

DIVISION 1-GENERAL REQUIREMENT

SECTION 01010 - SUMMARY OF WORK

PART 1 – GENERAL

1.01 SUMMARY

A. General work included in this section:

1. Furnish all labor, materials and equipment required by the Contract Documents or required to complete the Work.
2. Coordinate work of all trades.
3. Furnish and install miscellaneous items incidental to or necessary for completion of the Work, whether these items are specifically indicated in the Contract Documents or not.

1.02 WORK COVERED BY CONTRACT

A. The Work covered under this Contract will be performed at a site called City Hall Parking Lot Improvements, 420 Litho Street within the City of Sausalito. The project location is indicated on the Drawings. A vicinity map is indicated in these specifications.

B. The Work includes, but is not limited to:

1. Demolition of a concrete island, demolition of concrete curb gutter, sidewalk, and driveway, removal and re-grading of asphalt parking stalls to make them compliant with the Americans with Disabilities Act, grinding of asphalt concrete.
2. Clearing small plants, trees to enable installation of accessible path in front of Disabled Parking Stalls.
3. Construction of ADA compliant concrete walkway and curb ramps.
4. Traffic control.
5. Pavement Overlay
6. Parking Stall Striping in Thermoplastic
7. Installation of appurtenances to enable 2 Electric Vehicle charging stations (alternate)
8. Installation of bollards to protect Book-drop off box.
9. Stormwater Pollution Protection Elements.

C. Owner-Furnished Equipment:

1. None.

1.03 OTHER CONTRACTS

A. None.

1.04 SPECIFICATION LANGUAGE

A. Specifications may be written in the imperative mood and streamlined form in accordance with practices and principals of the Construction Specifications Institute.

B. Imperative language is directed to the Contractor unless specifically noted otherwise.

- C. The words “shall be” are included by inference where a colon (:) is used within sentences or phrases.

1.05 REGULATORY REQUIREMENTS

Comply with all Federal, State, and local laws, regulations, codes, and ordinance applicable to the work.

- B. References in the Contract Documents to local codes shall mean those of **the City of Sausalito**.

- C. Other standards and codes that apply to the work are designated in the Specifications.

1.06 ACCESS BY GOVERNMENT OFFICIALS

- A. Authorized representatives of governmental agencies shall at all times have access to the work area. Provide proper facilities for access and inspection.

1.07 PROTECTION OF PUBLIC AND PRIVATE PROPERTY

- A. Site work is expected to encounter numerous existing features of various types, such as fences, drain culverts, irrigation facilities, roadside drainage facilities, mailboxes, signs, private and public driveways, curbs, asphalt pavement, buildings, utility poles, guy wires and other surface structures. Where not called out for removal or protection by the plans or as directed in writing by the Owner, the Contractor shall protect existing features of this nature and all features affected by construction operations shall be restored to their original condition.
- B. To the greatest extent possible, remove existing features without damaging the materials and re-use the material to place back in the original condition. When existing features are damaged during removal, install new materials of similar type, appearance and function, at no additional cost to the Owner.
- C. Contractor shall be responsible for all damage to streets, roads, driveways, highways, shoulders, ditches, embankments, culverts, bridges, and other public or private property, regardless of location or character, that may be caused by transporting equipment, materials, or workers to or from the work or any part or site thereof, whether by Contractor or Contractor's subcontractors or suppliers.
- D. Make satisfactory and acceptable arrangements with the Owner of, or the agency or authority having jurisdiction over, any damaged property concerning its repair, replacement, or payment of costs incurred in connection with the damage.
- E. Keep fire hydrants and water control valves free from obstruction and available for use at all times.
- F. In areas where the Contractor's operations are adjacent to or near a utility and such operations that may cause damage resulting in expense, loss and inconvenience, construction operations shall be suspended until all arrangements necessary for the protection thereof have been made by the Contractor.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION (NOT USED)

END OF SECTION

SECTION 01025 - MEASUREMENT AND PAYMENT

PART 1 - GENERAL

1.01 GENERAL

- A. Measurements of the completed work shall be in accordance with, and by instruments and devices calibrated to United States Standard Measures and the units of measurement for payment, and the limits thereof, shall be made as shown on the Plans, Specifications, General Conditions and Requirements, and Supplementary Conditions.
- B. Units of Measurement
 - 1. Measurements shall be in accordance with U.S. Standard Measures.
 - 2. A pound is an avoirdupois pound.
 - 3. A ton is 2,000 pounds avoirdupois.
 - 4. The unit of liquid measure is the U.S. gallon.
- C. Certified Weights
 - 1. When payment is to be made on the basis of weight, the weighing shall be done on certified platform scales, or when approved by the Construction Manager, on a completely automated weighing and recording system.
 - 2. The Contractor shall furnish the Construction Manager with duplicate licensed weighmaster's certificates showing the actual net weights.
 - 3. The City will accept the certificates as evidence of the weights delivered.
- D. Methods of Measurement
 - 1. Materials and items of work which are to be paid for on the basis of measurement shall be measured in accordance with the method stipulated in the particular sections involved.
 - 2. In determining quantities, all measurements shall be made in a horizontal plane unless otherwise specified.
 - 3. Material not used from a transporting vehicle shall be determined by the Construction Manager and deducted from the certified tag.
 - 4. When material is to be measured and paid for on a volume basis and it would be impractical to determine the volume, or when requested by the Contractor in writing and approved by the Construction Manager in writing, the material will be weighed and converted to volume measurement for payment purposes.
 - 5. Factors for conversion from weight measurement to volume measurement will be determined by the Construction Manager and shall be agreed to by the Contractor before such method of measurement of pay quantities will be adopted.
 - 6. Full compensation for all expense involved in conforming to the above requirements for measuring and weighing materials shall be considered as included in the unit prices paid for the materials being measured or weighed and no additional allowances will be made therefore.
 - 7. Quantities of material wasted or disposed of in a manner not called for under the Contract; or rejected loads of material, including material rejected after it has been placed by reason of failure of the Contractor to conform to the provisions of the Contract; or material not unloaded from the transporting vehicle; or material placed outside the lines indicated on the Plans or given by the Construction Manager; or

material remaining on hand after completion of the Contract, will not be paid for and such quantities will be deducted from the final total quantities.

8. No compensation will be allowed for hauling rejected material.

1.02 BID ITEMS

The Bid amounts for each Bid Item will be used for comparative bid analysis. The Bid amounts will also form the basis of monthly progress payments. Each Lump Sum bid amount will undergo further breakdown as described later in this Section. Unit prices for any unit price bid items will be the basis for monthly progress payment determinations and for any changes related to that Work item. Bid Item 3 will also demonstrate the Contractor's compliance with the California Labor Code relating to the price for sheeting, shoring, and bracing of excavations. Bid items are not intended to be exclusive descriptions of work categories and the Contractor shall determine and include in its pricing all materials, labor, and equipment necessary to complete each Bid Item (work phase) as shown and specified.

A. Bid Item 1 – Tree and Shrub Removal

1. This bid item shall be lump sum. Payment shall be made at fifty (50%) percent of the bid item amount on the first progress payment following completion of mobilization and the remaining amount upon completion of work item, with retention withheld as allowed by the Contract Documents.

2. The scope of work shall include the furnishing of all labor, materials, equipment tools, and services required to cut and remove trees and shrubs and trim roots to adequate depth, protect an existing irrigation line and coordinate with City Landscape forces to modify the irrigation system to conform with proposed improvements, install root barrier per arborist's specifications. This bid item shall include removal and safe and lawful disposal or recycling of vegetation in need of removal to make space for accessible Portland cement concrete flatwork as shown on the plans.

Root removal within the pavement area shall occur after the existing asphalt road surface has been removed and the sub-grade has been exposed. All roots within 10-inches of the finished elevation grade shall be removed. Removal shall be done by a qualified landscape contractor or certified arborist with experience in root removal.

In the event that roots need to be cut closer than 2 feet from the trunk, approval must first be obtained from the Engineer. Contractor shall remove all vegetation that interferes with contract work operations; however no tree root greater than 3" in diameter shall be cut without express approval of the Engineer.

A linear root barrier shall be installed along the back of new curb or sidewalk. The depth of the barrier should be 12" minimum. Contractor shall use Deep Root LB12 or equivalent, with vertical ribs facing the tree. Note that the top of the barrier MUST remain above finish sub-grade by at least ½ inch. Deep Root LB12 or equivalent product shall be used as a root barrier.

Treflan 5G, or approved equivalent product, at the label rate, i.e. ¼ pound per 80-square foot area, or equivalent concentration as a root inhibitor. Root inhibitor shall be evenly applied to the compacted base rock prior to placing asphalt concrete pavement in which roots were encountered, regardless of whether or not a root barrier is being installed at that location.

Cutting Trees

Before any tree is cut down, the tree shall be completely "topped" in an accepted manner approved by the Engineer so as to protect all utilities, public and private properties. The Contractor shall be responsible for removing branches, foliage, etc., from the construction site as soon as the tree has been cut. If any curb, sidewalk, wall, street, etc., is damaged during the removal of a tree, the Contractor shall replace the damaged portions at his/her own expense as directed by the Engineer.

Submittals: Contractor shall submit certificates from suppliers stating compliance of materials with the requirement of this section.

B. Bid Item 2 – Concrete Pavement Demolition.

1. This bid item shall be paid per square foot of material removed. Payment for this item will be prorated over the course of the Project based on percentage complete of all items.

2. This bid item includes removal of existing facilities as shown on the plan and minor incidentals as directed in writing by the owner. All materials removed under this item shall become the property of the Contractor. Salvageable material shall be recycled as much as feasible. Waste material shall be lawfully disposed of at certified Waste Disposal Facility. Contractor shall furnish weight or volume tags of materials recycled and wasted prior to or concurrent with payment request. Item shall also include clearing of all ground cover and plant material called out for removal, including plant material growing on perimeter fencing. Item includes furnishing all equipment, materials and personnel therewith, and in accordance with these Specifications.

3. No payment for this item until applicable work items listed above has been completed.

C. Bid Item 3 – AC Pavement Demolition

1. This bid item shall be paid per square foot of material removed. Payment for this item will be prorated over the course of the Project based on percentage complete of all items.

2. This bid item includes removal of existing facilities as shown on the plan and minor incidentals as directed in writing by the owner. All materials removed under this item shall become the property of the Contractor. Salvageable material shall be recycled as much as feasible. Waste material shall be lawfully disposed of at certified Waste Disposal Facility. Contractor shall furnish weight or volume tags of materials recycled and wasted prior to or concurrent with payment request. Item shall also include clearing of all ground cover and plant material called out for removal, including plant material growing on perimeter fencing. Item includes furnishing all equipment, materials and personnel therewith, and in accordance with these Specifications.

3. No payment for this item until applicable work items listed above has been completed.

D. Bid Item 4 – 2" Grind on Existing AC Pavement.

1. This bid item shall be paid per square foot of pavement ground.

2. This bid item includes grinding pavement, including striping in the vicinity of existing hardscape facilities to allow smooth conforms between new pavement and existing facilities not modified under this project including but not limited to vertical curb, retaining walls, other curbing. Contractor shall implement dust control measures during the grinding operation. Dust control measures shall not result in accumulation of excess fluid that could be discharged into drain inlets. Contractor shall collect and lawfully dispose of excess fluids generated by this grinding operation. All materials removed under this item shall become the property of the Contractor. Salvageable material shall be recycled as much as feasible. Waste material shall be lawfully disposed of at certified Waste Disposal Facility. Contractor shall furnish weight or volume tags of materials recycled and wasted prior to or concurrent with payment request. Item includes furnishing all equipment, materials and personnel therewith, and in accordance with these Specifications.

3. No payment for this item until applicable work items listed above has been completed.

E. Bid Item 5 – Fine Grading for Accessible Parking

1. This bid item shall be paid per square foot of earthen material moved, removed or imported.

2. This bid item includes contouring the ground as shown on the plans AND in compliance with the Americans with Disabilities Act which requires a relatively level parking space(2% max slope), and relatively level accessible path of travel adjacent to the space and to the connecting accessible pathway to the City Hall Building. It is expected that a transition zone will be created to connect grades from the Accessible Parking Space to the rest of the parking lot. Soil/Earthen Road Base material may need to be imported to comply with ADA guidelines. Contractor shall provide necessary material as part of the bid item. In the event excess earth material exists contraction shall remove the excess material as part of bid item. All materials removed under this item shall become the property of the Contractor. Salvageable material shall be recycled as much as feasible. Waste material shall be lawfully disposed of at certified Waste Disposal Facility. Contractor shall furnish weight or volume tags of materials recycled and wasted prior to or concurrent with payment request. Item includes furnishing all equipment, materials and personnel therewith, and in accordance with these Specifications.

3. No payment for this item until applicable work items listed above has been completed.

F. Bid Item 6 & 7, Bid Item 6 – Concrete Sidewalk – 4” PCC on 4” Class 2 AB and Bid Item 7 – Concrete Vehicular Pavement – 6” PCC on 6” Class 2 AB

1. This bid item shall be paid per square foot of Portland Cement Concrete Sidewalk or Pavement Placed.

2. Item includes furnishing all equipment, materials and personnel therewith, and in accordance with these Specifications. Concrete shall be either Class B (5 sack, 1 inch max aggregate, 4 inch slump, 2 lbs lamp black per CY) mix in conformance with DWG No 100 of Uniform Standards All Cities and Marin County or in conformance with the

following specifications. Contractor shall submit specific mix design to Engineer for review and approval before placing material. Contractor shall furnish weight or volume tags of materials placed prior to or concurrent with payment request. Base shall be suitably compacted and otherwise prepared to provide uniform support for the concrete. Forms shall be used for back of curb or sidewalk, curb face, and gutter face unless waived by the engineer. AC plug paving may be done if AC paving will not occur within 24 hours of completion of the sidewalk. AC plug paving shall be paid per square foot of material placed and otherwise by paid under and conform to bid item 8 for mix design.

Description:

This work shall consist of furnishing, mixing, spreading and compacting Portland cement concrete.

PORTLAND CEMENT CONCRETE (PCC) Portland Cement Concrete shall conform to the requirements of Section 90, "Portland Cement Concrete", of the Standard Specifications for Type II Modified. This type of cement shall be required for all concrete structures, including curbs and gutters.

Calcium Chloride admixture shall not be permitted in either reinforced concrete, minor structure.

REINFORCEMENT Bar reinforcing steel and welded wire fabric shall conform to the provisions in Section 52, "Reinforcement," of the Standard Specifications and these Special Provisions. Payment for reinforcement shall be included in the various items requiring reinforcement and no additional compensation will be made therefore.

MINOR CONCRETE--Unless otherwise noted on the plans, minor concrete includes the following items to be removed and/or constructed as detailed on the plans and as specified herein:

Curb and gutter, walkway, and sidewalk shall conform to the provisions in Section 73, "Concrete Curbs and Sidewalks," of the Standard Specifications, these Special Provisions, and the plans and details.

Removal of existing concrete shall be in accordance with Section 10-1.08, "Remove Portland Cement Concrete", in these specifications.

DETECTABLE WARNING SURFACE INSTALLATION -Detectable warning surface shall be installed on those access ramps defined on the drawings.

Detectable warning surface shall be made of Armor –Tile cast in place, or approved equivalent. Any detectable warning surface equivalent specification must be submitted in writing for approval by the project engineer. A minimum of 5 working days shall be allowed for approval by the project engineer. Information on Armor-Tile truncated domes including installation specifications can be downloaded from <http://www.armor-tile.com>

Materials:

Cement: Portland cement shall be Type II Modified.

Portland cement concrete Mix design: class 2 with minimum compressive strength of 3000 psi.

Steel: Steel reinforcing bar shall be Grade 60, in accordance with section 52-1.02A of the latest State Standard Specifications.

Epoxy adhesive: ASTM C-881, Simpson Set-XP, Hilti RE 500 SD, or equal.

Submittals:

Contractor shall submit certificates from suppliers stating compliance of materials with the requirement of this section.

Measurement:

Quantities for **Concrete Sidewalk – 4" PCC on 4" CI 2AB, and PCC Curb and Gutter** shall be measured by the **Square foot, each and Linear Foot** respectively.

3. No payment for these items shall be made until applicable work items listed above has been completed.

Concrete Sidewalk 4" PCC on 4" Class 2 AB shall be paid for at the contract price per **Square Foot**, which price shall include full compensation for furnishing all labor, materials, tools and equipment, and doing all the work involved in removing and replacing sidewalk with **attached curb & gutter** complete in place including excavation, fill, bedding, grading, compacting, removing and disposing of existing concrete, supplying and placing aggregate base, concrete, formworks, removing and replacement of asphalt concrete, and other items necessary to install sidewalk and no additional allowance will be made therefor. This bid item will be used for construction of any new sidewalk as well.

Concrete Vehicular Pavement -6" PCC on 6" Class 2 AB shall be paid for at the contract price per **Square Foot**, which price shall include full compensation for furnishing all labor, materials, tools and equipment, and doing all the work involved in removing and replacing curb and gutter complete in place including excavation, fill, bedding, grading, compacting, backfill, removing and disposing of existing concrete, supplying and placing concrete, formworks, removing and replacement of asphalt concrete and other items necessary to install curb and gutter, and no additional allowance will be made therefor. This bid item will be used for construction of any new curb and gutter as well. Cost of curb and gutter attached to sidewalks, access ramps and driveways is included in unit prices of each related bid item and no additional allowance will be made therefor.

- G. Bid Item 8 and 9 - Bid Item 8 - 2" AC Overlay and Bid Item 9 – AC Pavement – 4" AC on 8" Class 2 AB

1. This work includes producing and placing hot mix asphalt (HMA) Type **A** using the **Standard** process.

2. Comply with Section 39, "Hot Mix Asphalt," of the Standard Specifications. This section describes asphalt for base repairs and asphalt concrete overlays.

Materials:

Asphalt concrete shall conform to the Provisions in Section 39 "**Asphalt Concrete - (1/2) inch HMA-Type A**" of the Standard Specifications and these Special Provisions. The grade of asphalt binder must be PG 64-16.

An asphaltic emulsion tack coat (paint binder) shall be used consisting of emulsified asphalt, Type **SS-1h** conforming to the requirements of Section 94-1.01 through 1.05 of the State Standard Specifications.

The amount of asphalt binder to be mixed with the aggregate shall be between 4 percent and 6 percent by weight of the dry aggregate. The exact amount of asphalt binder to be mixed with the aggregate will be approved by the Engineer.

Aggregate

Submittals:

Each JMF (Jon Mix Formula) submittal must consist of:

1. Proposed JMF. Suggested submittal be on Form CEM-3511
2. Mix design documentation. Suggest submittal on Form CEM-3512 dated within 12 months of submittal
3. JMF verification. Suggested submittal; on Form CEM-3513, if applicable
4. JMF renewal. Suggested submittal on Form CEM-3514, if applicable
5. Materials Safety Data Sheets (MSDS) for:
 - 5.1. Asphalt binder

The Engineer reviews each mix design and proposed JMF from the complete JMF submittal. The review consists of reviewing the mix design procedures and comparing the proposed JMF with the specifications. The Engineer may verify aggregate qualities during this review period.

Production:

Produce HMA in a batch mixing plant or a continuous mixing plant. HMA plants must be Department-qualified.

Mix HMA ingredients into a homogeneous mixture of coated aggregates. Asphalt binder must be between 275 °F and 375 °F when mixed with aggregate.

Construction:

Remove loose paving particles, dirt, and other extraneous material by any means including flushing and sweeping.

Apply tack coat to existing pavement including planed surfaces, between HMA layers and to vertical surfaces of curbs, gutters and construction joints.

Paving equipment for spreading must be:

1. Self-propelled
2. Mechanical
3. Equipped with a screed or strike-off assembly that can distribute HMA the full width of a traffic lane
4. Equipped with a full-width compacting device
5. Equipped with automatic screed controls and sensing devices that control the thickness, longitudinal grade, and transverse screed slope

Do not pave HMA on a wet pavement or frozen surface. You may deposit HMA in a windrow and load it in the paver if:

1. Paver is equipped with a hopper that automatically feeds the screed
2. Loading equipment can pick up the windrowed material and deposit it in the paver hopper without damaging base material
3. Activities for deposit, pick-up, loading, and paving are continuous
4. HMA temperature in the windrow does not fall below 260 °F

Rolling must leave the completed surface compacted and smooth without tearing, cracking, or shoving.

If a vibratory roller is used as a finish roller, turn the vibrator off.

Vertical Joints

Do not leave a vertical joint more than 0.15 foot high between adjacent pass areas. Place HMA on adjacent traveled way lanes so that at the end of each work shift, the distance between the ends of HMA layers on adjacent lanes is between 5 feet and 10 feet. Place additional HMA along the transverse edge at each lane's end and along the exposed longitudinal edges between adjacent lanes. Hand rake and compact the additional HMA to form temporary conforms. You may place Kraft paper or another approved bond breaker under the conform tapers to facilitate the taper removal when paving operations resume.

Submittals:

Contractor shall submit certificates from suppliers stating compliance of materials with the requirement of this section.

1. Measurement: Asphalt Concrete (4") shall be measured by the **Square Foot** of actual paved area in the field for overlays,.

2. Payment: Asphalt Concrete (4") shall be paid for at the contract unit price paid per **Square Foot(SF)**, which price shall include full compensation for furnishing all labor, materials (including asphalt binder), tools and equipment and for doing all the work involved including, surface preparation, prime coat, tack coat, installation of pressure treated wood, hauling, spreading, placing, compacting and doing all other incidental work involved in placing the asphalt concrete as required.

H. Bid Item 10 – Parking Lot Striping

1. **Description:** Parking Lot Striping shall be thermoplastic as shown on the plans or as indicated in these Specifications. Approximately 1400LF of Striping will be required to be placed and other markings as shown on the plans. Section 84 "Traffic Stripes and Pavement Markings" of the State Standard Specifications shall apply except as herein modified or supplemented. The Contractor shall be responsible to record location and type of all existing legends (pavement markings), striping, and markers in advance of construction operations. All legends, striping, painted curb and markers shall be replaced in kind in their original locations except as noted otherwise herein and as directed by the Engineer. Red curb paint shall be as manufactured by J.E. Bauer Zone Lac Curb paint No. 2052A9 red latex base or approved equal.

2. Contractor shall install on the same day that paving is placed temporary striping or pavement markers to replace striping or marking obliterated as a result of contract work. Temporary striping or markers shall be maintained and replaced if damaged or removed until permanent striping is installed. Markings, striping and markers shall be installed no earlier than 10 nor later than 13 calendar days following final paving. Cure time required (8days after slurry seal) shall not be counted against working days as described in Section 4 of these Special Provisions, if other project work has been completed.

Contractor shall, at the Contractor's expense, restore, repair, and re-stripe existing pavement markings and striping damaged or coated with materials from Contractor's operations.

All signing shall conform to 2012 edition of California Manual of Uniform Traffic Control

Devices as amended by these specifications.

Material:

Traffic stripes shall conform to the dimensions and details shown the project plans as clarified by Caltrans Standard Plans, latest edition. Pavement markings will require contractor to utilize Sausalito six (6) foot high legend stencils.

a. Temporary Pavement Markers (Floppies)

Short term, temporary pavement markers shall be day/night retro reflective raised pavement markers as manufactured by Davidson Plastics company (or equal) conforming to the requirements of Section 85 of the State Standard Specifications and the MUTCD.

b. Thermoplastic Stripes and Marking

The thermoplastic material shall conform to State Specification PTH-02SPRAY, PTH-02HYDRO or PTH-02ALKYD with a minimum skid friction value of BPN = 35. Glass beads to be applied to the surface of the molten thermoplastic material shall conform to the requirements of State Specification 8010-004 (Type II).

Stencils for pavement markings shall be US customary units (English), in accordance with the State Standard Plans.

c. Adhesives

Adhesive for pavement markers shall be either rapid set epoxy or hot melt bituminous adhesive conforming to the requirements of Section 85 of the State Standard Specifications.

d. Raised Pavement Markers

Pavement markers shall be of the type called for in the Contract Documents and shall conform to the requirements of Section 85, "Pavement Markers" of the State Standard Specifications and the MUTCD (Manual on Uniform Control Devices). All pavement markers shall be plastic. Ceramic markers will not be allowed.

e. Reflectorized Markers

Retro reflective markers shall be of the size and type designated on the plans and shall conform to the requirements of Section 82 of the State Standard Specifications.

f. Paint

Paints for concrete curbs shall conform to the requirements of Section 84 of the State Standard Specifications.

Submittals:

Contractor shall submit certificates from the suppliers stating compliance of the materials with the requirements of this section.

Measurement:

Measurement for Parking Lot Striping shall be Lump Sum and include payment for striping, curb marking, legends and other marking as sign changes as shown on the

plans.

Payment: **Parking Lot Striping** shall be paid by Lump Sum placed and shall include installation of pavement markers as called for in the Caltrans Standard Plan Detail number and no additional payment will be allowed therefore. These items shall include full compensation for removing striping, furnishing all labor, materials, tools, and equipment, including installation of temporary and permanent striping, incidentals and performing all alterations necessary to complete the work as shown on the plans, complete in place, and as specified in the Standard Specifications and these special provisions as directed by the Engineer.

I. Bid Item 11 and 12: Bid Item 11, 6" Vertical Curb; Bid Item 12, 6" Flush Curb

1. This bid item shall be paid per square foot of Portland Cement Concrete Placed.

2. Item includes furnishing all equipment, materials and personnel therewith, and in accordance with these Specifications. Concrete shall be either Class B (5 sack, 1 inch max aggregate, 4 inch slump, 2 lbs lamp black per CY) mix in conformance with DWG No 100 of Uniform Standards All Cities and Marin County or in conformance with the following specifications. Contractor shall submit specific mix design to Engineer for review and approval before placing material. Contractor shall furnish weight or volume tags of materials placed prior to or concurrent with payment request. Base shall be suitably compacted and otherwise prepared to provide uniform support for the concrete. Forms shall be used for back of curb or sidewalk, curb face, and gutter face unless waived by the engineer. AC plug paving may be done if AC paving will not occur within 24 hours of completion of the sidewalk. AC plug paving shall be paid per square foot of material placed and otherwise by paid under and conform to bid item 8 for mix design.

Description:

This work shall consist of furnishing, mixing, spreading and compacting Portland cement concrete.

PORTLAND CEMENT CONCRETE.--Portland Cement Concrete shall conform to the requirements of Section 90, "Portland Cement Concrete", of the Standard Specifications for Type II Modified. This type of cement shall be required for all concrete structures, including curbs and gutters.

Calcium Chloride admixture shall not be permitted in either reinforced concrete, minor structure.

MINOR CONCRETE--Unless otherwise noted on the plans, minor concrete includes the following items to be removed and/or constructed as detailed on the plans and as specified herein:

Curb and gutter, walkway, and sidewalk shall conform to the provisions in Section 73, "Concrete Curbs and Sidewalks," of the Standard Specifications, these Special Provisions, and the plans and details.

Removal of existing concrete shall be in accordance with Section 10-1.08, "Remove Portland Cement Concrete", in these specifications.

Materials:

Cement: Portland cement shall be Type II Modified.

Portland cement concrete Mix design: class 2 with minimum compressive strength of

3000 psi.

Steel: Steel reinforcing bar shall be Grade 60, in accordance with section 52-1.02A of the latest State Standard Specifications.

Epoxy adhesive: ASTM C-881, Simpson Set-XP, Hilti RE 500 SD, or equal.

Submittals:

Contractor shall submit certificates from suppliers stating compliance of materials with the requirement of this section.

Measurement:

Quantities for **6" Vertical Curb – 4" PCC and 6" Flush Curb** shall be measured by the **Linear Foot** respectively.

3. No payment for these items shall be made until applicable work items listed above has been completed. **6" Vertical Curb and 6" Flush Curb** shall be paid for at the contract price per **Linear Foot**, which price shall include full compensation for furnishing all labor, materials, tools and equipment, and doing all the work involved in removing and replacing curb and gutter complete in place including excavation, fill, bedding, grading, compacting, backfill, removing and disposing of existing concrete, supplying and placing concrete, formworks, removing and replacement of asphalt concrete and other items necessary to install curb and gutter, and no additional allowance will be made therefor. This bid item will be used for construction of any new curb and gutter as well. Cost of curb and gutter attached to sidewalks, access ramps and driveways is included in unit prices of each related bid item and no additional allowance will be made therefor.

J. Bid Item 13 – Landscape Restoration/Improvements

1. This bid item shall be paid per Lump Sum.

2. Landscape restoration generally consists of working the soil and landscape areas to replace plants too damaged during demolition to be viable and to create smooth conforming zones between existing areas and newly constructed areas. The plans don't call out landscape planting. To the extent that planting is needed contractor shall conform to the following specification. The contractor shall prepare the planting areas enable proposed plants to get established within a 6 month time period.

GENERAL

1.1 DESCRIPTION

Provide planting work and planting maintenance complete to restore landscape areas including irrigation lines, disturbed as a result of removing existing landscape improvements and installing accessible Portland Cement Concrete flatwork as shown on the drawings and as specified including staking and layout of the landscaping.

B. Related work specified elsewhere includes:

1. ROUGH GRADING
2. SOIL PREP – PLANTING BEDS

1.2 QUALITY ASSURANCE

Reference Standards:

Ordinances and Regulations: All local, municipal and state laws, codes and regulations governing or relating to all portions of this work are hereby incorporated into and made

a part of these Specifications. Anything contained in these Specifications shall not be construed to conflict with any of the above codes, regulations or requirements of the same. However, when these Specifications and Drawings call for or describe materials, workmanship or construction of a better quality, higher standard than is required by the above mentioned codes and regulations, the provisions of these Specifications and Drawings shall take precedence. Furnish without extra charge additional materials and labor required to comply with above rules and regulations.

"Sunset Western Garden Book," Lane Publishing Co., Menlo Park, California; current edition.

"American Standards for Nursery Stock," American Association of Nurseryman, 230 Southern Building, Washington, D.C. 20005.

Alameda Countywide Clean Water Program (ACCWP) or member agency having jurisdiction over the project work.

US Composting Council Compost analysis Program (CAP)

Test Methods for the Evaluation of Composting and Compost (TMECC)

Manufacturer's recommendations.

Qualifications:

Experience: Assign a full-time employee to the job as foreman for the duration of the Contract who is certified landscape technician, certification through CLCA or minimum of four (4) years experience in landscape installation and maintenance supervision, with experience or training in turf management, entomology, pest control, soils, fertilizers and plant identification.

Labor Force: Provide a landscape installation and maintenance force thoroughly familiar with, and trained in, the work to be accomplished to perform the task in a competent, efficient manner acceptable to the Owner.

Requirements:

Supervision: The foreman shall directly supervise the work force at all times and be present during the entire installation. Notify Owner's Representative of all changes in supervision.

Identification: Provide proper identification at all times for landscape maintenance firm's vehicles and a labor force uniformly dressed in a manner satisfactory to Owner's Representative.

Planting soils and organic amendments shall meet the AACWP requirement for the stormwater treatment measures used with this project work.

Plant Material Standards

Quality and Size of Plants: Conform to the State of California Grading Code of Nursery Stock, No. 1 grade. Use only nursery-grown stock which is free from insect pests and diseases.

Comply with federal and state laws requiring inspection for plant diseases and infestations. Submit inspection certificates required by law with each shipment of plants, and deliver certificates to the Owner. Obtain clearance from the County Agricultural Commissioner as required by law, before planting plants delivered from outside the County in which planted.

Testing Agency: Soil and Plant Laboratory, Inc. 352 Matthew Street (P.O. Box 153), Santa Clara, CA 95052; Tel. (408) 727-0330. Components of the test shall include all major nutrients, pH, salinity, boron, sodium, micronutrients, copper, zinc, manganese and iron, adsorption rate, organic content and texture.

Weed Germination: Following soil preparation and fine grading of planting areas, irrigate the planting areas to germinate any weed seeds for a minimum period of 21 days. Maintain the soil in a damp condition for a minimum depth of 4 inches. Following approval of the weed germination by the Owner's Representative, spray kill the weeds using a short lived systemic weed killer that will not affect subsequent planting. Confirm the weed kill and allow the soil to dry out to optimum degree for planting prior to planting.

1.2 SUBMITTALS,

Product Data: Manufacturer's current catalog cuts and specifications of the following:

Fertilizers
Herbicide
Tree Tie and Stake
Iron Sulfate
Tree Guy Material
Filter Fabric
Perforated Drain Pipe
Erosion Control Netting
Steel Edging
Header Board
Root Barrier

Samples: Submit following samples along with certificates of compliance/analytical data from approved laboratory for degree of compliance:

Plants: Submit typical sample of each variety or entire quantity to site for approval by Landscape Architect.

Organic Mulch: Submit 1-pint sample.

Rock Mulch: Submit 1-pint sample(s).

Organic (Soil) Amendment: Submit 1/2-pint sample.

Permeable Backfill (Filter Rock): Submit 1-pint sample.

Imported Planting Soil: Submit 1-pint sample

Delivery Receipts: Provide delivery receipts for quantities of organic soil amendments delivered to the site.

Topsoil Analysis: After approval of rough grading and topsoil placement, obtain three representative samples of in situ topsoil taken from accepted site locations at depth of 4" to 6" below finish grade and submit to an accredited Soils Laboratory for "agricultural suitability" analysis report, including particle size, and evaluation of physical and chemical properties of soil and recommendations for adding amendments and fertilizers to the soil.

Subsoil Analysis: Besides the above required soil samples, take one representative sample of any subgrade soil that is to receive a layer of imported planting soil over it. The laboratory report shall include the subgrade soil's total combined silt and clay content for determining the total allowable combined silt and clay content of the imported planting soil specified herein.

Imported Planting Soil Analysis: See Imported Planting Soil Analysis requirements elsewhere in this specification for comparison to existing soil analysis.

Approval of Laboratory Report: Upon approval of the Laboratory's report by the Landscape Architect, the recommendations in the report shall become a part of the Specifications and the quantities of soil amendment, fertilizer and other additives shall be adjusted to conform with the report at no additional cost to the owner. Request Testing Laboratory to send one copy of test results directly to Landscape Architect and one copy to the Owner. Note that there is a minimum quantity of organic amendment specified elsewhere in this specification section.

1.3 PROJECT/SITE CONDITIONS

Site Visit: At beginning of work, visit and walk the site with the Owner's Representative to clarify scope of work and understand existing project/site conditions.

1.4 WARRANTY AND REPLACEMENT

Pre-Emergence Weed Killer: Warrant the work against weed growth for a period of four (4) months after application.

Warrant all plants and planting to be in a healthy, thriving condition until the end of the maintenance period, and deciduous trees beyond that time until active growth is evident.

Replace all dead plants and plants not in a vigorous condition immediately as directed by the Owner's Representative at Contractor's expense. Install replacement plants before the final acceptance at the size specified.

Warrant all plant material for a period of one year after final acceptance of the maintenance period against plant materials with defects at the time of installation.

Warrant plant installation and maintenance by Contractor against defects for a period of one year.

PART 2 - PRODUCTS

2.1 PLANTS

Tag plants of the type or name indicated and in accordance with the standard practice recommended by the American Association of Nurserymen.

Install healthy, shapely and well rooted plants with no evidence of having been root-bound, restricted or deformed.

Take precautions to ensure that the plants will arrive at the site in proper condition for successful growth. Protect plants in transit from windburn and sunburn. Protect and maintain plants on site by proper storage and watering.

Substitutions will not be permitted, except as follows:

If proof is submitted to the Landscape Architect that any plant specified is not obtainable, a proposal will be considered for use of nearest equivalent size or variety with an equitable adjustment of contract price.

Substantiate and submit proof of plant availability in writing to the Landscape Architect within 10 days after the effective date of Notice to Proceed.

Tree Form: Trees shall have a symmetrical form as typical for the species/cultivar and growth form.

Shrubs

Each shrub must stand upright without support.

All container shrubs shall be free of girdling roots, defined as those roots greater than 1/8" diameter circling the periphery of the rootball. The top of the rootball shall be free of "Knees" (roots) protruding above the soil, and the bottom shall be free of matted roots.

Measure trees and shrubs with branches in normal position. Height and spread dimensions indicated refer to the main body of the plant, and not from branch tip to tip.

2.3 FERTILIZERS

Commercial fertilizer, pelleted or granular form, conform to the requirements of Chapter 7, Article 2, of the Agricultural Code of the State of California for fertilizing materials as follows:

Type A: 6% Nitrogen, 20% Phosphorus Acid and 20% Potash, (6-20-20).

Type B: 21 gram planting tablets 20% Nitrogen, 10% Phosphoric Acid and 5% Potash (20-10-5) available from Agriform or 10gm BestPacks packets 20% Nitrogen, 10% Phosphoric Acid and 5% Potash (20-10-5) available from Best Fertilizer Co.

Type C: Complete fertilizer 21% Nitrogen, 7% Phosphoric Acid and 14% Potash (21-7-14).

If commercial fertilizer having this analysis is not obtainable, other similar commercial fertilizer may be used providing it meets the approval of the Landscape Architect.

Maintenance Fertilizer: Type C

Sod Fertilizer: Provided by grower.

2.4 ORGANIC AMENDMENT FOR IN SITU SOILS (ON-GRADE):

Ground Redwood or Ground Fir Bark with the following properties:

Percent Passing	Sieve Designation	
100	9.51 mm	3/8"
50-60	6.35 mm	1/4"
20-40	4.76 mm	No. 4
0-20	2.38 mm	No. 8
8 mesh		

Redwood Sawdust

Dry bulk density, lbs. per cu. yd., 260-280

Nitrogen stabilized - dry weight basis, min. 0.4%

Salinity (ECe): 4.0 maximum

Organic Content: 90% minimum

Reaction (pH): 4.0 minimum

Ground Fir and/or Pine Bark

Dry bulk density, lbs. per cu. yd., Min. 350

Nitrogen stabilized - dry weight basis, min. 0.5%

Salinity (ECe): 4.0 maximum

Organic Content: 90% minimum

Reaction (pH): 4.0 minimum

Submit sample along with analytical data from an approved laboratory for degree of compliance to the Landscape Architect within two weeks after award of Contract.

2.5 COMPOSTED YARD WASTE AMENDMENT:

The above Ground Redwood or Ground Fir Bark or Ground Pine Bark (ORGANIC AMENDMENT FOR IN SITU SOILS) is the specified organic amendment material required. Acceptance of Composted Yard Waste Amendment in lieu of the above specified ORGANIC AMENDMENT FOR IN SITU SOILS (ON-GRADE) material will be considered if the in situ planting soil salinity and soil structure is favorable for the inclusion of recycled yard waste organic matter, as approved by the Landscape Architect. It is the Contractor's responsibility to secure test samples of both the planting soil and the proposed composted yard waste amendment (2 quart samples) and submit to Soils and Plant Laboratory for evaluation and recommendations per code A05-1 for the soil sample and A91-0 for the amendment sample. The composted yard waste amendment sample shall be a grab sample from the currently available material.

Based on the Soils and Plant Laboratory evaluation, the addition of composted yard waste amendment shall not be acceptable if it creates a leaching requirement. The addition of the compost shall result in a final ECe of the amended soil of less than 4.0 dS/m @ 25 degrees C. as determined in a saturation extract. Use the following table to determine the maximum allowable ECe (dS/m of saturation extract) of compost at desired use rate and allowable ECe increase.

DESIRED USE RATE	MAXIMUM ALLOWABLE ECe INCREASE FROM AMENDMENT			
Cu. Yds. Amendment Per 1000 Sq. Ft. for Incorporation to 6" depth	Volume % of amendment	1 dS/m	2 dS/m	3 dS/m
		Maximum ECe of Compost		
1	5	14	28	42
2	11	7	14	21
3	16	5	9.5	14
4	22	3.5	7	10.5
5	27	3	5.5	8.5
6	32	2.5	4.5	7

Example: Specification calls for 6 cu. Yds. Compost per 1000 sq. ft. for incorporation to 6" depth, and site soil has an ECe of 2.0. In order to avoid exceeding ECe of 4 in final blend, compost ECe shall be less than 4.5 dS/m.

Composted Yard Waste Soil Amendment properties as follows:

Gradation:

Percent Passing by weight	Sieve Designation	
90		1/2"
85-100	9.51 mm	3/8"
50-80	2.38 mm	No. 8
	8 mesh	
0-40	500 micron	No. 35
	32 mesh	

Organic Content: Minimum 50% based on dry weight and determined by ash method. Minimum 250 lbs. organic matter per cubic yard of compost.

Carbon to nitrogen ratio: Maximum 35:1 if material is claimed to be nitrogen stabilized.

pH: 5.5 – 8.0 as determined in saturated paste.
 Soluble Salts: See B. above.
 Moisture Content: 35-60%.
 Contaminants: The compost shall be free of contaminants such as glass, metal and visible plastic.
 Maturity: Physical characteristics suggestive of maturity include:
 Color: Dark brown to black.
 Acceptable Odor: None, soil-like, musty or moldy.
 Unacceptable Odor: Sour, ammonia or putrid.
 Particle Characterization: Identifiable wood pieces are acceptable but the balance of the material shall be soil-like without recognizable grass or leaves.

Submit planting soil and composted yard waste amendment samples along with laboratory report from Soils and Plant Laboratory for degree of compliance as specified above to the Landscape Architect a minimum of 3 weeks prior to beginning soil prep. The laboratory report shall include recommendations for adjusting fertilizer and amendment quantities. Upon approval of the Laboratory's report by the Landscape Architect, the recommendations in the report shall become a part of the Specifications and the quantities of soil amendment and fertilizer shall be adjusted to conform with the report at no additional cost to the owner.

2.7 IRON SULFATE: Dry form.

2.8 PLANT BACKFILL: Except for acid loving plants (Azaleas, Rhododendrons, Ferns, Camellias, etc.), use a mixture of 2 parts soil from the hole, and 1 part amendment with iron added at the following rates:

	1 gallon can plants	-
	iron, 1/4 cup	
	5 gallon can plants	-
	iron, 1/3 cup	
	15 gallon can plants	-
	iron, 1/2 cup	
24" box and larger	- iron, 1 cup	

Mix the iron, amendment and soil thoroughly for use in the top 8 inches of backfill around plants. For acid loving plants, mixture to be 1/2 soil from the hole and 1/2 amendment.

2.9 MULCH

Organic Mulch: Fir tree or pine tree bark, dark in color; 3/4-inch to 1-inch size.

Rock Mulch: Hard, durable, crushed stone, average 1/4-inch diameter, in gray color range from American Soil Products or approved equal.

Submit samples of organic and rock mulches to the Landscape Architect for approval within two weeks of award of Contract. Resubmit until acceptable to Owner, at no extra cost.

2.10 TREE SUPPORT POLES (ON-GRADE): Peeled lodge pole pine logs, clean, smooth, new, and sized as follows:

Two-inch (2") diameter by eight feet (8') long for trees less than 8' high and 1" caliper.

Three-inch (3") diameter by eight to ten feet (8' - 10') long for trees greater than 8' high and 1" caliper.

2.11 TIES: Rubber strap, 24-inch minimum length without sharp edges adjacent to trunk, V.I.T. cinch-tie, Dublin, CA, (818)882-9530, or approved equal.

2.12 TREE GUYING:

For trees up to 3" caliper, 3/16" galvanized steel cable, with rubber tree collar, 12" minimum long, and secured with cable clamp, and attached to anchor for below-grade location, Duckbill Model 40 DTS, or approved equal.

For trees 3" to 6" caliper, 1/8" galvanized steel cable with rubber tree collar, 21" minimum long, and secured with cable clamp, 3" take-up eye to eye turnbuckle, and attached to anchor for below-grade location, Duckbill Model 68 DTS, or approved equal.

2.13 PLANTING SOIL (TOPSOIL):

Planting soil is defined as on-site surface soil. Satisfactory planting soil shall be free of subsoil, clay, lumps, stones, and other objects over 4" in diameter, and without weeds, roots, and other objectionable material.

Strip planting soil to whatever depths encountered, a maximum of 12" inches in a manner to prevent intermingling with the underlying subsoil or other objectionable material. Topsoil stripping is limited to area outside "Drip Line" of existing trees to remain and areas indicated on drawings and as approved by the Owner's Representative.

Remove heavy growths of grass from areas before stripping.

Stockpile topsoil in storage piles in areas shown, or where designated by Owner. Construct storage piles to freely drain surface water. Cover storage piles if required to prevent windblown dust.

If herbicide contamination is suspected then a radish/ryegrass growth trial must be performed. Consult with Landscape Architect prior to decision to test or not.

If sufficient on-site surface soil is not available, provide imported planting soil as specified below. Placement of dissimilar soils shall be coordinated with irrigation system valving to maintain separate valves for dissimilar soils.

2.14 IMPORTED PLANTING SOIL (TOPSOIL):

Imported planting soil shall be fertile, friable, natural, productive soil containing a normal amount of humus, and shall be capable of sustaining healthy plant life. Planting soil shall be free of subsoil, heavy or stiff clay, rocks, gravel, brush, roots, weeds, noxious seeds, sticks, trash, and other deleterious substances. Soil shall not be infested with nematodes or with other noxious animal life or toxic substances. Soil shall be obtained from well-drained, arable land, and shall be of an even texture. Soil shall not be taken from areas on which are growing any noxious weeds such as Morning Glory, Sorrel, or Bermuda Grass.

Imported planting soil shall have a pH value of between 6.0 and 7.5, a boron concentration of the saturation extract of less than 1 ppm, salinity of the saturation extract at 25 degrees C. of less than 4.0 millimoles, and a sodium absorption rate (SAR) of less than 8.

The silt and clay content of imported planting soil shall not exceed that of the existing soil it is to be placed over. It shall be a "Sandy Loam" as classified in accordance with USDA Standards with a combined total of between 25% to 40% Clay and Silt.

Make the site of the source of supply of planting soil available to the Landscape Architect for observation and approval prior to any hauling or placing of soil. In addition, submit for approval a 1-quart sample of soil, together with a standard soil analysis report by an accredited soils analyst showing chemical analysis stating source, fertility, agricultural suitability and particle size distribution of the soil. Deliver the sample to the Landscape Architect two weeks before starting the contemplated hauling of the soil. Following approval of the sample, provide a one-half cubic yard sample, which shall be stored at the site of work for comparison with subsequent loads of soil. The comparison sample shall be protected by a cover until the furnishing of all soil has been completed and accepted. Should the soil submittal lack certain requirements which can be added to the soil, the Landscape Architect will consider a request by the Contractor to amend the soil as recommended by the Soils Analyst at the Contractor's expense.

2.15 PRE-EMERGENCE WEED KILLER: Clean non-staining as recommended by a licensed pest control specialist.

2.16 PERMEABLE BACKFILL (FILTER ROCK): Permeable backfill used in subsurface drain installations to be Class 2 permeable material in conformance with Section 68 "Subsurface Drains" of the Standard Specifications; gradation to 3/4" maximum size. Submit Sample for approval.

2.17 EROSION CONTROL NETTING: New, with a uniform, open plain-weave, flame-retardant mesh. The mesh shall be natural brown-tan and made from unbleached single jute yarn. The yarn shall be of loosely twisted construction and shall not vary in thickness by more than one-half its normal diameter. Furnish jute mesh in rolled strips to meet the following requirements:

Width: 48 inches, with a tolerance of one-inch wider or narrower.

Not less than 78 warp ends per width.

Not less than 41 weft ends per yard.

Weight shall average 1.22 pounds per linear yard, with a tolerance of 5 percent heavier or lighter.

2.18 ROOT BARRIER: UB 18-2 as manufactured by Deep Root Corporation (800)458-7668, Root Solutions, Inc. (800) 554-0914, or equal.

PART 3 - EXECUTION

3.1 FINE GRADING AND SOIL PREPARATION

General: Soil in all planting areas shall be moist, but not so moist that it sticks to a hand shovel, and loose and friable to a minimum depth of 12 inches with a relative maximum compaction of 85%. Rip and scarify and dry any areas that do not meet this requirement.

B. Lime Treated Soil Removal: All Lime treated soils shall be removed full depth from planting areas and replaced with approved planting soil as accepted by Owner's Representative and as shown.

Planting Soil Placement:

Inspect planting areas and remove all base rock and other foreign material. Rip all planting areas in two directions full depth of compacted fill (to a minimum of 6 inches) into undisturbed native soil prior to backfilling. Scarification of any planting area which cannot be accomplished with a tractor shall be accomplished by an alternative method approved by the Owner's Representative to the specified depth to ensure proper drainage.

Prior to placing planting soil secure the Owner's Representatives acceptance of the planting areas subgrade condition. After acceptance of the planting areas subgrade condition, uniformly distribute and spread planting soil backfill over scarified subgrade as specified in planting areas and compact to a maximum of 85% relative compaction.

Do not work planting soil in a wet or muddy condition or dump or spread in areas where subgrade is not in proper condition.

Water settling, puddling, and jetting of fill and backfill materials as a compaction method is not acceptable.

Provide a minimum of 12" depth in planting areas, or more where shown or specified otherwise.

Planting Soil Placement in Planting Islands and Adjacent to Pavement Areas: Provide planting soil as a final lift in all planting areas within and adjacent to paved areas and other construction where native site soil has been covered by engineered fill and/or base rock. Remove all engineered fill, base rock and compacted subgrade full depth of compaction and replace with approved planting soil, a minimum lift of 12". Unless shown otherwise, finish grade in planting islands shall be crowned with a minimum 2 % pitch to the edges.

E. All planting areas soil shall be loose and friable prior to planting. Rip any overly compacted and re-compacted planting areas in two directions full depth of compacted soil prior to planting.

F. Before proceeding with the work: Carefully inspect all areas and verify all dimensions and quantities. Immediately inform the Landscape Architect of any discrepancy between the drawings and specifications and actual conditions and secure approval to proceed.

G. Planting operations shall be performed only during periods when beneficial results can be obtained. When excessive moisture or other unsatisfactory conditions prevail, the work shall be stopped until conditions are satisfactory.

H. Thoroughly wet down the planting areas to settle the soil and confirm irrigation coverage and operation. Allow soil to dry so as to be workable as described herein.

I. Drag to a smooth, even surface. Grade to form all swales, pitch to catch basins, streets, curb, etc., to ensure uniform surface drainage. Areas requiring grading include adjacent transition areas that shall be uniformly level or sloped between finish elevations. Refer to Erosion Control Netting below for treatment of slopes 3:1 and steeper.

J. Finish Grade: Hold finish grade and/or mulch surface in planting areas 1/2-inch below adjacent pavement surfaces, tops of curbs, manholes, etc. The subgrade of the mulch in mulched planting areas shall be a minus 2 inches for a distance of 12 to 18 inch from the edge of pavement. The remainder of the planting area shall be graded to receive the required 3 inch layer of mulch.

K. In Situ Soil Preparation:

Spread organic amendment, iron and Type A fertilizer evenly over installed and rough graded on-site topsoil in all planting areas including turf, ground cover and shrub areas at the following rates:

- a. Organic Amendment: 6 cubic yards per 1,000 square feet
 - b. Fertilizer: Type A (6-20-20) at 20 lbs. per 1,000 square feet.
- Iron Sulfate: 10 lbs. per 1,000 square feet

In the case of a contradiction between the quantity of organic amendment required by the Contractor-obtained soils laboratory analysis and the specified quantity shown above, the greater of the two quantities shall take precedence.

Rototill above additives into soil 6 to 8 inches deep. Keep iron sulfate off pavement and other surfaces to prevent rust staining. Correct all rust damage to work.

L. After the rototill work, float areas to a smooth, uniform grade as indicated on the drawings. Slope all planting areas to drain. Roll, scarify, rake and level as necessary to obtain true, even planting surfaces. Remove rocks, sticks and debris 2 inches or larger in size in turf areas and 3 inches or larger in shrub and ground cover areas. Secure approval of the grade by the Landscape Architect before any planting.

3.2 ROOT BARRIER: Install in continuous sheet parallel and adjacent to curb or pavement edge as required on drawings and in accordance with manufacturer's recommendations.

3.3 EROSION CONTROL NETTING: Verify finished grades and provide Jute Mesh and single grind Redwood bark mulch on all slopes 3:1 and steeper as accepted by the Owner's Representative. Install jute mesh loosely up and down the slope in accordance with manufacturer's specifications and as follows. Fit the soil surface contour and hold in place with 12-inch long, 11-gauge (minimum) steel wire staples driven vertically into the soil at 18- to 24-inch spacing. Jute mesh strips shall overlap along all edges at least 6 inches. Ends of side strips shall be buried into the soil at least 6 inches. Drive staples along edges to securely anchor mesh to ground.

3.4 TREE AND SHRUB PLANTING

Mark tree and shrub locations on site using stakes, gypsum or similar approved means and secure location approval by the Landscape Architect before plant holes are dug. Review location of plants in relationship to irrigation heads and adjust location(s) that interfere with the function of the spray heads as accepted by the Landscape Architect prior to planting.

Test drainage of plant beds and pits by filling with water (minimum 6"). The retention of water in planting beds and plant pits for more than two (2) hours shall be brought to the attention of the Landscape Architect. If rock, underground construction work, tree roots,

poor drainage, or other obstructions are encountered in the excavation of plant pits, alternate locations may be selected by Landscape Architect.

Excavate tree, shrub and vine pits as follows (Note square Tree Pit pattern required below):

Excavation for	Width	Depth
Boxed Trees	Box + 24"	Box depth
Canned Trees (15 gc)	Can + 18"	Can depth
Canned Shrubs/Vines (1 or 5 gc)	Can + 12"	Can depth

Square Tree Pits: Tree pits shall be dug in a square pattern with pit walls scarified to promote root penetration into surrounding soil. Drilled tree pits shall be modified to a square shape.

Break and loosen the sides and bottom of the pit to ensure root penetration and water test hole for drainage as required above.

Backfill plant holes with mix as specified, free from rocks, clods or lumpy material. Backfill native soil free of soil amendments under rootball and foot tamp to prevent settlement. Backfill remainder of the hole with soil mix and place plant tablets or packets (Type B fertilizer) 3 inches below finish grade and 1/2-inch from roots at the following rates:

1 gallon can plant	-	1
tablet or packet		
5 gallon can plant	-	3
tablets or packet		
15 gallon can plant	-	6
tablets or packet		
24-inch box plant -		6
tablets or packet		
36-inch box plant -		8
tablets or packet		

Carefully remove and set plants without damaging the rootball. Superficially cut edge roots vertically on three sides. Remove bottom of plant boxes before planting. Remove sides of boxes after positioning the plant and partially backfilling.

Set plants in backfill with top of the rootball 2 inches above finished grade. Backfill remainder of hole and soak thoroughly by jetting with a hose and pipe section. Water backfill until saturated the full depth of the hole.

Build 6" high watering basin berms around trees and shrubs to drain through rootball. Basins are not required around trees in turf areas.

Stake and/or guy trees as detailed. Drive stake until solid and remove excess stake protruding above top tree tie to prevent rubbing against branches.

Remove any soil from top of plant rootballs and secure Landscape Architect's approval of rootball height prior to mulching.

After approval of rootball height, install mulch as required below.

3.5 MULCH:

Except where rock mulch is required, mulch all tree, shrub and ground cover areas with organic mulch to a 3-inch depth, except adjacent to walkways where soil grade is 2 inches below top of pavement, mulch shall be 2 inches deep, and 2-inches deep where planting ground cover plants from flats. Hold bark mulch away from base (trunk) of plant 4" or as directed by the Landscape Architect. Individual trees and/or shrubs planted in non-irrigated areas shall, at minimum, receive bark mulch over their watering basin and berm. No mulch is required around trees in turf areas.

Install rock mulch to a [4-inch] depth where shown.

3.6 ROOT BARRIER: Install in linear fashion along and adjacent to the edges of the planting area as detailed or, if not shown, in accordance with manufacturer's recommendations. Set top of barrier approximately ½-inch above finished soil surface to allow concealment with mulch, as accepted by Owner's Representative.

3.7 GROUND COVER PLANTING: Plant in neat, straight, parallel and staggered rows as indicated on plan. Plant first row one-half required ground cover spacing behind adjacent curbs, structures, or other plant bed limits. Plant ground cover to edge of water basins of adjacent trees and shrubs.

3.8 PRE-EMERGENCE WEED KILLER: Apply pre-emergence weed killer in all areas to receive ground cover planting. Work shall be done under the supervision of a person licensed by the State of California as a pest control applicator and holding a qualified applicator license or a Qualified Applicator Certificate. Obtain approval of the finish grades prior to applying weed killer and coordinate planting and watering with the pest control specialist prior to planting. Take care to keep weed killer off areas to be seeded.

3.9 WATERING: Water all trees, shrubs and ground cover immediately after planting. Apply water to all plants as often and in sufficient amount as conditions may require to keep the plants in a healthy vigorous growing condition until completion of the Contract. Do supplemental hand watering of trees and shrubs during the first 3 weeks of plant establishment.

3.10 MAINTENANCE OF PLANTING: Maintain plants from time of delivery to site until final acceptance of landscape installation.

3.11 PRE-MAINTENANCE PERIOD REVIEW AND APPROVAL OF PLANTING

Receive approval of the installed planting prior to commencement of planting establishment maintenance period. Notify the Landscape Architect a minimum of seven (7) days prior to requested review. Before the review, complete the following:

Complete all construction work.

Present all planted areas neat and clean with all weeds removed and all plants installed and appearing healthy.

Plumb all tree stakes.

Seed [sod] all turf areas.

No partial approvals will be given.

3.22 PLANTING ESTABLISHMENT MAINTENANCE

General Requirements:

Maintenance Period: The planting establishment maintenance period required shall be 120 calendar days after all planting is complete and installation approved. A longer period may be required if the plant material is not acceptably maintained during the maintenance period. The maintenance period may be suspended at any time upon written notice to the Contractor that the landscaping is not being acceptably maintained, and the day count suspended until the landscape is brought up to acceptable standards as determined by the Owner's representative.

Planting establishment maintenance immediately follows, coincides with, and is continuous with the planting operations, and continues through turf installation, and after all planting is complete and accepted; or longer where necessary to establish acceptable stands of thriving plants.

Protect all areas against damage, including erosion, trespass, insects, rodents, disease, etc. and provide proper safeguards. Maintain and keep all temporary barriers erected to prevent trespass.

Keep all walks and paved areas clean. Keep the site clear of debris resulting from landscape work or maintenance.

Repair all damaged planted areas, and replace plants and reseed or resod turf immediately upon discovery of damage or loss.

Check sprinkler systems at each watering; adjust coverage and clean heads immediately. Adjust timing of sprinkler controller to prevent flooding.

Maintain adequate moisture depth in soil to ensure vigorous growth. Check rootball of trees and shrubs independent of surrounding soils and hand water as required.

Keep Contract areas free from weeds by cultivating, hoeing or hand pulling. Use of chemical weed killers will not relieve the Contractor of the responsibility of keeping areas free of weeds over 1-inch high at all times.

Tree, Shrub and Ground Cover Maintenance:

Maintain during the entire establishment period by regular watering, cultivating, weeding, repair of stakes and ties, and spraying for insect pests. Prune when requested by the Owner's representative.

Keep watering basins in good condition and weed-free at all times.

Replace all damaged, unhealthy or dead trees, shrubs, vines and ground covers with new stock immediately; size as indicated on the drawings.

Non-irrigated Erosion Control Areas: To be watered by winter rains.

Fertilizing:

Upon approval and after submitting fertilizer delivery tags, maintenance fertilization shall begin 30 days after planting is complete. Fertilize all turf and ground cover areas by broad-casting Type C (21-7-14) fertilizer at the rate of 5 lbs. per 1,000 square feet evenly throughout. Reapply every forty-five (45) days until acceptable.

During the winter, for quick turf greening effect, calcium nitrate (15.5-0-0) may be applied at the rate of 6 lbs. per 1,000 square feet.

Early spring and fall substitute a complete fertilizer such as 15-15-15 applied at the rate of 6 lbs. per 1,000 square feet, to help insure continuing adequate phosphorus and potassium.

Apply ammonium sulfate fertilizer as necessary to maintain vigorous, green grass between fertilizings mentioned above.

Observe plant's color, and if a soil pH imbalance is suspected, take soil samples and obtain laboratory analysis for confirmation. Take necessary action recommended in laboratory analysis such as top dressing with soil sulfur, leaching soil, etc.

FINAL PLANTING REVIEW AND ACCEPTANCE

At the conclusion of the Maintenance Period, schedule a final review with the Owner, the Owner's maintenance person. On such date, all project improvements and all corrective work shall have been completed. If all project improvements and corrective work are not completed, continue the planting establishment, at no additional cost to the Owner, until all work has been completed. This condition will be waived by the Owner under such circumstances wherein the Owner has granted an extension of time to permit the completion of a particular portion of the work beyond the time of completion set forth in the Agreement.

Submit written notice requesting review at least 10 days before the anticipated review.

Prior to review, weed and rake all planted areas, repair plant basins, mow and edge turf, plumb tree stakes, clear the site of all debris and present in a neat, orderly manner.

3. Payment will be based on the amount of work completed as of the time of payment request as determined by the Owner subject to withheld retention amount in accordance with these specifications. Full compensation for furnishing all labor, materials, tools, equipment, incidentals, and for doing all the work involved in the Landscape restoration/improvements category of work as shown on the plans these special provisions, and as directed by the Owner, and no additional payment will be allowed.
- K. Bid Item 14 – Concrete Wheel Stops
 1. This bid item shall be paid per Each (EA). Payment will be based on the amount of work completed as at time of payment request as determined by the Owner subject to withheld retention amount in accordance with these specifications.
 2. This bid item is about furnishing and installing Wheel Stops as shown on the plans and as described in these specifications. Compensation shall be for furnishing all equipment, materials and personnel associated therewith, and in accordance with these Specifications.
- L. Bid Item 15 – Erosion Control Including inlet protection, washout area, wattle and street sweeping.
 1. This bid item shall be lump sum. Payment for Erosion Control including development of the Erosion Control Plan will be approved for payment at 15% level for completion and

submittal of Erosion Control Plan, 50% for initial installation of erosion control plan elements and materials, then 100% at final payment.

2. This bid item includes preparing detailed erosion control plan/stormwater pollution prevention plan subject to approval by the City of Sausalito. Plan should include reference Caltrans Construction Site BMP Manual which designates the following:
 - (a) Measures to control or prevent pollution of surface runoff from erosion, mud and sediment, material stockpiles (which shall be at or nearby the worksite) and on-site vehicle/equipment storage and maintenance. **These shall include preventing any contaminated water, such as saw-cut wash water, from entering storm drain system.**
 - (b) Provisions for maintenance and repair of control measures, personnel training, waste disposal and, if necessary, on-site sanitary facilities.

These documents together, represent the Stormwater Pollution Prevention Plan.

The City does not have a yard available for contractor use in executing work of this provision. Contractor may propose modifications in writing subject to approval by the Engineer.

Work includes installation of necessary materials and maintenance(including the need to remove and replace materials that have deteriorated and not function as installed)

M. Bid Item 16 – Mobilization

1. This bid item shall be lump sum. Payment shall be made at fifty (50%) percent of the bid item amount on the first progress payment following completion of mobilization and the remaining amount on the final progress payment, with retention withheld as allowed by the Contract Documents.
2. This bid item consist of procuring (including payment of) all bonds, all Contractor acquired permits, licenses, agreements, certifications, notices of intent, and temporary easements; moving onto the Site of all equipment, materials and staff including obtaining and set up of Contractor's staging area/yard; furnishing and erecting all needed construction facilities, fencing, project signage, project security, demobilization, preconstruction photographs, video recording of surface features, progress schedules and reports, contract meetings, and record drawings. City Permits (grading and encroachment) are granted as part of project award.
3. No payment for mobilization and demobilization, or any part thereof, will be approved for payment under the Contract until all applicable mobilization and demobilization items listed above have been completed.
4. This amount shall not exceed five percent (5%) of the total bid price for the Work.

N. Bid Item 17 – Parking Stall EV Station utility facilities

1. This bid item shall be lump sum. Payment shall be made at the lesser of the procurement price and 10% markup of selected EV charging station equipment or fifty (50%) percent of the bid item amount. The first progress payment can be made following completion of mobilization and the remaining amount on the final progress payment, with retention withheld as allowed by the Contract Documents.
2. This bid item consist of furnishing and installing EV charging station. Equipment must meet the stricter of Society of Automotive Engineers (SAE) standards, CHAdeMO standards or standards that may have been issued by the California Public Utilities

Commission. Chargers shall be required to use an input of no less than 208V AC and be capable of being configured to deliver up to 61,944kwh. If existing City service is not up to this requirement, upgrade will be done to meet this requirement. Plans show approximate location of charging station site. Contractor shall develop and furnish, subject to the approval by the Owner's representative, drawing showing the detailed routing of conduit and conductors from designated parking spaces to main electrical panel(s) serving City Hall. Plans will specify the route, necessary trench and backfill detail, size of material (e.g. diameters and length, amount of slack conductor), shop drawings of charging station equipment shall be furnished as well.

Electrical Permits fees shall be a part of the item costs. Other City Permits (grading and encroachment) are granted as part of project award.

3. No payment for Parking Stall EV Charging Station utility facilities, or any part thereof, will be approved for payment under the Contract until work items listed above have been completed.

SECTION 8. (BLANK)

SECTION 9. (BLANK)

SECTION 10. (BLANK)

SECTION 11. (BLANK)
*** END OF SECTION ***

SECTION 012500 CONTRACT MODIFICATION PROCEDURES

PART 1 - GENERAL

1.01 CHANGES IN CONTRACT PRICE

This section provides supplementary procedures for the administration of changes to the Contract as specified in Section 00700-Article 7, **CHANGES IN THE WORK**. Whenever corrections, alterations, or modifications of the Work under this Contract are ordered by the Construction Manager and approved by the City and increase the amount of work to be done, such added work shall be known as extra work; and when such corrections, alterations, or modifications decrease the amount of work to be done, such subtracted work shall be known as omitted work.

The difference in cost of the work affected by such change will be added to or deducted from the amount of said Contract price, as the case may be, by a fair and reasonable valuation, which shall be determined in one or more of the following ways as directed by the Construction Manager:

- A. Where applicable, by unit prices accepted by the City and stated in the Contract Documents;
- B. By unit prices subsequently fixed by agreement between the parties; C. By an acceptable lump sum proposal from the Contractor; or
- D. By Force Account (as described in Section 01035-1.03, **FORCE ACCOUNT PAYMENT**), when directed in writing and administered by the City through its agents or representatives.

The prices agreed upon and any agreed upon adjustment in Contract Time shall be incorporated in the written order issued by the City, which shall be written so as to indicate an acceptance on the part of the Contractor as evidenced by its signature. By signature of the Change Order, the Contractor acknowledges that the adjustments to cost and time contained in the Change Order are in full satisfaction and accord, payment in full, and so waives any right to claim any further cost and time impacts at any time during and after completion of the Contract for the changes encompassed by the Change Order.

1.02 NEGOTIATED CHANGE ORDERS

Under the methods described in Sections 01035-1.01B and 01035-1.01C, the Contractor shall submit substantiating documentation with an itemized breakdown of Contractor and subcontractor direct costs, including labor, material, equipment rentals, and approved services, pertaining to such ordered work in the form and detail acceptable to the

Construction Manager. The direct costs shall include only costs as described in Section 01035-1.04, **DIRECT COST CATEGORIES**.

The Construction Manager will review the Contractor's proposal for the change and negotiate an equitable adjustment with the Contractor. After there is an agreement the Construction Manager will prepare and process the Change Order and make a recommendation for action by the City. All Change Orders must be approved by the City in writing before the work can be authorized and the Change Order executed.

1.03 FORCE ACCOUNT PAYMENT

If either the amount of work or payment for a Change Order cannot be determined or agreed upon beforehand, the City may direct by written Change Order or Field Order that the work be done on a force account basis. The term "force account" shall be understood to mean that payment for the work will be done on a time and expense basis, that is, on an accounting of the Contractor's forces, materials, equipment, and other items of cost as required and used to do the work. For the work performed, payment will be made for the documented actual cost of the work as described in Section 01035-1.04, **DIRECT COST CATEGORIES**.

Prior to the commencement of force account work, the Contractor shall notify the Construction Manager of its intent to begin work. Labor, equipment and materials furnished on force account work shall be recorded daily by the Contractor upon report sheets acceptable to the Construction Manager. The reports, if found to be correct, shall be signed by both the Contractor and Construction Manager, or inspector, and a copy of which shall be furnished to the Construction Manager no later than the working day following the performance of said work. The daily report sheet shall thereafter be considered the true record of force account work provided. If the Construction Manager, or inspector, do not agree with the labor, equipment and/or materials listed on the Contractor's daily force account report, the Contractor and Construction Manager, or inspector, shall sign-off on the items on which they are in agreement. The Construction Manager shall then review the items of disagreement and will advise the Contractor, in writing, of its determination. If the Contractor disagrees with this determination, it shall have the right to file a claim notice as provided in Section 00700-7.03A, **Notice**.

The Contractor shall maintain its records in such a manner as to provide a clear distinction between the direct costs of work paid for on a force account basis and the costs of other operations.

To receive partial payments and final payment for force account work, the Contractor shall submit, in a manner approved by the Construction Manager, detailed and complete documented verification of the Contractor's and any of its subcontractor's actual costs involved in the force account pursuant to the pertinent Change Order or Field Order. Such costs shall be submitted within thirty (30) days after said work has been performed. No payments will be made for work billed and submitted to the Construction Manager after the thirty (30) day period has expired.

The force account invoice shall itemize the materials used and shall cover the direct costs of labor and the charges for equipment rental, whether furnished by the Contractor, subcontractor, or other forces. The invoice shall be in a form acceptable to the Construction Manager and shall provide names or identifications and classifications of workers, the hourly rate of pay and hours worked, and also the size, type, and identification number of equipment and hours operated. Material charges shall be substantiated by valid copies of vendor's invoices.

1.04 DIRECT COST CATEGORIES

The categories described below are defined to be direct costs. No other type of costs will be allowable as direct costs. Direct costs shall not include any labor costs pertaining to the Contractor's and subcontractors' managers or superintendents, their office and engineering staffs, the cost of their offices, facilities, vehicles, or anyone not directly employed on such work, nor small tools and supplies. All such items are considered indirect costs which form a part of the Contractor's and subcontractors' overhead expenses.

The City reserves the right to furnish such labor, materials and equipment as it deems expedient, and the Contractor shall have no claim for profit or added fees on the cost of such items.

A. Direct Labor

The Contractor will be paid the cost of direct craft labor for the workers and foremen (when authorized by the Construction Manager) used or proposed to be utilized in the actual and direct performance of the work.

The direct labor cost will be the actual payroll cost, including wages, subsistence and travel payments, fringe benefits as established by negotiated labor agreements or state prevailing wages. To these actual wages, will be added a labor surcharge set forth in the State of California Department of Transportation publication entitled Labor Surcharge & Equipment Rental Rates. An additional allowance will be added to this labor rate surcharge pursuant to current rate (was 8% in 2010). No other fixed labor burdens will be considered, unless approved in writing by the Construction Manager.

Except as otherwise provided, the Contractor shall receive no additional compensation for wage premiums resulting from overtime work performed under change conditions without the prior written authorization of the Construction Manager.

B. Materials

The Contractor will be paid the cost of the materials to the purchaser, including tax and delivery if paid. If the Contractor does not furnish satisfactory evidence of the cost of such materials, it shall be deemed to be the lowest current price for the materials delivered to the job site for the applicable quantities of the materials.

Small tools and supplies will be paid for based on seven and a half (7.5) percent of the direct labor costs for the change prior to inclusion of the markup allowances provided for in Section 01035-1.05, **MARK-UP ALLOWANCES**. The allowance for small tools and supplies shall be deemed as full compensation for all tools and materials which are incidental to performing work including safety equipment provided by the Contractor to its employees.

C. Construction Equipment

The cost of construction machinery and equipment for changes shall be based on fair rental cost or equivalent rental cost of owned equipment. Such costs will be allowed for only those days or hours during which the equipment is in actual use. Payment shall be based on actual rental and transportation invoices but shall not exceed the rental rates listed for such equipment in the State of California Department of Transportation publication entitled "Labor Surcharge and Equipment Rental Rates" which is in effect on the date upon which the work is performed. Owner-operated equipment rates shall not exceed the rates in the aforesaid Rental Rate publication plus the labor costs as provided in Section

01035-1.04A, **Direct Labor**. The rental cost allowed for equipment will, in all cases, be understood to cover all fuel, supplies, repairs, ownership, and incidental costs and no further allowances will be made for those items, unless specific written agreement to that effect is made. Compensation for idle time of equipment through delays caused by the City will be made consistent with Section 8-1.09, Right of Way Delays, of the Caltrans Standard Specifications.

Individual items of construction equipment or small tools which have a replacement value of five hundred dollars (\$500) or less shall not be charged to the Change Order work unless it can be demonstrated that the particular item is needed solely for the completion of the Change Order work.

1.05 MARK-UP ALLOWANCES

The Contractor and subcontractors shall be entitled to compensation for indirect and overhead costs, bond and insurance costs, and profit for Change Order work. This compensation shall be in the form of mark-up percentages applied to the direct cost of the Change Order work, as further described below. The maximum markup which will be allowed for the Contractor's combined overhead and profit will be:

A. For work by its own organization, the Contractor may add up to the following percentages:

- | | | | |
|----|-----------------------------|------------|--------------------------------------|
| 1. | Direct Labor | | |
| a. | Negotiated Change Orders : | 25 percent | b. Force Account Payment: 15 percent |
| 2. | Materials | | 10 percent |
| 3. | Equipment (owned or rented) | | 15 percent |

- B. For all such work performed by subcontractors, such subcontractor may add the same percentages as the Contractor as listed in Section 01035-1.05A above to its actual net increase in costs for combined overhead and profit. The Contractor may add up to five (5) percent of the subcontractor's total for its combined overhead and profit. No further compensation will be allowed for the Contractor's administration of the work performed by the subcontractor.
- C. For all such work done by sub-tier subcontractors, such sub-subcontractors may add the same percentages as the Contractor as listed in Section 01035-1.05A above to its actual net increase in costs for combined overhead and profit. The subcontractor may add up to five (5) percent of the sub-subcontractor's total for its combined overhead and profit. The Contractor may add up to five (5) percent of the subcontractor's total for its combined overhead and profit. No further compensation will be allowed for the Contractor's administration of the work performed by the subcontractor.
- D. For all such work performed by consultants, engineers, surveyors, etc. the combined total allowable markup for the Contractor and all subcontractors shall be five (5) percent of the fee total.
- E. To the total of the direct costs and markups allowed herein under, not more than two (2) percent shall be added for any and all additional contractor bond and insurance, other than labor insurance. The compensable percentage for additional bonds and insurance shall be based on actual costs for the contractors bonds and insurance, as substantiated through documentation submitted to the Construction Manager.

When both additional and deleted work are involved in any one change, the markup allowances of this Section shall be applied to the net extra cost of the work, if any, after subtraction of the costs for the omitted work from the extra work. For Change Order work which results in a net decrease in cost a minimum of five (5) percent markup shall be added to the sum of the direct labor, materials and equipment as a deduction for profit, indirect and overhead costs, and reduction in bond and insurance. The Contractor shall not be entitled to nor claim for anticipated profits on work that may be omitted.

The added fixed fees shall be considered to be full compensation, covering the cost of general supervision, overhead, profit, small tools, incidentals and any other general expenses. The above fixed fees represent the maximum limits which will be allowed, and they include the Contractor's and all subcontractors' indirect field and home office expenses and all other costs for cost proposal preparation, schedule analysis and preparation, operation and maintenance manual documentation, and record documents and change order administration.

1.06 INCREASED OR DECREASED QUANTITIES

Increases or decreases in the quantity of a Contract unit price bid item of work will be determined by comparing the total pay quantity of such item of work with the Bid Schedule quantity.

If the total pay quantity of any item of work required under the Contract varies from the Bid Schedule quantity by ten (10) percent or less, payment will be made for the quantity of work of said item performed at the Contract unit prices therefore, unless eligible for adjustment pursuant to Section 01035-1.06D, **Changes in Character of Work**.

If the total pay quantity of any item of work required under the Contract varies from the Bid Schedule quantity by more than ten (10) percent in the absence of an executed Contract change order specifying the compensation to be paid, the compensation payable to the Contractor will be determined in accordance with Sections 01035-1.06A, 1.06B or 1.06C, as the case may be.

A. Increases of More Than Ten (10) Percent

Should the total pay quantity of any item of work required under the Contract exceed the Bid Schedule quantity by more than ten (10) percent the work in excess of one hundred ten (110) percent of the Bid Schedule quantity will be paid for by adjusting the Contract unit price, as hereinafter provided. At the option of the Construction Manager, payment for the work involved in such excess will be made on the basis of force account as provided by Section 01035-1.03, **FORCE ACCOUNT PAYMENT**.

Such adjustment of the Contract unit price will be the difference between the Contract unit prices and the actual unit costs, which will be determined as hereinafter provided, of the total pay quantity of the item. If the costs applicable to such item of work include fixed costs, such fixed costs will be deemed to have been recovered by the Contractor by the payments made for one hundred ten (110) percent of the Bid Schedule quantity for such item, and in computing the actual unit cost, such fixed costs will be excluded. Subject to the above provisions, such actual unit cost will be determined by the Construction Manager in the same manner as if the work were to be paid for on a force account basis as provided in Section 01035-1.03, **FORCE ACCOUNT PAYMENT** or such adjustment will be as agreed to by the Contractor and the Construction Manager.

When the compensation payable for the number of units of an item of work performed in excess of one hundred ten (110) percent of the Bid Schedule quantity is less than \$5,000 at the applicable Contract unit price, the Construction Manager reserves the right to make no adjustment in said price if it so elects, except that an adjustment will be further considered if requested in writing by the Contractor.

B. Decreases of More Than Ten (10) Percent

Should the total pay quantity of any item of work required under the Contract be less than ninety (90) percent of the Bid Schedule quantity, an adjustment in compensation pursuant to this Section will not be made unless the Contractor so requests in writing. If the Contractor so requests, the revised quantity will be paid for by adjusting the Contract unit price as hereinafter provided. At the option of the Construction Manager, payment for the quantity of the work of such item performed

will be made on the basis of force account as provided in Section 01035-1.03, **FORCE ACCOUNT PAYMENT**. However, in no case shall the payment for such work be less than that which would be made at the Contract unit price.

Such adjustment of the Contract unit price will be the difference between the Contract unit price and the actual unit cost of the total pay quantity of the item, including fixed costs. Such actual unit cost will be determined by the Construction Manager in the same manner as if the work were to be paid for on a force account basis as provided in Section 01035-1.03, **FORCE ACCOUNT PAYMENT**; or such adjustment will be as agreed to by the Contractor and the Construction Manager.

The payment for the total pay quantity of such item of work will in no case exceed the payment which would have been made for the performance of ninety percent (90%) of the Bid Schedule of the quantity for such item at the original Contract unit price.

C. Eliminated Items

In the event that a part of the Work is to be eliminated in its entirety and such Work is covered by unit price(s) contained in the Bid and/or Contract Documents, the price of the eliminated Work item shall be based on the applicable unit price(s). The Contractor shall be paid five (5) percent of the total extended amount (bid price times quantity) for the eliminated Work item in consideration of the applicable Contractor's overhead costs.

Should any Contract item of the Work be eliminated in its entirety, in the absence of an executed Contract Change Order covering such elimination, payment will be made to the Contractor for actual costs incurred in connection with such eliminated Contract item if incurred prior to the date of notification in writing by the Construction Manager of such elimination.

If acceptable material is ordered by the Contractor for the eliminated item prior to the date of notification of such elimination by the Construction Manager, and if orders for such material cannot be canceled, it will be paid for at the actual cost, including a five (5) percent mark-up, to the Contractor. In such case, the material paid for shall become the property of the City and the actual cost of any further handling will be paid for. If the material is returnable to the vendor and if the Construction Manager so directs, the material shall be returned and the Contractor will be paid for the actual costs of charges made by the vendor for returning the material. The actual cost of handling returned material will be paid for by the City.

D. Changes in Character of Work

If an ordered change in the Plans and Specifications materially changes the character of work of a Contract unit price bid item from that on which the Contractor based its Bid price, and if the change increases or decreases the actual unit cost of such changed item as compared to the actual or estimated actual unit

cost of performing the work of said item in accordance with the Plans and Specifications originally applicable thereto, in the absence of an executed Contract Change Order specifying the compensation payable, an adjustment in compensation therefore will be made in accordance with the following:

The basis of such adjustment in compensation will be the difference between the actual unit cost to perform the work of said item or portion thereof involved in the change as originally planned and the actual unit cost of performing the work of said item or portion thereof involved in the change, as changed. Actual unit costs will be determined by the Construction Manager in the same manner as if the work were to be paid for on a force account basis as provided in Section 01035-1.03, **FORCE ACCOUNT PAYMENT**; or such adjustment will be agreed to by the Contractor and the Construction Manager. Any such adjustment will apply only to the portion of the work of said item actually changed in character. At the option of the Construction Manager, the work of said item or portion of item which is changed in character will be paid for by force account as provided in Section 01035-1.03, **FORCE ACCOUNT PAYMENT**.

If the compensation for an item of work is adjusted under this Section, the costs recognized in determining such adjustment shall be excluded from consideration in making an adjustment for such item of work under the provisions in Sections 01035-1.06A, **Increases of More Than Ten (10) Percent** and 1.06B, **Decreases of More Than Ten (10) Percent**.

1.07 COST PRICING DATA AND ACCESS TO RECORDS

All cost and pricing data submitted by the Contractor with respect to any change, prospective or executed, or any claim for extra compensation shall be a true, complete, accurate and current representation of actual cost and pricing of the work. The Construction Manager may require a formal certification as to cost and pricing data submitted by the Contractor.

The Construction Manager shall have access, upon reasonable notice during normal business hours, to any books, documents, accounting records, papers, project correspondence, project files, scheduling information and other relevant records of the Contractor and all subcontractors directly or indirectly pertinent to the work, original as well as changes and claimed extra work, and the Contract for the purpose of making audit, examination, excerpts and transcriptions and in order to verify or evaluate any change, prospective or executed, or any claim for which compensation has been requested or notice of potential claim has been tendered.

Such books, documents, and other records mentioned above shall include, but are not limited to all those reasonably necessary to determine the accurate amount of direct and indirect costs, job site, and delay and impact costs, however characterized, and shall include the original Bid and all documents related to the Bid and its preparation, as well as, the as-planned construction schedule and all related documents.

Such access shall include the right to examine and audit such records and make excerpts, transcriptions, and photocopies at the City's cost.

1.08 TIME EXTENSIONS FOR CHANGE ORDERS

If the Contractor requests a time extension for the extra work necessitated by a proposed Change Order, the request must comply with the applicable requirements of Section 01310-1.06, **TIME IMPACT ANALYSES**.

PART 2 - PRODUCTS (NOT USED) PART 3 - EXECUTION (NOT USED)

END OF SECTION

SECTION 13150 PROJECT MEETINGS

PART 1 - GENERAL

1.01 PRE-CONSTRUCTION CONFERENCE

Prior to the start of construction, the City will conduct a pre-construction conference that shall be attended by the Contractor's Project Manager/Project Engineers and major subcontractors and major equipment and material suppliers, affected utilities and others as determined by the Contractor and Construction Manager. At the conference, the City will review the Contractor's proposed schedule of operations and the construction procedure and sequence requirements. Also discussed will be the Contractor's field organization, submittals, progress payments, change order procedures, safety requirements, permits and inspections, and other matters.

1.02 PROGRESS MEETINGS

The Construction Manager shall schedule, arrange and conduct progress meetings. These meetings shall be conducted as necessary to assure progress and adequate communication and coordination. Meetings shall not occur more than once per week and shall be attended by the Contractor's superintendent and representatives of all subcontractors, utilities, and others, who are active in the execution of the Work. The purpose of these meetings shall be to review the Contractor's schedule provided in accordance with Section 01310-1.07, **WEEKLY ACTIVITIES PLAN**, resolve conflicts, and in general, coordinate and expedite the execution of the Work.

The agenda of progress meetings shall include, as a minimum, review of progress and schedule, clarifications, changes, quality of work, progress payment request, and record documents. The Construction Manager shall prepare and distribute minutes to the meetings.

1.03 PARTNERING MEETINGS (NOT USED)

1.04 OTHER PROJECT MEETINGS

The Contractor shall attend and require the participation of other subcontractors or suppliers for other project related meetings when requested by the Construction Manager or the City.

PART 2 - PRODUCTS (NOT USED) PART 3 - EXECUTION (NOT USED)

*** END OF SECTION ***

SECTION 13200 PROGRESS SCHEDULES AND REPORTS

PART 1 - GENERAL

1.01 GENERAL

The Contractor shall provide a construction schedule that includes a procedural outline of any system shutdowns and proposed tie-in procedures, which shall be subject to the favorable review of the Construction Manager and the City.

1.02 NOT USED

1.03 CONSTRUCTION SCHEDULE A. General

The Construction Schedule for this Project will also be referred to as the Base Schedule.

The Contractor shall designate, in writing, an authorized representative in its firm who will be responsible for the preparation, revising, and updating of the Base Schedule. The Contractor's representative shall have direct project control and complete authority to act on behalf of the Contractor in fulfilling the construction scheduling requirements set forth herein, and such authority will not be interrupted throughout the duration of the Project. The requirements for the Base Schedule are included to assure adequate planning and execution of the Work and to assist the Construction Manager in appraising the reasonableness of the proposed schedule and evaluating progress of the Work.

B. Preliminary and Base Progress Schedule

1. Within fourteen (14) days after award of Contract, the Contractor shall submit a Preliminary Progress Schedule covering the following project phases and activities:
 - a. Procurement and Submittals, including shop drawings and fabrication and delivery of key and long lead time procurement activities.
 - b. All activities planned in the execution of the Work.
 - c. The total duration of the summary activities shall equal the Contract Time.
 - d. Approximate duration for each summary activity representing the Contractor's best estimate for the Work the summary activity represents.
2. The Preliminary Progress Schedule shall describe the activities to be accomplished and their dependency subject to all requirements under these Construction Schedule provisions, as appropriate. The Preliminary Progress Schedule will be used temporarily to record and monitor the progress of the Work until a Base Schedule has been completely developed and Favorably Reviewed. Recorded data on the Preliminary Progress Schedule shall be incorporated into the Base Schedule during the first schedule update.
3. The Construction Manager shall review the schedule and provide any comments, its Favorable Review of the schedule, or request a meeting to review the schedule with the Contractor within ten (10) days of receipt of the schedule. If requested, the Contractor shall participate in a review and evaluation of the schedule with the Construction Manager. Any revisions necessary as a result of this review shall be resubmitted for review by the Construction Manager within five (5) days.

4. The Base Schedule shall be used in implementation of the Work and progress of the Work will be compared to the Base Schedule at each weekly progress meeting.

1.04 WEATHER CONDITIONS

Seasonal weather conditions shall be considered in the planning and scheduling of work influenced by high or low ambient temperatures or precipitation to ensure the completion of the Work within the Contract Time. No time extensions will be granted for the Contractor's failure to take into account such weather conditions for the location of the Work and for the period of time in which the Work is to be accomplished.

The expected loss of working days specified in the Supplementary General Conditions, Section 00800-1.03, **WEATHER DAYS**.

1.05 UPDATES

A. Submittal Period

The Contractor shall submit at weekly intervals a report of the actual construction progress. Each weekly report shall cover the previous week's progress. If, in the opinion of the Construction Manager, the Project is behind schedule, the report shall include revised tabular reports showing the Contractor's proposed revised schedule to complete the Project by the designated Contract Time.

1.06 TIME IMPACT ANALYSES

- A. When Change Orders are initiated or delays are experienced, the Contractor may submit to the Construction Manager a written Time Impact Analysis illustrating the influence of each change, delay, or Contractor request on the current Progress Schedule completion date.

1. Construction Schedule – Analysis

- a. The analysis shall demonstrate the time impact based on the beginning and ending date of the occurrence, change, delay or revision; the status of construction at that point in time immediately preceding the occurrence, change, delay or revision; and the event time computation of all affected activities.
- b. The event times used in the analysis shall be those included in the latest updated copy of the Construction Schedule or as adjusted by mutual agreement between the Construction Manager and Contractor.

- B. Activity time delays will not automatically mean that an extension of Contract Time is warranted or due the Contractor.

1. It is possible that an excusable delay or Contract modification will not affect existing critical activities or cause noncritical activities to become critical, i.e., a delay or modification may result in only absorbing a part of the available total float that may exist within an activity chain of the network, thereby not causing any effect on the Contract completion date or Contract Time.
2. The Contractor acknowledges and agrees that mitigation for delays due to changes, differing site conditions, and other causes will require revision of preferential sequences of the Work. Accordingly, to mitigate delays, the activities shall be resequenced prior to the Contractor proposing an updated schedule which supports a delay to the

Project as a whole. When a delay to the Project as a whole can be avoided by revising preferential sequencing, and the Contractor chooses not to implement the revisions, the Contractor will be entitled to a time extension but is not entitled to compensation for indirect overhead for this extended duration.

3. Actual delays in activities which do not affect the critical path work or which do not move the Contractor's planned completion date beyond a milestone or the Contract completion date will not be the basis for an adjustment to the Contract Time.
4. Extensions of time can be granted for a delayed or impacted activity only for the duration of the time adjustment which exceeds the total float for the schedule path wherein the activity is located. The adjustment is only applicable during the time the delay occurred or when the change is ordered.
- C. Time Impact Analyses shall be submitted within fifteen (15) days after a delay occurs or with the Contractor's cost proposal in response to a notice of change from the Construction Manager. In cases where the Contractor does not submit a Time Impact Analysis for a specific Change Order, delay, or other Contractor requested time extension within the specified period of time, then it is mutually agreed that the particular Change Order, delay, or Contractor request has no time impact on the Contract completion date and no time extension is required.
 1. Approval or rejection of Time Impact Analyses by the Construction Manager and the City will be made within fifteen (15) days after receipt of the Time Impact Analysis unless subsequent meetings and negotiations are necessary.
 2. Upon approval, a copy of the Time Impact Analysis signed by the Construction Manager and the City will be returned to the Contractor.
 3. Upon mutual agreement by both parties, schedule revisions illustrating the influence of Change Orders, delays, and/or Contractor requests will be incorporated into the next schedule update.

1.07 WEEKLY ACTIVITIES PLAN

On the last working day of every week the Contractor shall submit to the Construction Manager the Contractor's Plan of Activities for the following three weeks. The Plan of Activities shall describe the activity and location of the activity and include the activity number as provided in the Construction Schedule.

PART 2 - PRODUCTS (NOT USED) PART 3 - EXECUTION (NOT USED)
END OF SECTION

SECTION 13500 SPECIAL PROCEDURES – Not Used

END OF SECTION

SECTION 14100 REGULATORY REQUIREMENTS

PART 1 - GENERAL

1.01 APPLICABLE CODES

Contractor shall comply with all codes applicable to the Project; see Technical Specifications for applicable codes as well as those identified in the following list. The omission of a code on the list shall not excuse nor relieve the Contractors obligation to comply with any such code applicable to the Work.

California Plumbing Code

1.02 FEES AND PERMITS

The Contractor shall obtain necessary encroachment permits from the County of Marin, Marin Municipal Water District, PG&E, or other agency having jurisdiction over the construction area, and shall be responsible for satisfying all requirements, calling for inspections, and obtaining final approvals. The Contractor shall notify the Construction Manager of the need and the readiness of all required inspections. All inspections are to be coordinated with the Construction Manager. The Contractor shall comply with all construction conditions stipulated in the permits. The Contractor shall initially pay for all permits, fees and inspections required for local agency and code requirements. The Contractor shall submit invoice to the Construction Manager for the City's reimbursement of such costs.

The Contractor shall be responsible for and the City shall not provide reimbursement for any costs required for the reinspection of defective work or additional costs due to the Contractor's failure to properly schedule the inspections.

1.03 STORM WATER QUALITY CONTROLS

- A. The Federal Clean Water Act [Section 402 (p)] requires that discharges of storm water associated with industrial and construction activity will be regulated by National Pollutant Discharge Elimination System (NPDES) Permits. Federal regulations promulgated by the U.S. Environmental Protection Agency identify the categories of industries which are required to submit an application for the NPDES permit for storm water discharge no later than October 1, 1992, unless already permitted either by an individual storm water permit or a general storm water permit.
- B. The State Water Resources Control Board (State Water Board) adopted a general construction storm water permit for all categories of construction storm water discharges. This permit is a statewide general construction storm water permit for construction activity.
- C. Since the City is responsible to the State for the preparation of and compliance with the

various management plans called for in the permit, the City requires the Contractor to provide the detail planning and compliance activities required insofar as they would potentially affect Contractor's methods and means of performing the Work. The conditions of the permit applicable to the Contractor are as follows:

1. Discharge prohibitions
2. Receiving water limitations
3. Special Provisions for Construction Activity a. Standard Provisions 2, 3, 5, and 6
4. Section A: Storm Water Pollution Prevention Plan
 - a. The Contractor shall prepare a Stormwater Pollution Prevention Plan (SWPPP) that the Contractor shall adopt and be fully responsible for following. Before starting any work on the project, the Contractor shall submit a copy of the SWPPP to the Construction Manager. The Contractor shall not perform any clearing and grubbing or earthwork on the project until the SWPPP is submitted and accepted by the Construction Manager.
5. Section B: Monitoring and Reporting Requirements
 - a. The Contractor shall comply with all applicable paragraphs of this section of the SWPPP. The Contractor shall conduct inspections of the construction site prior to anticipated storm events and after storm events to assess effectiveness of the SWPPP.
 - b. A record of the inspections must include the date of the inspection, the individual(s) who performed the inspection and the observations.
 - c. The inspection reports shall be submitted within twenty-four (24) hours of the event.

1.04 EXISTING UTILITIES AND IMPROVEMENTS A. General

1. Access shall be provided at all times to all fire hydrants.
2. Contractor shall contact Underground Services Alert (USA) at (800) 227-2600 or (800) 642-2444 one week in advance of starting excavation to provide for marking of utilities. Shutdown of utilities shall be performed only by the utility owner.
3. The Contractor shall protect all existing utilities, pavement, sidewalks, curbs, fences, landscaping, and other improvements that are not designated for removal, from damage by his operations. Any such features that are damaged or temporarily relocated by the Contractor during construction shall be repaired or restored by the Contractor to a condition equal to or better than they were prior to such damage or temporary relocation all in accordance with requirements of the Contract Documents and at no expense to the City.
4. The location of known existing utilities and pipelines are shown on the drawings in their approximate locations. Some of the locations include multiple conduits. The Contractor shall exercise care in avoiding damage to those facilities which are to remain in service subsequent to the Work, and shall be held responsible for their repair if damaged. The Contractor shall also exercise care in maintaining those facilities which will be removed or abandoned by the Work until such time as they can be removed or abandoned.
5. It shall be the Contractor's responsibility to ascertain the actual location of all existing utilities and other improvements that will be encountered in his construction operations, and to see that such utilities or other improvements are adequately protected from damage due to such operations. There is no guaranty that all utilities or obstructions are shown or that the locations indicated are accurate. The Contractor shall take all possible precautions for the protection of unforeseen utility lines to provide for uninterrupted service and to provide such special protection as may be necessary. The cost of repair of any damages to existing utilities shown on the Plans, marked in the field, or attributable to negligence on the part of the Contractor shall be at the Contractor's expense.
6. Nothing herein shall be deemed to require the public agency to indicate the presence of existing overhead power, telephone and TV cable or underground service laterals and

appurtenances when the presence of such utilities on the site of the construction can be inferred from the presence of visible facilities, such as poles, buildings, or meter and junction boxes, on or adjacent to the site of construction; provided, however, nothing herein shall relieve the public agency from identifying buried main or trunk lines in the Plans and Specifications.

B. Owner's Right of Access

1. The right is reserved to the City and to the owners of public utilities and franchises to enter at any time upon any public street, alley, right-of-way, or easement for the purpose of making changes in their property made necessary by the Work of this Contract.

C. Exploratory Excavation

1. The Contractor shall verify the exact locations and depths of all utilities shown on the Plans or by Underground Services Alert (USA). Prior to trenching or excavating for any pipe or structure, the Contractor shall make exploratory excavations to completely expose all utilities shown on the drawings, or located by USA that may interfere with the Work. Excavations around underground electrical ducts and conduits shall be performed using extreme caution to prevent injury to workers or damage to the electrical ducts or conduits.
2. The Contractor shall contact the owner of each utility to determine if they permit potholing of their utility or if they pothole with their own personnel. All such exploratory excavations shall be performed as soon as practicable after award of the Contract and, in any event, a sufficient time in advance of construction to avoid possible delays to the Contractor's work.
3. The cost for performing said excavations shall be included in the Contractor's Bid Price. If the Contractor does not expose all required utilities, it shall not be entitled to additional compensation for work necessary to avoid interferences or for repair to damaged utilities.
4. When such exploratory excavations show the utility location as shown to be in conflict with the Work, the Contractor shall so notify the Construction Manager and a method for correcting the conflict will be supplied by the Construction Manager. The Contractor will be reimbursed for the cost of correcting the conflict in accordance with Section 00700- Article 7, **CHANGES IN THE WORK**.

D. Utilities to be Moved

1. Where the proper completion of the Work requires the temporary removal and/or relocation of an existing utility or other improvement the Contractor shall remove and, without unnecessary delay, temporarily replace or relocate such utility or improvement in a manner satisfactory to the Construction Manager and the owner of the facility. In all cases of such temporary removal or relocation, restoration to former location shall be accomplished by the Contractor in a manner that will restore or replace the utility or improvement as nearly as possible to its former locations and to as good or better condition than found prior to removal.
2. In case it shall be necessary to permanently move any existing utility or improvement, the Contractor shall notify the Construction Manager a sufficient time in advance for the necessary measures to be taken to prevent interruption of service or delay of the Work.

E. Underground Utilities Shown or Indicated

1. Existing improvements that are shown on the Plans or marked in the field, the locations of which are indicated to the Contractor prior to excavation and that are to be retained, and all utility lines that are constructed during the Work shall be protected from damage during excavation and backfilling, and if damaged, shall be immediately repaired by the Contractor at no expense to the City. This provision shall also apply to existing utility services whose locations can be inferred from meters, vaults, valves, and other markings, or that are indicated by the owner of the utility.
2. All buried utilities shall be considered to be correctly shown or indicated if their true locations are within ten (10) horizontal feet of the locations shown either on the Plans or marked on the ground by the utility's owner regardless of depth.
3. The Contractor shall receive no additional compensation for extra work or delay for locating such correctly shown or indicated utilities.

F. Underground Utilities Not Shown or Indicated

1. If the Contractor encounters any existing utilities that are not shown or correctly shown on the Plans, and the locations of which are not correctly indicated to the Contractor prior to excavation, he shall immediately make a written report to the Construction Manager. If directed by the Construction Manager, repairs shall be made by the Contractor under the provisions for changes and extra work. This provision shall also apply to existing utility services whose locations cannot be inferred from meters, vaults, valves, or other markings, and are not indicated to the Contractor prior to excavation by the owner of the utility.
2. The Contractor shall be reimbursed for repair, removal, and/or relocation of these utilities, provided that he exercised reasonable care to avoid causing the damage. Reimbursement will be limited to extra materials, extra labor, and idled equipment that was actually working on the portion of the Work that was stopped due to the damage and could not reasonably be reassigned to another task of the Work.
3. The Contractor shall not be assessed liquidated damages for delay in completion of the Project when such delay was due to utilities that were not shown or located, or could not be inferred from visual evidence.

G. Approval of Repairs

1. The utility or improvement owner shall have the sole discretion to perform repairs or relocation work or permit the Contractor to do such repairs or relocation work at a reasonable price.
2. All repairs to a damaged improvement are subject to inspection and approval by an authorized representative of the improvement owner before being concealed by backfill or other work.

H. Maintaining in Service

1. All oil and gasoline pipelines; railroad facilities; power, telephone or communication cable ducts; gas and water mains; irrigation, sewer, and storm drain lines; and overhead power and communication poles, wires and cables, encountered along the line of the Work shall remain continuously in service during all the operations under the Contract, unless other arrangements satisfactory to the Construction Manager are made with the owner of said facilities.
2. Planned facility shutdowns shall be accomplished as required by the owner of the facility. In some cases, this may require night or weekend work which shall be at no additional cost to the City. The Contractor shall program its work so that service will be restored in

the minimum possible time and shall cooperate with the City in reducing shutdowns of utility systems to a minimum. No utility interruption will be permitted without the prior approval of the Construction Manager and the specific utility.

3. The Contractor shall be responsible for all damage due to its operations, and the provisions of this Section shall not be abated even in the event such damage occurs after backfilling or is not discovered until after completion of the backfilling.

I. Interruption of City Facilities – NOT USED

1.05 RIGHTS-OF-WAY

- A. The Contractor shall not do any work that would affect any existing oil, gas, sewer, or water pipeline; any existing telephone, telegraph, or electric transmission line; any fence; any railroad facility; or any other structure, nor shall the Contractor enter upon the rights-of-way involved until notified by the Construction Manager that the Owner has secured authority therefore from the proper party. After authority has been obtained, the Contractor shall give said party due notice of its intention to begin work, comply with any preconstruction easement conditions, and shall give said party convenient access for removing, shoring, supporting, or otherwise protecting such pipeline, transmission line, ditch, fence, or structure, and for replacing same.
- B. When two or more contracts are being executed at one time on the same or adjacent land in such manner that work on one contract may interfere with that on another, the Owner shall determine the sequence and order of the Work. When the territory of one contract is the necessary or convenient means of access for the execution of another contract, such privilege of access or any other reasonable privilege may be granted by the Owner to the Contractor so desiring, to the extent, amount, in the manner, and at the times permitted. No such decision as to the method or time of conducting the Work or the use of territory shall be made the basis of any claim for delay or damage, except as provided in the General Conditions for temporary suspension of the Work, Section 00700-6.06, **SUSPENSION OF WORK**.

1.06 CULTURAL RESOURCES

- A. The Contractor's attention is directed to the National Historic Preservation Act of 1966 (16 U.S.C. 470) and PRM 75-27 which provides for the preservation of potential historical architectural, archeological, or cultural resources (hereinafter called "cultural resources").
- B. The Contractor shall conform to the applicable requirements of the National Historic Preservation Act of 1966 as it relates to the preservation of cultural resources. Fair compensation to the Contractor for delays resulting from such cultural resources investigations shall be made.
- C. In the event potential cultural resources are discovered during subsurface excavations at the site of construction, the following procedures shall be instituted:
- D. The Construction Manager will issue a Stop Work Order directing the Contractor to cease all construction operations at the location of such potential cultural resources find.
- E. Such Stop Work Order shall be effective until such time as a qualified archaeologist can be called to assess the value of these potential cultural resources and make recommendations to the City. Any Stop Work Order shall contain the following:

1. A clear description of the work to be suspended
 2. Any instruction regarding issuance of further orders by the Contractor for material services
 3. Guidance as to action to be taken on subcontracts
 4. Any suggestions to the Contractor as to minimization of his costs
 5. Estimated duration of the temporary suspension
- F. If the archaeologist determines that the potential find is a bona fide cultural resource, at the direction of the City, the Engineer shall extend the duration of the Stop Work Order in writing, and the Contractor shall suspend work at the location of the find.
- G. Equitable adjustment of the construction contract time shall be made in the following manner: If the work temporarily suspended is on the "critical path," the total number of days for which the suspension is in effect shall be added to the number of allowable contract days.
- 1.07 SPECIAL WORK HOURS FOR SPECIFIC ITEMS OF WORK
- A. The following items of work are required to be completed during the specified time period:
1. General working hours shall be defined in Section 01560-1.07
- 1.08 NIGHT WORK (NOT USED)
- 1.09 PROTECTION OF STREET OR ROADWAY MARKERS
- A. It is the responsibility of the Contractor to protect all survey monuments, survey markers, and street markers in the area of his work.
- B. Prior to breaking pavement or starting excavation, the Contractor shall reference all survey monuments and markers that will be affected by his work, and reset such monuments and markers after construction, in accordance with the requirements of Alameda County.
- C. Referencing and resetting of survey monuments and markers shall be done by a land surveyor registered in the State of California who is hired by the Contractor.
- 1.10 WORK WITHIN PRIVATE PROPERTY
- A. The Contractor shall restrict operations to cause the least amount of damage to the surrounding property and to save as many trees and plants as possible. If damage to the surrounding property has occurred, the Contractor shall restore the property to a condition equal to or better than that which existed prior to the Contractor's entry, or as required as part of these Contract Documents.

PART 2 - PRODUCTS (NOT USED) PART 3 - EXECUTION (NOT USED)

*** END OF SECTION ***

SECTION 015000 TEMPORARY CONTROLS

PART 1 - GENERAL

1.01 TEMPORARY FACILITIES

Construction hoists, elevators, scaffolds, stages, shoring, and similar temporary facilities shall be of ample size and capacity to adequately support and move the loads to which they will be subjected. Railings, enclosures, safety devices, and controls required by law or for adequate protection of life and property shall be provided.

1.02 STAGING AND SHORING

Temporary supports shall be designed by a registered professional engineer with an adequate safety factor to assure adequate seismic and load bearing capability. The Contractor shall submit design calculations for staging and shoring prior to commencement of Work and as required by Section 02080.

Excavation support shall be in accordance with Section 00700-4.07E, **Excavation Safety**.

1.03 PROTECTION OF WORK, PROPERTY AND PERSONS

The Contractor shall be responsible for the care of all work until its completion and Final Acceptance; and the Contractor shall, at its own expense, replace damaged or lost material and repair damaged parts of the Work, or the same may be done by the City, and the Contractor and its sureties shall be liable therefore. The Contractor shall make its own provisions for properly storing and protecting all material and equipment against theft, injury, or damage from any and all causes. Damaged material and equipment shall not be used in the Work. The Contractor shall take all risks from floods and casualties, or for delays from such causes. The Contractor may, however, be allowed a reasonable extension of time on account of such delays, subject to the conditions herein before specified. The Contractor shall remove from the vicinity of the completed work all plants, buildings, rubbish, unused material, concrete forms, sheeting or equipment belonging to the Contractor or used under its discretion during construction; and in the event of the Contractor's failure to do so, the same may be removed by the City at the expense of the Contractor, and the Contractor and its sureties shall be liable therefore.

The Contractor shall adopt all practical means to minimize interference to traffic and inconvenience, discomfort, or damage. The Contractor shall protect against damage, any piling, duct or structures crossing trenching or encountered in the Work and shall be responsible for any damage done to such structures, or damage therefrom. The Contractor shall support or replace, any such structures without delay and without any additional compensation, to the entire satisfaction of the Construction Manager. All obstructions to traffic shall be guarded by flagmen as required and by barriers and illuminated at night. The Contractor shall be responsible for all damage to persons and property directly or indirectly caused by its operations, and under all circumstances the Contractor shall comply with the regulations of the City or County, and the laws and regulations of the State of California, relative to safety of persons and property and the interruption of traffic and the convenience of the public within the respective jurisdiction, and the Contractor shall be solely responsible for any damages caused by failure to provide proper safety.

The Contractor will be held responsible for and be required to make restitution, at its own expense, for all damage to persons or property caused by the Contractor or subcontractor, or the agents, or employees of either during the progress of the Work and until its final Acceptance.

1.04 FENCES (NOT USED)

1.05 TEMPORARY ENCLOSURES

When sandblasting, spray painting, spraying of insulation, or other activities inconveniencing or dangerous to property or the health of employees or the public are in progress, the area of activity shall be enclosed adequately to contain the dust, over-spray, or other hazard. In the event there are no permanent enclosures of the area, or such enclosures are incomplete or inadequate, the Contractor shall provide suitable temporary enclosures.

1.06 ABOVE GRADE PROTECTION (NOT USED).

1.07 WORKING HOURS

Construction shall be allowed under normal hours which is defined to be between the hours of seven (8:00) a.m. and five (5:00) p.m. on weekdays. Construction may be allowed on Saturday between nine (9:00) a.m. to six (5:00) p.m. or holidays, or as specified in the City Encroachment Permit, subject to Contractor compensating the City for project oversight costs outside of normal weekday hours.

The Contractor shall be responsible for any inspection and additional administration costs incurred by the City, or its agents and representatives, for work by the Contractor outside the hours defined above on weekdays, or any work on weekends or holidays recognized by the City. If an inspection is required at any time other than during regular hours of business, Contractor shall notify the Construction Manager or shall make such request for overtime inspection at the office of the City at least one (1) hour prior to closing time. A fee shall be charged for overtime inspection and shall be determined as follows: the Inspector's hourly rate of pay in effect at that time shall be doubled; such double-time rate shall then be multiplied by a minimum chargeable time of two (2) hours. If the Inspector is required to stay on the job more than two hours, the double-time rate shall be paid for each hour thereafter; portions of hours shall be charged as a full hour. Such costs shall be withheld from the succeeding monthly progress payment. Any work in Section 01010, **SUMMARY OF WORK**, specifically required to be performed outside the normal working hours is excluded from the provisions of this paragraph. The City may also exclude other work performed outside the normal working hours from the provisions of this paragraph.

The Contractor shall notify the Construction Manager at least 24 hours prior to any work outside the normal working hours defined above, on weekends or holidays.

The Contractor shall be responsible for any inspection and additional administration costs incurred by the City, or its agents and representatives for the following conditions:

- A. For work by the Contractor outside the hours defined above on weekdays, or any work on weekends or holidays recognized by the City.
- B. For overtime costs beyond ten (10) hours in any one workday shift, regardless if the ten

(10) hours occur in the allowed working hours.

Such costs shall be withheld from the succeeding monthly progress payment. Any work in Section 01010, **SUMMARY OF WORK**, specifically required to be performed outside the normal working hours is excluded from the provisions of this paragraph.

1.08 DUST CONTROL

During the performance of all Work under this Contract, the Contractor shall assume all responsibility for dust control and shall furnish all labor, equipment, and means required to carry out proper and efficient measures wherever and whenever dust control is necessary to prevent the Contractor's operations from producing dust damage and nuisance to persons and property.

Unless the construction dictate otherwise, and unless otherwise approved by the Construction Manager, the Contractor shall furnish and operate a self-loading motor sweeper with spray nozzle at least once each working day to keep paved areas acceptably clean whenever construction, including restoration, is incomplete.

If the contractor does not provide and/or conduct dust control as required above or otherwise approved in writing by the Construction Manager, the City has the right to contract such services separately and withhold those costs from the contractor.

Any claims resulting from dust damage or nuisance shall be borne solely by the Contractor.

1.09 FIRE EXTINGUISHER

Sufficient number of fire extinguishers of the type and capacity required to protect the Work and ancillary facilities, shall be provided and maintained by the Contractor in readily accessible locations.

1.10 USE OF EXPLOSIVES

The use of explosives is prohibited.

1.11 REMOVED MATERIALS

All concrete, paving, reinforcing steel, fencing materials, rock, soil, strips, and other waste material and construction debris shall be removed from the Site by the Contractor and disposed of in accordance with applicable regulations and laws.

1.12 CONSTRUCTION CLEANING

Throughout the period of construction the Contractor shall keep the Work site; including work, storage, parking, and employee areas; free and clean of all rubbish and debris, and shall promptly remove from the Site, or from property adjacent to the site of the Work, all unused and rejected materials, surplus earth, concrete, plaster, and debris. In particular the Contractor shall keep the Site clean to maintain safe access and to avoid fire hazard.

1.13 NOISE ABATEMENT

Operations at the Work site shall be performed so as to minimize unnecessary noise. Special measures shall be taken to suppress noise during night hours. Noise levels due to construction activity shall not exceed the levels specified by local ordinance.

Internal combustion engines used on the Work shall be equipped with a muffler of a type recommended by the manufacturer. No internal combustion engine shall be operated without said muffler.

1.14 DRAINAGE CONTROL

In excavation, fill, and grading operations care shall be taken to disturb the pre-existing drainage pattern as little as possible. Particular care shall be taken not to direct drainage water onto private property or into streets or drainage ways inadequate for the increase flow. Drainage means shall be provided to protect the Work.

1.15 EROSION CONTROL

- A. All excavated areas shall be provided with temporary erosion control measures.
- B. Temporary erosion control shall be required for all areas where natural ground cover is disturbed, all temporary excavation stockpiles, including structures and trench excavations.
- C. Erosion control shall be by means of filter fabric fences or hay bales placed to completely circumvent the down-slope side of any excavated stockpile.
- D. Protected areas shall be regularly inspected and maintained by the Contractor during the course of the Work.
- E. All excavations, spills, and waste materials shall not be placed in areas subject to washout, flooding or natural drainage.
- F. See Section 01060-1.03, **STORM WATER QUALITY CONTROLS**, for additional requirements

1.16 WARNING DEVICES AND BARRICADES

The Contractor shall adequately identify and guard all hazardous areas and conditions by visual warning devices and, where necessary, physical barriers. Such devices shall, as a minimum, conform to the requirements of Cal/OSHA.

The Contractor is responsible for providing and maintaining barricades necessary to prevent accidental falls through any unattended open hatches or trenches, or entrances into potentially hazardous work areas in the Contractor's work area.

1.17 TRAFFIC REGULATIONS A. General

The Contractor shall take all necessary steps to minimize inconvenience to the general public throughout all Work under this Contract. No driveways or private roads shall be blocked without notifying the property owner and access must be restored during all non-working hours. Safe access must be maintained for pedestrian traffic throughout the Work area at all times.

At least one lane of traffic in each direction must be kept open at all times unless prior approval is provided by the City and the Public Agency(ies) which has authority for the right-of-way. No roads shall be blocked or made inaccessible, due to the Contractor's work, without prior written approval of the City and the affected agencies. More stringent requirements may be imposed in the right-of-way permits.

The Contractor shall not block or obstruct fire lanes at any time.

The Contractor shall adopt all practical means to minimize interference to traffic and inconvenience, discomfort, or damage. The Contractor shall protect against damage, any piling, duct or structures crossing trenching or encountered in the Work and shall be responsible for any damage done to such structures or damage therefrom. The Contractor shall support or replace, any such structures without delay and without any additional compensation, to the entire satisfaction of the Construction Manager. All obstructions to traffic shall be guarded by flagmen as required and by barriers and illuminated at night. The Contractor shall be responsible for all damage to persons and property directly or indirectly caused by its operations, and under all circumstances the Contractor shall comply with the regulations of the City or County, and the laws and regulations of the State of California, relative to safety of persons and property and the interruption of traffic and the convenience of the public within the respective jurisdiction, and the Contractor shall be solely responsible for any damages caused by failure to provide proper safety.

B. Haul Routes

In addition to any haul routes that may be designated in the Contract Documents, or at the preconstruction conference, the Contractor shall furnish evidence that the Public Agency(ies) which has authority for the right-of-ways proposed to be utilized by the Contractor for haul routes has approved the proposed route(s) for all construction traffic created by the Project. Upon approval, the Contractor shall strictly adhere to that route(s) only, unless written permission is obtained from such Public Agency(ies) to change the route(s).

C. Traffic Control

Traffic control shall be in accordance with the California Manual of Uniform Traffic Control Devices. The Contractor shall submit for approval, by the City and Marin County, its traffic control plans prior to work on public streets.

Traffic control shall include signs, warning lights, reflectors, barriers, and other necessary safety devices and measures, including sufficient flaggers to direct vehicular traffic through the construction areas.

No material or equipment shall be stored/parked where it will interfere with the free and safe passage of public traffic, and at the end of each day's work, and at other times when construction operations are suspended for any reason, the Contractor shall remove all equipment and other obstructions from the public right-of-way.

Should the Contractor appear to be negligent in furnishing warning and protective measures, as above provided, the Construction Manager may direct attention to the existence of a hazard, and the necessary warning and protective measures shall be furnished and installed by the Contractor at its expense.

1.18 ROADS AND FENCES

Roads subject to interference by the prosecution of the Work covered by this Contract shall be kept open, and fences subject to interference shall be maintained by the Contractor during the Work and shall be replaced to their original condition unless specifically shown otherwise on the Drawings. Such signs and barricades as are required by local laws and as necessary for the safe prosecution of the Work shall be provided.

Excavated dirt shall not be stored on roads, paths, or planted areas. Care shall be taken to protect improvements.

1.19 PARKING AND STAGING AREAS (NOT USED)

1.20 TREES AND SHRUBS

Except as noted on the Plans, the Contractor shall not remove trees or shrubs without authorization of the Construction Manager. Injuries to tree roots and limbs shall be avoided. No roots shall be cut or limbs pruned, without prior notification to and review of Contractor's proposed methods by the Construction Manager.

1.21 OFFICE OF CONTRACTOR AT SITE (NOT USED)

1.22 CONTRACTOR'S WORK AND STORAGE AREA

The Contractor shall make its own arrangements for staging, storage and shop areas necessary for the proper execution of the Work.

The Contractor's construction equipment, vehicles, and materials shall not remain in public streets during non-working hours. It shall be the responsibility of the Contractor to transport and store such items at the Contractor's own facility or within construction easements on nonpublic areas at the end of each workday.

1.23 CONSTRUCTION MANAGER'S FIELD OFFICE (NOT USED)

1.24 PHOTOGRAPH AND VIDEO RECORDING OF SITE CONDITIONS (NOT USED)

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION (NOT USED)

*** END OF SECTION ***