

SECTION E

SPECIAL PROVISIONS

The following Special Provisions supplement and amend the Standard Specifications for Public Works Construction (2012 edition) and the Standard Specifications of the State of California Department of Transportation (Caltrans), latest edition, as noted herein. These Special Provisions have been arranged into a format that parallels the Standard Specifications for Public Works Construction.

SECTION E - SPECIAL PROVISIONS

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PART 1 - GENERAL PROVISIONS

SECTION 1 - TERMS, DEFINITIONS, ABBREVIATIONS, UNITS OF MEASURE, AND SYMBOLS

1-2 TERMS AND DEFINITIONS. Add or redefine the following:

Agency – The City of Torrance, herein referred to as CITY.

Board – The City Council of the City of Torrance, herein referred to as City Council.

Engineer –The Public Works Director and/or City Engineer of the City of Torrance, acting either directly or through properly authorized agents, such agents acting within the scope of the particular duties entrusted to them.

Claim - A separate demand by the Contractor for (A) a time extension, (B) payment of money or damages arising from work done by or on behalf of the Contractor pursuant to the Contract and payment of which is not otherwise expressly provided for or the claimant is not otherwise entitled to, or (C) an amount the payment of which is disputed by the Agency.

1-3 ABBREVIATIONS.

1-3.2 Common Usage:

Add the following abbreviations:

Approx	Approximate
CA	City and/or Consulting Arborist
Exist.	Existing
L.A.C.D.P.W.	Los Angeles County Department of Public Works
Med.	Median
M.L.	Main Line
OH	Overhead
Ped.	Pedestrian
Reconst.	Reconstruct
Temp.	Temporary
Theo.	Theoretical
WM	Wire mesh or water meter

SECTION 2 - SCOPE AND CONTROL OF THE WORK

2-1 AWARD AND EXECUTION OF CONTRACT. Replace the entire subsection with the following:

Within ten (10) working days after the date of the CITY'S award of contract, the Contractor shall execute and return all Contract Documents required by the CITY. The CITY reserves the right to terminate the award if the above requirement is not met. Such termination will result in the forfeiture of the Proposal Guaranty.

The Contract shall not be considered binding upon the CITY until executed by the authorized CITY officials.

2-3 SUBCONTRACTS

2-3.2 SELF PERFORMANCE. Replace the second sentence with the following:

The following work will be considered as "Specialty Items":

1. Survey
2. Traffic Control
3. Trench Shoring
4. Opal Street curb and sidewalk plan

2-4 CONTRACT BONDS. Revise the second sentence of the fourth paragraph to read as follows:

The "Performance Bond" shall remain in effect for one year following the date specified in the Notice of Completion or, if no Notice of Completion is recorded, for one year following the date of final acceptance by the Engineer.

2-5. PLANS AND SPECIFICATIONS.

2-5.1 General. Add the following sentence to the first paragraph to read as follows:

The Contractor shall maintain a control set of Plans and Specifications on the Work site at all times. All final locations determined in the field, and any deviations from the Plans and Specifications, shall be marked in red on this control set to show as-built conditions. Upon completion of the Work, the Contractor shall submit the control set to the Engineer for approval. Final payment will not be made until this requirement is met.

Add the following subsections:

2-5.1.1 Plans. Included as part of the Contract Documents are the following, which show the location, character, dimensions or details of the Work:

1) Project Plans

The existing utility information and data provided with the Contract Documents are based on existing plans and documents. The plans and data are provided for information only. The Owner does not guarantee their accuracy and correctness. If the Bidder in preparing the Bid Proposal uses this information, the Bidder assumes all risks resulting from conditions differing from the information shown. The Bidder, in consideration for the information being provided, hereby releases the Owner and Consulting Engineer from any responsibility of obligation as to the accuracy of such information or for any additional compensation for work performed due to assumptions based on the use of such information.

2) Standard Plans

- a. City of Torrance Standard Plans, latest edition
- b. Standard Plans for Public Works Construction, latest edition, promulgated by Public Works Standards, Inc.
- c. Standard Plans of the State of California Department of Transportation (Caltrans), latest edition

- d. Standard Plans of the Los Angeles County Department of Public Works, latest edition
- e. Standard Plans of the Sanitation Districts of Los Angeles County.

Applicable Standard Plans and information for this project are included in the Appendices of these Specifications.

2-5.1.2 Specifications. The Work shall be performed or executed in accordance with these Special Provisions and the following:

- 1) Standard Specifications for Public Works Construction, latest edition and supplements thereto, hereinafter referred to as the Standard Specifications, as written and promulgated by Public Works Standards, Inc. The Standard Specifications are published by BNi Building News, Inc., 1612 South Clementine Street, Anaheim, CA 92802, Phone: (800) 873-6397.
- 2) Sections 56-2, 84, 85, and 86 of the State of California Department of Transportation (Caltrans) Standard Specifications, latest edition

2-5.2 Precedence of Contract Documents. Replace the entire subsection with the following:

If there is a conflict between any of the Contract Documents, the document highest in precedence shall control. The order of precedence shall be as follows:

- a) Permits issued by other agencies.
- b) Change Orders (including Plans and Specifications attached thereto).
- c) Public Works Agreement
- d) Addenda
- e) Special and General Provisions
- f) Plans
- g) City Standard Plans
- h) Other Standard Plans
- i) Standard Specifications for Public Works Construction
- j) Reference Specifications

With reference to the Plans/Drawings, the order of precedence is as follows:

- 1) Change Order plans govern over Addenda and Contract plans
- 2) Addenda plans govern over Contract plans
- 3) Contract plans govern over standard plans
- 4) Detail plans govern over general plans
- 5) Figures govern over scaled dimensions

Within the Specifications, the order of precedence is as follows:

- 1) Change Orders
- 2) Permits from other agencies/Supplemental Agreements
- 3) Special Provisions
- 4) Instruction to Bidders
- 5) Referenced Standard Plans
- 6) Referenced Standard Specifications

If the Contractor, in the course of the Work, becomes aware of any claimed errors or omissions in the Contract Documents or in the CITY's fieldwork, the Contractor shall immediately inform the Engineer. The Engineer shall promptly review the matter, and if the Engineer finds an error or omission has been made the Engineer shall determine the corrective actions and advise the Contractor accordingly. If the corrective work associated with an error or omission increases or decreases the amount of work called for in the Contract, the CITY shall issue an appropriate Change Order in accordance with 3-3. After discovery of an error or omission by the Contractor, any related work performed by the Contractor shall be done at the Contractor's risk unless authorized by the Engineer.

2-5.3 Submittals

2-5.3.2 Working Drawings. Add the following:

In addition to the working drawings required per Table 2-5.3.2, the following working drawings are required:

Item	Subsection No.	Title	Subject
16	7-8.5.1, 7-8.5.2, 7-8.5.3, 306-7.4	Sanitary Sewers	Sewage Bypass and Pumping
17	7-10.4.2.2.	Safety	Shoring Plan
18	601-2	Work Area Traffic Control	Traffic Control Plan
19, 20, 21, 22, 24	303	PCC Curb and Sidewalk	Opal St. Curb and Sidewalk Plan

Working drawings listed above as item "17" shall be prepared by a Structural Engineer registered by the State of California.

2-5.3.4 Supporting Information. Replace the second paragraph with the following:

Submittals are required for the following:

- 1) Vitrified Clay Pipe (VCP) and Fittings
- 2) Construction schedule per 6-1.1
- 3) Concrete mix designs per 201-1.1.2
- 4) Asphalt concrete Job mix formulas and/or mix designs per 203-6.3
Slurry seal
- 5) Detectable Warning Surface (truncated domes)
- 6) Spill Prevention and Emergency Response Plan per 7-8.5.3
- 7) Confined Space Entry Program per 7-10.4.5.1
- 8) Concrete Manholes

In addition to the above, submittals may be required for any product, manufactured item, or system not specifically listed above.

2-6 WORK TO BE DONE. Add the following:

The Work generally consists of the construction of new sewer mains with appurtenances as shown on City of Torrance Plan No. SS-390 (Sheets 1 through 5); sewer manholes, sewer pipes and laterals, pavement repair, slurry seal, curb & gutter, sidewalk, curb ramps, and all other incidental work in this specification document.

2-9 SURVEYING.

2-9.1 Permanent Survey Markers. Replace the entire Subsection 2-9.1 with the following:

The Contractor shall not disturb survey monuments, lot stakes (tagged), centerline ties, or benchmarks without notifying the Engineer. The Contractor shall be responsible to have a CA Registered Land Surveyor document all surveying monuments, lot stakes (tagged), centerline ties, and bench marks that may be disturbed during construction. In the event that identification numbers on survey monuments are illegible, it shall be the responsibility of the Contractor to obtain all information necessary to restore the monuments in their correct location. The Contractor or its Surveyor shall file a Corner Record Form at the Los Angeles County Surveyor referencing survey monuments subject to disturbance prior to the start of construction and also prior to the completion of construction, including a location for reestablishment of disturbed monuments. Copies of the records shall be provided to the City.

PRIOR TO START OF CONSTRUCTION, the Surveyor shall locate and provide ties for all existing centerline monuments and centerline ties. The Surveyor shall file a corner record of these monuments and ties with the County Surveyor. A copy of these corner records shall be given to the Engineer prior to start of construction.

AFTER CONSTRUCTION, all existing survey monuments and ties lost due to construction shall be reestablished by the Surveyor. A corner of the monuments or ties established or reestablished shall be filed with the County Surveyor prior to the recordation of the Notice of Completion. A copy of the recorded corner records shall be given to the Engineer prior to final payment. **Final payment will not be made until the aforementioned documentation is provided to the CITY.**

All surveying shall be performed by a CA Registered Licensed Land Surveyor or a Registered Civil Engineer authorized to practice land surveying within the state. All monuments and centerline ties shall be tied out and reset in accordance with Section 8771 (Land Surveyors Act) of the Business and Professions Code of the State of California.

The contract unit price for SURVEY MONUMENTS shall include full compensation for furnishing all labor, materials, equipment, tools and incidentals for doing all the work involved in preserving and/or constructing of the survey monuments, complete in place, and no additional compensation shall be made

2-9.2 Survey Service. Replace the first two paragraphs with the following:

All construction surveying necessary to complete the Work shown on the Project Quantities and provided in these Contract Documents shall be accomplished by or under the direction of a Registered Land Surveyor or Registered Civil Engineer authorized to practice land surveying in the State of California, retained and/or provided by the Contractor. The CITY reserves the right to direct additional construction survey work to be performed at no additional cost when the City determines it is required to adequately construct the Work.

The Contractor shall notify the Engineer in writing at least 2 working days prior to the actual

survey. The Contractor shall provide any required traffic control necessary for construction surveying. Prior to disturbing survey monuments, the Contractor shall notify the Engineer in accordance with Section 2-9.1.

Stakes shall be set and stationed by the Contractor for curbs, curbs and gutters, sidewalks, access ramps, driveways, headers, spandrels, rough grade, and other items as necessary. A corresponding cut or fill to finished grade (or flow line) shall be indicated on a grade sheet. A copy of each grade sheet shall be furnished to the Engineer. If any construction survey stakes are lost or disturbed and need to be replaced, such replacement shall be by the Contractor at its expense.

Construction stakes shall consist of the following:

- a. Offset line and grade stakes for gravity sewer at 50 foot intervals with grade sheets indicating cut to the pipe invert.
- b. One set of control stakes for manholes.
- c. One set of paving stakes
- d. Pipe heading checks for line and grade at each manhole.
- e. Line and grade of new curb and gutter
- f. Line and grade of existing features shown on the Project Quantities to be replaced in kind sufficient for their construction

The Contractor shall submit to the City within 2 days after completion of each respective survey, setting of each stake and heading check a copy of the survey notes and calculations certified by the licensed Land Surveyor for the following:

- a. Level and horizontal control circuit for survey control.
- b. Grade sheets for pipeline stakes.
- c. Pipe heading checks.

Add the following subsection:

2-9.5 Payment

Payment for CONSTRUCTION SURVEYING shall be on a Lump Sum basis per the Contract unit price. All costs for construction surveying including, but not limited to, construction staking, professional services, office calculations, furnishing all labor, materials, equipment, tools and incidentals, and for doing all work involved shall be considered as included.

2-10 AUTHORITY OF THE BOARD AND THE ENGINEER. Add the following:

Failure of the Contractor to comply with the requirements of the Contract Documents, or to follow the directions of the Engineer, and/or to immediately remedy such noncompliance or to follow directions, may, upon notice from the Engineer, result in the suspension of the Contract monthly progress payments. Any monthly progress payments so suspended may remain in suspension until the Contractor is in compliance with the Contract Documents and the directions of the Engineer, as determined by the Engineer.

2-11 INSPECTION. Replace the entire subsection with the following:

The Work is subject to inspection and approval by the Engineer. The Contractor shall notify the Engineer a minimum of 48 hours in advance of the required inspection.

The Engineer will make, or have made, such inspections and tests as he deems necessary to

see that the Work is in conformance with the Contract Documents. In the event such inspections or tests reveal noncompliance with the Contract Documents, the Contractor shall bear the cost of such corrective measures as deemed necessary by the Engineer, as well as the cost of subsequent re-inspection and re-testing.

Work done in the absence of inspection by the Engineer may be required to be removed and replaced under the inspection of the Engineer, and the entire cost of removal and replacement, including the cost of all materials which may be furnished by the CITY and used in the work thus removed, shall be borne by the Contractor, regardless of whether the work removed is found to be defective or not. Work covered without the approval of the Engineer shall, if so directed by the Engineer, be uncovered to the extent required by the Engineer, and the Contractor shall similarly bear the entire cost of performing all the work and furnishing all the materials necessary for the removal of the covering and its subsequent replacement, including all costs for additional inspection.

The Engineer and any authorized representatives shall at all times have access to the Work during its construction at shops and yards as well as the Work site. The Contractor shall provide every reasonable facility for ascertaining that the materials and workmanship are in accordance with the Contract Documents.

Inspection of the Work shall not relieve the Contractor of the obligation to fulfill all conditions of the Contract.

Add the following subsections:

2-11.1 Special Inspection Fees. If the Contractor elects to work under this Contract more than 8 hours/day or more than 40 hours/week, Saturday, Sunday, or CITY holidays, the Contractor shall arrange with the Engineer for the required inspection service and pay the Special Inspection Fees which will be charged at the following rates:

Weekdays - \$140.00 per hour; Saturdays, Sundays, Holidays - \$1,200.00 per day

Fees may be deducted from payments due to the Contractor at the discretion of the Engineer.

If the Contractor works under this contract at times other than within the allowed working hours without permission from or prior arrangement with the Engineer, the Contractor will be charged a lump sum amount of \$500.00 for each occurrence, in addition to the above fees. The amount will be deducted from a Progress Payment.

2-11.3 Inspections During Construction. During the construction, the Contractor shall make the Work site available for periodic inspections by the regulatory agencies. These agencies may include: Los Angeles County Department of Health Services, Los Angeles Regional Water Quality Control Board, the State Water Resources Control Board, Division of Drinking Water, City Water Department, Los Angeles County Sanitation Districts, etc.

2-11.4 Material Inspection/Testing and other City Expenses.

- (a) If a City subcontractor hired to perform material inspection and/or testing is required to work additional time to perform inspection and testing as a result of an action or delay caused by the Contractor, except for specific work allowed by the Engineer, the City subcontractor may charge the City an additional fee. The Engineer may deduct the additional fee for said inspection and testing from a Progress Payment to the Contractor. The Engineer also may deduct the cost to perform additional testing

when an initial test fails to meet the requirements of this Contract. The typical rates for material testing and inspection are available upon request from the Public Works Department.

- (b) If the Contractor does not comply with a requirement of these Special Provisions or if it does not immediately respond, after being informed, to a request by the Engineer to amend a site condition that jeopardizes the public health, safety or welfare, the Engineer may direct City staff to perform the work. For each occurrence, the City will charge the Contractor a base charge in the amount of \$750 in addition to all costs incurred by the City for administration, labor, equipment and materials. The standard rates for City staff are available upon request from the Public Works Department.
- (c) For each sign, drum, delineator, cone, barricade, warning device, or other type of required traffic control device that is not provided and/or replaced by the Contractor when required by the Traffic Control Plans and/or directed by the Engineer, the Engineer may deduct \$75 per day for each missing device from a Progress Payment.
- (d) Temporary lane closures maintained prior to 8:30 A.M. and/or after 3:30 P.M. may have a negative economic effect on the local residential, commercial or industrial community. Unless a temporary lane closure is otherwise authorized, the Engineer may deduct a fee from a Progress Payment for each temporary lane closure maintained prior to 8:30 A.M. or after 3:30 P.M. The fee will be assessed at a rate of \$700 per each travel lane per each thirty (30) minute interval, or fraction thereof.

SECTION 3 – CHANGES IN WORK

3-2 CHANGES INITIATED BY THE AGENCY

Section 3-2.2.1 General. Delete this subsection in its entirety. Add the following:

The City reserves the right to increase or decrease any bid item quantity, as necessary, to meet the City's needs and/or the project and/or budget requirements. If the City increases or decreases any bid item quantity by more than 25% of the original contract quantity, either the City or the Contractor may initiate discussions and/or negotiations regarding a potential adjustment to the contract unit bid price.

Section 3-2.2.2. Increases of More Than 25%. Delete this subsection in its entirety.

Section 3-2.2.3. Decreases of More Than 25%. Delete this subsection in its entirety.

3-3 EXTRA WORK

3-3.1 General. Add the following:

Payment for additional work and all expenditures in excess of the Contract Price must be authorized in writing by the Engineer. Such authorization shall be obtained by the Contractor prior to engaging in additional work. It shall be the Contractor's sole responsibility to obtain written approval from the Engineer for any change(s) in material or in the work proposed by suppliers or subcontractors. No payment shall be made to the Contractor for additional work which has not been approved in writing, and the Contractor hereby agrees that it shall have no right to additional compensation for any work not so authorized.

The Contractor shall be responsible to provide all data and to obtain all approvals required by the Specifications, including submittal of Daily Extra Work Reports. No claims or extras shall be approved by the Engineer unless all work was done under the direction of and subject to the approval of the Engineer. Disputed work claims shall comply with 3-3 as modified herein.

3-3.2.2 Basis for Establishing Costs.

3-3.2.2.3 Tool and Equipment Rental. Replace the second paragraph of with the following:

The Contractor will be paid for the use of equipment at the lower of the actual rental rates paid by the Contractor or the rental rates listed for such equipment in either the "Rental Rate Blue Book" published by Dataquest, Inc., 1290 Ridder Park Drive, San Jose, California 95131; telephone (408) 971-9000 or the California Department of Transportation publication entitled "Labor Surcharge and Equipment Rates" available at the Caltrans web site, www.dot.ca.gov/hq/eqsc/inforesources.htm, which is in effect on the date upon which the work is accomplished, and that hereby is made a part of the Contract, regardless of ownership or any rental or other agreement, if such may exist, for the use of such equipment entered into by the Contractor. If it is deemed necessary by the Engineer to use equipment not listed in the said publication, a suitable rental rate will be established by the Engineer. The Contractor may furnish any cost data that might assist the Engineer in the establishment of such rental rate.

Markup. Add the following:

The markups mentioned hereinafter shall include, but are not limited to, all costs for the services of superintendents, project managers, timekeepers and other personnel not working directly on the change order, and pickup or yard trucks used by the above personnel. These costs shall not be reported as labor or equipment elsewhere except when actually performing work directly on the change order and then shall only be reported at the labor classification of the work performed.

3-3.2.3.1 Work by Contractor. Replace the entire subsection with the following:

The following percentages shall be added to the Contractor's costs and shall constitute the mark-up for all overhead and profit, which shall be deemed to include all items of expense not specifically designated as cost or equipment rental in Subsections 3-3.2.2.1, 3-3.2.2.2, and 3-3.2.2.3.

Labor	20
Materials	15
Equipment Rental	15
Other Expenditures	15

To the sum of the costs and markups provided for in this subsection, one (1) percent shall be added as compensation for bonding.

3-3.2.3.2 Work by Subcontractor. Replace the entire subsection with the following:

When any part of the extra work is performed by a subcontractor, the markup established in 3-3.2.3.1 shall be applied to the subcontractor's actual cost of such work. A markup of ten (10) percent on the first \$5,000 of the subcontracted portion of the extra work and a mark-up of 5 percent on work added in excess of \$5,000 of the subcontracted portion of the extra work may be added by the Contractor.

The markups specified in the two subsections above shall be considered as including, but not limited to, the Contractor's labor costs for personnel not working directly on the extra work, including the cost of any tools and equipment that they may use. Such costs shall not be reported as labor or equipment costs elsewhere except when they are actually used in the performance of the extra work. Labor costs shall in that case be reported for the labor classification corresponding to the type and nature of extra work performed.

3-4 CHANGED CONDITIONS.

Add the following:

This subsection does not apply to utilities.

SECTION 4 – CONTROL OF MATERIALS

4-1 MATERIALS AND WORKMANSHIP.

4-1.1 General.

Add the following paragraph after the second paragraph:

If the work, or any portion thereof, shall be damaged in any way, or if any defective materials or faulty workmanship shall be discovered at any time prior to the final payment, the Contractor shall forthwith, at its own cost and expense, repair said damage, or replace such defective materials, or remedy such faulty workmanship in a manner satisfactory to the Engineer.

4-1.2 Protection of Work and Materials. Add the following:

The Contractor shall assume all risks and expense of interference and delay in his operations, and the protection from or the repair of damage to improvements being built under the contract, as may be caused by water of whatever quantity from floods, storms, industrial waste, irrigation, underground or other sources. However, the Contractor shall be entitled to an extension of time in accordance with the provisions of Subsection 6-6. The Contractor shall also assume full responsibility and expense of protecting, or removing and returning to the site of Work, all equipment or materials under his care endangered by any action of the elements.

Furthermore, the Contractor shall indemnify and hold the City harmless from all claims or suits for damages arising from his operations in dewatering the Work and control of water.

SECTION 5 – UTILITIES

5-1 LOCATION. Add the following:

The Contractor shall provide coordination with all the utility companies involved and shall provide protection from damage to their facilities. The Contractor shall be responsible for repair or replacement to said facilities made necessary by its failure to provide required protection. The Contractor is required to include utility requirements in the Construction Schedule per Section 6-1.

The Contractor shall utilize the services of "Underground Service Alert-Southern California" for utility locating in all public right-of-ways by calling 1-800-227-2600 at least 48 hours prior to any excavation.

The Contractor shall pothole existing utilities as directed by the Engineer or as deemed necessary by the Contractor. The cost of potholing herein specified shall be included in the prices paid for other items of work and no additional compensation will be allowed.

Where water lines exist, at each angle point, cross connection and "T" connection, the Contractor, for bidding purposes, shall assume the existence of a concrete thrust block located such as to resolve thrust loads. Any and all costs resulting from the existence of a thrust block, including costs for its removal and restoration if required, shall be deemed as being included in the prices bid for the various items of work.

Underground lines that are potentially hazardous such as oil company lines, natural gas mains, and electrical conduits will be carefully located by the owner as provided in the Standard

Specifications. The Contractor shall take special precautions in determining the precise location and depth of these structures to insure that they will not be damaged by its operations.

Substitute the following for the last paragraph:

Prior to starting construction, the Contractor shall be responsible to determine the location and depth of all utilities which have been marked by the respective owners and which may affect or be affected by its operations. The Contractor also shall determine the location and depth of each service connection, whether or not marked. Full compensation for such work shall be considered as included in the prices bid for other items or work. If a utility which was marked or a service connection is found to interfere with the work after construction has commenced, the Contractor shall be solely responsible for all costs of any delay and for any costs which could have been avoided if the Contractor had located the utility prior to start of construction.

5-2 PROTECTION. Add the following:

If, in the course of construction, the Contractor damages a sewer lateral or water lateral, the Contractor shall be responsible to completely expose said lateral from the main line to the point of connection at private property to verify integrity of all joints to the satisfaction of the Engineer. This shall not be considered to be extra work and no extra costs shall be allowed therefor.

Add the following after the final paragraph:

As noted in subsections 5-2.1, 5-2.2 and 5-2.3 utilities are classified and are to be handled in one of three ways by the Contractor in the course of performing the contract.

Add the following subsections:

5-2.1 Noninterfering Utilities

Utilities that are not abandoned by the owner and do not physically interfere with the permanent work in its final location shall be supported, protected and maintained in place by the Contractor, and the Contractor shall be solely responsible for any damage, loss or injury, or death resulting from his/her failure to do so and the Contractor shall indemnify and hold harmless the City from any and all such consequences. Noninterfering utilities may, with the permission of the owner and the Public Works Director, be relocated still farther from the permanent work in its final locations, but the Contractor shall not so consider, in submitting his bid, unless the relocation is shown on the plans.

5-2.2 Abandoned Utilities

Abandoned utilities are those portions of any utility which are no longer needed or desired by the owner and whose destruction is consented to by the owner and/or is permitted by notation on the plans. Abandoned utilities which physically interfere with the permanent work or with the construction thereof shall be removed by the Contractor and the Contractor shall be solely responsible for any damage, loss or injury, or death resulting from the removal and the Contractor shall indemnify and hold harmless the City from any and all such consequences.

5-2.3 Interfering Utilities

Any utility shall be deemed an interfering utility (1) which physically occupies any part of the space to be occupied by the permanent work in its final locations, or (2) whose length within the theoretical width of excavation for the permanent work exceeds five times the width of said

theoretical excavation whether or not the utility physically interferes with the permanent work. Interfering utilities that are not abandoned by the owner shall be relocated so as not to interfere with the permanent work in its final location. Such relocation will be performed by the owner or the City unless otherwise shown on the plans.

The Contractor shall exercise caution to prevent damage to or movement of the utilities while constructing the permanent work along and adjacent to the utilities.

Should any manhole extend within an excavation, the Contractor shall choose one of the following methods of construction and shall assume all responsibilities thereof:

- (1) Support and maintain the manholes in place during the construction of the permanent work in open cut.
- (2) Remove the shaft and maintain the base of the manhole in place until the backfill is placed and compacted; then reconstruct the manhole shaft.
- (3) Use another method of construction which has been submitted to and approved by the Engineer. All costs for the work pertaining to the manholes that might be found to extend partially within the excavation limits or any protective measures required due to the proximity of the manholes and the permanent work at these locations shall be absorbed in the prices bid for the various items of work.

5-2.4 Protection of Underground Hazardous Utilities. This Subsection shall apply to projects where there are underground utilities within the Work area which may be potentially hazardous if damaged. A hazardous substance shall be defined as one having the potential for an immediate disaster such as, but not limited to, gasoline, electricity, fuel oil, butane, propane, natural gas, chlorine or other chemicals.

Abandoned or inoperative utilities designed to carry hazardous substances and unidentified or unknown utilities shall be considered hazardous until determined otherwise. Whenever the Contractor is directed by the Engineer to tap these lines, the Contractor shall provide personnel specialized in this work and payment therefore will be considered as extra work per 3-3 of these Special Provisions.

The Contractor shall comply with the following requirements when working around underground hazardous utilities:

- 1) The Contractor shall not trench or excavate within the area where a utility known to carry a hazardous substance exists until its location has been determined by excavation or other proven methods acceptable to the Engineer. The intervals between exploratory excavations or location points shall be sufficient to determine the exact location of the line. Unless otherwise directed by the Engineer, excavation for underground hazardous utilities shall be performed by the Contractor and paid for as specified per 5-1 of these Special Provisions.
- 2) If it is determined that the horizontal or vertical clearance between the utility known to carry hazardous substances and the construction limit is less than 300 mm (12 inches) (450mm (18 inches) if scarifying), the Contractor shall confer with its owner. Unless the owner elects to relocate the line or take it out of service, the Contractor shall not excavate until the line has been completely exposed within the limits of construction.
- 3) Once the physical location of the utility known to carry hazardous substances has been

determined, the Contractor, in cooperation with and with the concurrence of the utility owner, shall determine how to protect and/or support the utility from damage before proceeding with the Work.

- 4) During all excavation and trenching operations, the Contractor shall exercise extreme caution and protect the utilities from damage.
- 5) The Contractor shall notify the Engineer, the public agency maintaining records for the jurisdiction in which the Project is located and the owner, if known, whenever previously unidentified or unknown underground utilities are encountered so that the location can be accurately established and made a part of permanent substructure records.

Full compensation for protecting underground hazardous utilities as specified or noted on the Plans shall be considered as included in the prices bid for the various items of work.

5-3 REMOVAL.

Add the following:

It shall be the Contractor's responsibility irrespective of the notations on the Project Quantities to confirm or determine that a utility is to be abandoned before treating the same as an abandoned utility and shall assume all risks in so determining.

5-4 RELOCATION.

Add the following:

Fire hydrants shall be relocated by Contractor per City of Torrance Standard Plan T705 or T706 as directed by the Engineer.

Water meters shall be relocated by Contractor per City of Torrance Standard Plan T703 or T704 as directed by the Engineer.

Water valves shall be relocated by the Contractor per City of Torrance Standard Plan T712.

Substitute the following for the last paragraph:

For the purpose of these specifications, service connections shall be construed to mean all, or any portion of, the pipe, conduit, cable, or duct which connects a utility main distribution line to the meter of an individual user, and further, shall include the meter and such portions of said pipe, conduit, cable or duct on the user's side of the meter which affect the contract work or its prosecution.

The City will arrange for the alteration or permanent relocation of only such service connections, except sewer house connections and water laterals, that interfere with the permanent work in its final location and such alteration or permanent relocation will be performed by others at no expense to the Contractor. The Contractor shall be responsible for the alteration or permanent relocation of sewer connections and water laterals, unless otherwise approved by the Engineer.

In instances where the alteration or permanent relocation of interfering service connections can be avoided by encasing same in the slabs or walls of poured-in place concrete structures the Contractor shall, when directed by the Engineer, so encase such service connections, and any

costs for such work shall be absorbed in the unit prices or included in the lump sum amounts bid for the various items of work.

Service connections which do not interfere with the project structures shall be maintained in place by the Contractor. The cost of such work shall be absorbed in the unit prices or included in the lump sum amounts bid for the various items of work.

5-5 DELAYS.

Substitute the following:

If the contractor while performing the contract discovers utility facilities not identified by the public agency in the contract plans or specifications, he shall immediately notify the City and utility in writing. The Contractor shall not be entitled to damage or additional payment, nor shall it be entitled to standby time for labor if a delay does occur. The Contractor also shall not be entitled to damage or additional payment for equipment not on the project during the occurrence of the event that caused the related delay. The Engineer will determine the extent of the delay attributable to such interferences, the affect of the delay on the project as a whole, and any commensurate extension of time.

Any failure of the City and/or utility company to accomplish relocations in a reasonable manner in light of the Contractor's operations (to the extent such operations would otherwise be feasible and in accordance with the contract and as disclosed to the City prior to the Contractor encountering any such utility) shall entitle the Contractor to an extension of contract time to the extent that, in the judgment of the Engineer, the Contractor's completion of the overall contract work has been delayed; however, the Contractor shall be entitled to no other remedy and, in submitting its bid, thereby waives such other remedies, if any, unless the relocation delay is the result of arbitrary, capricious or malicious conduct by the City.

SECTION 6 - PROSECUTION, PROGRESS AND ACCEPTANCE OF THE WORK

6-1 CONSTRUCTION SCHEDULE AND COMMENCEMENT OF WORK.

6-1.1 Construction Schedule. Replace the entire subsection with the following:

Within ten (10) working days after the date of the CITY's execution of the Contract, the Contractor shall submit a proposed construction schedule to the Engineer for approval. The schedule shall be in accordance with 6-1.3 and 6-1.4 and shall be in sufficient detail to show chronological relationship of all activities of the Work. These include, but are not limited to: estimated starting and completion dates of various activities, submittal of shop drawings to the Engineer for approval, procurement of materials and scheduling of equipment.

Prior to issuing the Notice to Proceed, the Engineer will schedule a Pre-Construction Meeting with the Contractor to review the proposed construction schedule and delivery dates, arrange utility coordination and clarify inspection procedures.

Prior to starting any Work, the Contractor may be required to attend a Community Meeting to be scheduled by the Engineer. The meeting, to be held in the evening, will address the residents' questions and concerns regarding the Work, what can be expected during construction and vehicular and pedestrian access that may be temporarily restricted during construction. Compensation for attending these meetings shall be considered a part of Mobilization or, when there is no bid item for Mobilization, shall be considered as part of the bid items of work for this

contract.

Notwithstanding any other provisions of the Contract, the Contractor shall not be obligated to perform any work and the CITY shall not be obligated to accept or pay for any work performed by the Contractor prior to delivery of a Notice to Proceed. The CITY's knowledge of work being performed prior to delivery of the Notice to Proceed shall not obligate the CITY to accept or pay for such work. The Contractor shall provide all required Contract bonds and evidences of insurance prior to commencing work at the site.

6-1.2 Commencement of the Work. Delete the subsection in its entirety. Add the following subsections:

6-1.3 Criteria. The construction schedule shall conform to the following criteria:

- 1) The schedule shall be prepared using the latest version of Primavera, Microsoft Project or approved equal.
- 2) Work activities shall be based on the items of work per 2-6, and the following:
 - a) Contract Unit Price items shall be subdivided into those portions to be constructed during each stage or phase of construction.
 - b) Lump sum items shall be subdivided into those portions to be constructed during each stage or phase of construction.
- 3) Utility relocations in coordination with the Contractor per 5-4 of these Special Provisions shall be considered as activities.
- 4) Required submittals, working and shop drawings shall be included as activities.
- 5) The procurement of construction materials and equipment with long lead times for deliveries shall be included as activities.
- 6) Work to be performed by subcontractors shall be identified and shown as work activities.
- 7) Start and completion dates of each activity shall be illustrated.
- 8) Completion of all Work under the Contract shall be within the time specified in 6-7 of these Special Provisions and in accordance with the Plans and Specifications.

6-1.4 Requirements. In preparing the construction schedule, the following items shall be considered:

Sequence of Construction - The Contractor shall sequence the Work in a manner to expeditiously complete the project with a minimum of inconvenience to the adjacent owners and to conform to the following:

1. The Contractor may not begin any pavement reconstruction activities until it has completed the installation of all new PCC improvements (i.e. curb/gutter, sidewalk, driveways, curb ramps, etc. for the entire project.

2. Concrete removal - All concrete removed shall be hauled off the Work site (including the Contractor's storage yard) no later than the calendar day following the day that the removal is performed. If the calendar day following the removal is a non-working day (Saturday, etc.) the concrete shall be hauled off the Work site on the same day it was removed. Unless otherwise authorized by the Engineer, failure by the Contractor to haul concrete from the Work site and/or Contractor's storage yard(s) in a timely manner may result in \$250/day liquidated damage assessed upon the Contractor. Such liquidated damage shall be determined by the Engineer and will be deducted, accordingly, from a Progress Payment due to the Contractor.
3. PCC construction - Construction of PCC sidewalks, driveways, access ramps, curbs, gutters and cross gutters shall be formed and poured within 5 working days following removal of the existing material at any location. Any adjacent trench (i.e. 1-foot wide slot trench), required to remove and construct said PCC construction shall be restored per these Specifications and no later than 2 calendar days following the PCC construction. Failure by the Contractor to comply with these requirements in a timely manner may result in a liquidated damage assessed upon the Contractor. Such liquidated damage shall be determined by the Engineer and will be deducted, accordingly, from a Progress Payment due to the Contractor.
4. Temporary lane closures, when needed on Madrona Avenue and Maple Avenue, major arterial and collector streets respectively, shall only be permitted between the hours of 9:00 a.m. and 3:30 p.m. on non-holiday weekdays unless approved otherwise by the Engineer. Night work and/or weekend work on these streets shall also be permitted as approved by the Engineer in order to properly and safely complete manhole construction and/or tie-ins in a timely manner. On any given street, the work shall be limited to one side at a time in order to maintain safe pedestrian access during construction.
5. The Contractor is required to work on tree and stump removals per 300-1.3.2(d), sidewalk, access ramps, curb, gutter, cross gutters and driveway replacements in a continuous operation and simultaneously with the work in item 1 above.
6. Pavement removal - All pavement removed as a result of trenching shall be hauled off the Work site no later than the same day that the removal is performed.
7. Within 4 working days following the installation of the final pavement surface course in any Phase, the Contractor shall complete the adjustment of all manholes, valves and any other required surface facilities.
8. Within 5 working days following the installation of the final AC surface course in any Phase, the Contractor shall complete the "cat-tracking" of all proposed pavement markings shown on the Plans. The City will inspect all "cat-tracking" within 2 working days and notify the Contractor of any needed corrections or adjustments. Upon approval of the "cat-tracking" by the Engineer, the Contractor shall then complete the installation of all thermoplastic pavement markings no earlier than 7 calendar days following the installation of the final AC or ARHM surface course in any Phase, but under no circumstances later than 10 calendar days following the installation of the final AC surface course in any Phase.
9. Tree and Stump removals per 300-1.3.2(d) are to be performed before concrete removals.

10. Irrigation systems - Irrigation systems disrupted by the Contractor shall not be left inoperable for more than three working days.
11. The proposed sequence of pavement construction. The Contractor may proceed with the pavement construction work after the completion of any water mains and concrete work as listed above.
12. All Work shall only be performed between the hours of 7:00 a.m. and 3:30 p.m. unless otherwise noted or approved by the Engineer.
13. A move-in period of 10 calendar days will be allowed starting on the date in the Notice to Proceed.
14. Holiday Moratorium per 7-10.2.8 of these Special Provisions.
15. Refuse collection. Refuse collection days are established and will not be changed. If a street or streets are scheduled for repair work on a collection day, the Contractor shall be responsible for coordinating their work with refuse collection.

The City utilizes automated refuse and recycling vehicles. After refuse collection, the City will attempt to place the refuse containers on parkways and driveways and off of the roadway areas. In some cases, however, this may not be possible, and the contractor will be responsible for moving the receptacles out of the way.

16. Stockpile area. Schedule shall indicate date for cleanup of stockpile area.
17. Subsection 307-1.3 regarding ordering of materials.

Should the Contractor fail to meet the above requirements, the Engineer reserves the right to prohibit the Contractor from making further removals until the clean-up, construction, or rehabilitation of sprinklers is in conformance with the aforementioned requirements. Furthermore, if after notice is given to the Contractor to perform work to meet these requirements, and the Contractor refuses or for any reason fails to perform sufficiently to meet these schedules, CITY may perform said work and charge the Contractor for all costs incurred.

6-2.4 Updates. The Contractor shall submit 2 paper copies of the updated construction schedule to the Engineer on the first working day of each month.

If the Contractor decides to make a major change in the method of operations after commencing construction, or if the schedule fails to reflect the actual progress, the Contractor shall submit to the Engineer a revised construction schedule in advance of beginning revised operations.

Full compensation for complying with all requirements of Section 6-1.5 Updates shall be per the Contract Unit Price for MOBILIZATION. If the Contractor fails to submit an updated Construction Schedule to the Engineer on the first working day of each month, the CITY will deduct one-fifth the amount of the Contract Unit Price for each work day after the due date, up to maximum of \$300, that each monthly schedule update is not submitted.

6-7 TIME OF COMPLETION.

6-7.1 General. Replace the first sentence with the following:

Time shall be of the essence in the Contract. The Contractor shall begin Work after receiving from the City a Notice to Proceed and shall diligently prosecute the same to completion within 80 working days from the start date as specified in the Notice to Proceed.

6-8 COMPLETION, ACCEPTANCE AND WARRANTY.

6-8.1 Completion. Replace the entire subsection with the following:

If, in the Engineer's judgment, the Work has been completed and is ready for acceptance, the Engineer will so certify and will determine the date when the Work was completed. This will be the date when the Contractor is relieved from responsibility to protect the Work. The Engineer may cause a Notice of Completion to be filed and recorded with the Los Angeles County Recorder's Office. At the Engineer's option, the Engineer may certify acceptance to the City Council who may then cause a Notice of Completion to be filed and recorded with the Los Angeles County Recorder's Office.

6-8.3 Warranty. Add the following subsection:

6-8.3.1 Manufacturer's Warranties. Manufacturer's warranties shall not relieve the Contractor of liability under these Specifications. Such warranties only shall supplement the Contractor's responsibility. The Engineer may, at his option, require a manufacturer's warranty on any product offered for use. The Contractor shall warranty all new trees planted for this project for a period of one (1) year.

6-9 LIQUIDATED DAMAGES. In each of the two paragraphs, substitute "\$1,000" in place of "\$250" as the amount of the liquidated damages per each consecutive calendar day.

SECTION 7 - RESPONSIBILITIES OF THE CONTRACTOR

7-2 LABOR

7-2.3 Payroll Records. Add the following:

Any payroll and payroll records required for this project shall be submitted, for each week in which any contract work is performed, to the Engineer. A retention of \$5,000 per report per pay period will be withheld from a progress payment for a late or missing report. A report shall be deemed as late or missing when not submitted to the Engineer within 10 calendar days from the close of the pay period for which the report applies. In addition, a non-refundable deduction of \$100 per report per day will be deducted from payments due the Contractor for each late or missing report. The \$100 non-refundable deduction per day will be incurred beginning on the first day the report is late or missing.

Add the following subsections:

7-2.5 Subcontractor and DBE Records

At the completion of the contract if the Contractor does not submit its Subcontractor and DBE Records to the Engineer a retention in the amount of \$10,000 per record will be withheld from a progress payment for a late or missing record. A record shall be deemed as late or missing when not submitted to the Engineer within 15 calendar days from the completion of the contract. In addition, a non-refundable deduction of \$300 per record per day will be deducted from payments

due the Contractor for each late or missing record. The \$300 non-refundable deduction per day will be incurred beginning on the first day the record is late or missing.

7-2.6 Department of Industrial Relations' monitoring and enforcement of prevailing wage laws

California Labor Code:

1771.1. (a) A contractor or subcontractor shall not be qualified to bid on, be listed in a bid proposal, subject to the requirements of Section 4104 of the Public Contract Code, or engage in the performance of any contract for public work, as defined in this chapter, unless currently registered and qualified to perform public work pursuant to Section 1725.5. It is not a violation of this section for an unregistered contractor to submit a bid that is authorized by Section 7029.1 of the Business and Professions Code or by Section 10164 or 20103.5 of the Public Contract Code, provided the contractor is registered to perform public work pursuant to Section 1725.5 at the time the contract is awarded.

SB 854 amended the Labor Code to require all contractors bidding on public work to register with the Department of Industrial Relations (DIR) and to pay an annual fee. The registration requires contractors to provide the State with evidence of the contractors' compliance with a number of statutory requirements. The registration requirement took effect on July 1, 2014 to fund the Department of Industrial Relations' monitoring and enforcement of prevailing wage laws. The registration period is open now, and contractors and subcontractors wishing to work on a public works project must be registered by March 1, 2015. For public agencies/awarding bodies, the new law requires that all public works projects with bids due after March 1, 2015, or awarded on or after April 1, 2015, use only registered contractors and subcontractors. The bill also requires awarding bodies to include notice of the registration requirement in their bid invitations and bid documents. In addition, public agencies must also file notice of their public works projects using DIR approved forms.

Registration is completed through an online application and requires a non-refundable \$300 fee to be paid by the contractors and subcontractors. The registration process requires contractors to:

- provide workers' compensation coverage to its employees
- hold a valid Contractors State License Board license
- have no delinquent unpaid wage or penalty assessments
- not be subject to federal or state debarment

Contractors must pay an annual renewal fee by July 1 of each year. The registration form is located on the DIR's website at <http://www.dir.ca.gov/DLSE/dlsepublicworks.html>.

To help awarding bodies and contractors comply with the new requirements, the DIR will post a database of registered contractors and subcontractors on its website. While non-registered contractors may not be awarded public works contracts after the effective date, inadvertently listing an unregistered subcontractor on a bid will not necessarily invalidate that bid. In addition, the registration requirement does not apply to private jobs that are determined to be public works after the contract has been awarded.

The City is required to provide notice of award to the DIR on all projects. Said notice is by an online application and within five (5) days of project award. The online application is at:

7-3 INSURANCE. Replace the second sentence of the second paragraph with the following:

The Contractor shall maintain at its sole expense insurance, conforming to the requirements of Section 17, "INSURANCE" of the Public Works Agreement.

Add the following:

The Contractor must include all subcontractors as insured under its policies or must furnish separate certificates and endorsements for each subcontractor. All coverage for subcontractors will be subject to all of the requirements of the Public Works Agreement.

7-4 WORKERS' COMPENSATION INSURANCE. Add the following after the first sentence of the second paragraph:

Worker's Compensation Insurance shall be per Section 17 of the Public Works Agreement.

7-5 PERMITS. Replace the second paragraph with the following:

The Contractor shall obtain a City of Torrance Business License and a no-fee Construction Excavation Permit before commencing construction.

Full compensation for complying with the above requirements shall be considered as included in the prices bid for mobilization.

7-6 THE CONTRACTOR'S REPRESENTATIVE

Add a third paragraph to the section stating the following:

The Contractor's Representative shall be approved by the CITY prior to the start of the Work. If the designated representative is rejected, the Contractor shall immediately designate another representative in writing and submit to the City for consideration. The CITY shall have the authority to require the Contractor to remove its representative and/or alternate representative at any time and at no cost to the CITY.

7-8 WORK SITE MAINTENANCE.

7-8.1 General. The second paragraph is amended to read:

Unless directed otherwise by the Engineer, the Contractor shall furnish and operate a self-loading motor sweeper with spray nozzles at least once each working day to keep paved areas acceptably clean to the City whenever construction, including restoration, is incomplete.

7-8.6 Water Pollution Control.

7-8.6.1 General. Replace the entire subsection with the following:

NPDES General Permit, Notice of Intent (NOI) and Notice of Termination (NOT).

Construction activities including clearing, grading and excavating that result in land disturbances of equal to or greater than one acre are covered by the National Pollutant Discharge Elimination

System General Construction Permit, State Water Board Order No. 2012-0006-DWQ and any amendments thereto. A copy can be downloaded at:

http://www.waterboards.ca.gov/board_decisions/adopted_orders/water_quality/wqo12.shtml

Dischargers obtaining coverage will file electronically for coverage under Order No. 2012-0006-DWQ. Order No. 2012-0006-DWQ is a Risk Based permitting approach. The Contractor is required to review the State Water Resources Control Board website and determine this project's risk level.

Order No. 2012-0006-DWQ includes, in Attachment A, requirements for all Linear Underground/Overhead Projects (LUPs) that are covered under the Small LUP General Permit 2003-007-DWQ. LUPs will be broken into project segments designated as LUP Type 1, Type 2, and Type 3. These LUP Types are analogous to the risks levels for traditional construction projects.

This General Construction Permit regulates pollutants in discharges of storm water associated with construction activity. To obtain authorization for proposed storm water discharges, pursuant to this General Construction Permit, the CITY must submit to the Storm Water Multiple Application and Reporting Tracking System (SMARTS) a Notice of Intent (NOI), compliance and monitoring data and Annual Reports, when required, and a Notice of Termination (NOT). The Contractor shall provide to the CITY, at the required time, all required information necessary for the CITY to comply with these requirements.

The Contractor shall provide to the CITY its Storm Water Pollution Prevention Plan (SWPPP) both in hardcopy and pdf format, so the City may submit the SWPPP to the SMARTS online.

Following Construction and the Contractor's installation of any post-construction storm water Best Management Practices BMPs (for CITY approval), the Contractor shall notify the CITY in writing to request for consideration to terminate coverage under the General Construction Permit for a complete project and to submit a NOT via the SMARTS.

Full compensation for preparation, administration and all other work related of the NOI, NOT, required fees, construction, and post construction BMPs, sampling, analysis and reporting as required by Order No. 2012-0006-DWQ and all other related costs shall be considered as included in the bid for FURNISH AND APPLY STORMWATER BEST MANAGEMENT PRACTICES (BMPs) AS REQUIRED TO CONTROL, PREVENT, REMOVE OR REDUCE POLLUTION, INCLUDING PREPARATION OF STORM WATER POLLUTION PREVENTION PLAN (SWPPP).

7-8.6.2 Best Management Practices (BMPs). Replace the entire subsection with the following:

Best Management Practices shall be defined as any program, technology, process, siting criteria, operating method, measure, or device which controls, prevents, removes, or reduces pollution. The Contractor shall obtain and refer to the California Stormwater Quality Association's: Stormwater Best Management Practice Handbook Portal: Construction. The publication is available from CASQA.

The Contractor shall have a minimum of two (2) readily accessible copies of each publication on the Work site at all times. The Contractor shall implement BMPs in conjunction with the following construction operation and activities:

CONSTRUCTION PRACTICES	Clearing, Grading and Excavating
------------------------	----------------------------------

	Water Conservation Practices
	Dewatering
	Paving Operations
	Structure Construction and Painting
MATERIAL MANAGEMENT	Material Delivery and Storage
	Material Use
	Spill Prevention and Control
WASTE MANAGEMENT	Solid Waste Management
	Hazardous Waste Management
	Contaminated Soil Management
	Concrete Waste Management
	Sanitary/Septic Waste Management
VEHICLE AND EQUIPMENT MANAGEMENT	Vehicle and Equipment Cleaning
	Vehicle and Equipment Fueling
	Vehicle and Equipment Maintenance

The Contractor shall implement the following BMPs in conjunction with the previously listed construction operation activities:

VEGETATIVE STABILIZATION	Scheduling of Planting
	Preservation of Existing Vegetation
	Temporary Seeding and Planting
	Mulching
PHYSICAL STABILIZATION	Geotextiles and Mats
	Soil Stabilizer/Dust Control
	Temporary Stream Crossing
	Stabilized Construction Roadway
	Stabilized Construction Entrance
RUNOFF DIVERSION	Sodding, Grass Plugging, and Vegetative Buffer strips
	Earth Dikes, Drainage Swales, and Lined Ditches
	Top and Toe of Slope Diversion Ditches/Berms
	Slope Drains and Subsurface Drains

VELOCITY REDUCTION	Flared Culvert End Sections
	Outlet Protection/Velocity Dissipation Devices
	Check Dams
	Slope Roughening/Terracing/Rounding
SEDIMENT TRAPPING	Slit Fences
	Straw Bale Barrier
	Sand Bag Barrier
	Brush or Rock Filter
	Storm Drain Inlet Protection
	Sediment Traps

Additional BMPs may be required as a result of a change in actual field conditions, contractor activities, or construction operations. When more than one BMP is listed under each specific BMP category, the Contractor shall select the appropriate and necessary number of BMPs within each category in order to achieve the BMP objective.

BMPs for contractor activities shall be continuously implemented throughout the year. BMPs for erosion control and sedimentation shall be implemented during the period from October 15 to April 15, and whenever the National Weather Service predicts rain within 24 hours. BMPs for erosion control and sedimentation shall also be implemented prior to the commencement of any contractor activity or construction operation that may produce run-off, and whenever run-off from other sources may occur.

The CITY, as a permittee, is subject to enforcement actions by the State Water Resources Control Board, the Environmental Protection Agency and private citizens. The CITY may assess the Contractor a penalty of \$1,000 for each calendar day that the Contractor has not fully implemented the appropriate BMPs and/or is otherwise in noncompliance with these provisions. In addition, the CITY will deduct, from the final payment due the Contractor, the total amount of any fines levied on the CITY, plus legal and staff costs, as a result of the Contractor's lack of compliance with these provisions and/or less than complete implementation of the appropriate BMPs.

Full compensation for the implementation of BMPs, including the construction, removal, and the furnishing of all necessary labor, equipment, and materials, shall be considered as included in the price bid for FURNISH AND APPLY STORMWATER BEST MANAGEMENT PRACTICES (BMPs) AS REQUIRED TO CONTROL, PREVENT, REMOVE OR REDUCE POLLUTION, INCLUDING PREPARATION OF STORM WATER POLLUTION PREVENTION PLAN (SWPPP).

7-8.6.3 Storm Water Pollution Prevention Plan (SWPPP). Replace the entire subsection with the following:

Construction activities covered by the General Permit require submittal by the Contractor of a Storm Water Pollution Prevention Plan (SWPPP) prior to the start of any clearing, demolition, grading or excavation. A Storm Water Pollution Prevention Plan (SWPPP) shall be defined as a report that includes site map(s), identification of construction and contractor activities that could pollute storm water, and a description of measures and practices to control the potential pollutants. The preparation and implementation of the SWPPP is intended to ensure that the Contractor will make every reasonable effort to prevent the pollution of water resources during the period of construction. The size and nature of this Contract place it under the regulations of the National Pollutant Discharge Elimination System (NPDES) General Permit for Storm Water Discharge Associated with Construction Activity. In the State of California, these regulations are adopted by the State Water Resources Control Board. These regulations require a SWPPP for any work where clearing, grading, and excavation result in a land disturbance of one or more acres. As a result, the Contractor shall prepare, submit to the CITY for review and approval, and implement a SWPPP for this Contract in compliance with these regulations.

The Contractor must submit the initial SWPPP document (2 hard copies and one pdf copy) to the CITY no later than fifteen (15) working days following the approval by the City Council of the Contract. The City will review the SWPPP within seven (7) calendar days. Should revisions be required, the Contractor shall again submit 2 hard copies and one pdf copy of the revised SWPPP. The City may take up to three (3) working days to re-review each revision. After the City

determines the SWPPP is acceptable and has no exceptions, the City will submit (upload) the SWPPP document to the online SMARTS system. The Contractor must allow for up to 7 calendar days for issuance of the WDID number, following upload of the document. No work may commence and no Notice to Proceed will be issued prior to the issuance of the WDID number. The Contractor shall consider this in its schedule in accordance with Section 6-1 of these Special Provisions. The SWPPP shall remain on the construction site while site is under construction, during working hours, commencing with the initial construction activity and ending with Notice of Termination.

If, during construction operations, field conditions change in a manner which, in the opinion of the Engineer, significantly deviates from how the SWPPP, as approved by the CITY, addressed the current construction operation, the Engineer may direct the Contractor to revise the current construction operation and/or the SWPPP. Such directions will be made in writing and will specify the items of work for which the SWPPP is inadequate. No further work on these items will be permitted until the Contractor revises the construction operations to the satisfaction of the Engineer and/or until the Contractor submits a revised SWPPP and receives CITY approval. The Engineer will notify the Contractor of the acceptance or rejection of the revised SWPPP within seven (7) working days from the date of submittal.

Full compensation for preparation of the SWPPP, all revisions to the SWPPP, and all other related costs, excluding the WDID permit fee from the State Water Resources Control Board, shall be considered as included in the bid price for FURNISH AND APPLY STORMWATER BEST MANAGEMENT PRACTICES (BMPs) AS REQUIRED TO CONTROL, PREVENT, REMOVE OR REDUCE POLLUTION, INCLUDING PREPARATION OF STORM WATER POLLUTION PREVENTION PLAN (SWPPP).

7-8.6.4 Implementation.

a) General. The Contractor shall be responsible year-round throughout the duration of the Project for implementation of the City-certified SWPPP and all certified SWPPP amendments. Unless otherwise notified by the Engineer, the Contractor's responsibility for implementation of the SWPPP shall continue throughout any temporary suspension of the Work or designated construction moratorium.

b) Qualified SWPPP Practitioner (QSP). The Contractor shall designate a QSP who meets the requirements of State Water Resources Control Board (SWRCB) Order No. 2009-0009-DWQ.

The QSP shall have the authority and responsibility to fully implement the City certified SWPPP in accordance with the Contract Documents and shall be present full-time on the Project site at all times.

d) Rain Event Action Plan (REAP). The Contractor shall monitor the National Weather Service Forecast Office (www.noaa.gov) on a daily basis. The Contractor shall ensure that the QSP prepares a REAP 48 hours prior to any likely precipitation event. A likely precipitation event is any weather pattern that is forecast to have a 50 percent or greater probability of producing precipitation in the Project area. Each REAP shall be prepared using the REAP template in the SWPPP Preparation Manual. The Contractor shall assume there will be 20 likely rain events throughout the duration of the Contract.

The actions required by the REAP for each phase of construction shall be implemented 24 hours prior to the forecasted start of the likely precipitation event.

The Contractor's QSP shall submit a copy of the REAP to the Engineer 24 hours prior to each likely rain event. The Contractor's QSP shall maintain documentation of the actions implemented as part of the REAP. Completed REAPs shall be filed with the City-certified SWPPP.

e) Accumulated Precipitation Procedure (APP). The Contractor shall implement the APP in the City-certified SWPPP whenever a discharge of accumulated precipitation is necessary. No discharge of accumulated precipitation shall take place without an APP. The Contractor shall notify the Engineer 24 hours prior to the discharge of accumulated precipitation water in accordance with the APP.

f) Construction Site Monitoring Program (CSMP). The Contractor's QSP shall implement the CSMP included in the City-certified SWPPP for visual monitoring (inspections) and sampling and analysis. A daily printed paper copy of the National Weather Forecast Office forecast chance of rain and forecast precipitation amount shall be submitted by the Contractor's QSP to the Engineer within 24-hours of the forecast. The Contractor's QSP shall monitor the Project site for full compliance with the SWPPP. The Contractor's QSP shall conduct inspections and collect water quality samples in accordance with these Special Provisions. The Contractor shall plan for 10 qualifying rain events (producing precipitation of 1/2 inch or more at the time of discharge) and 3 samples per rain event (total 30 samples). CSMP implementation shall include the following:

- i) Visual Monitoring.** The Contractor's QSP shall inspect (visually monitor) the Project site and record the findings on the BMP Checklist in the SWPPP Preparation Manual during working hours. Visual monitoring inspections shall be performed only by the QSP as follows:
- A. Routinely, a minimum of once every week.
 - B. Within 48 hours prior to a qualifying rain event
 - C. Within 48 hours after a qualifying rain event.
 - D. At least every 24 hours during extended storm events (any measurable amount of precipitation (0.01 inch or more)).

The Contractor's QSP shall:

- ✓ Observe all BMPs to identify whether they have been properly implemented in accordance with the SWPPP/REAP. If needed, corrective actions shall be implemented by the Contractor.
- ✓ Inspect each drainage area for the presence of (or indications of prior) unauthorized and authorized non-storm water discharges and their sources.
- ✓ Monitor and report run-on from surrounding areas if there is reason to believe run-on to the Project site may contribute to the numeric action levels (NALs) being exceeded.
- ✓ Observe the discharge or likely discharge after working hours of stored, contained, trapped or otherwise accumulated storm water. Inspect for compliance with the APP.
- ✓ Complete the BMP Checklist provided in the SWPPP Preparation Manual to document inspection observations.
- ✓ Record the time, date, and rain gauge reading of all rain events. The rain gauge reading shall be either from a rain gauge on the job-site provided by the contractor with the location approved by the Engineer or from the Los Angeles County Department of Public Works' real-time rainfall data precipitation map, http://ladpw.org/wrd/precip/alert_rain/, unless otherwise approved by the Engineer.
- ✓ Print a daily paper copy of the rain gauge data for the previous 24 hours for the Project site and submit to the Engineer on the same day.
- ✓ Sign and submit one copy of the completed BMP Checklist to the Engineer within 24 hours of completing the inspection. One completed and signed copy of each BMP Checklist shall be kept with the on-site SWPPP.

- ✓ Identify and record BMPs that require maintenance to operate effectively, that have failed, or that could fail to operate as intended.
 - ✓ Upon identifying BMP failures or other shortcomings, the Contractor's QSP shall implement repairs or design changes to BMPs within 24 hours. Correct unauthorized discharges immediately. This may require temporarily suspending certain work activities until work can continue, as approved by the Engineer, without an unauthorized discharge.
- ii) **Sampling and Analysis Plan (SAP).** The Contractor's QSP shall implement the SAP included in the City-certified SWPPP for storm water sampling, non-storm water sampling and non-visible pollutant storm water sampling.

The Contractor's QSP shall submit rain event field water sampling and analytical data within 24 hours of the conclusion of the rain event. The Contractor's QSP shall submit non-storm water and non-visible pollutant water sampling laboratory results within 20 working days after sample collection. The Contractor's QSP shall submit the data in accordance with the SWPPP Preparation Manual.

A) Storm Water Sampling. The Contractor shall collect storm water samples for each qualifying event that produces 1/2 inch or more of precipitation. The Contractor shall:

- Collect and analyze effluent samples from each discharge location per day per qualifying rain event. A minimum of 3 samples shall be collected each day per qualifying rain event.
- Collect samples during working hours only.
- Ensure effluent samples are representative of the effluent in each drainage area.
- Collect a minimum of one (1) run-on sample from each area that may contribute to exceedance of NALs (See Table 7-8.6.4 (A)).
- Collect storm water grab samples of accumulated storm water that will be discharged in accordance with the APP.

Turbidity and pH meters shall be provided by the Contractor and retained on the Project site at all times and conform to Table 7-8.6.4 (A).

Table 7-8.6.4 (A)

Parameter	Test method	Min. Detection Limit	Units	Numeric Action Level (NAL)
pH	Calibrated portable pH meter	0.2	pH units	lower NAL 6.5 upper NAL 8.5
Turbidity	Calibrated portable turbidity meter	1	NTU	250

Turbidity and pH meters must be calibrated in accordance with the manufacturer's specifications prior to use for field analysis. Calibration data shall be filed with the analytical results in the City-certified SWPPP at the Project site in accordance with the SWPPP Preparation Manual.

Field analytical results shall be submitted in writing to the Engineer using the Sampling Activity Log in the SWPPP Preparation Manual within 24 hours of analysis.

If any result exceeds NALs (Table 7-8.6.4 (A)), the Contractor's QSP shall:

- Implement immediate corrective actions to address the cause of the exceedance and to prevent further exceedance of the NALs.
- Submit a Numeric Action Level Exceedance Report to the Engineer within 5 calendar days of the date of sampling. The report shall conform to the SWPPP Preparation Manual.
- The Contractor's QSP shall sign and certify the Numeric Action Level Exceedance report.

B) Non-Storm Water Sampling. If the visual monitoring inspections of the Project site indicate any authorized or unauthorized non-storm water discharges, the Contractor's QSP shall record the findings on the BMP Checklist and immediately implement the SAP for non-storm water sampling.

The Contractor shall collect samples of non-storm water discharge effluent at all discharge points. Each non-storm water sample shall be sent only to a lab certified by the California State Department of Health Services for the selected analysis. The current and valid laboratory certification shall be included in the SWPPP.

C) Non-Visible Pollutant Monitoring. The Contractor shall collect one (1) or more samples during any breach, malfunction, leakage, or spill observed during a visual inspection which could result in the discharge of pollutants to surface waters that would not be visually detectable in storm water. Samples shall be analyzed in the field or by a laboratory following the SWPPP Preparation Manual. Analytical results shall be submitted in accordance with 7-8.6.4 f) ii) and shall be accompanied by an evaluation from the Contractor's QSP to determine if down gradient samples show elevated levels of the tested parameter relative to levels in the uncontaminated control sample. If down gradient samples show increased levels, the Contractor shall assess the BMPs, Project site conditions, and surrounding influences to determine the probable cause of the increase. As determined by the Contractor's assessment, the Contractor shall repair or modify BMPs to address the increased levels of pollutants in down gradient samples.

Where appropriate BMPs are not implemented prior to a rain event, any failure of a BMP occurs, or spilled materials or wastes are not completely removed (including contaminated soils) which could result in the discharge of non-visible pollutants to surface waters, the requirements to conduct sampling and analysis shall apply. If the Engineer determines that the Contractor has not properly deployed or maintained the appropriate BMPs necessary to significantly reduce and minimize the discharge of pollutants, the Engineer will direct the Contractor to collect and analyze water quality samples as specified in these Special Provisions at no additional cost to the City.

g) Annual Report. The Contractor shall prepare, certify and submit to the Engineer an annual report for the reporting period of July 1 to June 30 of each year. If construction occurs through June 30, the report shall be submitted no later than July 15 for the prior reporting period. If construction ends before June 30, the report shall be submitted within 15 calendar days after the date of acceptance of the Work by the Engineer.

h) Enforcement and Penalties. The Contractor will be determined Non-Compliant with these Special Provisions for the following:

- 1) Noncompliance with the certified SWPPP or certified amendments.
- 2) Failure to provide full-time QSP on project site
- 3) Failure to amend SWPPP or submit SWPPP amendments

- 4) Failure to take immediate corrective action when so directed by the Engineer or when required by these Special Provisions.
- 5) Failure to make necessary corrections after a numeric action level exceedance.
- 6) Noncompliance with the immediate corrective action specified on the City-issued "Notice of BMP Noncompliance" form.
- 7) Noncompliance with applicable local permits.
- 8) Noncompliance with Federal, State and local water pollution control regulations.
- 9) Unauthorized or noncompliant discharge.

The Contractor will be assessed \$1,000 per violation per calendar day that the Contractor does not fully implement or comply with the provisions set forth in these Special Provisions. The penalty will be assessed from Contract progress payments due to the Contractor.

The Contractor shall be responsible for the costs and for the liabilities imposed by law as a result of the Contractor's failure to comply with these Special Provisions. Costs and liabilities include, but are not limited to, fines, penalties and damages whether assessed against the City or the Contractor, including those levied under the Federal Clean Water Act and the State Porter Cologne Water Quality Act. In addition the City will deduct, from any monies due the Contractor, the total amount of any legal fees, staff costs, and consultant fees incurred as a result of the Contractor's non-compliance with these Special Provisions.

The Contractor shall notify the Engineer immediately following receipt of a request from any jurisdictional regulatory City, to enter, inspect, sample, monitor or otherwise access the Project site or the Contractor's records pertaining to water pollution control.

7-8.6.4 Payment.

Payment for implementation of BMPs and all NPDES related items shall be considered as included in lump sum bid item for FURNISH AND APPLY STORMWATER BEST MANAGEMENT PRACTICES (BMPs) AS REQUIRED TO CONTROL, PREVENT, REMOVE OR REDUCE POLLUTION, INCLUDING PREPARATION OF STORM WATER POLLUTION PREVENTION PLAN (SWPPP).

Add the following subsections:

7-8.7 Temporary Light, Power, and Water. Add the following:

The Contractor shall furnish, install, maintain, and remove all temporary light, power, and water at its own expense. These include piping, wiring, lamps and other equipment necessary for the Work. The Contractor shall not draw water from any fire hydrant (except to extinguish a fire), without obtaining permission from the water agency concerned.

The Contractor shall obtain a construction water meter from the CITY by calling Global Water at 855-354-5623. A \$1,000 deposit is required and refundable upon return of the meter in good working condition. The Contractor shall pay for the water used, at the CITY's current water rates.

Some water mains in Torrance are owned/operated by California Water Service. For rental of a hydrant meter the contractor shall call California Water Service at (310) 257-1400.

7-8.8 Contractor's Storage Yard. The Contractor shall be responsible for obtaining a storage yard for the duration of the Work. If the proposed location of the yard is located within the boundaries of the CITY, the Contractor shall obtain prior approval from the Engineer.

7-8.9 Graffiti Removal. The Contractor shall maintain the Work, all of its equipment, and all traffic control devices, including signage, free of graffiti throughout the duration of the Contract. The Contractor shall respond to any request from the Engineer to remove graffiti within 4 hours of notification. Should the Contractor fail to respond to such request, the CITY reserves the right to make other arrangements for the requested graffiti removal and deduct the cost from any monies due the Contractor.

7-9 PROTECTION AND RESTORATION OF EXISTING IMPROVEMENTS.

Add the following paragraphs:

The Contractor shall be responsible to protect all new concrete work from being etched, scratched or otherwise marked or having wet slough material deposited thereon. If new concrete work is marked, the Contractor shall replace it at its expense in accordance with 303-5.7 of these special provisions.

The Contractor shall perform all private lawn, hardscape, and parkway restorations, (not included in the project plans) including restoration of irrigation systems and existing curb drains within five (5) days after the adjacent improvements have been constructed at his own expense. The Contractor shall not delay restorations for tree plantings.

Add the following subsections:

7-9.1 Replacement of Lawns. When the Contract requires the removal and replacement of lawns or sod, including parkways, the Contractor shall comply with the following minimum requirements: the area to be replanted shall be regraded and covered with two inches of an approved topsoil; the grass seed or sod shall be for grass or sod of the same type as was removed, or an approved equal, and grass shall be sown at the rate recommended by the seed distributing company; Bandini steer manure or approved equal shall be applied to the planted area at the rate recommended by the vendor. The Contractor shall water and care for replaced lawns until the grass has attained a complete cover and has been given its first cutting, unless other arrangements are made with the property owners. The lawn restoration, as above described, shall be completed prior to the final payment.

Topsoil shall be in accordance with 212-1.1.

7-9.2 Replacement of Sprinkler Systems. Damaged sprinklers shall be replaced so that the area watered by the original system will be adequately watered by the reconstructed system without undue waste of water. Overspray on any area no longer planted should be avoided, and any revised shape or layout of the remaining planted area will be adequately watered. Any additional material or work required to obtain said adequate coverage shall be furnished by the Contractor, at its expense. The Contractor shall be responsible to replace any lawn or plant damaged from lack of irrigation resulting from the Contractor's operations, at its expense, to the satisfaction of the Engineer.

7-9.3 Parkway Trees. The Contractor shall exercise all necessary precautions so as not to damage or destroy any trees or shrubs and shall not trim or remove any trees unless such trees have been approved for trimming or removal by the Engineer. All existing trees and shrubs that are damaged during construction shall be trimmed or replaced by the Contractor or a certified tree

company to the satisfaction of the Engineer. Tree trimming and replacement shall be accomplished in accordance with the following requirements:

- (a) Trimming. Symmetry of the tree shall be preserved; no stubs, splits torn branches or torn roots left; clean cuts to be made close to trunk or large branch. Spikes shall not be used for climbing live trees. All cuts over one and one-half inches in diameter shall be coated with a suitable tree wound paint as approved by the Engineer.
- (b) Replacement. The Contractor shall immediately notify the Engineer if any tree is damaged by its operations. If, in the opinion of the Engineer, the damage is such that replacement is necessary, the Contractor shall replace the tree at its own expense. The tree shall be of a like variety as the tree damaged, subject to the approval of the Engineer. The size of the tree shall be the size of the tree replaced or 3" in diameter, whichever is smaller.

7-9.4 Street Furniture. The Contractor shall be responsible for removal, storage and replacement of trash receptacles, bus benches, bus enclosures, newspaper boxes, mail boxes, etc. and coordination with the Owners as required throughout construction. Replacement of the removed items shall be per the direction of the Owner or Engineer.

7-9.5 Protection of Existing Pavement Surfaces from Tack Coat and Oil. When work requires the placement of a tack coat pursuant to Subsection 302-5.4, the Contractor shall protect existing pavement surfaces outside of the work limits from the spreading of tack coat and oil adhering to truck tires exiting work area. The protected area shall extend the full width of the street and be by either of the following methods:

- 1) The Contractor shall wet the existing pavement surface to a distance of ten (10) feet away from the work limit. The wetted area shall be maintained as such until placement of asphalt concrete pavement is completed; OR
- 2) The Contractor shall provide a thin spreading of sand or rock dust material to a distance of five (5) feet away from the work limit. The sand or rock dust area shall be maintained as such until placement of asphalt concrete pavement is completed. The Contractor shall be responsible to remove the sand or rock dust immediately after the placement of asphalt concrete pavement is completed.

CONTRACTOR SHALL REMOVE ALL TRACKED ASPHALT MATERIALS FROM CONCRETE SURFACES AND RAISED PAVEMENT MARKERS.

The Contractor shall establish designated asphalt truck routes and staging areas and shall communicate these routes and areas to truck drivers prior to the arrival at the job site. This plan must be approved by the Engineer five (5) days prior to pavement reconstruction.

The purpose of this section is to address any tracking related problems caused by the Contractor. The City requires that all streets adjacent to the project remain track free during and after construction. Contractor shall prevent and mitigate asphalt tracking on all adjacent surfaces. The use of water (pressure washing) or any other methods approved by the Engineer may be utilized to remove tracking from all affected areas to the satisfaction of the Engineer.

7-9.6 Curb Addresses. The Contractor shall be responsible to repaint addresses (4-inch high black numbers on white background) on curb faces when printed addresses have been removed due to curb construction.

7-10 SAFETY

Add the following subsections:

7-10.1 Access.

7-10.1.2 Vehicular Access.

The Contractor's operations shall cause no unnecessary inconvenience. The access rights for the public shall be considered at all times. Unless otherwise authorized, traffic shall be permitted to pass through the Work, or an approved detour shall be provided.

Safe and adequate vehicular access shall be provided and maintained to: fire hydrants; commercial and industrial establishments; churches, schools and parking lots; service stations and motels; hospitals; police and fire stations; and establishment of similar nature. Access to these facilities shall be continuous and unobstructed unless otherwise approved by the Engineer.

Vehicular access to residential driveways shall be maintained to the property line except when necessary construction precludes such access. When the Contractor begins excavation of a residential driveway, safe access shall be provided within 4 hours and not later than the end of the same workday in which excavation began.

Unless otherwise authorized, work shall be performed in only one-half the roadway at one time. One half shall be kept open and unobstructed until the opposite side is ready for use. If one-half a street only is being improved, the other half shall be conditioned and maintained as a detour.

The Contractor shall provide the necessary measures to prevent public access to private residences during removal and replacement of existing barrier structures, such as wood and chain link fences, during non-working hours.

The Contractor shall be responsible to provide at least 48 hours written notice to each affected property before closing or partially closing any driveway or pedestrian access.

Unless the Contractor makes other arrangements satisfactory to the owners, the Contractor shall provide and maintain safe, adequate vehicular access to places of business and public gathering as stated herein below:

- (a) For each establishment (such as, but not limited to, gas stations, markets, and other "drive-in" business) on the corner of an intersection, which has a driveway (or driveways) on each intersecting street, the Contractor shall provide vehicular access to at least one driveway on each intersecting street insofar as the access is affected by the Contractor's operations.
- (b) For each establishment (such as, but not limited to, motels, parking lots and garages) which has a one-way traffic pattern with the appropriate entrance driveway and exit driveway, the Contractor shall provide vehicular access to the entrance driveway and the exit driveway insofar as the access is affected by the Contractor's operations.
- (c) The Contractor shall provide vehicular access to all schools and parking lots including, but not limited to, apartment building parking lots.

- (d) The Contractor shall provide vehicular access to all establishments requiring such access for receiving or delivering materials or supplies and for delivery of mail.
- (e) The Contractor shall make every reasonable effort to provide maximum access to churches on their Sabbath days. In addition, the Contractor shall not park or store equipment at the site of a church on its Sabbath days.
- (f) At least three (3) days prior to starting work in any location, the Contractor shall distribute written notices to all homeowners and residents that will be impacted by the work. The City will provide the notice.
- (g) The Contractor shall provide a minimum 1-inch thick temporary asphalt surface for an access ramp or sidewalk if it is not able to install the permanent improvement within 5 working days following the removal of the existing material at any location. The offset at any transverse or longitudinal joint shall not be more than one-half (1/2) inch. On the temporary asphalt surface: the running slope shall not exceed 1:20; the cross slope shall not exceed 1:50. The Contractor shall not be allowed any additional compensation for the installation and removal of temporary asphalt.
- (h) The Contractor shall protect the work from traffic. Should the slurry seal be damaged, the Contractor shall provide satisfactory repairs at no cost to the City.

Should any change in these requirements be necessitated by extraordinary occurrences or requirements during the execution of the Work, the Contractor shall obtain prior written approval of the Engineer.

All costs for the above requirements shall be included in the Contract Unit Price for TRAFFIC CONTROL INCLUDING TCP AND PORTABLE CHANGEABLE MESSAGE SIGNS.

7-10.1.3 Pedestrian Access. Replace the entire subsection with the following:

The Contractor's operations shall cause no unnecessary inconvenience. The access rights for the public shall be considered at all times, unless otherwise approved by the Engineer.

Safe and adequate pedestrian access shall be provided and maintained to: fire hydrants; commercial and industrial establishments; churches, schools and parking lots; service stations and motels; hospitals; police and fire stations; and establishment of similar nature. Access to these facilities shall be continuous and unobstructed unless otherwise approved by the Engineer.

Safe and adequate pedestrian zones and public transportation stops, as well as pedestrian crossings of the Work at intervals not exceeding 300 feet, shall be maintained unless otherwise approved by the Engineer.

All costs for the above requirements shall be included in the Contract Unit Price for TRAFFIC CONTROL INCLUDING TCP AND PORTABLE CHANGEABLE MESSAGE SIGNS.

7-10.2 Work Area Traffic Control

7-10.2.1 General. Delete subsection in its entirety.

7-10.2.2 Traffic Control Plan (TCP). Replace the entire subsection with the following:

The Contractor shall submit a legible, detailed TCP on one or more 24" x 36" reproducible plan sheets which shall clearly show and/or describe all proposed lights, warning signs, barricades, delineators, temporary lane markings, temporary traffic signals or signs, and any and all other facilities proposed to be installed. Said TCP shall be prepared by a Registered Civil and Traffic Engineer and shall show all lane closures, restrictions, tapers and other disruptions of normal traffic flow, including pedestrian and vehicular detours. A schedule and/or sequencing diagram shall be included. Said TCP may be drawn on a sepia or other transparent copy of the Plans. Said TCP shall be submitted to the Engineer for approval no later than two (2) weeks after the award of Contract. It shall be the Contractor's responsibility to immediately revise said Plan at the direction of the Engineer, and the Contractor hereby agrees that such changes shall not constitute a claim for extra work or additional costs. The approved TCP shall be strictly adhered to, and the Contractor hereby understands and agrees that its failure to provide any facility or device as shown on the TCP, or its deviation from said Plan, shall constitute a breach of Contract.

7-10.2.3 Payment. Replace entire subsection with the following:

Full compensation for complying with the submittal requirements, furnishing, placing and removing traffic control shall be per the Contract Unit Price for TRAFFIC CONTROL INCLUDING TCP AND PORTABLE CHANGEABLE MESSAGE SIGNS.

Add the following subsections:

7-10.2.4 Minimum Requirements for Maintaining Traffic Flow. The Contractor shall observe the following minimum requirements:

- a) Unless otherwise shown on the Traffic Control Plans, permitted by this Contract or authorized by the Engineer, all roadways, driveways, travel and turning lanes, sidewalks and access ramps shall remain open at all times.
- b) The Contractor shall provide adequate steel plating to cover and protect a newly poured PCC cross gutter with spandrels and integral curb in order to allow traffic flow and not close a street. A minimum lane width of 14 feet shall be provided over the steel plating.
- c) At a minimum, the Contractor shall maintain one (1) ten (10) foot-wide lane open in each direction between the hours of 7:00 a.m. and 3:30 p.m. All travel lanes shall be kept open all other times.
- d) Any travel lane adjacent to the curb and within the work zone shall be, at a minimum, a twelve (12) foot-wide lane.
- e) Reduction in lane requirements may be afforded only with prior written approval from the Engineer.
- f) Traffic signs, flaggers, warning devices, safety traffic devices and, on select streets, electronic arrow boards for diverting and directing traffic shall be furnished, installed and maintained by the Contractor throughout the project.
- g) The Contractor must provide access through the work zone in non-working hours by means of temporary ramps. Open trenches shall either be covered by steel plates, or ramped with crushed miscellaneous base. No drop-off at either transverse or longitudinal joints shall be allowed at any time. Temporary ramps, including those for driveway access, shall be constructed with either crushed miscellaneous base or

temporary asphalt, as appropriate, with a minimum of 1" to 12" slope in both longitudinal and transverse directions.

All costs for the above requirements shall be included in the Contract Unit Price for TRAFFIC CONTROL INCLUDING TCP AND PORTABLE CHANGEABLE MESSAGE SIGNS.

7-10.2.5 Temporary Pavement Markings. If permanent pavement markings cannot be restored by the end of the work shift in which they were obliterated, temporary markings shall be provided by the Contractor prior to leaving the Work site on all streets except any street closed to through traffic. These temporary markings shall be as follows:

Temporary lanelines and/or centerlines shall consist of day/night reflectorized raised pavement markers, approved by the Engineer, spaced approximately twenty-four (24) feet apart. A list of approved day/night reflectorized raised pavement markers may be obtained from the CITY.

Where approved by the Engineer, the Contractor may use reflectorized lines approximately twenty-four (24) inches long and four (4) inches wide, spaced approximately twenty-four (24) feet apart.

Right edgelines shall not be simulated with dashes or pavement markers; however, portable delineators, guide markers, etc., may be used by the Contractor where it is considered desirable to enhance the edge of traveled way due to curvilinear alignment, narrowing pavement, etc., and shall be used when directed by the Engineer.

Locations where no-passing zone centerline delineation has been obliterated shall be posted by the Contractor with a sign package consisting of a **W20-1 "ROAD WORK AHEAD"** and **SC13 "DO NOT PASS"**.

All temporary pavement markings and signs shall be maintained, or replaced as necessary by the Contractor, until permanent pavement markings are restored.

All costs associated with the above requirements shall be included in the Contract Unit Price for TRAFFIC CONTROL INCLUDING TCP AND PORTABLE CHANGEABLE MESSAGE SIGNS.

7-10.2.6 Temporary Pavement Markers/Delineation. Temporary pavement delineation shall be furnished, placed, maintained and removed in accordance with the provisions of Section 12-3.01, of the Caltrans Standard Specifications. Nothing in these Special Provisions shall be construed as to reduce the minimum standards specified in the Manual of Traffic Controls published by Caltrans or as relieving the Contractor from responsibility as provided in 7-10 of these Special Provisions.

Whenever the work causes obliteration of pavement markers and/or delineation, the Contractor shall set in place temporary pavement markers/delineation prior to opening the traveled way to traffic. All pavement markers/delineation, including but not limited to lane lines, centerlines, directional arrows, pavement legends, etc, shall be provided at all times for traveled ways open to traffic.

All work necessary to establish temporary pavement markers/delineation shall be performed by the Contractor. Surfaces on which temporary pavement delineation is to be applied shall be cleaned of all dirt and loose material and shall be dry when the pavement delineation is applied. Temporary pavement markers/delineation shall not be applied over existing pavement delineation or other temporary pavement delineation.

Temporary pavement markers/delineation shall be maintained until replaced with permanent pavement markers/delineation. Temporary pavement delineation shall be removed when 1) it

conflicts with the permanent pavement delineation; 2) a new traffic pattern is established or 3) as determined by the Engineer.

Temporary pavement delineation shall consist of temporary reflective raised pavement markers placed on lane lines and centerlines at longitudinal intervals of not more than 24 feet apart. Temporary reflective raised markers shall be the same color as the lane line or centerline the markers replace. Temporary reflective raised pavement markers shall be, at the option of the Contractor, one of the following or approved equal:

Apex Universal Product No. 2SCSM-1W or 2SCSM-2Y markers manufactured by Apex Universal, 11033 Forest Place, Santa Fe Springs, CA 90607, Telephone (562) 944 8878.

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

Temporary reflective raised pavement markers shall be placed as directed by the Engineer. Temporary reflective raised pavement markers shall be applied to the pavement surface with the adhesive in accordance with the manufacturer's instructions. Epoxy adhesive shall not be used to apply temporary reflective raised pavement markers in areas where the pavement will not be removed.

Temporary lane line or centerline delineation consisting of temporary reflective raised pavement markers placed on longitudinal intervals of not more than twenty-four (24) feet, shall be used on lanes opened to public traffic for a maximum of fourteen (14) days. Prior to the end of the fourteen (14) days the planned permanent pavement delineation, except permanent pavement markers, shall be placed. If the planned permanent pavement delineation, exclusive of permanent pavement markers, is not placed within fourteen (14) days, the Contractor shall provide, at its expense, additional temporary pavement delineation as directed by the Engineer. The additional temporary pavement delineation to be provided shall be equivalent to the pattern specified for the permanent traffic lines as determined by the Engineer.

Full compensation for furnishing, placing, maintaining, and removing the temporary pavement markers/delineation shall be considered as included in the Contract Unit Price for TRAFFIC CONTROL INCLUDING TCP AND PORTABLE CHANGEABLE MESSAGE SIGNS.

7-10.2.7 Temporary "No Parking" Signs. The Contractor is responsible to post "Temporary No Parking" signs at least forty-eight (48) hours in advance of the first date of work and the required enforcement. If work is to begin on either a Monday or Tuesday, the Contractor shall post the signs on a Friday. Each sign must include text indicating the beginning and end dates and the hours in effect. "Tow-Away" and "No Parking" must be shown on each sign face. If it is required to temporarily restrict parking 24 hours/day then "Tow-Away" and "No Parking Anytime" must be shown on each sign face. The signs shall be mounted on either 1" x 2" X 3' high wood stakes, Type II barricades, or 39-inch high delineators. Signs shall be spaced at approximately 100' intervals on the effected side(s) of the street. Signs shall not be posted on trees, traffic signal poles, utility poles, street lights, or any other street furniture.

Signs shall be professionally made of moisture-resistant, heavy duty cardboard or other approved material. All signs shall be maintained by the Contractor and kept free of graffiti. Any sign that becomes illegible or is removed shall be replaced within twenty-four (24) hours. The Contractor shall only be permitted to restrict parking for the minimum time necessary to complete on-going work. The Contractor shall be responsible to remove and repost "Temporary No Parking" signs when work will be delayed for more than five (5) consecutive days, or if the work must go beyond the end date shown on the signs, or otherwise directed by the Engineer.

The Contractor shall obtain approval for the signs and the placement thereof from the Engineer. Immediately after this approval and posting, the Contractor shall notify Torrance Police Department, Traffic Division, at (310) 618-5557 for review and enforcement. The parking restriction cannot be enforced until the signs have been in place 48 hours and the Police notified.

The Contractor shall maintain said signs through the day of work, and shall remove all of said signs on or within one (1) calendar day of the completion of work within the restricted parking area.

If, in the event a street scheduled for slurry or cape sealing was missed, the Contractor shall immediately remove all "No Parking" signs and notify all residents and others previously notified, with printed notices, that due to unforeseen circumstances, the Contractor was not able to seal the street as previously notified, that the street will be rescheduled in approximately 1 to 2 weeks, and that they will be re-notified. The Contractor shall, on the job site prior to the start of each day's work, have an adequate supply of approved letters of notification to residents for missed streets.

Full compensation for furnishing, placing, maintaining and removing temporary signs shall be considered as included in the Contract Unit Price for TRAFFIC CONTROL INCLUDING TCP AND PORTABLE CHANGEABLE MESSAGE SIGNS.

7-10.2.8 Holiday Moratorium. No reduction in lane widths on any major street shall be permitted during the CITY's holiday period construction moratorium, which begins on the Monday prior to Thanksgiving and ends on the Friday following New Year's Day. No traffic signal shall be out of operation for any period of time during said moratorium.

7-10.2.9 Refuse Collection. Refuse collection days are established and will not be changed. Consult the Engineer regarding the refuse collection schedule. The Contractor shall ensure streets and alleys affected by the work are accessible to the CITY's automated trash trucks on designated pick up days. In alleys, Contractor shall be responsible to provide and maintain access to large trash containers during the course of the work.

7-10.2.10 Protection of Permanent Pavement Markings, Manholes, Valves. The Contractor shall, in areas outside of the work zone, protect existing raised pavement markers, thermoplastic legends and markings. The Contractor shall cover and protect existing valve and manhole covers, utility caps, and similar items from damage and discoloration from the slurry and/or cape seal applications. Prior to the application of the slurry seal or cape seal, the Contractor shall remove by method of wet sandblasting any existing thermoplastic or painted pavement legend or marking within the limits of work.

The contractor shall be responsible for replacing or restoring any damaged items to the satisfaction of the Engineer.

Full compensation for the items in this subsection shall be considered as included in the Contract Unit Price for INSTALL THERMOPLASTIC PAVEMENT STRIPING, MARKINGS, LEGENDS, AND RETROREFLECTIVE RAISED PAVEMENT MARKERS INCLUDING RELOCATION OF STOP SIGN AS NEEDED.

7-10.5.3 Steel Plate Covers. Replace the entire subsection with the following:

When backfilling operations of an excavation in the traveled way, whether transverse or longitudinal cannot be properly complete within a work day, steel plate bridging with a non-skid surface and shoring may be required to preserve unobstructed traffic flow. In such cases, the following conditions shall apply:

1. Steel plate used for bridging shall extend a minimum of 12-inches beyond the edges of the

trench.

2. Steel plate bridging shall be installed to operate with minimum noise.
3. The trench shall be adequately shored to support the bridging and traffic loads
4. Temporary paving with cold asphalt concrete shall be used to feather the edges of the plates, if plate installation by Method (2) described below, is used.
5. Bridging shall be secured against displacement by using adjustable cleats, shims, or other devices.

Steel plate bridging and shoring shall be installed using either the following Method (1) or Method (2):

Method (1) (For speeds more than 45 mph – Van Ness Avenue, Sepulveda Boulevard, Crenshaw Boulevard and 182nd Street)

The Pavement shall be cold planed to a depth equal to the thickness of the plate and width and length equal to the dimensions of the plate.

Method (2) (For speeds 45 mph or less)

Approach plate(s) and ending plate (if longitudinal placement) shall be attached to the roadway by a minimum of two (2) dowels pre-drilled into the corners of the plate and drilled 2-inches into the pavement. Subsequent plates are butted to each other. Fine grade asphalt concrete shall be compacted to form ramps, maximum slope of 8.5% with a minimum 12- inches taper to cover all edges of the steel plates. When steel plates are removed, the dowel holes in the pavement shall be backfilled with either graded fines of asphalt concrete mix, concrete slurry or an equivalent slurry that is satisfactory to the City and/or Caltrans.

The Contractor shall be responsible for maintenance of the steel plates, shoring and asphalt concrete ramps.

The following table shows the advisory minimal thickness of steel plate bridging required for a given trench width (A-36 grade steel, designed for HS20-44 truck loading).

<u>Trench Width</u>	<u>Minimum Plate Thickness</u>
10"	1/2"
1'-11"	3/4"
2'-7"	7/8"
3'-5"	1"
5'-3"	1 1/4"

For spans greater than 5'-3", a structural design shall be prepared by a California registered civil engineer. All steel plates within the right-of-way whether used in or out of the travel way shall be without deformation. Steel plates shall be non-skid. Advanced signs shall be required for steel plates within traveled ways (Type P per the Watch Manual or a Rough Road sign (W33) per Caltrans requirements).

Add the following subsection:

7-10.6 Street Closures, Detours, Barricades.

In addition to the requirements of this subsection, the Contractor shall conform to the requirements for street closures, detours, and barricades as stipulated in the Special Provisions. However, deviations from the requirements stipulated in the Special Provisions may be permitted upon written approval of the Public Works Director when such deviations are in the best interest of the City.

The Contractor shall notify the Engineer at least ten (10) working days in advance of closing or partially closing any street or alley and comply with their requirements. In addition, the Contractor shall notify the Torrance Police Department-Traffic Division at (310) 618-5557 and Torrance Fire Department at (310) 781-7042 at least two (2) working days in advance of such closing.

It shall be the Contractor's responsibility to allow passage of the Torrance Transit System coaches through the construction area at all times. The Contractor shall notify the Torrance Transit Department at (310) 618-6266 at least 48 hours prior to construction affecting bus stop zones to allow said Transit System to temporarily abandon and relocate bus stop zones within the construction area.

The Contractor shall immediately notify the above parties upon completion of the construction work and opening or reopening of any street or alley.

The Contractor shall install, maintain, and remove all temporary delineators, barricades, lights, warning signs and other devices necessary to control traffic as specified in the project plans and these specifications. Materials for a temporary facility may be provided from new or used materials. If used materials are provided, they shall be sound, in good condition and otherwise meet the requirements of new materials. All traffic control devices shall be free of graffiti, and the Contractor shall be responsible to immediately clean and/or replace any device to the satisfaction of the Engineer.

Full compensation for furnishing, installing, maintaining and removing the above traffic control devices shall be considered as included in the Contract Unit Price for TRAFFIC CONTROL INCLUDING TCP AND PORTABLE CHANGEABLE MESSAGE SIGNS.

Where streets in which improvements are being constructed are specified hereinafter to be closed to through traffic, it shall be understood that such closures shall apply only to the portions of such streets where construction is actually in progress.

After award of the contract, the Contractor shall submit to the City its proposed Traffic Control Plan as required by the Special Provisions and to comply with the requirements specified herein. This submittal shall be made sufficiently in advance (street closure schedules MUST be submitted ten (10) days prior to closing the affected street) of any rerouting or diversion of traffic by the Contractor to allow for a review of the Contractor's proposed traffic control by the Public Works Director.

The Traffic Manual published by the California Department of Transportation shall apply to the street closures, barricades, detours, lights, and other safety devices required, except as modified hereinafter or within the Special Provisions.

The Contractor shall conform to Section 74.6.8 of the Torrance Municipal Code. In addition, the Contractor shall comply with directions from the Engineer to provide protection at excavations, trenches and/or other potentially hazardous construction areas. The Contractor shall be required to erect temporary railing (Type K) per Caltrans Standard Plan T3, five-foot high chain link fences, or equivalent protection, to completely enclose all open excavations over three feet (3') in depth. Fencing shall be approved by the Engineer, and provide adequate security. Fencing may be removed during working hours to the extent necessary to provide access and working room, in which case the Contractor shall provide equivalent security, to the satisfaction of the Engineer, during said periods. Any excavation not secured to the satisfaction of the Engineer shall be completely backfilled prior to the end of each day's construction activities. The Engineer may

require additional security devices, lighting or other protection in addition to said fencing. Full compensation for furnishing, placing and removing temporary protection shall be considered as included in the price for the various items of work.

Add the following section:

7-15 PROJECT CONSTRUCTION SIGNS AND PORTABLE CHANGEABLE MESSAGE SIGNS.

The Contractor shall furnish and install two (2) Portable Changeable Message signs (PCMS) on the construction site for use and relocation during construction. The City will allow only the following PCMS manufactures and models:

1. Manufactured by **Solar Tech** and be model MB2
2. Manufactured by **ADDCO** and be model DH500-ALS
3. Manufactured by **WANCO** and be model WVT3 Mini Three-Line Message

The Contractor shall install a locking device on each PCMS to prohibit access to the computer keyboard. The Contractor shall provide to the Engineer the key or combination to each locking device and the computer password to each PCMS **OR** possess any equipment, on any working day, to enter or modify a message for each PCMS as directed by the Engineer. Contractor shall relocate each PCMS as directed by Engineer at no additional cost to the City.

Full compensation for furnishing, installing, maintaining, entering/modifying message screens, relocation on the job site and removal shall be per unit per the Contract Unit Price for TRAFFIC CONTROL INCLUDING TCP AND PORTABLE CHANGEABLE MESSAGE SIGNS. If the Contractor does not possess the equipment or tools, or fails on any working day, to enter or modify a message for a PCMS, the Engineer may deduct \$50 per day, per each PCMS, from a Progress Payment until said message is entered or modified.

SECTION 9 - MEASUREMENT AND PAYMENT

9-1 MEASUREMENT OF QUANTITIES FOR UNIT PRICE WORK.

9-1.2 Methods of Measurement. Add the following subsections:

9-1.2.1 Payment for Labor and Materials.

The Contractor shall pay and cause the subcontractors to pay any and all accounts for labor, including Worker's Compensation premiums, State Unemployment and Federal Social Security payments and all other wage and salary deductions required by law. The Contractor also shall pay and cause the subcontractors to pay any and all accounts for services, equipment and materials used by it and the subcontractors during the performance of work under this contract. All such accounts shall be paid as they become due and payable. If requested by the Engineer, the Contractor shall immediately furnish the City with proof of payment of such accounts.

9-1.2.2 Measurement and Payment

Payment of each item will include full compensation for furnishing all labor, materials, tools, equipment and backup equipment; transportation and technical competence for performing all work necessary to complete each item as indicated on the plans and as specified in these Contract Documents, including but not limited to obtaining all applicable certifications necessary for specialty personnel and major equipment in conformance with Subsection 7-5, and all other applicable permits; securing a storage yard to store all equipment and materials to be used on the

job, disposal of waste materials, restoration of the site, etc. The storage yard may also be used as a temporary storage for excavated materials, and traffic control items. Costs for mobilization/demobilization shall be included in the unit price bid for MOBILIZATION.

9-2 LUMP SUM WORK. Replace the second paragraph with the following:

The Contractor shall, within five (5) working days of receipt of a request from the Engineer, submit a complete breakdown of lump sum bid prices showing the value assigned to each part of the work, including an allowance for profit and overhead. In submitting the breakdown, the Contractor certifies that it is not unbalanced and that the value assigned to each part of the work represents its estimate of the actual cost, including profit and overhead, of performing that part of the work. The breakdown shall be sufficiently detailed to permit its use by the Engineer as one of the bases for evaluating requests for payment. No extra costs shall be allowed for providing these breakdowns.

9-3 PAYMENT.

9-3.2 Partial and Final Payment. Replace the third paragraph with the following:

For each progress estimate, 5 percent will be deducted and retained by the CITY, and the remainder less the amount of all previous payments will be paid. In addition, 125% of the amount of unreleased "STOP" Notices will be withheld.

Add the following:

The Contractor shall submit all requests for payment on a Progress Payment Invoice.

Prior to submittal of said invoice, all items for which payment is requested shall be checked and approved in writing by the Engineer. No payments will be made unless all back-up data is submitted with the payment request and the Progress Payment Invoice is signed by both Contractor and Engineer.

9-3.4 Mobilization. Replace the entire subsection with the following:

Mobilization shall include the provisions of the Construction Schedule, Confined Space Entry Plan, Best Management Practices and Storm Water Pollution Prevention Plan; Sewage Spillage Prevention; Emergency Response Plan; site review; obtaining all permits, insurance, and bonds; moving onto the site all plant and equipment; furnishing and erecting plants, temporary buildings, and other construction facilities, and removal of same at completion of the Work; and other work, all as required for the proper performance and completion of the Work.

Mobilization shall include, but not be limited to, the following items:

- (a) Submittal and modification, as required, of the Construction Schedule and Storm Water Pollution Prevention Plan.
- (b) Moving on to the site of all Contractor's plant and equipment required for the first month's operations.
- (c) Installing temporary construction power and wiring.
- (d) Establishing fire protection system.

- (e) Developing construction water supply.
- (f) Providing on-site sanitary facilities and portable water facilities, as required.
- (g) Arranging for and erection of Contractor's work and storage yard.
- (h) Submittal of all required insurance certificates and bonds, including subcontractors.
- (i) Obtaining all required permits.
- (j) Posting all OSHA required notices and establishment of safety programs.
- (k) Potholing and other research and review as necessary to verify site conditions and utility locations
- (l) Having the Contractor's Superintendent present at the job site full-time.
- (m) Removal (including all spray-painted markings on any surface), cleanup, and restoration
- (n) Preparation for Opal Street Curb and Sidewalk Plan by registered Civil Engineer.
- (o) Demobilization

Add the following subsection:

9-3.5 Noncompliance with Plans and Specifications.

Failure of the Contractor to comply with any requirement of the Project Quantities, and/or to immediately remedy any such noncompliance upon notice from the Engineer, may result in suspension of Contract Progress Payments. Any Progress Payments so suspended shall remain in suspension until the Contractor's operations and/or submittals are brought into compliance to the satisfaction of the Engineer. No additional compensation shall be allowed as a result of suspension of Progress Payments due to noncompliance with the plans or specifications. The Contractor shall not be permitted to stop work due to said suspension of Progress Payments.

Add the following section:

9-4 CLAIMS.

The Contractor shall not be entitled to the payment of any additional compensation for any cause, including any act, or failure to act, by the CITY, or the happening of any event, thing or occurrence, unless the Contractor shall have given the CITY due written notice of potential claim as hereinafter specified.

The written notice of potential claim shall set forth the reasons for which the Contractor believes additional compensation will or may be due, the nature of the costs involved, and, insofar as possible, the amount of the potential claim. Said notice shall be submitted on a form approved by the CITY at least forty-eight (48) hours (two working days) in advance of performing said work, unless the work is of an emergency nature, in which case the Contractor shall notify and obtain approval from the Engineer prior to commencing the work. The Engineer may require the Contractor to delay construction involving the claim, but no other work shall be delayed, and the

Contractor shall not be allowed additional costs for any said delay but may be allowed an extension of time if the Engineer agrees that the work delayed is a controlling element of the Construction Schedule. The Contractor shall be required to submit any supporting data (or a detailed written explanation justifying further delay) within five (5) work days of a request from the Engineer and shall be responsible for all costs associated with any delays resulting from late and/or incomplete submittals. By submitting a Bid, the Contractor hereby agrees that this subsection shall supersede 6-6.3 and 6-6.4 of the Standard Specifications.

It is the intention of this subsection that differences between the parties arising under and by virtue of the Contract be brought to the attention of the Engineer at the earliest possible time in order that such matters may be settled, if possible, or other appropriate action promptly taken. The Contractor hereby agrees that it shall have no right to additional compensation for any claim that may be based on any such act, failure to act, event, thing or occurrence for which no written notice of potential claim as herein required was timely filed.

PART 2 - CONSTRUCTION MATERIALS

SECTION 200 – ROCK MATERIALS

200-2 UNTREATED BASE MATERIALS

200-2.1 General. Replace the entire subsection with the following:

Untreated base for pavement, curb, gutter, cross gutters, bus pads, hardscape and other improvements shall be either Crushed Aggregate Base conforming to 200-2.2 or Crushed Miscellaneous Base conforming to 200-2.4.

200-2.4 Crushed Miscellaneous Base. Add the following:

Payment for Crushed Miscellaneous Base shall be included as incidental in all work items requiring such, and no additional compensation will be allowed. CMB shall conform to the requirements as per SSPWC.

SECTION 203 – BITUMINOUS MATERIALS

203-5 SLURRY SEAL

203-5.1 General. Replace the first sentence with the following:

Slurry seal shall be quick-set Type II emulsion-aggregate slurry (EAS), with the addition of 2.5% latex, for residential and arterial streets, and is herein referred to as “Slurry”.

203-6 ASPHALT CONCRETE

203-6.1 General. Add the following:

Asphalt concrete shall be of the following classifications:

Type B-PG-64-10 for base paving of pavement restorations

Type C2-PG-64-10 for overlay finish surfaces

Type D2-PG-64-10 for temporary asphalt pavement

SECTION 210 – PAINT AND PROTECTIVE COATINGS

210-1 PAINT

Add the following subsection:

210-1.6 Paint for Traffic Striping, Pavement Marking, and Curb Marking

210-1.6.1. General.

All permanent striping and pavement markings shall be hot applied alkyd thermoplastic in accordance with the provisions of Section 84-2.02 of the Caltrans Standard Specifications.

210-1.6.2. Thermoplastic Paint, State Specifications.

Thermoplastic traffic stripes and pavement markings shall conform to the provisions of Section 84 of the Caltrans Standard Specifications. Contractor shall paint a solid black stripe between all double thermoplastic striping.

Add the following subsections:

210-1.7 Test Reports and Certifications

At the time of delivery of each shipment of material, the Contractor shall, upon request, deliver to the Engineer certified copies of manufacturer's test report. The test report shall indicate the name of manufacturer, type of material, date of manufacture, quantity, State Specification number, manufacturer's lot or batch number, and results of the required tests. The test report shall be signed by an authorized representative of the manufacturer. The certified test reports and the testing required in connection therewith shall be at no cost to the CITY.

SECTION 212 – WATER AND SEWER SYSTEM VALVES AND APPURTENANCES

212-10.6 METER BOXES. Replace this section with the following:

The Contractor shall furnish water meter boxes as follows:

3/4", 1" Meters: Per City of Torrance Standard T 703.

1-1/2", 2" Disc or Turbine Meters: Per City of Torrance Standard T 704.

SECTION 214 – TRAFFIC STRIPING, CURB AND PAVEMENT MARKINGS, AND PAVEMENT MARKERS

Delete the entire Section 214 and replace with Section 85 of the Caltrans Standard Specifications (latest edition).

85-1.05 RETRO-REFLECTIVE PAVEMENT MARKERS

85-1.055 Adhesives. Add the following:

At the option of the Contractor, a hot melt bituminous adhesive may be used to cement the markers to the pavement, instead of the Rapid Set Type or Standard Set Type adhesive specified in Section 85-1.06 of the Caltrans Standard Specifications. The bituminous adhesive material, if used, shall conform to the following:

<u>ASTM Test Specification</u>	<u>Method</u>	<u>Requirement</u>
Flash Point, COC °F	D 92	550 Min.
Softening Point, °F	D 36	200 Min.

Brookfield Viscosity, 400° F	D 2196	3,000- 7,500 cP
Penetration, 100g 5 sec. 77° F	D 5	10-20 dmm
Filler Content, % by weight (Insoluble in 1,1,1 Trichloroethane)	D 2371	50-75

Each fire hydrant in the project area shall be marked by placing a double-sided raised pavement marker with reflective blue markings on each side. The marker and adhesive shall be equivalent to Caltrans pavement markers.

Place one marker 6 inches from street centerline toward hydrant on a line projected approximately perpendicular to curb. Place two markers if hydrant is on a corner, one on each street.

PART 3 - CONSTRUCTION METHODS

SECTION 300 – EARTHWORK

300-1 CLEARING AND GRUBBING.

300-1.3 Removal and Disposal of Materials.

300-1.3.1 General. Replace the entire subsection with the following:

Unless otherwise stated on the Plans or Specifications, all material removed from the Work shall become the property of the Contractor and shall be disposed of in a lawful manner. Removals shall include, but not limited to, all excess excavation material, trees and plants, debris, interfering portions of curb, gutters, asphalt and PCC concrete pavements and sidewalks (including base, where applicable), and miscellaneous items as shown on the Plans. The Contractor shall conform to the following requirements:

- 1) The Contractor shall not start any removal work unless it is prepared to perform reconstruction work within 24 hours of the time removals were begun, unless otherwise approved by the Engineer.
- 2) The Contractor shall complete forming and pouring of PCC construction within five (5) working days following the removal of existing material at any location.
- 3) The Contractor shall not remove on-site improvements until it is prepared to construct the adjacent street section and shall promptly restore all such improvements as applicable, upon completion of the adjacent street work.

All concrete removed shall be hauled off the Work site no later than the calendar day following the day that the removal is performed.

The limits for sidewalk, curb and gutter and driveway shown in the Project Quantities are approximate. The actual removal and/or construction limits shall be as marked and/or directed by the Engineer in the field.

In order to protect the public streets from deterioration due to hauling of materials, the Contractor shall submit, prior to the Pre-Construction Meeting, for approval a proposed route for hauling of materials for disposal. Upon approval, the Contractor shall strictly adhere to that route, unless written permission from the Engineer is obtained to change the route.

300-1.3.2 Requirements.

- a) **Bituminous Pavement.** Replace the first and second sentences with the following: Bituminous pavement shall be removed to neatly sawed edges.

Add subparagraphs (d) and (e):

- (d) **Trees.** The City maintains a tree conservation policy. Unless otherwise shown, all trees are to be protected in place. Demolition and destruction of trees and tree parts, including trunks, branches and foliage, shall be limited to tree removals as shown on the Plans. Root pruning and removals shall be limited to the minimum required to construct new improvements where trees are to be conserved.

The Engineer shall place a visible removable "tag" on each tree proposed to be removed at least five (5) work days and no earlier than ten (10) work days prior to removal. Said "tag" is intended to give adjacent residents proof of trees to be removed or saved. Tags shall be on the sidewalk side of trees and located at least five feet (5') above ground.

The Contractor shall remove only trees that have been marked by the Engineer for removal. Trees shall be removed in a workmanlike manner so as not to injure other standing trees, plants, and improvements which are to be preserved.

Stumps shall be ground down three feet (3') below ground surface within five (5) feet of the center of the stump. All surface roots shall be removed within the parkway.

The Contractor shall conform to the following requirements:

- 1) The cutting down or removal of trees is prohibited after the prescribed working hours unless permission is granted by the Engineer.
- 2) All debris from pruning or removing a tree shall be cleaned up and hauled away from the Work site on the same day that the tree is cut or pruned. Firewood-size logs may be left neatly piled for residents to pick up for no longer than three (3) days.
- 3) All holes created from removal of tree stumps shall be backfilled and graded to finish level by the end of the workday.
- 4) Sprinkler systems disrupted by the Contractor shall be capped or restored by the end of the workday. Capped systems shall be restored to original working condition within three (3) days.

(e) **Miscellaneous Removals and Relocations.** This work shall include all removals not specifically listed in the Bid Schedule or otherwise covered by these Specifications, and all necessary relocations and restorations of walls, fences, plants, hardscape, signs and other items, whether shown in the Project Quantities or not, and as necessary to complete the improvements. A lump sum bid of \$10,000 is included in the Bid Schedule for this work.

Add the following section:

300-1.3.3 Construction and Demolition Debris Recycling.

General. Consistent with the Agency's efforts to comply with the California Integrated Waste Management Act of 1989 (AB 939), the Contractor shall reduce, reuse, and/or recycle to the maximum extent feasible, the construction and demolition debris (debris) generated by this Contract hereby diverting the debris from disposal facilities, saving landfill space, and conserving virgin materials and natural resources.

Definitions.

Shall be as defined in the TORRANCE MUNICIPAL CODE, DIVISION 4, CHAPTER 3, ARTICLE 8 (or Section 43.8.1).

RECYCLING SUMMARY.

The Contractor shall prepare and submit a Recycling Summary report using the form included as Appendix IV summarizing the disposal, reuse, and/or recycling activities which occurred throughout the Contract duration. This report shall be submitted by the Contractor to the Agency, before or with its request for the final Progress Payment for said Contract.

Failure of the Contractor to submit the Recycling Summary within the time specified will result in damages being sustained by the Agency. Such damages are, and will continue to be, impracticable and extremely difficult to determine. For failure to submit the Recycling Summary, as required, the Contractor shall pay to the Agency, or have withheld from monies due it, the sum of \$10,000 for a contract of \$500,000 or more. The Contractor shall pay to the Agency, or have withheld from monies due it, 2% of the total contract amount for a contract of \$499,999 or less.

Execution of the Contract shall constitute agreement by the Agency and Contractor that \$10,000 (2% for contracts \$499,999 or less) is the minimum value of the costs and actual damage caused by the failure of the Contractor to submit the Recycling Summary within the time specified. Such sum is liquidated damages and shall not be construed as a penalty, and may be deducted from payments due the Contractor.

PAYMENT.

The cost of construction and demolition debris recycling and completing the Recycling Summary report shall be considered as included in the Contract Unit Price for the various Bid items. The quantities reported will be used for information gathering purposes and not for purposes of payment to the Contractor.

300-1.4 Payment. Replace the entire subsection with the following:

When the Contract does not include a pay item for clearing and grubbing, payment under this section shall be by the following:

- a) **Bituminous Pavement.** There shall be no separate payment for removal of bituminous pavement, and all costs related thereto shall be considered as included in the Contract Unit Prices for the items of work for which the removal is required.
- b) **Concrete Pavement, Cross-Gutters and Alley Intersections.** Payment for removal and disposal of concrete cross-gutters, shall be included in the Contract Price for the appurtenant items of work and shall include sawcutting, complete removal of adjacent pavement and subgrade (within 1-foot of the proposed gutter), underlying subgrade and base, disposal, subgrade preparation and compaction, disposal, and all labor and equipment necessary to complete the required removal.
- c) **Concrete Curb, Walk, Gutters and Driveways.** Payment for removal and disposal of concrete curb, curb and gutter, sidewalk, access ramps and driveways shall be included in the Contract Unit Price for the appurtenant items of work. Removals shall include sawcutting, complete removal of adjacent pavement and subgrade (within 1-foot of gutter) root pruning, complete removal of underlying subgrade and base, subgrade preparation and compaction, disposal, and all labor and equipment necessary to complete the required removal.

- d) **Trees.** Payment for tree and stump removals and disposal shall be per the Contract Unit Price and shall include all work involved in tagging, cutting and complete removal of trunks, branches, stumps and roots to a depth of 3 feet below existing grade, excavation, hauling, disposal, backfilling tree wells, restoration and replanting of removal areas; and other appurtenant work.
- e) **Miscellaneous Removal and Relocations.** Payment for miscellaneous removals and relocations shall be per the Contract Unit Price, and shall include full compensation for excavation, backfilling, grading, trimming plants, import if required, placing of top soil, disposing of surplus material and appurtenant work.
- f) **Painted Curb.** There is no separate payment for removal of paint on concrete curb. Full compensation for furnishing all labor materials, tools, equipment and incidentals as shown on the plans and specified in these Special Provisions shall be included in the contract unit price for traffic striping, markings and pavement markers.

300-2 UNCLASSIFIED EXCAVATION.

300-2.2 Unsuitable Material.

300-2.2.1 General. Replace the first paragraph with the following:

If unsuitable material is found, the Contractor shall remove said material to the limits to be determined by the Engineer and shall replace said material with select bedding or base material, as to be determined by the Engineer.

300-2.9 Payment. Add the following:

Payment for unsuitable material excavation and additional bedding shall be measured and paid for as UNCLASSIFIED EXCAVATION (Excavate/Remove and Dispose of Unclassified Material) and ADDITIONAL BEDDING as Directed by Engineer. An allowance of 1,000 cubic yards of unclassified excavation and additional bedding is provided in the Bid Schedule.

SECTION 301 – SUBGRADE PREPARATION, TREATED MATERIALS, AND PLACEMENT OF BASE MATERIALS

301-2 UNTREATED BASE.

301-2.1 General. Add the following:

Base is required under all PCC and AC improvements as shown on the Plans. Additional base may be required after review of work areas following removals. Prior to constructing new improvements, the Contractor shall verify with the Engineer that the base sections as shown on the Plans (including areas where no base is called for) are adequate. Payment for any changes shall be made pursuant to Section 300-2.9.

A minimum of 8-inches CMB shall be placed under curb, curb and gutter, spandrels and concrete bus pads. A minimum of 6-inches CMB shall be placed under driveways (includes portion to right-of way/property line), alley intersections, local depressions, stained median concrete (maintenance vehicle pullouts) and AC or PCC pavement on private property as part of driveway reconstruction.

A minimum of 4-inches CMB shall be placed under sidewalks, access ramps and stained median concrete (noses and mow strip).

301-2.4. Measurement and Payment. Delete the second paragraph and add the following:

Payment for construction of CMB under curb, curb and gutter, driveways, local depressions, sidewalks, stained median concrete paving and access ramps shall be considered as included in the unit price bid for the item of work and no additional compensation will be allowed therefore.

SECTION 302 – ROADWAY SURFACING

302-4 SLURRY SEAL SURFACING

302-4.1 General. Add the following:

The Contractor shall immediately inform the City of any necessary asphalt patching or repairs, and all other roadway surface preparation work not included in these specifications, but is required in order to achieve the required quality of slurry seal work, at any project location.

Prior to Slurry application, the Contractor shall perform the following preparation Work in all project areas, unless otherwise specified:

- 1) Remove all existing pavement striping, markings, and legends, and raised pavement markers per Section 314, "TRAFFIC STRIPING, CURB AND PAVEMENT MARKINGS, AND PAVEMENT MARKERS," in these Special Provisions.
- 2) Apply crack sealant in accordance to Section 302-14 "BITUMINOUS PAVEMENT CRACK SEALING," of these Special Provisions.
- 3) Protect all manhole covers, drain inlet covers, monument covers and all other utility covers from Slurry Seal operations by applying a sheet of plastic, cut to fit or placing a plastic bag over the exposed facilities or other methods approved by the Engineer. All traces of plastic, residual emulsion and Slurry shall be removed from all manhole covers, drain inlet covers, monument covers and all other utility covers as quickly as possible, after the application of Slurry and/or prior to final acceptance of the project.
- 4) Clean all surfaces that are to be slurried, including removing all debris, vegetation, and other organic matter, removing any standing water, and sweeping the project area to remove all loose rocks and material.

302-4.11 Measurement and Payment. Delete this subsection and replace with the following:

Slurry will be measured by the square foot (SF) for the actual pavement area slurry sealed. Quantities shown in the Bidder's Proposal are based on estimated measurements of the project areas and are approximations only.

Payment for furnishing, preparing and placing Slurry will be made at the Contract Unit Price per square foot bid for either "TYPE II SLURRY SEAL WITH 2-1/2% LATEX" in Bidder's Proposal, and shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals necessary to complete the Work involved in the application of Slurry, including but not limited to, all surface preparations; sweeping of all work areas before and after Slurry applications; weed and

debris removal; protection of manholes, valve boxes, drop inlets and other service entrances; and site clean-up.

Compensation for preparation Work described in this Section will be considered as included in the Contract Unit Price for the items of work involved and no additional compensation will be allowed therefore.

No payment shall be made for any area requiring re-application of Slurry due to damage of Slurry, prior to acceptance of Work.

Add the following subsections:

302-14 BITUMINOUS PAVEMENT CRACK SEALING

302-14.1 General. Bituminous pavement crack sealing shall consist of furnishing all labor, materials, tools, equipment, and incidentals necessary to complete the Work involved in the application of bituminous pavement crack sealant.

All pavement cracks equal to 1/4" in width or greater shall be sealed.

302-14.2 Cleaning. Prior to crack sealing, the Contractor shall be responsible for properly cleaning all pavement cracks to be sealed, to the satisfaction of the Engineer. Cleaning of pavement cracks shall include, but is not limited to, the application of approved weed killer, as specified by the manufacturer or Engineer, removal of debris or loose material from cracks, and cleaning of cracks with a hot air lance.

302-14.3 Materials. The crack sealant shall be a mixture of asphalt cement, aromatic rubber extender, oil and a minimum of 20% powdered rubber by weight, combined in such a manner as to produce a material with the following properties:

- 1) **WORKABILITY.** The material shall pour readily and penetrate large cracks at temperatures below 400 degrees Fahrenheit.
- 2) **CURING.** The product shall contain no water or volatile solvents and shall cure immediately upon cooling to a sufficient viscosity to prevent tracking by traffic.
- 3) **LABORATORY EVALUATION.** When the sample of the product has been heated at 350 degrees Fahrenheit for two hours, it shall pass the following tests:
 - Softening Point (R & B): 135 degrees Fahrenheit Min. (ASTM D312)
 - Flexibility: A 1/8" thick specimen of the product conditioned to 10 degrees Fahrenheit shall be capable of being bent to a 90-degree angle over 1" mandrel without cracking.
 - The sealer shall be forced into the crack by use of a squeegee.

302-14.4 Payment. Payment for bituminous pavement crack sealing will be made at the Contract Unit Price per linear foot for "CRACK SEALING" in the Bidder's Proposal, and shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals necessary to complete the Work, as specified in the Specifications and these Special Provisions, and as directed by the Engineer. This item will be used in the event that City crews are unable to complete the crack seal work.

SECTION 303 – CONCRETE AND MASONRY CONSTRUCTION

303-5 CONCRETE CURBS, WALKS, GUTTERS, CROSS GUTTERS, ALLEY INTERSECTIONS, ACCESS RAMPS, AND DRIVEWAYS.

303-5.1 Requirements.

303-5.1.1 General. Replace the first sentence of the first paragraph with the following:

Concrete curbs, gutters, curb and gutters, sidewalks, walks, cross gutters, alley intersections, access ramps, driveways, stained median concrete paving and bus pads shall be constructed of Portland cement concrete of the class, compressive strength and other requirements prescribed in 201-1. Subgrade preparation shall conform to 301-1.

Replace the first sentence of the second paragraph with the following:

Unless otherwise specified in the Project Quantities, and except as otherwise prescribed in 303-5.1.3 under the heading "Driveway Entrances," the minimum thickness of walks shall be 3-1/2 inches.

303-5.5. Finishing

303-5.5.2 Curb Add the following:

Unless otherwise approved by the Engineer, the entire affected concrete curb, gutter, cross-gutter, or spandrel portion shall be removed by sawcutting the adjacent AC pavement one (1) foot from the edge of the affected area to be removed. **Where plans call for AC berm/curb to be removed and replaced with PCC curb and gutter, Contractor shall remove AC pavement two (2) feet from edge of proposed PCC gutter.** Where applicable, the contractor shall reconstruct this one (1) foot wide section with a 2-inch thick section of AC pavement (C2-PG-64-10) over a 6-inch thick section of 1-sack cement and sand slurry mix over an 8-inch thick section of untreated Base. If the affected curb and gutter is located in a spandrel, the spandrel shall be sawcut six inches (6") minimum from the flow line of the gutter and the spandrel reconstructed to match the existing spandrel portion to remain and be on 8 inches of untreated Base.

For concrete curb and gutter work located in a spandrel, sawcut spandrel to a distance of six inches (6") minimum from the flow line of the gutter to be removed. The Contractor shall reconstruct the spandrel to match the existing spandrel portion to remain and be on eight inches (8") of untreated Base. No extra payment will be allowed for the PCC spandrel construction.

303-5.5.5. Alley Intersections, Access Ramps, and Driveways. Add the following:

Unless otherwise approved by the Engineer, the entire affected curb and gutter portion shall be removed by sawcutting the adjacent AC pavement one (1) foot from the edge of the PCC gutter. **Where plans call for AC driveways to be removed and replaced with PCC driveways, the Contractor shall remove two (2) feet of AC pavement from edge of proposed PCC gutter.** Where applicable, the contractor shall reconstruct this one (1) foot wide section with a 2-inch thick section of AC pavement (C2-PG-64-10) on a 4-inch thick section of 1-sack cement and sand slurry mix on an 8-inch thick section of untreated Base. If the affected curb and gutter is located in a spandrel, the spandrel shall be sawcut six inches (6") minimum from the flow line of the gutter and the spandrel reconstructed to match the existing spandrel portion to remain and be on 8 inches of untreated Base. No extra payment will be allowed for the PCC spandrel construction.

PCC Access Ramps shall be constructed at locations shown on the Plans and per the latest Standard Plans for Public Work Construction STD 111-5, included in the Appendicies.

Ramp shall be poured separately from curb and gutter (min. 24hrs after curb and gutter).

Access ramps constructed in existing curb returns may obliterate survey tie points. The Contractor shall give a minimum of three (3) work days advance notice of each location to the Engineer prior to removals so the CITY may reestablish the existing survey tie points.

Detectable Warning Surface. Access ramps shall have a single piece prefabricated detectable warning surface with dimensions of 36-inches (perpendicular to curb) by 48-inches wide (along curb) installed in accordance with the 2012 Standard Plans for Public Work Construction 111-5 and comply with the requirements of the Americans with Disabilities Act (ADA). Detectable warning device shall consist of raised truncated domes with a base diameter of nominal 0.9 inches, a top diameter of nominal 0.45 inches, a height of nominal 0.20 inches and a center-to-center spacing of nominal 2.35 in (60 mm). The edge of the detectable warning surface nearest the street shall be between 6" and 8" from the gutter flowline.

The detectable warning surface shall be a Cast-In-Place Replaceable Tactile Warning Surface Tile. The color of the detectable warning surface shall be Dark Gray (Federal Color No. 36118) or as approved by the Engineer prior to installation. The detectable warning system is to be manufactured with materials that are fully recyclable. The detectable warning surface shall be installed in accordance with the manufacturer's recommendations and instructions. The manufacturer shall provide a minimum 5-year warranty, guaranteeing replacement when there is a defect in the dome shape, color fastness, sound-on-cane acoustic quality, resilience or attachment. The warranty period shall begin on the date of acceptance of the Contract.

Driveways shall have a concrete thickness of 4 inches for single family residences and 6 inches for all other areas.

Work Requested by a Property Owner. The Contractor is allowed to perform work which is not a part of this Contract and in the project area if the work is requested, and paid for, by a property owner provided that:

- a The Contractor shall inform the Engineer of the nature, quantity and location of the work requested by the property owner; and
- b The requested work does not impact the schedule or cost of the contract work; and
- c The Property owner and Contractor are required to obtain all permits for requested work; and
- d The Contractor is required to obtain all inspections and approvals.

303-5.7 Repairs and Replacements. Add the following:

The Contractor shall be responsible to protect all new concrete work from being etched, scratched or otherwise marked following replacement thereof. If new concrete work is marked, the Contractor shall replace it at its expense and no extra costs will be allowed.

303-5.9 Measurement and Payment. Replace the entire subsection with the following:

Payment for concrete curb or curb and gutter around new curb ramps (excluding integral curb and curb/gutter associated with driveways, alley intersections and cross-gutters) shall include all labor, work and materials necessary to construct joints and keyways, sawcutting, removal and disposal of existing materials, root pruning, subgrade preparation, base, formwork,

concrete material, curing, protection, testing, reconstruction of adjacent 1' or 2' wide AC pavement, protection of existing trees, parkway restoration, maintaining/replacing existing curb drains, replacement of utility valve markings, and shall be per the Contract Unit Price each.

Payment for concrete curb or curb and gutter (excluding integral curb and curb/gutter associated with driveways, alley intersections and cross-gutters) shall include all labor, work and materials necessary to construct joints and keyways, sawcutting, removal and disposal of existing materials, root pruning, subgrade preparation, base, formwork, concrete material, curing, protection, testing, reconstruction of adjacent 1' wide AC pavement, protection of existing trees, parkway restoration, maintaining/replacing existing curb drains, replacement of utility valve markings, and shall be per the Contract Unit Price per linear foot.

Payment for curb gutter transitions to match existing and mountable curbs at connection points and maintenance vehicle pullouts will be measured and paid for as the standard curb or curb and gutter adjacent to the transitions.

Payment for concrete sidewalks shall include all labor, work and materials, sawcutting, removal and disposal of existing materials, root pruning, subgrade preparation, joints as shown in standard plans and construction details and shall include protection of existing trees, parkway restoration, restoring Portland Cement Concrete paving and base located on private property behind a newly constructed driveway apron, base, formwork, concrete material, curing, protection, testing, adjustments to match existing improvements, backfill, sign removal and relocation, and all other work necessary to construct the work complete in place and shall be per the Contract Unit Price per square foot.

Any damaged utility meter valve boxes and traffic signal pull boxes shall be replaced, all utility boxes shall be adjusted to grade, and all costs for this work shall be incidental and included in this item of work.

Payment for driveways, and integral curbs along driveways shall include all labor, work and materials, sawcutting, removal and disposal of existing materials, joints as shown in standard plans and construction details, reconstruction of adjacent 1' wide AC pavement, subgrade preparation, base, formwork, concrete material, curing, protection, testing, adjustments to match existing improvements, and backfill, and shall be per the Contract Unit Price per square foot.

Payment for spandrels, and integral curbs along spandrels shall include all joints and keyways as shown in standard plans and construction details and appendices in these specifications, and shall include all labor, work and materials, sawcutting, removal and disposal of existing materials, subgrade preparation, CMB, formwork, concrete material, curing, protection, testing, protection of existing trees, parkway restoration, and reconstruction of adjacent two (2) foot wide AC pavement, adjustments to match existing improvements and all other work necessary to construct the work in place and shall be per the Contract Unit Price per square foot.

Payment for patching shall be per the Contract Unit Price per square foot.

SECTION 306 – OPEN TRENCH CONDUIT CONSTRUCTION

306-1 GENERAL

Add the following section:

306-1.2.1 Sanitary Sewer Manholes. Add the following section:

- 1) Manhole Materials: Sewer manhole materials shall be in accordance with SPPWC standard plan 200-2, and Standard Specifications as follows:

Concrete	201 (ASTM C478)
Water proofing	310-5.9

- 2) Manhole Construction

- a. Soil foundations for manhole base shall be compacted to a density of 95 percent of the maximum density per ASTM D 1557. Compaction limits shall be 12-inches beyond the perimeter of the concrete base and shall be a minimum of 12-inches in depth.
- b. Manholes shall be constructed in accordance with standard plan 200-2 (Appendix IV).
- c. Invert elevation of the pipes entering or exiting the manhole and interior inverts shall not vary more than 0.05 foot from the elevations of the existing sewers.
- d. All concrete used for poured foundations, mortar, fillet, grout, and pipe supports shall be class 560-C-3250 per the Standard Specifications.
- e. Depending on the size of the pipe, connections to existing manholes shall be made by core drilling through manhole base.
- f. The interior of manholes shall have a crystalline waterproofing application per Section 310-5.6.

- 3) Precast Concrete Manholes

- a. The vertical sections of the manhole may be of different heights in order that manholes of various depths can be readily assembled.
- b. Vertical sections of the manhole shall conform to the requirements of ASTM C 478.
- c. The contractor shall submit shop drawings of the precast sections and eccentric cone to the Engineer for review and approval.
- d. Circular precast manhole sections shall be provided with mastic gasket to seal joints between sections, such as RAM-NEK, KENT, SEAL, or approved equal.
- e. All lifting holes, except in manhole covers, and gaps at joints shall be filled with a non-shrink grout.

- 4) Manhole Steps

- a) Manhole steps will be polypropylene-molded over 3/8-inch steel reinforcing rod, Model No. PS-2-FS. M.A. Industries, Inc., or approved equals.
- b) Steps will be spaced uniformly in each manhole. Spacing may be between 12 inches to 16 inches on center. Lower step will be 12 inches above manhole shelf or top of main. The upper step shall be 6 inches below the top portion of the eccentric cone or 6 inches below the bottom of the flat cover. Also, the steps shall be aligned vertically with the opening of the cone or cover.
- c) Steps shall protrude from the manhole interior surface 5 inches.
- d) Holes shall be drilled or precast per manufacturer's recommended size, or of sufficient

size to allow for step insert into the wall. If the hole has been drilled too large, then the step shall be secured in place by using epoxy grout for the full depth of the drilled hole.

- 5) Manhole Frame and Cover. The manhole frame and cover shall conform to the Standard Specifications Section 206-3 and APWA Standard Plan 200-2 "Torrance Sewer" shall be cast into the cover.
- 6) Testing of Sewer Manholes
 - a. All sanitary sewer manholes shall be tested for leakage by plugging the inlet and outlet sewer pipes with tight plugs, filling the manhole with water to a depth of four feet above the top of the pipe or two feet above the existing ground water level, whichever is greater, and allowing one hour for saturation of the manhole material. After the one hour saturation period, the manhole shall be refilled to the original level. Two hours after the refilling, the difference in water surface elevation from original to final level shall be measured and converted into gallons per hour lost through manhole leakage.
 - b. The allowable leakage for manholes shall be 0.75 gallon per hour per foot diameter of the manhole.
- 7) Payment. New sanitary sewer manhole shall be paid at the unit Bid Price each, accepted in place. Bid price shall include all the manhole subbase, base, sections, frame and cover, and incidental items to complete the work.

306-1.2.2 SEWER BYPASS.

1) Submittals

- a) The Contractor shall submit for the Owner's approval, a written by-pass pumping plan at least ten (10) working days prior to the beginning of any individual construction process where by-pass pumping is needed. The plan shall contain a contingency plan in the event of pump(s) failure, the sequence of construction and a list of all piping, pumps, plugs, etc. required for each site.
- b) The Contractor shall submit a list of all the equipment to be used in by-pass pumping process including the capacity of pumps to be used.

2) General

- a) When by-pass pumping is required, the Contractor shall supply the pumps, conduits, and other equipment to divert the flow of sewage around the pipe section from manhole to manhole or pipe to pipe in which work is to be performed. The by-pass system shall be of sufficient capacity to handle existing flow plus additional flow that may occur during a rainstorm. The Contractor shall have on-site backup pumps capable of pumping 150% of the existing flow.
- b) All pump(s) drives shall have noise suppresser exhaust systems to mitigate the noise levels to less than 50db or 10db above ambient noise levels when measured at the property lines closest to the noise source.
- c) The sewage flow from the house laterals shall be maintained during construction and handled in a manner so as not to create a public nuisance or health hazard during the execution of the work to be performed under this Contract. In the event that sewage

backup occurs and enters dwellings or other structures, the Contractor shall be responsible for cleanup, repair, property damage costs and all claims arising there from. All spill shall be contained and returned to the sewer system.

- d) The Contractor will be responsible for furnishing the necessary labor and supervision to set up and operate the pumping and bypassing system.
- e) The Contractor shall provide reliable sewer service to the users of the sanitary sewer at all times, so as to prevent backup and/or overflow into adjacent streets, ditches, storm sewers, and waterways during rehabilitation of the sewer pipes to allow for manhole construction, rehabilitation, and CCTV inspection.
- f) Payment for sewer bypass plans and bypasses shall be included in the contract bid item for sewer by-pass and no extra costs shall be allowed.

306-3 Trench Excavation

306-3.1 General. Add the following:

All trenches shall be sawcut to the bottom of the existing concrete or asphalt section to minimize damage to adjacent pavement. The bottom of the trench shall be excavated uniformly to the grade of the bottom of the pipe and shall be given a final trim using a string line for establishing grade, such that each pipe section when first laid will be continually in contact with the ground along the extreme bottom of the pipe.

Tunneling shall be performed under existing curb, gutter and cross-gutter as shown on the Plans. The Contractor shall exercise caution and care to prevent any damage in tunneling under these structures. There shall be no additional payment for this tunneling work. Payment for this work shall be included in the Contract Unit Price for the installation of the main pipeline.

306-3.2 Removal of Surface Improvements. Removal of surface improvements shall conform to 300-1.3.

306-3.4 Minimum and Maximum Pipe Zone Trench Width. Add the following:

For sewers, potable and reclaimed water pipelines and storm drains, the bottom of the trench shall have a minimum width equal to the outside diameter of the pipe plus 12 inches and a maximum width equal to the outside diameter of the pipe plus 16 inches, unless otherwise shown on the Plans.

306-3.5 Maximum Length of Open Trench. Replace the first paragraph with the following:

For work areas where the work zone is created by daily lane closures, the total length of work area, covering elements of the Contractor's operation, from exploratory excavations and pavement cutting to pipe installation and placement of base paving, shall be no more than 1,000 feet, or as limited by the applicable permit or traffic control staging plan. The maximum length of open trench shall be 300 feet, or the distance necessary to accommodate the amount of pipe installed within the permitted work hours, whichever is greater. The distance is the collective length at any location, including open excavation, pipe laying and appurtenant construction and backfill which has not been temporarily resurfaced.

The Contractor shall either place backfill or steel plate or place temporary or base pavement at the

end of each work day so he can open all travel lanes to traffic. The last twenty (20) feet of each trench may be open provided that this length is covered with traffic rated plating. Steel plates shall be non-skid and shall be tacked down or spiked and placed flush with the surrounding pavement. The Contractor shall be required to place temporary AC at the edges of the steel plates.

The above requirements for backfilling or use of steel plates will be waived in cases where the trench is located further than 100 feet from any traveled roadway or occupied structure. In such cases, however, barricades and warning lights satisfactory to the Engineer shall be provided and maintained.

Add the following subsections:

306-3.7 Trench Over-Excavation. Trenches shall be over-excavated beyond the depth shown when ordered by the Engineer. Such over-excavation shall be to the depth ordered. The trench shall be refilled to the grade of the bottom of the pipe with either selected granular material obtained from the excavation, sand or crushed rock, at the option of the Engineer. When crushed rock is ordered, the material shall be a well-graded material of 1-1/2 inch maximum size. Bedding material shall be placed in layers brought to optimum moisture content, and compacted to 95 percent of maximum density where the pipeline trench passes under structures and 90 percent elsewhere. All work specified in this subsection shall be performed by the Contractor and paid in accordance with the unit Bid Price.

Any over-excavation carried below the specified grade and not ordered by the Engineer, specified or shown on the Plans, shall be refilled to the required grade with suitable selected granular material. Such material shall be moistened as required and compacted to 95 percent of maximum density under structures and 90 percent elsewhere. Such work shall be performed by the Contractor at its own expense.

306-3.8 Excavation in Lawn Areas. Where pipeline excavation occurs in lawn areas, the sod shall be carefully removed and stockpiled to preserve it for replacement. Excavated material from the trench may be placed on the lawn provided a drop cloth or other suitable method is employed to protect the lawn from damage. The lawn shall not remain covered for more than seventy-two (72) hours. Immediately after completion of backfilling and testing of the pipeline, the sod shall be replaced in a manner so as to restore the lawn as near possible to its original condition.

Except where trees are shown on the Plans to be removed, trees shall be protected from injury during construction operations. No tree roots over 2 inches in diameter shall be cut without express permission of the Engineer. Trees shall be supported during excavation as may be directed by the Engineer.

306-6 BEDDING

306-6.1 General. Add the following:

There shall be 8 inches minimum of bedding below the pipe barrel of sewer. Native material and sand are unsuitable for bedding of 8" or larger pipes.

306-7 PREFABRICATED GRAVITY PIPE

306-7.1 General. Add the following:

At all times when the work of installing sewer is not in progress, all openings into the pipe and the ends of the pipe in the trenches or structure shall be kept tightly closed to prevent entrance of

animals and foreign materials. The Contractor shall take all necessary precautions to prevent the pipe from floating due to water entering the trench from any source, shall assume full responsibility for any damage due to this cause and shall, at no cost to the CITY, restore and replace the pipe to its specified condition and grade if it is displaced due to floating. The Contractor shall maintain the inside of the pipe free from foreign materials and in a clean and sanitary condition until its acceptance by the Engineer.

All exposed piping shall be adequately supported with devices of appropriate design. Where details are shown on the Plans, the supports shall conform thereto and shall be placed as indicated; provided that the support for all piping shall be complete and adequate regardless of whether or not supporting devices are specifically called for on the Plans.

306-12 BACKFILL

306-12.1 General. Delete the seventh through the eleventh paragraphs and replace with the following:

Where trench is less than or equal to two (2) feet wide in the roadway, the trench shall be backfilled with a sand-cement slurry (100-E-100) backfill per City of Torrance Standard Plan No. T116-M Notes 1A and 2A, unless otherwise approved by the Engineer.

Where trench is greater than two (2) feet wide or if trench walls are sloped, the trench shall be backfilled with Crushed Miscellaneous Base or other material with a sand equivalent of 30 or greater and shall be select granular material free from organic matter per City of Torrance Standard Plan No. T116-M, Notes 1A and 2A. Imported backfill material shall be in accordance with 306-1.3.7. Backfill material shall be moistened to optimum moisture content and compacted to 95 percent of maximum density in the upper 3 feet and 90 percent below the upper 3 feet.

306-12.3.2 Mechanical Compaction Requirements. Replace the entire subsection with the following:

Mechanically compacted trench backfill shall be densified to a minimum relative compaction of 95 percent in the upper 3 feet of backfill and 90 percent below the upper 3 feet.

Add the following subsection:

306-12.3.3 Acceptance Testing.

Tests to determine materials compaction shall be performed by a separate CITY-hired subcontractor, at the CITY's expense, except that all tests which fail to meet the requirements of these Special Provisions shall be paid for by the Contractor. Maximum density shall be determined in accordance with ASTM D1557 method, modified to use five layers. Field density tests shall be performed in accordance with the test procedure specified in ASTM D1556.

306-12.4.2 Jetted Bedding and Backfill Compaction Requirements. Replace the entire subsection with the following:

Trench bedding and backfill densified through jetting shall be densified to a minimum relative compaction of 95 percent in the upper 3 feet of backfill and 90 percent below the upper 3 feet.

306-13 TRENCH RESURFACING

306-13.1 Temporary Resurfacing. Delete the last two paragraphs and replace with the following:

For concrete slurry backfill, a minimum of 24 hours shall elapse before temporary resurfacing will be allowed to be placed on the backfill. All temporary resurfacing shall be flush to adjacent surfaces. The Contractor shall be responsible to immediately repair or replace any damaged or settled resurfacing. The temporary resurfacing shall be replaced with permanent resurfacing not more than 15 calendar days after placement of temporary resurfacing.

There shall be no separate payment for temporary resurfacing. Full compensation for furnishing, placing, maintaining, removing, and disposing temporary resurfacing materials shall be included in the Contract Unit Price for various items of work.

306-13.2 Permanent Resurfacing. Add the following:

Pavement removed or damaged in connection with performing the Work required under the Contract shall be replaced by the Contractor in accordance with these Special Provisions and City of Torrance Standard Plans. If a strip of existing pavement less than 4 feet wide is left between a trench and a gutter or curb or edge of pavement, it shall be removed and new pavement placed in its stead. In cutting or breaking up street surfacing, the Contractor shall not use equipment which will damage the adjacent pavement. If the adjacent pavement is damaged, the Contractor shall be responsible for replacing the pavement with the same kind or better at its expense.

306-15 PAYMENT

306-15.1 Basis of Payment for Open Trench Installations. Add the following as first sentence of the first paragraph:

This subsection shall apply to payment of installed potable water mains, sewer and storm drain pipes.

The price per linear foot for pipe and conduit in place shall be considered full compensation for all wyes, tees, bends, monolithic catch basin connections, and specials shown on the Plans; the removal of interfering portions of existing pipelines, sewers, storm drains, and improvements; the closing or removing of abandoned conduit and structures; the excavations of the trench; the control of ground and surface waters; the preparation of subgrade; placing and joining pipe; connecting to existing systems; beddings; backfilling the trench; permanent resurfacing; construction survey; pressure testing, and all other work necessary to install the pipe or conduit, complete in place.

Add the following subsection:

306-16 CURB DRAINS.

The Contract Unit Prices for curb and gutter or sidewalk shall include full compensation for maintaining the curb drain complete in place. Said Contract Unit Prices shall include, but not be limited to, construction of the inlet and pipes or culvert, connections to existing pipes, and assurance that said outlet has positive drainage flow.

SECTION 310 - PAINTING

310-5 PAINTING VARIOUS SURFACES.

Use Sections 84-1 and 84-2 of the Caltrans Standard Specifications.

SECTION 84: TRAFFIC STRIPES AND PAVEMENT MARKINGS

84-1 GENERAL Add the following:

The Contractor shall restore paint red curb markings eliminated due to repair work. When street addresses painted on curb faces have been eliminated due to work associated with this contract, each street address shall be restored by painting on the face of new curb. Background shall be white in color and address numbers shall be black in color and 4 inches in height. Existing paint markings on curbs shall be removed prior to applying the new paint markings.

84-1.01 Description. Replace the first two paragraphs with the following:

This work shall consist of applying thermoplastic traffic stripes (traffic lines) and pavement markings at the locations and in accordance with the details shown on the Plans or designated by the Engineer, and as specified in these Specifications and Special Provisions.

The thermoplastic material shall conform to the provisions of 84-2.02 of the Caltrans Standard Specifications.

84-2.06 Payment. Replace the entire subsection with the following:

Payment for restoring red curb, utility/valve markings, and Street Addresses removed as part of the contract work shall be per the Contract Bid Price and no additional payment shall be allowed therefore. The amount that shall be paid to the Contractor shall be the actual cost for furnishing all labor, materials, tools, equipment, and incidentals, necessary to complete the Work with the allowed mark-up or extra costs per these Specifications, except the Contractor shall be solely responsible for any fee charged to re-inspect rejected or incomplete work.

310-5.9 Waterproofing (Concrete)

310-5.9.1 General. The Contractor shall furnish all material. Labor and equipment necessary to waterproof the interior and exterior of all manholes and vaults.

310-5.9.2 Surface Preparation

- 1) Do not treat concrete surfaces with chemical hardeners or curing agents prior to the application of waterproofing.
- 2) Examine surfaces to be waterproofed for form tie holes and structural defects, such as honeycombing, rock pockets, faulty construction joints, cracks, etc. Repair these areas in accordance with Section 303.
- 3) Concrete surfaces shall have an open capillary system to provide tooth and suction and shall be clean, free from scale, form oil, latency, curing compounds, and any other foreign matter. Lightly sandblast, water blast, or acid etch with muriatic acid (15% to 20%) to provide a clean absorbent surface. Saturate surfaces to be acid etched with water prior to application of acid. Vertical surfaces may have a sacked finish. Do not apply a slurry coat of water materials to horizontal concrete deck surfaces that are less than 20 hours old.
- 4) Use light sandblasting or etching to remove the surface glaze of dense or steel troweled concrete.
- 5) Abrasive clean and wash construction joints.

310-5.9.3 Application

- 1) After completing repairs, apply a top-coat system to the concrete surfaces to be treated, apply after curing and finishes are complete. Application of waterproofing and point top coatings shall conform to the manufacturer's recommended application procedures.
- 2) The Contractor shall have the manufacturer's representative advise and/or supervise the waterproofing application in person.
- 3) Apply crystalline waterproofing material to concrete, which has been thoroughly saturated with clean water. Moisten surfaces to be treated prior to application. Remove free water prior to application of waterproofing material.
- 4) Apply crystalline waterproofing to:
 - a. Interior walls and roof of concrete vaults and manholes. Exterior walls of concrete vaults and manholes.
 - b. Joints of precast concrete manholes as shown on the Plans.
 - c. The interior surfaces shall have a white color and the exterior a gray color.
- 5) Apply a second coat when the first coat has reached an initial set. Use light water spray on surfaces to be coated if rapid drying occurs.

310-5.9.4 Payment. There shall be no separate payment for waterproofing. This cost shall be included in the work to which it is appurtenant.

SECTION 314 – TRAFFIC STRIPING, CURB AND PAVEMENT MARKINGS, AND PAVEMENT MARKERS

Delete the entire Section 314 and replace with Sections 85-1.06, 85-1.07 and 85-1.09 of the Caltrans Standard Specifications.

85-1.06 Placement. Add the following:

The solid 4" white lines at intersections shall have a marker installed at each end. These markers shall be placed on the line.

Markers shall not be installed on bike lane striping.

85-1.09 Payment. Add the following:

There shall be no separate payment for pavement markers. Full compensation for furnishing all labor, materials, tools, equipment and incidentals, and for doing all the work involved in furnishing and placing pavement markings, complete in place, including adhesives and establishing alignment for pavement markers, as shown on the Plans, and specified in these Special Provisions shall be included in the Contract Unit Price for traffic striping and pavement markers as described in Section 84-2.06 of these Special Provisions.

PART 8 – LANDSCAPING AND IRRIGATION

SECTION 800 – MATERIALS

800-1 LANDSCAPING MATERIALS. Add the following:

All work specified in this section shall conform to the applicable requirements of ANSI Standard Z60.1-1980, "Nursery Stock," and to the rules and grading provisions adopted by the American Association of Nurserymen, Inc.

800-1.1 Topsoil.

800-1.1.1 General. Add the following:

Unless otherwise specified on the Plans or required by the Engineer, topsoil shall be Class "C" in accordance with the requirements of 212-1.1.4. Imported soil, if required, shall be Class "A" topsoil in accordance with the requirements of 212-1.1.2.

The Contractor shall provide an Agricultural Soil Suitability Report for topsoil to be furnished, and the requirements for fertilization and amendments as specified herein may be modified as necessary by the Engineer prior to start of the work of this section.

800-1.2 Soil Fertilizing and Conditioning Materials

800-1.2.3 Commercial Fertilizer. Add the following:

Commercial Fertilizer shall be 12-12-12 (N-P-K.) Slow release tablets, if used, shall be 12-12-12 (N-P-K).

800-1.2.4 Organic Soil Amendment. Add the following:

Type I organic soil amendment shall be used. The Contractor shall supply the Engineer with a sample of the proposed amendment accompanied by a laboratory analytical analysis from a testing agency registered by the State, which states that the amendment complies with the specifications.

800-1.2.5 Mulch. Add the following:

Bark mulch shall be shredded cedar, pine, or fir bark or equal commercial product. Typical mulch size shall be three inches by one-half inch (3" x 1/2"). Submit two (2) samples to the Engineer for approval prior to installation. The material shall be free of seeds, debris, and deleterious materials, and shall have a rich brown color when supplied.

800-1.4 Plants.

800-1.4.1 General. Add the following:

All plants furnished by the Contractor shall be true to type or name as shown on the Plans and shall be tagged in accordance with the standard practice recommended by the Agricultural Code of

the State of California; however, determination of plant species or variety shall be made by the Engineer, whose decision shall be final.

All plants shall have been grown in nurseries that have been inspected by the governing authorities. Inspection of plant materials required by City, County, State, or Federal authorities shall be the responsibility of the Contractor, and it shall have secured permits or certificates prior to delivery of plants to site. Certificates of inspection shall be filed with the Engineer.

The Contractor shall obtain clearance from the County Agricultural Commissioner, as required by law, before planting plants delivered from outside the County in which they are to be planted. Evidence that such clearance has been obtained shall be filed with the Engineer.

Plants shall be subject to inspection and approval or rejection by the Engineer at place of growth and/or upon delivery to the site at any time before or during progress of the work. Inspections shall include:

- a) Quantity, quality, size, and variety;
- b) Ball and root condition;
- c) Latent defects and injuries resulting from handling, disease and insects;
and
- d) Uniformity of plant materials.

The Contractor shall notify the Engineer forty-eight (48) hours before the delivery of plant material, so the plants can be inspected prior to planting.

The Contractor is responsible to coordinate contract growing any plant material that is not readily available at local nurseries. The Contractor shall research the availability of every plant at the beginning of the project to allow sufficient time to contract grow plant material for installation without delays. Contract grown plant material shall be grown to the size indicated on the plans and delivered to the site in a healthy and vigorous condition.

800-1.4.2 Trees. Add the following:

Prior to any tree removal, disturbances that cause bird nest abandonment and/or loss of reproductive effort (e.g. killing or abandonment of eggs or young) may be considered taking and are potentially punishable by fines and/or imprisonment, per the Migratory Bird Treaties Act of 1918 and the California Department of Fish and Wildlife Code. Avoiding violation of the taking provision generally requires that the project-related disturbances of active nests and territories be reduced or eliminated during the nesting cycle, typically beginning in Spring and ending in early Summer. The Contractor shall make every effort to protect all birds and nests within affected trees.

Before commencing work, the Contractor shall perform a visual inspection of the entire tree and shall check for any sign of bird nesting within the tree. Should there be any sign of nesting, the Contractor shall immediately notify the Engineer or assigned representative about the existing nest and shall jointly verify whether the nest is active or not. If the nest is inactive, the Contractor shall request for further direction from the Engineer or assigned representative prior to tree removal. If the nest is active, the Contractor shall not proceed with tree removal. The Engineer or assigned representative will notify the Contractor whether to re-visit the tree at a later date to confirm if the nest is still active and if removal of the tree is possible.

Trees shall be of the type and size as shown. Trunk caliper shall be a minimum of 2 inches. Tree locations shall be free of any obstructions (guy wires, etc.).

For single-trunk trees: the trunk shall be straight, slightly tapered at the crown, free of disfigurements or gnarls and well hardened off. The tree shall be free of disease and parasites. For multi-trunk trees: the trunk shall be well hardened off and the tree free of disease and parasites.

800-1.5 Headers, Stakes, and Ties

800-1.5.3 Tree Stakes. Replace the first paragraph with the following:

Tree stakes shall be either 2-inch diameter lodge pole pine, treated with copper nanthanate or pressure treated with chromated copper arsenate, or galvanized steel pipe, per 308-4.6.1 (Method A) and City of Torrance Standard Plan No. T401.

Add the following:

Tree ties shall be a commercially manufactured tie, split plastic hose with a minimum length of twenty inches (20"). Split plastic hose ties shall be "Cinch-tie" by V.I.T. or approved equal.

Add the following section:

800-1.5.4 Tree Trunk Protector

Tree trunk protector shall be a minimum of 9-inches tall and shall be Arbogard or approved equal.

800-2 IRRIGATION SYSTEM MATERIALS

800-2.1 Pipe and Fittings

800-2.1.1 General. Replace the entire subsection with the following:

Irrigation pipe materials and fittings shall be as designated on the Plans and shall comply with 800-2.1.3.

Add the following subsection:

800-2.1.6 Swing Joint Risers. Risers shall be ¾ inch double swing type per APWA Standard Plan No. 517-3 modified to allow substitution of Schedule 80 PVC for galvanized steel pipe and 4" minimum nipples. At the sole discretion of the Engineer, swing pipe per Rainbird Model SP-100 or approved equal may be substituted for swing joint risers.

800-2.2 Valves and Valve Boxes.

800-2.2.4 Remote Control Valves. Add the following:

Electric Remote Control Valves shall be Bermad, 710 series, FVM or approved equal.

800-2.2.6 Quick-coupling Valves and Assemblies. Add the following:

Quick couplers shall be Rainbird Model No. 33D-LRC or approved equal.

800-2.2.7 Valve Boxes. Replace the entire subsection with the following:

Valve boxes shall be made of durable green plastic with locking lids in accordance with APWA Standard Plan No. 506-3. Boxes shall be sized to give maintenance freedom and access. All valve box lid locks shall use a common key.

800-2.3 Backflow Preventer Assembly. Add the following:

The backflow preventer shall be FEBCO Model No. 825Y or approved equal conforming to the requirements of Los Angeles County Department of Health Services.

800-2.4 Sprinkler Equipment. Add the following:

The full-circle, part-circle or rectangular spray nozzles shall be capable of meeting the requirements for the area or radius shown on the Plans. The pop-up sprinklers shall be Toro, Series 640 or approved equal. Spray plastic nozzles shall be Toro, Series 570 Stream Spray Nozzles or approved equal. Bubbler heads shall be Toro, Series 570 Flood Bubbler Nozzles or approved equal.

Add the following subsection:

800-2.5 Pressure Relief Valve. Pressure Relief Valve shall be Cash Acme Model No. F-72 or approved equal; and shall be set at 125 psi.

800-3 ELECTRICAL MATERIALS

800-3.2 Conduit and Conductors.

800-3.2.2 Conductors. Add the following:

Neutral Wires: (White (#12 AWG). Do not interconnect neutral wires between controllers.

Spare Wires: Two (2) red and one (1) white spare wires (#12 AWG) shall be run in each direction from furthest valve of furthest valve manifold on each mainline run to each controller.

Loop 36-inch excess wire into each single valve box and into one valve box in each group of valves.

Pilot wires: (14 AWG) or larger as recommended by controller manufacturer for the corresponding run distance. Contractor shall field verify run distances prior to installation.

Wireless Connections: Neutral, pilot, and spare wires shall be installed with two-foot (2') excess coiled wire length at each end enclosure, valve box or pull box. For low voltage installations, a continuous wire shall be used between the controller and remote control valves. Each and every wire splice shall be soldered (using 60-40 solder) together, then encased in the waterproofed epoxy of the "Scotch-Pac" or "Pen-Tite" connectors. Wire splices shall be made only in valve or pull boxes. Under no circumstances shall splices exist without prior approval from the Engineer.

Add the following subsections:

800-3.4 Controller Enclosure. The enclosure shall be per the irrigation legend on the irrigation drawings.

800-3.5 Hydraulic Tubing. Hydraulic tubing shall be ¼ inch polyethylene tubing, Toro Model 900-14 or approved equal. Splicing shall be with waterproof plastic coupling devices, Toro Model 900 or approved equal. The Contractor shall remove all damaged tubing and all tubing that has interior deposits resulting from Contractor's construction activities.

SECTION 801 – INSTALLATION

801-2 EARTHWORK AND TOPSOIL PLACEMENT.

801-2.1 General. Add the following:

The landscape work shall not begin until all other trades have repaired all areas of settlement, erosion, rutting, etc., and the soils have been re-established, recompacted and refinished to final grades. The Engineer shall be notified of all areas where the landscape work is prevented from being executed.

Surface drainage shall be provided by modeling the surfaces to facilitate the natural run-off of water. Low spots and pockets shall be filled with topsoil and graded to drain properly.

801-2.2 Topsoil Preparation and Conditioning

801-2.2.1 General. Substitute Class A with Class C in the first sentence of the first paragraph.

Add the following:

Before soil preparation operations are started in any area, the Contractor shall remove and dispose of all trash and any other debris on the surface of the ground.

Mowing and spraying operations shall be performed in all areas throughout the limits of the landscape portion of the Work. The sequence of operations shall be determined by the Engineer. Before applying any chemical spray material, the Contractor shall obtain from the Engineer written approval of the material to be used, the rate, and method of application.

Stolon-type grasses and weeds shall be killed by spraying with an approved weed control chemical. Other weeds shall be mowed as close to the ground as possible. Such weeds or grasses shall be removed by grubbing prior to cultivating.

Any weed growth which subsequently appears shall be killed by additional spraying before the weeds exceed two (2) inches in height. At the time of planting, each area to be planted shall be free of living weeds of any height.

The Contractor immediately shall remove and dispose of mowed weed growth and all other debris generated by clearing and grubbing when so directed by the Engineer.

801-2.2.2 Fertilizing and Conditioning Procedures. Add the following:

The conditioning material per 1000 square feet shall be:

- a) Four (4) cubic yards nitrogen stabilized organic amendment derived from redwood, fir or cedar sawdust.

- b) Fifteen (15) lbs. 12-12-12 commercial fertilizer.
- c) Fifteen (15) lbs. soil sulfur.

The Contractor shall apply post-plant fertilizer at the rate of twenty pounds (20 lbs.) per 1,000 sq. ft., thirty (30) days after planting and once again at the end of the post-construction maintenance period.

801-2.3 Finish Grading. Replace the second paragraph with the following:

The finish grade below adjacent paving, curbs or headers shall be one inch in lawn areas and three inches in shrub or groundcover areas.

801-4 PLANTING

801-4.1 General. Add the following:

Planting work shall not begin until the area's irrigation system has been installed, operational and passed inspection.

Inspection and approval of specimens shall be required before delivery to site; all others on delivery. Any plants rendered unsuitable for planting because of this inspection shall be considered as samples and shall not be paid for. In case the sample plants inspected are found to be defective, the Engineer reserves the right to reject the entire lot or lots of plants represented by the defective samples. Rejected plants shall be removed from the site immediately. Random samples will be inspected for root condition.

All plants shall be true to name, and one of each bundle or lot shall be tagged with the name and size of plants, in accordance with the standards of practice recommended by the American Association of Nurserymen. The root condition of plants furnished in containers shall be determined by removal of earth from the roots of not less than two (2) plants, nor more than 2 percent (2%) of the total number of plants of each species or variety, except when container-grown plants are from several different sources; in which case, the roots of not less than two (2) plants of each species or variety from each source shall be inspected by the Engineer at his option. The selection of plants to be inspected will be made by the Engineer.

All plants of the same species and container size (i.e., the same specification) shall be uniform in size and shape and at the same stage of growth to the satisfaction of the Engineer.

All plants shall be fully acclimated and in an active growing state.

The Contractor shall remove all lateral growth that is not acceptable and/or shape all plants to the satisfaction of the Engineer.

All plants shall be full-sized and shall have root systems at a fully developed state within the container.

Hair roots should extend to the edge of the container. No plant shall be root-bound. Root balls may require scarification to the satisfaction of the Engineer.

No boxed, balled or canned plants shall be planted if the ball is broken or cracked, whether before or during the process of planting. Any plant transplanted by the Contractor that dies or has

bark, branch or die-back injury shall be replaced at the Contractor's expense with an equal plant to the satisfaction of the Engineer.

Before plants are transported to the planting area, they shall be properly pruned or cut back to reduce damage by wind and to force lateral growth.

No plants shall be transported to the planting area that are not thoroughly wet throughout the ball of earth surrounding the roots. Plants should not be allowed to dry out, nor shall any roots be exposed to the air except during the act of placement. Any plant that, in the opinion of the Engineer, is dry or in a wilted condition when delivered or thereafter, whether in place or not, will not be accepted and shall be replaced at the Contractor's expense.

All inspections herein specified shall be made by the Engineer. The Contractor shall request inspection at least 48 hours in advance of the time inspection is required. Inspection shall be required on the following stages of the work:

- a) During preliminary grading, soil preparation, and initial weeding.
- b) When plants are spotted for planting, but before planting holes have been excavated.
- c) When finish grading has been completed.
- d) When all specified work, except the maintenance period has been completed.
- e) Final inspection at the completion of the maintenance period.

The Contractor's failure to obtain inspection will extend the start and/or finish of the maintenance period as applicable, unless otherwise agreed to in writing by the Engineer.

801-4.5 Tree and Shrub Planting. Replace the fourth paragraph with the following:

All planting holes shall be backfilled with a prepared soil mix conforming to the following requirements:

- 4 parts by volume nitrogen-stabilized organic amendment
- 6 parts by volume on-site soil*
- 1 lb. 12-12-12 commercial fertilizer per cubic yard of mix
- 2 lbs. iron sulfate per cubic yard of mix

*from area(s) approved by Engineer

The materials shall be thoroughly mixed to the bottom of the pit so that they are evenly distributed and without clods or lumps. Backfill shall be so placed in the pits that the plant will be at its natural growing height and the backfill material will be level one inch below surrounding soil after settlement.

Fertilizer planting tablets (twenty-one (21) gram size and shall be placed with each plant at the following rates:

- One (1) tablet per one (1) gallon container;
- Two (2) tablets per five (5) gallon container;
- Four (4) tablets per fifteen (15) gallon container;
- Eight (8) tablets per 24" box container
- One (1) tablet per each three inches (3") of box size greater than 24".

Center plant in pit or trench on slight pedestal. Face plants with fullest growth into prevailing wind. Set plant plumb and hold rigidly in position until soil has been tamped firmly around ball or roots. Position the plant in the hole and backfill no higher than halfway up the root ball. If required,

place the recommended number of tablets evenly around the perimeter of, and immediately adjacent to, the root ball at a depth which is between the middle and the bottom of the root ball. Complete the backfilling, tamp (eliminating all air voids) and water. Do not pack.

Except for street trees, construct a berm 4" above finish grade, extending 4" to 6" beyond edge of root ball, forming a watering basin with a level bottom around each plant. After a minimum of 2 days soaking and the regular irrigation system is operating, the berm area shall be smoothed to finish grade.

801-4.8 Lawn Planting

801-4.8.2 Seed. Add the following to Method B.

Prior to the application of hydro-mulch, the fine grading of all lawn areas shall be inspected and approved by the Engineer. Seedbeds shall be treated with 5% Dieldrin in granular form at the rate of 3 1/2 pounds per 1000 square feet and lightly watered. After 24 hours (minimum) have elapsed, the seedbeds shall be prewetted prior to hydroseeding and shall be kept continually moist after hydroseeding.

All equipment used to apply hydromulch shall be subject to the approval of the Engineer. The equipment shall have a built-in agitation system and operating capacity sufficient to agitate, suspend and homogeneously mix a slurry containing not less than 40 lbs. of fiber mulch plus a combined total of 7 lbs. fertilizer solids for each 100 gallons of water.

Hydraulic spray nozzles shall provide a continuous non-fluctuating discharge. The slurry tank shall have a minimum capacity of 1,500 gallons and shall be mounted on a traveling unit, either self-propelled or drawn by a separate unit, which will place the slurry tank and spray nozzle within sufficient proximity to the areas to be seeded.

The slurry preparation shall take place at the site of Work and shall begin by adding water to the tank when the engine is at half throttle. When the water level has reached the height of the agitator shaft, good re-circulation shall be established and at this time the seed shall be added. Fertilizer shall then be added to the mixture after the seed and when the tank is at least one-third filled with water.

The engine throttle shall be opened to full speed when the tank is half filled with water. All the wood pulp mulch shall be added by the time the tank is two-thirds to three-fourths full. Spraying shall commence immediately when the tank is full.

Spray the area with a uniform visible coat using the dark color of the cellulose fiber or organic amendment as a visual guide. The slurry shall be applied in a downward drilling motion via a fan stream nozzle. It is important to ensure that all of the components enter and mix with the soil.

All slurry mixture which has not been applied within four (4) hours after mixing shall be rejected and removed from the Work at the Contractor's expense.

Special care shall be exercised by the Contractor to prevent any of the slurry from being spilled or sprayed anywhere except onto areas to be hydroseeded. Any spillage or overspray immediately shall be removed by and at the expense of the Contractor to the satisfaction of the Engineer.

Seed shall be applied at a minimum rate of five (5) pounds per 1000 square feet.

If complete and full germination is not obtained within 14 days, the Contractor shall hand seed with the same seed mixture and top dress with nitrohumous and redwood soil amendment all areas designated by the Engineer.

Add the following subsections:

801-4.10 Parkway Trees

801-4.10.1 General. The CITY maintains a tree conservation policy. The Contractor is required to assist the CITY in its efforts to conserve trees.

The Contractor shall be required to provide a Consulting Arborist (CA) to review and guide its operations that may impact trees to remain. The CA shall be required to have Certification as an Arborist by the International Society of Arboriculture (217-355-9411), unless otherwise approved by the Engineer.

The CA shall inspect all work locations and assess the impact of construction on existing trees to remain. If the CA determines that destructive impact is likely, Contractor is required to modify its operations to reduce the likelihood of damage to the fullest extent feasible. Contractor shall be responsible to schedule its operations in a manner that will permit the CA to view areas after removals and prior to construction, as necessary.

The CA shall spot-check representative operations and modifications employed to protect existing trees. A preliminary identification of trees that may potentially be impacted has been made by the Engineer. The CA shall check these and other locations to assure adequate protective measures are taken.

There shall be no separate payment for the services of the CA. All costs for the CA shall be included in the prices bid for appurtenant work.

801-4.10.2 Conservation Methods. Manual operations shall be employed for the removal of sod and soil to establish a finished grade within 4 feet of existing trees to remain.

Tree root systems must remain adequate to withstand heavy windstorms.

Construction equipment, materials, sand, soil, gravel, or other material shall not be placed, parked or stored on the surface of any unpaved areas within the driplines (outermost reach of branches) of street trees. No chemicals, rinstates, or petroleum products shall be deposited within the driplines of street trees.

801-4.10.3 Root Barrier and Pruning. Roots shall be pruned immediately adjacent to the edge of the sidewalk and the back of curb. Cuts shall be 7.5-inches adjacent to sidewalk and 18-inches deep adjacent to curb and gutter. The cuts shall extend 6 feet in each direction along the curb from the center of the tree trunk for a total length of 12 feet or as directed by the Engineer.

Root pruning equipment shall be specifically designed for this purpose, sharpened adequately to sever roots in a clean manner, and equipped with padded tracks or rubber tires to prevent scraping or marking of the roadway or curbs.

Areas root pruned shall be backfilled with Class "C" topsoil either immediately upon completion of root pruning or upon completion of the adjacent work provided that adequate safety and warning devices are placed and maintained at each location.

The Contractor shall repair or replace all utility service connections and sprinkler systems within the right-of-way which are damaged or removed as a result of the root pruning operation. Repairs shall be initiated immediately upon the occurrence of damage or removal and completed by the end of each working day. Repairs and replacements shall be the equivalent of, or better than, the existing improvements in material, dimension, and function. All repairs shall be at the Contractor's expense and to the satisfaction of the Engineer.

Root sealer shall be approved by the Engineer a minimum of two (2) working days prior to the start of root pruning operations and shall be applied to all cut root areas which are larger than 50mm (2 inches) in diameter. The approved sealer shall be applied as soon as practical after the cuts have been made.

When constructing or replacing driveway approaches, roots shall not be cut by means of mechanical root cutting machines. If root removal is essential to driveway construction, roots shall be manually cut using hand implements with guidance from the CA.

Exposed tree roots shall be covered with mulch and watered from a period immediately following curb and gutter removal, until the area is backfilled following construction.

The root barrier shown in City of Torrance Standard Plan Nos. T401 and T402 is hereby deleted from this project.

801-4.11. Payment. Payment for providing prepared topsoil, furnishing and planting trees, shrubs, and plants shall be included in the lump sum Contract Unit Price for Landscaping and Irrigation.

The Contract Unit Price for Parkway Trees shall include full compensation to install the specified 24" box trees complete in place, as shown on the Plans and in accordance with these Special Provisions, including installation of the tree well, providing prepared topsoil, backfill, restoration of adjacent grass and parkway, and all appurtenant work.

801-5 IRRIGATION SYSTEM INSTALLATION

801-5.1 General. Add to the last paragraph:

The record drawings of the irrigation system shall show locations and depths of the following items:

- a) Points of connection.
- b) Routing of sprinkler pressure lines (dimension at a maximum of 100 feet along routing).
- c) All gate valves.
- d) Quick coupling valves.
- e) Rerouting of control wires.
- f) Other related equipment (as directed by Engineer).

The Contractor shall verify the water pressure available at the site before installation of the irrigation system to make sure there is adequate pressure to properly operate the irrigation heads and valves. If the pressure provided at Work site or any other Work condition will create problems

that will prevent proper operation of the irrigation system, the Engineer shall be notified before commencement of any work. Minor additions and adjustments of heads, piping, and circuits shall be made at no additional cost to the CITY where it is necessary to make the irrigation system operate properly.

801-5.2 Trench Excavation and Backfill. Subparagraph b) is amended as follows:

- b) Waterlines continuously pressurized – 36 inches (42 inches under roadways).

Subparagraph c) is amended as follows:

- c) Lateral sprinkler lines – 12 inches (30 inches under roadways).

801-5.3 Irrigation Pipeline Installation

801-5.3.1 General. Add the following:

Trenching machines or other mechanical means of excavation shall not be used for excavation of trenches where such use may damage existing improvements. However, in any case, the Contractor will be held responsible for any damage to existing improvements caused by their operations and any damage so occurring shall be repaired to the satisfaction of the Engineer by and at the expense of the Contractor.

Trench excavation for pipelines shall be made on the alignments shown on the Plans. Unless otherwise shown, lateral water lines shall have a minimum cover of twelve inches (12") of soil. Main water lines shall have a minimum cover of 36" of soil.

Irrigation pipe shall be installed in conformance with 308-5.2.3. Pipe flushing and pressure testing shall conform to 308-5.6.

At any location where irrigation pipe has less than 15" of cover due to interferences or other adjustments, the Contractor shall, at its own expense, provide a galvanized sleeve or other protection to the satisfaction of the Engineer. No extra costs shall be allowed for this protection.

Bedding material for irrigation piping shall be sand conforming to the requirements of 200-1.5.3 (minimum SE of 75) and 200-1.5.5.

Backfill material placed in the pipe trenches and immediately over electrical wiring shall be select material free from stones or other material that might damage the pipe or insulation on the conductors.

Backfill of irrigation pipe shall conform to 308-2.2.

Densification of bedding material shall be per 306-1.3.3.

All trenches shall be compacted to the same compaction as the adjoining area and finished flush with adjoining grades.

Unless otherwise directed by the Engineer, pressure piping shall be provided with PCC thrust blocks. Thrust blocks shall be constructed at the following places:

- a) Where pipe changes direction at fittings.

- b) Where pipe changes size.
- c) Where line terminates.
- d) Around gate valves (bottom half of valve in concrete; bolts exposed for change of top half).

801-5.4 Installation of Valves, Valve Boxes, and Special Equipment. Modify the second sentence of the fifth paragraph to read:

In lawn areas, such equipment shall be installed in valve boxes as described in 212-2.2.7 of these Special Provisions. Boxes shall be set level on 1 cubic foot (1'x1'x1') of gravel. The top of the box shall be set at grade where adjacent to pavement.

Add the following after the fifth paragraph:

Remote Control Valves shall be installed in accordance with APWA Standard Plans and manufacturer's specifications. Remote control valves shall be 6 inches to 8 inches below finished grade, measured to top of cross arm in "open" position, or as detailed on the Plans.

Master RCV shall be installed adjacent to and downstream of the cross connection preventer.

Pressure Relief Valves shall be installed as shown on the Plans in a locking valve box per 212-2.2.7 of these Special Provisions. Set for 125 lb. operation.

Add to the last paragraph.

Backflow devices shall be installed in accordance with the requirements set forth by the Uniform Plumbing Code, latest edition and latest supplements thereto, on GSP, wrapped and set in PCC per City of Torrance Standard Plan No. T711.

801-5.5 Sprinkler Head Installation and Adjustment

801-5.5.2 Location, Elevation, and Spacing. Add the following to the first paragraph:

Any deviation to spacing and location of sprinkler heads shall be reported to the Engineer and have his approval before installation.

Add the following:

The Contractor shall coordinate the installation of all sprinkler heads, including pipe, with the Plans to avoid interfering with trees or other planting and/or permanent pavement.

No spray from sprinkler heads will be permitted to throw into public streets or onto walks, driveways or parking areas.

801-5.10 Payment. Irrigation systems that are damaged during sidewalk repair construction shall be repaired by the Contractor and no additional payment will be allowed therefore.

801-6 MAINTENANCE AND PLANT ESTABLISHMENT. Replace the entire subsection with the following:

The Establishment and Maintenance Period shall begin on the first day after all planting in this Work is completed and accepted, and shall continue thereafter until 90 calendar days have passed. Notify the Engineer at least seven (7) days in advance of completion. Failure by the Contractor to notify the Engineer will delay the start of the Establishment and Maintenance Period.

Should the Establishment and Maintenance Period be extended beyond the prescribed 90 calendar days because of rejection by the Engineer for whatever reason, the entire installation shall remain the responsibility of the Contractor unless otherwise determined by the Engineer. Any rejected material shall be replaced and the 90 calendar day Establishment and Maintenance Period shall be restarted from that time for the replaced material only.

All areas landscaped or restored under this Contract shall be maintained by the Contractor. The Contractor, without any expense to the CITY, shall weed the planted areas as needed and shall remove all accumulated debris from the landscaped areas as needed and/or as called for by the Engineer.

One month after planting, fertilize plants with 12-12-12 (N-P-K) commercial fertilizer at the rate of 3 level tablespoons per 5-gallon plant basin. The Engineer may require additional fertilization at each monthly interval.

Apply Iron Sequestrene as specified by the manufacturer immediately at the onset of any symptom of iron chlorosis. Repeat fertilization monthly for duration of maintenance period.

The above fertilization schedule may be revised by the Engineer if, in his/her opinion, optimal plant health and growth is not being obtained. The Contractor shall comply with all changes as directed.

The Contractor shall be responsible to provide adequate water to all plants without overwatering. Water conservation is mandated. The Contractor shall obtain approval from the Engineer for its proposed irrigation schedule and any changes thereto.

Any plant material found to be dead, missing, or in poor condition during the post-construction maintenance period, shall be replaced immediately at the Contractor's expense. The Engineer shall be the sole judge as to the condition of the material. Replacement shall be made to the same specifications required for the original plantings.

Add the following subsection:

801-6.1. Payment. There shall be no separate payment for Plant Establishment and Maintenance Period. All costs shall be included in bid prices for appurtenant work.

801-7 PAYMENT. Replace the entire section with the following:

There shall be no separate payment for restoring landscaping and irrigation (as detailed in this Section, including prepared topsoil. All costs shall be included in bid prices for appurtenant work.

Add the following section:

801-8 GUARANTEE. Add the following:

The Contractor shall guarantee all workmanship, materials and trees for a period of one (1) year.

The Contractor, without expense to the CITY, shall adjust all irrigation heads to their appropriate operational heights, shall adjust and clean or replace, if necessary, all irrigation heads so that the planting areas are properly covered and they shall be adjusted so as to prevent excessive overflow into the adjacent street right-of-way.

The CITY reserves the right to make temporary repairs as necessary to keep the irrigation system equipment in operating condition. The exercise of this right by the CITY shall not relieve the Contractor of its responsibility under the terms of the Contract as herein specified.

Maintenance shall be done by qualified and experienced irrigation pipefitters.

All fifteen (15) gallon and larger trees installed under the contract shall be guaranteed to live and grow for one (1) year from the date of final acceptance of the contract work unless decline of the tree is specifically attributable to causes unrelated to installation, plant material quality, and the Contractor's maintenance practices.

All other plant material shall be guaranteed to live and grow for a period of ninety (90) calendar days from the date of final acceptance of the contract work unless decline of the plant material is specifically attributable to causes unrelated to installation, plant material quality, and the Contractor's maintenance practices.

During the guarantee period, should the Contractor fail to expeditiously replace dead plant material upon written notification by the Engineer, the CITY shall cause the work to be corrected and bill the actual costs incurred to the Contractor.