construction

Before work commences in the area, the Contractor will inform and inspect the site with the Engineer. After the construction is complete, the Contractor will again inspect the site with the Engineer for approval. All the material for the new railing panels will be first approved by the Engineer. The new railing, including but not be limited to posts, pickets, rails, post caps, will be installed at locations shown on the plans and/or as directed by the Engineer.

Unless otherwise shown on plans, Contractor may imbed railing in a concrete footing or anchor to concrete surface. Anchor bolts may be set in concrete while it is in the plastic stage, or by drilling and bonding. Drilling of anchor bolt holes and bonding of bolts must comply with the specifications for drilling and bonding dowels in section 51-1.03E(3).

Paint color shall be black. Painting shall be by hand or spray. Two coats will be required on all parts. The final surface will be of even color without streaks, drips, bubbles, incomplete coverage or any other surface imperfection. Paint finish will be powder coated for ease of long-term maintenance.

If necessary, the railing will be reinforced at the joints with either welding or welded on metal that will not detract from the decorative appeal of the railing. All welding will be performed in a workman-like manner with solid joints of minimum protrusion. The completed railing will be solid and have minimal flexure. Any excessive splatter of the weld will be ground off.

83-2.10D Payment

Payment for furnishing and installing iron railing, including all materials and anchorage required to install, shall be included in the contract price for Iron Railing as shown on the Bid Schedule.

Replace section 83-2.11 with:

83-2.11 SIDEWALK BARRICADE

83-2.10A General

Section 83-2.11 includes specifications for constructing sidewalk barricades. Furnish and install sidewalk barricades at locations shown on the plans. The workmanship will be prescribed by this special specification, in conformity with details shown on the plans and/or as directed/approved by the Engineer.

83-2.11B Materials

Furnish materials in accordance with the details shown on the plans. The materials for the barricade include posts, pickets, rails, and all necessary fittings and appurtenances required for proper installation. The Contractor will provide the Engineer with the specifications of all items for the railing for approval before installation. Use only new materials.

83-2.11C Construction

Before work commences in the area, the Contractor will inform and inspect the site with the Engineer. After the construction is complete, the Contractor will again inspect the site with the Engineer for approval. The new railing, including but not be limited to posts, pickets, rails, post caps, will be installed at locations shown on the plans and/or as directed by the Engineer.

83-2.11D Payment

Payment for constructing sidewalk barricades, including all materials and hardware required to install, shall be included in the contract price for Sidewalk Barricade as shown on the Bid Schedule.

84 MARKINGS

Replace section 84-2 with:

84-2 TRAFFIC STRIPES AND PAVEMENT MARKINGS

84-2.01 GENERAL

84-2.01A Summary

Section 84-2 includes specifications for applying traffic stripes and pavement markings.

Traffic stripes and pavement markings must comply with ASTM D6628 for daytime and nighttime color.

Retroreflectivity must be measured under ASTM E1710 and the sampling protocol specified in ASTM D7585.

84-2.01B Definitions

pavement marking: Transverse marking such as (1) a limit line, (2) a stop line, or (3) a word, symbol, shoulder, parking stall, or railroad-grade-crossing marking.

traffic stripe: Longitudinal centerline or lane line used for separating traffic lanes in the same direction of travel or in the opposing direction of travel or a longitudinal edge line marking the edge of the traveled way or the edge of a lane at a gore area separating traffic at an exit or entrance ramp. A traffic stripe is shown as a traffic line.

84-2.01C Submittals

For each lot or batch of traffic stripe material, primer, and glass beads, submit:

1. Certificate of compliance, including the material name, lot or batch number, and manufacture date
2. METS notification letter stating that the material is authorized for use, except for thermoplastic and primer
3. SDS
4. Manufacturer's Instructions

For each lot or batch of thermoplastic, submit a manufacturer's certificate of compliance and the following test results from the California Test 423:

1. Brookfield Thermosel viscosity
2. Hardness
3. Yellowness index, white only
4. Daytime luminance factor
5. Yellow color, yellow only
6. Glass bead content
7. Binder content

The date of the test must be within 1 year of use.

Submit test results for each lot of beads specifying the EPA test methods used and tracing the lot to the specific test sample. The testing for lead and arsenic content must be performed by an independent testing laboratory.

Submit the thermoplastic test stripe to the Engineer.

Submit the retroreflectivity test result within 5 days of testing the traffic stripes and pavement markings. The data must include the retroreflectivity, time, date, and GPS coordinates for each measurement.

84-2.01D Quality Assurance

84-2.01D(1) General

Reserved

84-2.01D(2) Quality Control

Before starting permanent application of methyl methacrylate and two component paint traffic stripes and pavement markings, apply a test stripe on roofing felt or other suitable material in the presence of the Engineer. The test stripe section must be at least 50 feet in length.

Upon request, apply a thermoplastic test stripe on suitable material in the presence of the Engineer

during the application of thermoplastic traffic stripes or markings. The test stripe must be at least 1 foot in length.

Remove loose glass beads before measuring the retroreflectivity. Obtain authorization to proceed with the application of traffic stripes and pavement markings.

Within 30 days of application, test the traffic stripes and pavement markings under the test methods and frequencies shown in the following table:

Traffic Stripe Testing Frequency

Quality characteristic	Test method	Minimum sampling and testing frequency
Initial retroreflectivity (min, $\text{mcd}\cdot\text{m}^{-2}\cdot\text{lx}^{-1}$)	ASTM E1710	ASTM D7585 ^a
White		
Yellow		

^aUse the referee evaluation protocol for project length less than 10 miles. For project lengths greater than or equal to 10 miles, add one evaluation for every additional mile.

Verify the glass bead application rate by stabbing the glass bead tank with a calibrated rod.

84-2.01D(3) Department Acceptance

The Engineer will perform a nighttime, drive-through, visual inspection of the retroreflectivity of the traffic stripes and pavement markings and notify you of any locations with deficient retroreflectivity. Test the retroreflectivity of the deficient areas to confirm striping and pavement markings meets the requirements.

The thermoplastic test stripe will be tested for yellow color, daytime luminance factor, and yellowness index requirements by METS.

84-2.02 MATERIALS

84-2.02A General

Reserved

84-2.02B Glass Beads

Each lot of glass beads must comply with EPA Test Method 3052 and 6010B or 6010C. Glass beads must contain less than 200 ppm each of arsenic and lead.

Type 1 glass beads must comply with AASHTO M 247.

Type 2 glass beads must comply with AASHTO M 247. At least 75 percent of the beads by count must be true spheres that are colorless and do not exhibit dark spots, air inclusions, or surface scratches when viewed under 20X magnification.

High-performance glass beads must be on the Authorized Material List for high-performance glass beads.

Large-gradation glass beads must be on the Authorized Material List for two component traffic paint.

Glass beads for methyl methacrylate must be on the Authorized Material List for methyl methacrylate traffic striping and pavement marking.

Glass beads for paint must comply with State Specification 8010-004.

Glass beads must be surface treated, according to the bead and the material manufacturer's instructions, to promote adhesion with the specified material.

84-2.02C Thermoplastic

Thermoplastic must comply with State Specification PTH-02HYDRO, or PTH-02ALKYD.

Sprayable thermoplastic must comply with State Specification PTH-02SPRAY.

Each lot or batch of thermoplastic must be tested under California Test 423.

84-2.02D Methyl Methacrylate

Methyl methacrylate traffic paint must:

1. Be on the Authorized Material List for methyl methacrylate traffic striping and pavement marking
2. Be Category 2

84-2.02E Traffic Striping and Pavement Marking Tape

Traffic striping and pavement marking tape must be on the Authorized Material List for signing and delineation materials.

White tape must have an initial retroreflectivity of a minimum 700 mcd/m².

Yellow tape must have an initial retroreflectivity of a minimum 500 mcd/m².

When contrast is required for traffic striping and pavement marking tape, the tape must be pre-formed and retroreflective, consisting of a white film with retroreflective beads and a contrasting black film border. The contrasting black border must be a nonreflective film bonded on each side of the white film to form a continuous roll. Each black border must be a minimum of 2 inches wide. The width of the tape must be at least 4 inches wider than the stripe width.

84-2.02F Two-Component Paint

Two-component traffic paint must be on the Authorized Material List for two component traffic paint.

84-2.02G Paint

Paint must comply with the requirements shown in following table:

Paint Specifications

Paint type	Color	Specification
Waterborne traffic line	White, yellow, and black	State Specification PTWB-01R2
Waterborne traffic line for the international symbol of accessibility and other curb markings	Blue, red, and green	Federal Specification TT-P-1952E

84-2.02H–84-2.02L Reserved

84-2.03 CONSTRUCTION

84-2.03A General

Establish the alignment for traffic stripes and the layouts for pavement markings with a device or method that will not conflict with other traffic control devices.

Protect existing retroreflective pavement markers during work activities.

Remove existing pavement markers that are coated or damaged by work activities and replace with an equivalent marker on the Authorized Material List for signing and delineation materials.

A completed traffic stripe or pavement marking must:

1. Have well defined edges
2. Be uniform
3. Be free from runs, bubbles, craters, drag marks, stretch marks, and debris

A completed traffic stripe must:

1. Be straight on a tangent alignment
2. Be a true arc on a curved alignment
3. Not deviate from the width shown by more than:
 - 3.1. 1/4 inch on a tangent alignment
 - 3.2. 1/2 inch on a curved alignment

The length of the gaps and individual stripes that form a broken traffic stripe must not deviate by more than 2 inches from the lengths shown. The gaps and stripes must be uniform throughout the entire length of the traffic stripe.

Protect newly placed traffic stripes and pavement markings from traffic and work activities until the traffic stripes and pavement markings are dry or hard enough to bear traffic.

Use mechanical methods to remove dirt, contaminants, and loose material from the pavement surface before applying the traffic stripe or pavement marking.

Use abrasive blast cleaning to remove laitance and curing compound from the surface of new concrete pavement before applying the traffic stripe or pavement marking.

Recess Depth Requirements

Material	Requirement	
	Depth (mils)	Depth (in)
Thermoplastic	375	3/8
Two component traffic paint	250	1/4
Methyl methacrylate traffic paint	250	1/4

Construct recesses for double traffic stripes in a single pass.

Before applying the traffic stripes and pavement markings:

1. Allow wet ground recesses to dry a minimum of 24 hours
2. Remove all powdery residue from dry recess
3. Keep the recesses dry and free from debris

Apply traffic stripes and pavement markings before the end of the same work shift.

84-2.03B Application of Traffic Stripes and Pavement Markings

84-2.03B(1) General

Apply material for a pavement marking with a stencil or a preformed marking.

Immediately remove drips, overspray, improper markings, or material tracked by traffic, using an authorized method.

Apply a traffic stripe or a pavement marking only to a clean, dry surface during a period when the pavement surface temperature is above 50 degrees F.

Apply traffic stripe or pavement marking and glass beads in a single pass. You may apply the glass beads by hand on pavement markings.

Embed glass beads to a depth of 1/2 their diameters.

Distribute glass beads uniformly on traffic stripe and pavement markings.

Glass beads with integral color must match the color of the stripe or pavement marking.

Apply glass beads with two separate applicator guns when two gradations are specified.

Allow enough overlap distance between new and existing striping patterns to ensure continuity at the start and end of the transition.

The retroreflectivity of applied traffic stripes and pavement markings must comply with the requirements shown in the following table:

Retroreflectivity Requirements

Traffic stripe material	White (min, mcd·m ⁻² ·lx ⁻¹)	Yellow (min, mcd·m ⁻² ·lx ⁻¹)
Paint	250	125
Thermoplastic	250	125

Thermoplastic with wet night enhanced visibility	700	500
Two component	250	125
Methyl methacrylate	500	300
Tape	700	500

84-2.03B(2) Thermoplastic

84-2.03B(2)(a) General

Apply primer or surface preparation adhesive under the manufacturer's instructions:

1. To all roadway surfaces except for asphaltic surfaces less than 6 months old
2. At a minimum rate of 1 gallon per 300 square feet
3. To allow time for the thermoplastic primer to dry and become tacky before application of the thermoplastic

Do not thin the primer.

Preheat thermoplastic using preheaters with mixers having a 360-degree rotation.

Apply thermoplastic in a single uniform layer by spray or extrusion methods.

Completely coat and fill voids in the pavement surface with the thermoplastic.

Apply recessed thermoplastic at a thickness so that the top is 0 to 1/16 inch below the pavement surface.

84-2.03B(2)(b) Extruded Thermoplastic

Apply extruded thermoplastic at a temperature of 400 to 425 degrees F or as recommended by the manufacturer.

Apply extruded thermoplastic for a traffic stripe at a rate of at least 0.36 lb of thermoplastic per foot of 6-inch-wide solid stripe. The applied traffic stripe must be at least 0.060 inch thick.

Apply extruded thermoplastic pavement markings at a thickness from 0.100 to 0.150 inch.

Apply Type 2 glass beads to the surface of the molten thermoplastic at a rate of at least 8 lb of beads per 100 sq ft.

84-2.03B(2)(c) Sprayable Thermoplastic

Apply sprayable thermoplastic at a temperature of 350 to 400 degrees F.

Apply sprayable thermoplastic for a traffic stripe at a rate of at least 0.24 lb of thermoplastic per foot of 6-inch-wide solid stripe. The applied stripe must be at least 0.040 inch thick.

84-2.03B(2)(d) Thermoplastic with Enhanced Wet-Night Visibility

Apply a thermoplastic traffic stripe or pavement marking with enhanced wet-night visibility in a single pass and in the following order:

1. Uniform layer of extruded thermoplastic
2. Layer of high-performance glass beads
3. Layer of Type 2 glass beads

Apply thermoplastic with enhanced wet-night visibility at a maximum speed of 8 mph.

Apply thermoplastic with enhanced wet-night visibility for a traffic stripe at a rate of at least 0.47 lb of thermoplastic per foot of 6-inch-wide solid stripe. The applied stripe must be at least 0.090 inch thick.

Apply thermoplastic with enhanced wet-night visibility for a pavement marking at a rate of at least 1.06 lb of thermoplastic per square foot of marking. The applied pavement marking must be at least 0.100 inch thick.

Apply high-performance glass beads at a rate of at least 6 lb of glass beads per 100 sq ft of stripe or marking. Apply Type 2, glass beads at a rate of at least 8 lb of glass beads per 100 sq ft of stripe or marking.

84-2.03B(3) Methyl Methacrylate

Apply the methyl methacrylate when the pavement surface and atmospheric temperatures are from 40 to 104 degrees F.

Apply methyl methacrylate paint at a minimum thickness of 0.090 inch.

Apply recessed methyl methacrylate paint at a minimum thickness of 0.200 inch.

Apply the glass beads recommended by the methyl methacrylate manufacturer.

84-2.03B(4) Traffic Striping and Pavement Marking Tape

Do not use traffic stripe and pavement marking tape on existing open graded friction course or chip seal. Prepare pavement surface and use primer under the traffic tape manufacturer's written instructions. Apply tape to clean and dry pavement surface. Roll or tamp the traffic tape in place.

84-2.03B(5) Two-Component Paint

Apply a two-component painted traffic stripe or pavement marking in a single pass and in the following order:

1. Coat of two-component paint
2. Application of large gradation glass beads recommended by the two-component paint manufacturer
3. Application of Type 1 glass beads

Apply two-component paint when the pavement surface temperature is above 39 degrees F and the atmospheric temperature is above 36 degrees F. The temperature of the paint must comply with the paint manufacturer's instructions.

Apply two-component paint and glass beads at a maximum speed of 10 mph.

Apply large-gradation glass beads at a minimum rate of 11.7 lb of beads per gallon of paint.

Apply Type 1 glass beads at a minimum rate of 8.3 lb of beads per gallon of paint.

Apply two-component paint for the traffic stripes and pavement markings at the thickness and application rates shown in the following table:

Type of pavement	Stripe thickness (min, inch)	Application rate (min, sq ft/gal)
HMA open graded/chip seal	0.025	64
HMA dense graded	0.020	80
Concrete	0.020	80

Apply recessed two-component paint at a thickness between 0.020 and 0.025 inch.

84-2.03B(6) Paint

Do not apply paint if:

1. Fresh paint could become damaged by rain, fog, or condensation
2. Atmospheric temperature could drop below 50 degrees F during the drying period

Do not thin paint.

Use mechanical means to paint traffic stripes and pavement markings and to apply glass beads for traffic stripes.

The striping machine must be capable of superimposing successive coats of paint on the 1st coat and on existing stripes at a minimum speed of 5 mph.

Where the configuration or location of a traffic stripe is such that the use of a striping machine is not practicable, you may apply the traffic paint and glass beads by other methods and equipment if authorized.

Apply traffic stripes and pavement markings in 1 coat on existing pavement surfaces, at an approximate rate of 107 sq ft/gal.

Apply traffic stripes and pavement markings in 2 coats on a new pavement surface. The 1st coat of paint must be dry before applying the 2nd coat.

Apply 2-coat paint at the approximate rate of 215 sq ft/gal for each coat.

Paint a 1-coat, 3-inch-wide black stripe between the two 6-inch-wide yellow stripes of a double traffic stripe. If the two 6-inch-wide yellow stripes are applied in 2 coats, apply the black stripe concurrently with the 2nd coat of the yellow stripes.

On 2-lane highways:

1. If the 1st coat of the centerline stripe is applied in the same direction as increasing post miles, use the right-hand spray gun of the 3 spray guns to apply a single yellow stripe
2. If the 1st coat of the centerline stripe is applied in the same direction as decreasing post miles, use the left-hand spray gun of the 3 spray guns to apply a single yellow stripe
3. Apply the 2nd coat of centerline striping in the opposite direction of the 1st coat

Apply glass beads at an approximate rate of 5 lb of beads per gallon of paint.

Verify the application rate of paint by stabbing the paint tank with a calibrated rod. If the striping machine has paint gauges, the Engineer may measure the volume of paint using the gauges instead of stabbing the paint tank with a calibrated rod.

84-2.03B(7) Contrast Striping

Contrast striping consists of black striping placed on each side of a white stripe.

You may use permanent tape instead of paint or thermoplastic.

Apply contrast stripe paint in one coat.

Do not use glass beads or other reflective elements in contrast striping material.

84-2.04 Payment

The payment quantity for a traffic stripe is the length measured along the line of the traffic stripe without deductions for gaps in the broken traffic stripe.

The payment quantity for a pavement marking is the area covered.

A double traffic stripe consisting of two 6-inch-wide yellow stripes are measured as 2 traffic stripes except for painted traffic stripes and sprayable thermoplastic traffic stripes. A double sprayable thermoplastic traffic stripe consisting of two 6-inch-wide yellow stripes are measured as single traffic stripe.

A double painted traffic stripe consisting of two 6-inch-wide yellow stripes separated by a 3-inch-wide black stripe is measured as a single traffic stripe.

The payment quantity for contrast striping is the length measured along the line of the traffic stripe without deductions for gaps in the broken traffic stripe.

Replace section 84-9 with:

84-9 EXISTING MARKINGS

84-9.01 GENERAL

84-9.01A Summary

Section 84-9 includes specifications for removing existing markings.

Work performed on existing markings must comply with section 15.

84-9.01B Definitions

Reserved

84-9.01C Submittals

Submit your proposed method for removing traffic stripes and pavement markings at least 7 days before starting the removal work. Allow 2 business days for the review.

84-9.02 MATERIALS

Not Used

84-9.03 CONSTRUCTION

84-9.03A General

Remove existing traffic stripes before making any changes to the traffic pattern.

Remove existing traffic stripes and pavement markings before applying the following materials:

1. Traffic stripe and pavement marking tape
2. Two component traffic stripes and pavement markings
3. Methyl methacrylate traffic stripes and pavement markings

Remove contrast stripes, traffic stripes and pavement markings, including any paint in the gaps, by methods that do not remove pavement to a depth of more than 1/8 inch.

Remove pavement markings such that the old message cannot be identified. Make any area removed by grinding rectangular. Water must not puddle in the ground areas. Fog seal ground areas on asphalt concrete pavement.

Sweep up or vacuum any residue before it can (1) be blown by traffic or wind, (2) migrate across lanes or shoulders, or (3) enter a drainage facility.

84-9.03B Remove Traffic Stripes and Pavement Markings Containing Lead

Reserved

84-9.03C–84-9.03J Reserved

84-9.04 PAYMENT

The payment quantity for remove traffic stripe is the measured length multiplied by:

1. 0.67 for a single 4-inch-wide traffic stripe
2. 1.34 for a single 8-inch-wide traffic stripe
3. 2 for a double traffic stripe

The payment quantity for remove traffic stripe does not include the gaps in broken traffic stripes. Payment for removal of paint evident in a gap is included in the payment for remove traffic stripe of the type involved.

If no bid item is shown on the Bid Item List for remove pavement marking, remove pavement marking is paid for as remove traffic stripe of the types shown in the Bid Item List and the payment quantity for 1 square foot of pavement marking is 3 linear feet.

87 ELECTRICAL SYSTEMS

Replace section 87-2.04 with:

87-2.04 Payment

Payment for furnishing and installing luminaires, including all materials, components, footings, and connections required to install, shall be included in the contract price for Furnish and Install Streetlight as shown on the Bid Schedule.

Replace section 87-21.04 with:

87-21.04 Payment

Payment for removing streetlight, including all standards, luminaires, mast arms, conduit, poles, and connections required to remove a streetlight, shall be included in the contract price for Remove Streetlight as shown on the Bid Schedule.