

City of Fortuna

TECHNICAL SPECIFICATIONS South Fortuna Elementary School Safe Routes to School Project ATPL-5145(016) and Fortuna CIP #9075



March 19, 2020

Prepared for

City of Fortuna
621 11th Street
Fortuna, California 95540
(707) 725-7600

Prepared by



718 Third Street
Eureka, California 95501



TECHNICAL SPECIFICATIONS

**Special Provisions to the
Caltrans Standard Specifications, 2018**

TABLE OF CONTENTS

1.0 GENERAL..... 1

2.0 EXISTING FACILITIES 8

3.0 HAZARDOUS WASTE AND CONTAMINATION 9

4.0 PRESERVATION OF PROPERTY 9

5.0 MOBILIZATION/DEMobilIZATION 9

6.0 STATIONARY MOUNTED CONSTRUCTION AREA SIGNS 10

7.0 TEMPORARY TRAFFIC CONTROL..... 11

8.0 CONSTRUCTION STAKING 13

9.0 MATERIALS TESTING AND QUALITY CONTROL..... 13

10.0 WATER POLLUTION CONTROL & FINAL STABILIZATION 14

11.0 DUST CONTROL 17

12.0 CLEARING AND GRUBBING..... 17

13.0 DEMOLITION AND REMOVAL 18

14.0 EARTHWORK 18

15.0 ADJUST WATER METER BOX AND UTILITY VALVE COVER TO
GRADE..... 20

16.0 STORM DRAIN PIPE AND STRUCTURES..... 20

17.0 AGGREGATE BASE..... 22

18.0 MINOR CONCRETE..... 23

19.0 DETECTABLE WARNING SURFACES..... 25

20.0 HOT MIX ASPHALT..... 26

21.0 ASPHALT SEAL COAT 27

22.0 CONCRETE WHEELSTOPS..... 30

23.0 MODIFY CHAIN LINK FENCE..... 31

24.0 ROADSIDE SIGNS..... 31

25.0 TRAFFIC STRIPE, PAVEMENT MARKINGS AND PAVEMENT
MARKERS 32

26.0 TRAFFIC SIGNAL MODIFICATIONS 33

27.0 FINAL CLEAN-UP 34

1.0 GENERAL

A. PROJECT DESCRIPTION

The project includes all work included in the Plans, General Provisions, Technical Specifications, Standard Plans and Standard Specifications, to produce a complete and functional project, as determined by the City of Fortuna.

B. SCOPE OF WORK

Contractor shall provide all materials, supervision, labor, equipment and supplies for construction of the South Fortuna Elementary School Safe Routes to School Project. The project includes but is not limited to: removal of existing asphalt pavement, concrete sidewalk, concrete driveways, concrete curb, concrete curb and gutter, and drainage facilities; and the placement/construction of concrete sidewalk, sidewalk underdrain pipe, driveway, bulb outs, curb ramps, curb and gutter, asphalt pavement, seal coat, pavement striping and markings, signage, enhanced signage, storm drain piping and storm drain inlets, and traffic signal modifications.

All materials shall be furnished and installed by the Contractor unless otherwise noted.

C. LOCATION OF WORK

The work site is on Newberg Road, between South Fortuna Boulevard and Orchard Lane; Summer Street, between Newburg Road and 1st Avenue; Lawndale Drive, between Newburg Road and 2nd Avenue; and the corner of Orchard Lane and Newburg streets in Fortuna, State of California.

D. CONTRACTOR'S LICENSE REQUIREMENTS

The Contractor's license needed for this project is A - General Engineering.

E. OWNER'S AUTHORIZED REPRESENTATIVES

- Merritt Perry, Director of Public Works/City Engineer, City of Fortuna
- Brendan Byrd, Deputy City Engineer, City of Fortuna
- Kevin Carter, Deputy Director of Public Works, City of Fortuna
- Bob Natt, General Services Superintendent, City of Fortuna

Additional authorized representatives will be identified prior to construction.

F. STANDARDS

All work shall adhere to California Department of Transportation (Caltrans) 2018 Standard Specifications and Standard Plans and the Special Provisions contained herein and the latest edition of the California Building Code (CBC), Local, State and Federal regulations, all of which are incorporated into this Contract by reference.

Any reference to or incorporation of the Caltrans Standard Specifications, including "Standard Specifications," "Caltrans Specifications," "State Specifications," or "CSS," means the 2018 edition of Caltrans' Standard Specifications ("Standard Specifications"), and the most current amendments on the date that Contractor's bid was submitted for this Project. The following provisions apply to use of or reference to the Standard Specifications:

1. Limitations. None of the "General Provisions" of the Standard Specifications, i.e., Sections 1 through 9, applies to these Contract Documents with the exception of any specific provisions, if any, which are expressly stated to apply to these Contract Documents.

2. Conflicts or Inconsistencies. If there is a conflict or inconsistency between any provision in the Standard Specifications and a provision of these Contract Documents, as determined by the Engineer, the provision in the Contract Documents will govern.

G. CONFLICTS

The Contractor shall read and make careful examination of the plans, specifications, quantities and material estimates and visit the site of the proposed construction to become familiar with the site conditions and limitations before making a bid. The Contractor shall be responsible for any and all errors resulting from the failure to make such an examination.

H. PERMITS AND LICENSES

It is the responsibility of the Contractor to coordinate with the City to verify that all necessary State and Federal permits have been obtained prior to starting construction or breaking ground on a specific portion of work. The Contractor shall coordinate with the City or the Engineer to obtain copies of the permits and shall comply with all permit conditions.

The Contractor shall maintain a copy of all permits at the project site at all times.

The Contractor required to obtain a "no cost" encroachment permit from the City.

I. CONTRACTOR'S USE OF PREMISES

The Contractor agrees to assume sole and complete responsibility for the job site during the course of construction of this project, including safety of all persons and property. This requirement shall apply continuously and not be limited to normal working hours; and that the Contractor shall defend, indemnify, and hold the City, GHD, and their representatives harmless from any and all liability, real and/or alleged, in conjunction with the performance of this project.

Public Safety, traffic safety and worker safety shall be maintained in compliance with Federal, State and Local Law. It shall be the applicant's responsibility and liability to comply with all applicable laws including: Cal-OSHA; State Department of Transportation Construction Safety, and the State Construction Safety Orders administered by the State Department of Industrial Relations, available through the State of California. Safety and warning devices shall be installed and maintained for all work within the Public Right of Way, within trenches, excavations, and around obstructions. No Public access shall be permitted under overhead construction work. Traffic control signs, flags, lights and other warning and safety procedures shall conform to these cited State requirements, including the Manual of Traffic Safety in Construction Work Zones published by the State Department of Transportation. Continuous vehicle and pedestrian access shall be maintained unless advanced, written authorization has been provided by the City.

1. The Contractor shall notify the engineer at least 72 hours in advance of commencement of any part of the work and shall coordinate construction schedule accordingly.
2. The Contractor shall provide and maintain sufficient temporary barriers to provide for the safety of the public to the satisfaction of the City, see Standard Specifications section 7-1.03 and 7-1.04 for more information.
3. The Contractor shall take all reasonable precautions to restrict operations to the least area of work possible and shall not disturb private property beyond the areas of work or easements for the project.
4. No work shall be performed outside of the designated construction limits without the approval of the city or city's representative.
5. The Contractor shall coordinate with city and adjacent property owners to schedule the demolition and reconstruction of driveways. A minimum of two weeks notice shall be

provided and coordinated so as to cause minimal impacts to the property owner. Contractor shall be held responsible for any damage to property or belongings while on private property and such property shall be restored to "as good or better" conditions at the contractor's expense.

6. No concrete shall be place or poured; or asphalt paving placed; or pipeline trenches back-filled; or structures back-filled until the designated City inspector has made an inspection and the work has been approved. Required inspections must be scheduled at least 24 hours in advance.
7. Access to fire hydrants and public facilities shall be maintained at all times.
8. Refuse, trash, waste materials or unused materials shall be removed from the Public Right-of-Way within 4 hours after completion of work.
9. The Contractor shall post temporary "No Parking" signs with dates and time restrictions described in work areas a minimum of forty-eight (48) hours prior to commencement of work. However, if the intended work does not commence within 24 hours of the scheduled work, all "No Parking" signs shall be removed from the site unless otherwise directed by the City's Representative. See "Traffic Control" section regarding coordinating work.
10. The Contractor shall provide equipment-staging space at their own expense and shall occur within paved or graveled areas or a designated, previously disturbed corporation yard. No spoils or materials will be permitted to be stored within City right-of-way without prior written approval from the City. No spoils or materials will be permitted to be stored on School District property without prior written approval from the School District.
11. The Contractor shall be cognizant of all utilities that cross the work area and take adequate measures to protect the utilities from damage. The City of Fortuna assumes no liability of the location of utilities marked or otherwise, and the Contractor is encouraged to examine the site and contact the utilities via USA to determine if conflicts exist.
12. The Contractor is responsible for arranging hook-up of temporary power and is responsible for power hookup and power usage costs. It is the Contractor's responsibility to ensure the compatibility of power sources for their equipment.
13. The Contractor is responsible for furnishing and installing all required temporary buildings with sanitary toilets for use of all workmen; comply with all minimum requirements of the Health Department or other public agency having jurisdiction; maintain in a sanitary condition at all times.
14. Unless otherwise noted, the Contractor shall protect existing survey monuments within work limits. Any monument damaged by the contractor shall be reset in accordance with the California Professional Land Surveyors Act.

J. ROAD CLOSURES

No street shall be closed without first notifying the following agencies, a minimum of 24 hours in advance :

- Fortuna Public Works Department: 707-725-7630
- Fortuna Building Department: 707-725-7640
- Fortuna Police Department: 707-725-7550
- Fortuna Fire Department: 707-725-5021
- City Ambulance: 707-725-8020
- Humboldt County Sheriff's Department: 707-445-7251

- California Highway Patrol: 707-268-2000
- California Department of Forestry - Fortuna Office: 707-725-4413

K. DIFFERING SITE CONDITIONS

Attention is directed to Section 4-1.06, "Differing Site Conditions," of the Standard Specifications. During the progress of the work, if subsurface or latent conditions are encountered at the site differing materially from an examination of the conditions above ground at the site, the party discovering those conditions shall promptly notify the other party in writing of the specific differing conditions before they are disturbed and before the affected work is performed.

The Contractor will be allowed 15 days from the notification of the City's determination of whether or not an adjustment of the contract is warranted, in which to file a notice of potential claim in conformance with the provisions of Section 5-1.43, "Potential Claims and Dispute Resolution" of the Standard Specifications and as specified herein; otherwise the decision of the City's Representative shall be deemed to have been accepted by the Contractor as correct. The notice of potential claim shall set forth in what respects the Contractor's position differs from the Engineer's determination and provide any additional information obtained by the Contractor, including but not limited to additional geotechnical data. The notice of potential claim shall be accompanied by the Contractor's certification that the following were made in preparation of the bid: a review of the contract, a review of the "Technical Data," a review of the borings and other records of geotechnical data to the extent they were made available to bidders prior to the opening of bids, and an examination of the conditions above ground at the site.

L. WORK SAFETY

The Contractor shall assume sole and complete responsibility for job site conditions for the duration of the project including, but not limited to, the safety and health conditions on the work site. This requirement shall apply continuously and shall not be limited to normal working hours. Contractor shall comply with all applicable provisions of law including the standards, rules, regulations and orders established by the California Division of Industrial Safety. Contractor shall furnish and use safety devices and safeguards and shall adopt and use practices, means, methods, operations, and processes which are reasonably adequate to render the work site safe and healthful. Contractor shall take all steps necessary to ensure that any hazardous condition is corrected promptly either by the Contractor or by assigning such responsibility to the appropriate subcontractor and ensuring that the corrections are completed. The City of Fortuna, the engineer-of-record, construction manager and the officers, agents, employees and consultants, shall not have charge of or responsibility for construction or safety means, methods, techniques, procedures, as these are solely the responsibility of Contractor.

M. CONFINED SPACES

For any work that is to take place in a confined space, the Contractor shall comply with all CAL/OSHA regulations concerning entry into confined spaces. Confined space for the purpose of this Article shall include, but is not limited to the interior of storm drains, sewers, vaults, utility pipelines, manholes, reservoirs, and any other such structure which is similarly surrounded by confining surfaces so as to permit the accumulation of dangerous gases or vapors. Tests for the presence of combustible or dangerous gases shall be made with an approved device immediately prior to a worker entering a confined space and at intervals frequent enough to ensure a safe atmosphere during the time a worker is in such a structure. A record of such tests shall be kept at the job site. Sources of ignition, including smoking, shall be prohibited in any confined space until after the atmosphere within the confined space has been tested and found safe. No employee shall be permitted to enter or remain within a confined space until such confined space is free of concentrations of harmful gases, and lack of oxygen, unless the employee is wearing suitable and approved respiratory equipment. Confined spaces that contain or that have last been used as containers of toxic gases, light oils, hydrogen sulfide, corrosives, or poisonous substances, shall, in every case, be tested by means of approved devices or chemical analysis before being entered without wearing approved respiratory equipment. Reservoirs, vessels, or other confined spaces

having openings or manholes in the side as well as in the top shall be entered from the side openings or manholes when practicable.

N. RECORD DRAWINGS

Using colored ink, the Contractor shall make changes on a set of clean prints of the contract drawings, which shall be kept at the job site at all times. Indicate all changes and revisions to the original design that affect the permanent structures/facilities. Reference underground utilities to semi-permanent or permanent physical objects. Reference water, sewer, telephone, and electrical lines to corners of buildings and survey markers. Drawings shall be kept current with all work instructions, change orders and construction adjustments. Drawings shall be subject to the inspection of the City's Representative at all times. Progress payments, or portions thereof, may be withheld if drawings are not accurate and current. Project record drawings are the property of the City of Fortuna. Prior to acceptance of the work, the Contractor shall deliver to the City one (1) set of neatly marked record drawings, accurately showing all the information required above. Full compensation for furnishing all labor, tools, equipment, material and incidentals and for doing all the work involved with conforming to the requirements of this section shall be considered as included in the contract prices paid for the various items of work and no additional compensation will be allowed therefor.

O. SUBMITTALS

Submit samples, drawings, and data for the City's approval which will demonstrate fully that the construction, and all materials and equipment to be furnished will comply with the provisions and intent of this specification. Submit all samples, drawings and data, unless specified otherwise, in the quantity required for return to the Contractor, plus three, which the City will retain. Label each sample, naming the project, the source of the material, and the proposed location of use on the project. Unless otherwise specifically permitted by the City, make all submittals in groups containing all associated items for complete systems. The City may reject partial submittals as not complying with the provisions of the contract documents.

Specific items to be covered by submittals shall include, but not limited to, the following:

Designation of Authorized Representative	Storm Drain Pipe and Fittings
Emergency Contact List	Sidewalk Underdrain Channel
Injury and Illness Prevention Plan	Catch Basins, Grates & Filters
Personnel & Equipment List	Pavement Markings / Markers / Stripes
Traffic Control Plan	Concrete Wheelstops
Class 2 Aggregate Base	Roadside Signs and Posts
Hot Mix Asphalt Mix (HMA) Design	Fencing and Gates
Asphalt Seal Coat	Utility and Water Meter Boxes
Concrete Mix Design	Loop Detectors, Signal Heads, Push
Concrete Reinforcement	Buttons, Assembly Posts
Detectable Warning Surfaces	

Where the specifications indicate that the Contractor must follow manufacturer's instructions for installation of materials or equipment, those instructions shall be submitted to the City of Fortuna prior to the start of work whether or not instructions are listed specifically as a submittal. When referenced, the manufacturers printed installation instructions shall have the same effect as if printed in the contract documents. Make all shop drawings accurately to a scale sufficiently large to show all pertinent features of the item and its method of connection to the work. Make all shop drawing prints in blue or black line on white background. Reproductions of City of Fortuna's drawings are not acceptable. The Contractor shall not use red color marks on submittals. Duplicate all marks on all copies submitted and ensure marks are photocopy reproducible. Include legible scale details, sizes, dimensions, performance characteristics, capacities, test data, anchoring details, installation instructions, storage and handling instructions, color charts, layout

drawings, parts catalogs, rough-in diagrams, wiring diagrams, controls, weights, and other pertinent data. Provide, at a minimum, the detail provided in the Contract Documents.

Prior to submittal for City's review, use all means necessary to fully coordinate all materials, including the following procedures:

1. Determine and verify all field dimensions and conditions, materials, catalog numbers, and similar data.
2. Coordinate as required with all trades and with all public agencies involved.
3. Secure all necessary approvals from public agencies and others and signify by stamp, or other means, that they have been secured.

The Contractor shall make all submittals far enough in advance of scheduled dates of installation to provide all required time for reviews, for securing necessary approvals, for possible revision and resubmittal, and for placing orders and securing delivery. In scheduling, allow at least seven (7) calendar days for the City's review, plus the transit time.

At least one copy of each submittal will be returned to the Contractor marked "No Exceptions Taken", "Make Corrections Noted", "Revise and Resubmit", or "Rejected." Submittals marked "No Exceptions Taken" or "Make Corrections Noted" need not be resubmitted, but the notes shall be followed. If a submittal is rejected, it will be marked to indicate what is unsatisfactory. Resubmit revised drawings or data as indicated, in number of copies specified above.

Approval of each submittal by the City will be general only and shall not be construed as:

1. Permitting any departure from the contract requirements.
2. Relieving the Contractor of the responsibility for any errors and omissions in details, dimensions, or of other nature that may exist.
3. Approving departures from additional details or instructions previously furnished by the City.
4. Relieving the Contractor from verifying all field conditions and dimensions.

Any submittals which are returned to the Contractor for resubmittal due to incompleteness or noncompliance more than once will cause additional review time and expense for the City of Fortuna. The Contractor shall reimburse the City of Fortuna for all costs associated with the third and subsequent review of any submittals. The City of Fortuna reserves the right to deduct resubmittal review costs from amounts due the Contractor.

The contract is based on the materials, equipment, and methods described in the contract documents. Any proposed substitutions by the Contractor are subject to the City's approval. The City will consider proposals for substitution of materials, equipment, and methods only when such proposals are accompanied by full and complete technical data, and all other information required by the City to evaluate the proposed substitution. Requests for substitutions shall be accompanied by a cover letter stating the reason for the substitution and any cost difference between the specified and proposed material. Any deviations from the plans and specifications shall be clearly identified on the submittal.

Whenever any material or equipment is indicated or specified by patent or proprietary name or by the name of the manufacturer, such specification shall be considered as used for describing the material or equipment desired and shall be considered as followed by the words "or approved equal". The Contractor may offer any material or equipment which shall be equal in every respect to that specified; provided that written approval first is obtained from the Engineer.

Certificates of Compliance may be required for any material incorporated into the project at the City's sole discretion.

Before submitting materials, Contractor shall provide the City a proposed submittal form for the City's review and approval or the Contractor shall use the sample form designated by the City.

Contractor shall completely identify each submittal and re-submittal by using the form approved by the City's Representative and number submittals consecutively beginning with 1. Resubmittals shall retain the original number with an added suffix starting with "A." Said form shall include the name of the City's Representative and the Project Name. It shall also clearly indicate the Item Description, Manufacturer, Specification Section Reference and Drawing Sheet Number(s) Reference. All submittals shall be certified by the Contractor for completeness and for compliance with the contract documents with the following Certification:

I hereby certify that all material submitted has been checked for completeness, for correctness, and for compliance with the drawings and specifications, that field dimensions and conditions have been verified, and that exceptions, if any are clearly noted.

Allow a 3" x 4" space on the form for the City's Submittal Stamp. Transmit all submittals to City's designated representative.

P. Measurement and Payment

Quantities shown on the bid schedule are approximate. Except for final pay item quantities, the Engineer measures quantities for payment. Unless otherwise specified, measurement for work is in place, complete, and accepted.

When the bid schedule or Engineer's estimate does not contain a pay item for work shown in the plans or called for in the Contract Documents, no direct payment for work will be made, but the work will be considered paid under other contract items. Items of work or other services which the Contractor is required to supply, such as clean-up or other incidental items, and which are not listed as separate bid items shall be included in the related bid items and shall be considered as paid in those items, whether or not specifically identified in the descriptions. Also included in such contract costs are any costs associated with the repair of damage, which may occur to existing improvements as a result of these construction operations.

The contract price paid shall include full compensation for furnishing all labor, materials, tools, equipment and incidentals, and for doing all work involved as detailed in the Standard Specifications, these Special Provisions, and the plans. No additional compensation will be allowed therefor.

The City shows a bid item quantity as a final pay item for payment purposes only. For a final pay item, accept payment based on the Bid Item List quantity, regardless of actual quantity used unless dimensions are changed by the Engineer.

Q. Progress Schedule

Prior to the start of construction, the Contractor shall prepare and submit a construction schedule in a form provided by, or acceptable to the Owner. The Construction Schedule shall be updated by the Contractor regularly or at the request of the City. Any modifications to the Construction Schedule shall be submitted to the Owner in writing. Modifications to the Construction Schedule will not constitute approval for a work schedule extension.

At the request of the City, the Contractor shall submit a weekly schedule, separate from the entire project schedule, which shall clearly show where and what time the Contractor anticipates working. A digital copy of the separate weekly schedule shall be submitted to the Owner no later than the Wednesday preceding the work week.

2.0 EXISTING FACILITIES

Attention is directed to 5-1.36 "Non-highway Facilities" of the Standard Specifications and these Special Provisions.

Contractor shall field verify all existing site conditions prior to the commencement of work and report any discrepancies to the City's representative. Contractor is responsible for visiting the site and becoming familiar with the site conditions prior to bidding. Should existing conditions differ from those shown or indicated, or if it appears that these plans, and specifications do not adequately detail the work to be done, Contractor shall notify the engineer prior to continuing with any related work. No allowance will be made on Contractor's behalf for any extra expense resulting from failure or neglect in determining the conditions under which work is to be performed.

Locations of existing underground utilities are plotted from interpolation of physical evidence on the site and should be considered approximate only. It is not the intent of the plans to show exact locations of existing utilities, and the City of Fortuna assumes no responsibility therefor. The Contractor shall be responsible for verifying their actual location and depth in the field. Where excavation is anticipated, the Contractor shall notify Underground Service Alert at (800) 642-2444 not less than two working days prior to any excavation, and shall pothole for exact location. Actual location can best be determined in the field after pre-marking by the various utilities affected, and potholing by the Contractor. Notify the Engineer immediately if locate indicates that existing utilities are different than shown on drawings.

The various utilities will cooperate with the Contractor to endeavor to familiarize the Contractor with all known underground utilities obstructions, but this will not relieve the Contractor from assuming full responsibility in anticipating and locating their actual location with respect to utilities which the Contractor must locate and identify under the provisions hereof. The Contractor shall inform and coordinate all necessary operations with all local utility providers including the following agencies:

The Underground Service Alert (USA)	(800) 642-2444
AT&T	(800) 743-5000
Pacific Gas & Electric Company (PG&E)	(800) 743-5000
Suddenlink Communications	(877) 443-3127
City of Fortuna Public Works	(707) 725-7650

Construction activity will take place in the vicinity of above ground and underground electric transmission lines. It is the contractor's responsibility to be aware of, and observe, the minimum clearances for workers and equipment operating near high voltage electric lines as set out in the high voltage safety orders of the California

Contractor shall be held responsible for any and all damages to existing structures, roads, and utilities during construction. Contractor shall locate, protect, and avoid disruption of all above and below grade utilities during construction. All damage shall be restored to an "as good or better" condition at the contractor's expense.

Measurement and Payment

Full compensation for protection of existing utility facilities shall be considered as included in the various bid items and no separate payment will be made.

3.0 HAZARDOUS WASTE AND CONTAMINATION

General

Attention is directed to the provisions in Section 14-11 "Hazardous Waste and Contamination", of the Standard Specifications, and these Special Provisions.

In accordance with Section 7104 of the State Public Contract Code, the Contractor shall promptly, and before the following conditions are disturbed, notify the City, in writing, of any: (i) material that the Contractor believes may be material that is hazardous waste, as defined in Section 25117 of the Health and Safety Code, that is required to be removed to a Class I, Class II, or Class III disposal site in accordance with provisions of existing law; (ii) Subsurface or latent physical conditions at the site differing from those indicated; or (iii) unknown physical conditions at the site of any unusual nature, different materially from those ordinarily encountered and generally recognized as inherent in work of the character provided for in the Contract. The City shall promptly investigate the conditions, and if it finds that the conditions do materially so differ, or do involve hazardous waste, and cause a decrease or increase in the Contractor's cost of, or the time required for, performance of any part of the Work shall issue a change order under the procedures described herein. In the event that a dispute arises between the City and the Contractor whether the conditions materially differ, or involve hazardous waste, or cause a decrease or increase in the Contractor's cost of, or time required for, performance of any part of the Work, the Contractor shall not be excused from any scheduled completion date provided for herein, but shall proceed with all Work to be performed hereunder. The Contractor shall retain any and all rights provided either by contract or by law which pertain to the resolution of disputes and protests between the City and Contractor.

Measurement and Payment

Notification and initial coordination with the City shall be considered as included in the various bid items and no separate payment will be made. If hazardous waste or contaminated material is found that requires disposal, a change order for the additional work will be issued in accordance with this contract.

4.0 PRESERVATION OF PROPERTY

General

Attention is directed to the provisions in Section 5-1.36 "Property and Facility Preservation", of the Standard Specifications, and these Special Provisions.

The Contractor shall make a thorough investigation of the job site and size equipment accordingly. The Contractor shall select equipment to avoid damaging existing facilities, which include, but are not limited to: street paving, pipes, traffic controls, sidewalks, driveways, plants and trees, landscaping, curbs and gutters, retaining walls, drainage facilities, fencing etc. The Contractor shall restore any damage to the existing facilities to the satisfaction of the City or owner. Restoration costs shall be the sole responsibility of the Contractor and shall be at no cost to the City or Owner.

Measurement and Payment

Full compensation for complying with the above provisions shall be considered as included in the contract price for the various bid items and no separate payment will be made.

5.0 MOBILIZATION/DEMOBILIZATION

General

Mobilization and Demobilization shall consist of preparatory work and operations including, but not limited to, those necessary for the movement of personnel, equipment, supplies and incidentals to the project site; for the establishment of all offices, buildings and other facilities necessary for work on the project; and for all other work and operations which must be performed or costs incurred prior to beginning work

on the various contract items on the project site. Also included are final site cleanup, removal of all unused construction waste and demobilization of equipment from the site.

Measurement and Payment

Payment for Mobilization shall be made on a lump sum basis. This work covers all Contractor costs and effort associated with mobilizing and demobilizing equipment, materials, and labor to the project site. Items covered by this include, but are not limited to, bonds, insurance, contracting and administrative costs, costs associated with temporary facilities and utilities, and project maintenance and warranty. Payment for mobilization will be paid for as “Mobilization.” Partial Payments will be made in accordance with the following:

Percent of Original Contract Amount Earned	Total Amount Paid
5%	50% of the amount bid for mobilization/demobilization, or 5 percent of the original contract amount, whichever is lesser
10%	75% of the amount bid for mobilization/demobilization, or 7.5 percent of the original contract amount, whichever is lesser
20%	95% of the amount bid for mobilization/demobilization, or 9.5 percent of the original contract amount, whichever is lesser
50%	100% of the amount bid for mobilization/demobilization, or 10 percent of the original contract amount, whichever is lesser

6.0 STATIONARY MOUNTED CONSTRUCTION AREA SIGNS

General

Stationary mounted construction area signs shall be furnished, installed at locations shown on the plans, maintained, and removed when no longer required in accordance with the provisions in Section 12, “Temporary Traffic Control,” of the Standard Specifications and these Special Provisions. In addition, attention is directed to Sections 7-1.03 “Public Convenience”, 7-1.04 “Public Safety” of the Standard Specifications, in so far as they may apply, and the following Special Provisions.

All stationary-mounted construction area signs shall be provided by the Contractor, and shall remain the Contractor’s property after the completion of the contract.

Materials

Sign substrates for stationary-mounted construction area signs shall comply Section 12-3.11B(1) and 12-3.11B(2) of the Standard Specifications. The base material of construction area signs shall be aluminum sheeting.

Construction

All excavations required to install construction area signs shall be performed by hand methods without the use of power equipment, except that power equipment may be used if it is determined there are no utility facilities in the area of the proposed post holes.

The provisions in this section will not relieve the Contractor from their responsibility to provide such additional devices or take such measures as may be necessary to comply with the provisions in Section 7-1.04, “Public Safety,” of the Standard Specifications.

Measurement and Payment

Stationary-Mounted Construction Area Signs as shown on the plans, except those signs required for lane and road closures and unless otherwise specified, will be paid for on the lump sum basis. The contract price shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals,

and for doing all the work involved in furnishing construction area signs, erecting or placing, maintaining (including covering and uncovering as needed) and, when no longer required, removing construction area signs at the locations shown on the plans. Payment for stationary mounted construction area signs shall be paid for as "Construction Area Signs."

7.0 TEMPORARY TRAFFIC CONTROL

General

The Contractor shall provide temporary traffic control in accordance to the current California Manual on Uniform Traffic Control Devices (MUTCD). Contractor shall furnish, erect, maintain and remove all necessary temporary traffic control signs and devices, and shall provide all necessary labor during the length of this contract.

The applicable sections of Section 7-1.03 "Public Convenience", Section 7-1.04 "Public Safety", and Section 12, "Temporary Traffic Control", and Section 12-1.03 "Flagging Costs" regarding flagging costs are further revised to provide that all flaggers shall be provided by the Contractor at his expense. Flaggers shall be properly equipped and trained in accordance with "Instructions to Flaggers," published by the California Department of Transportation. Flaggers are expected to be required for the project.

The Contractor is responsible for developing and submitting to the City of Fortuna a Traffic Control Plan for review and approval prior to commencement of construction activity.

Materials

Portable construction area signs shall comply Section 12-3.11B(1) and 12-3.11B(3) of the Standard Specifications.

Construction

Maintaining Traffic

Public traffic shall be maintained on public roadways adjacent to the work, except during short temporary delays (5 minutes per hour maximum closure) when proper signage and flagmen are provided as necessary to complete the work. Any road closures shall be approved in advance by the Engineer.

Contractor shall expedite the passage of public and private traffic through and around the work except as specified above. The Contractor shall furnish and install signs, detours, lights, flares, barricades, and shall furnish flagmen and other facilities for the convenience and direction of public traffic.

The contractor is responsible for site security and safety throughout the project and shall maintain appropriate barricades and other features as needed to protect the work site and public safety.

All temporary signs and warning devices, including warning signs placed beyond the limit of work, shall be provided by the Contractor and shall become the Contractors property after completion of the contract.

During the contract period, the Contractor shall coordinate their activities daily with the City of Fortuna and make every effort to minimize the disruption of normal traffic and parking. Traffic Control Plan shall include temporary traffic control for pedestrian access around the work being performed. Alternative routes shall be provided for pedestrians when work affects existing facilities (e.g. sidewalks, curb ramps, etc.). Multiple curb ramps at single intersection shall not be demolished and/or removed unless an alternative route (detour) is provided.

The Contractor shall post temporary NO PARKING signs as described in the "GENERAL" section of these Special Provisions. Written notice shall be approved by the City prior to any posting. It shall be the responsibility of the Contractor to maintain signs and barricades overnight and on weekends and until the completion of the contract. It will be the responsibility of the Contractor to arrange for the towing and

removal of any vehicles which have not been removed by the owner and which interfere with any operations

At the end of any working day when work operations have obscured existing traffic striping, the striping shall be restored via reflective painting, markers or other interim materials subject to the approval of the City of Fortuna.

At the end of each day's work, and at other times when construction operations are suspended, all equipment and other obstructions shall be removed from that portion of roadway open for use by public traffic.

If any component in the traffic control system is displaced, or ceases to operate or function as specified, from any cause, during the progress of the work, the Contractor shall immediately repair said component to its original condition or replace said component and shall restore the component to its original location.

Public Convenience

Contractor shall conduct his operation as to offer the least possible obstruction and inconvenience to the public, and he shall have under construction no greater amount of work than he can prosecute properly with due respect to the rights of the public. The contractor shall notify all affected parties a minimum of two weeks prior to any road or driveway closures.

The Contractor shall provide pedestrian access to buildings at all times to the satisfaction of the City (or School District). The Contractor shall be prepared to remove closures and provide emergency vehicle access at all times. The Contractor will not be entitled to compensation for the delays of work resulting from a closure needing to be opened in order to provide emergency vehicle access.

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

During approve lane closure using flaggers, all side streets within the closure area shall have flaggers to control traffic. The use of stationary signs to control traffic on side streets within the closure are shall not be permitted.

Detours

Under no circumstances shall traffic on any street be held up more than five minutes per hour at any one time. The contractor may coordinate with property and business owners to schedule work so that longer delays do not adversely affect residents or business owners to their satisfaction. In addition, Contractor shall give personal notice to all affected property owners as specified above under Public Convenience. Before closing any street to through traffic, Contractor shall obtain prior approval from the Engineer 7 calendar days in advance of closure. Contractor shall at all times provide access to public facilities such as schools, etc. and make provisions for passage of emergency vehicles. Pedestrian detours shall follow the requirements of accessible pedestrian routes per the California MUTCD.

Measurement and Payment

Measurement and payment for this item shall be on a lump sum basis. The contract price shall include full compensation for furnishing all labor (including flagging costs), materials, tools, equipment, and incidentals, and for doing all the work involved including but not limited to: notifications, placing, removing, storing, maintaining, moving to new locations, replacing, and disposing of the components of the traffic control system as shown on the plans, including portable construction area signs, as specified in the Standard Specifications and these Special Provisions, and as directed by the City's Representative. Payment for temporary traffic control shall be paid for as "Temporary Traffic Control." Partial Payments will be made therefore in accordance with the following:

Percent of Original Contract Amount Earned	Allowable Percentage of Lump Sum Price for the Item
---	--

<5%	5%
5%	10%
10%	25%
25%	50%
50%	75%
75%	90%
100%	100% (Contract Acceptance)

Stationary-mounted construction area signs are measured and paid separately under “Construction Area Signs.”

8.0 CONSTRUCTION STAKING

General

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

Construction

The layout and establishment of grades shall be made by the Contractor. Two-dimensional Computer Aided Design (CAD) files will be available and provided to the contractor upon request. The CAD files may be used to facilitate layout however, the Contractor is responsible for verifying dimensions and accuracy with the hard copy set of plans that have been released for construction.

Grades and elevations shall be as indicated on the plans. Elevations not specifically provided shall be established based on the existing conditions, with respect to the relative grades and dimensions identified in the typical sections, details and/or current code requirements. Supplemental grading information will be available and provided to the contractor upon request, and if deemed necessary by the Engineer.

Contractor shall be required to establish layout and grade stakes/hubs in the field at a sufficient interval (as determined by the Engineer) to allow for the City’s Representative to review Contractors layout. The layout and grades shall be reviewed by the City’s Representative prior to the placement of concrete.

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

Measurement and Payment

Measurement and payment for this item shall be on a lump sum basis. The contract price shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals, and for doing all the work involved, as specified in the Standard Specifications and these Special Provisions, and as directed by the City’s Representative. Payment for construction staking shall be paid for as “Construction Staking.” Partial Payments will be made based on the percent complete estimated by the Engineer.

9.0 MATERIALS TESTING AND QUALITY CONTROL

General

The City may retain a consultant to perform independent materials testing. The Owner shall bear the initial cost of testing to be performed by independent testing consultants retained by the City. However, Contractor shall be responsible for the costs of any subsequent tests which are required to substantiate compliance with the Contract Documents, and any associated remediation costs. Prior to any removal, reconstruction or rework of any work item already incorporated into the project, the Contractor shall first obtain the approval of the City to the Contractor’s proposed methods for removal, reconstruction, or rework.

All materials, equipment, and workmanship used in the Work shall be subject to inspection by Owner's Inspector at all times and locations during construction and/or fabrication. All manufacturers' application or installation instructions shall be provided to the Inspector at least ten (10) calendar days prior to the first such application. Contractor shall, at all times, make the Work available for inspection. Any Work that fails to comply with the requirements of the Contract Documents shall be promptly repaired, replaced, or corrected by Contractor, at Contractor's sole expense. In addition, if any portion of the Work is improperly covered or concealed by Contractor prior to inspection, Contractor shall bear the cost of making that portion of the Work available for inspection, and any associated repair or remediation costs.

Contractor shall be solely responsible for any delay occasioned by remediation of noncompliant Work.

The Contractor shall be responsible for controlling the quality of the materials incorporated into the work and of the work performed, and shall cooperate with the Owner for sampling and testing requested by the City.

Measurement and Payment

Full compensation for complying with the above provisions shall be considered as included in the contract price for the various bid items and no separate payment will be made.

When initial tests indicate non-compliance with the Contract Documents, all subsequent retesting occasioned by the non-compliance shall be performed by the same testing laboratory and the cost thereof shall be deducted from amounts owed to the Contractor.

10.0 WATER POLLUTION CONTROL & FINAL STABILIZATION

General

Attention is directed to Section 13 "Water Pollution Control" and Section 21 "Erosion Control" of the Standard Specifications and the following Special Provisions. The Contractor shall implement best management practices (BMPs) to protect waters from pollution with sediments, fuels, oils, and other harmful materials.

This work includes but is not limited to furnishing, constructing, and maintaining permanent and temporary erosion and sediment control measures in accordance with the plans, specifications, required by permits or as ordered by the Owner during the life of the contract. This work is necessary to control water pollution, soil erosion and siltation through the use of fiber rolls, silt fences, inlet protection, and other approved water pollution control devices or methods.

All maintenance and fueling required for heavy equipment and other vehicles shall be performed 100-feet away from a storm drainage inlet or drainage swale in a confined area such that there is no possibility of contaminants being discharged to the swale. Hazardous materials (fuels, lubricants, solvents, etc.) will not be stored within 100-feet of a drainage or water body. Any failure of equipment that results in water pollution is the responsibility of the Contractor. All fuel, oils, and other harmful materials will be cleaned up to the satisfaction of the Owner and at no additional cost to the Owner.

Materials

Sufficient erosion control supplies shall be available on-site at all times to deal with areas susceptible to erosion during rain events.

Seeds shall be of 76% Pure Live Seed (PLS) or better. Seed shall be in conformance with the California State Seed Law of the Department of Agriculture. Seed shall be of a quality that weed seed shall not exceed 0.5 percent of the aggregate PLS. Seed with a germination rate lower than the minimum rate shown may be used if authorized. Seed mix shall be approved by the Owner prior to application and shall be a mix similar to the surrounding area.

Construction

The Contractor shall become fully informed of, and comply with the applicable provisions of Federal, State and local regulations that govern the Contractor's operations and storm water discharges from both the project site and areas of disturbance outside the project limits during construction.

At a minimum, the Contractor shall employ the following best management practices (bmps) as described in the current California Stormwater BMP handbook for construction (www.casqa.org):

- EC-1 Scheduling
- EC-2 Preservation of Existing Vegetation
- EC-4 Hydroseeding
- SE-7 Street Sweeping and Vacuuming
- SE-10 Storm Drain Inlet Protection
- WE-1 Wind Erosion Control
- NS-3 Paving and Grinding Operations
- NS-9 Vehicle Equipment and Fueling
- NS-10 Vehicle & Equipment Maintenance
- WM-1 Materials Delivery and Storage
- WM-2 Material Use
- WM-3 Stockpile Management
- WM-4 Spill Prevention and Control
- WM-5 Solid Waste Management
- WM-8 Concrete Waste Management
- WM-9 Sanitary/Septic Waste Management

All erosion and sediment control measures shall be maintained in accordance to their respective CASQA BMP fact sheet until disturbed areas are permanently stabilized. The BMP's identified above are a minimum best management practice anticipated for the project and may not cover all the situations that arise during construction due to unanticipated field conditions.

The Contractor shall inspect the site daily, identify deficiencies and provide additional erosion control measures as required to ensure that no sediment laden water exits the site, enters the existing stormwater system or enters sensitive areas. Adjustments may be made to the BMPs in the field, subject to approval of or at the direction of the City's representative. It will be the responsibility of the Contractor to fix any deficiencies indicated by the City or the City's representative to prevent erosion and control sediment.

The erosion and sediment control measures identified in this section are appropriate to minimize erosion and prevent sediment discharge in the event of summer rainstorms (April 15th through October 15th) in the event there is a delay in the construction schedule, BMPs and/or final stabilization measures (including seed mix and method of application) may need to be adjusted.

Minimize disturbance of existing vegetation unless necessary to complete the work. Make adequate preparations, including training & equipment, to contain spills of oil and other hazardous materials.

Provide covered waste receptacles for common solid wastes at convenient locations on the job site and provide regular collection of wastes. Provide sanitary facilities of sufficient number and size to accommodate construction crews and ensure adequate anchorage of such facilities to prevent them from being tipped by the weather or vandalism. Provide covered and secured storage areas for potentially toxic material. All hazardous material containers should be placed in secondary containment.

Vehicle and equipment maintenance shall be performed off-site whenever practical. Activities such as vehicle washing are to be carried out at an off-site facility wherein the water is discharged into a sanitary sewer. All sediment deposited on paved surfaces shall be swept at the end of each working day, as necessary or as directed by the City's representative.

Ensure that the construction site is prepared prior to the onset of any storm. Ensure appropriate BMPs are installed, and stockpiles covered and located at least 50 feet away from drainage channels and stormwater systems.

Prior to final acceptance, all disturbed areas and exposed soil shall be permanently stabilized using hydroseed and temporary sediment control measures shall be removed as directed. Apply hydroseed with hydraulic spray equipment that mixes fiber, tackifier, fertilizer, and seed materials at the following rates:

- Seed at 60 lb/ac
- Fiber at 2,000 lb/ac
- Tackifier at the manufacturer's instructed rate for the slope, soil, and wind conditions

Hydroseed shall be applied to form a uniform and continuous blanket over all disturbed areas, subject to the satisfaction of the City. After the final application, protect treated areas from damage from pedestrians, vehicles and equipment.

Unless arrangements for disturbance of areas outside the project limits are made by the City and made part of the contract, it is expressly agreed that the City assumes no responsibility to the Contractor or property owner whatsoever with respect to any arrangements made between the Contractor and property owner to allow disturbance of areas outside the project limits.

The Contractor shall be responsible for the costs and for any liability imposed by law as a result of the Contractor's failure to comply with the requirements set forth in this section "Water Pollution Control" including, but not limited to, compliance with Federal, State and local regulations. For the purposes of this paragraph, costs and liabilities include but are not limited to fines, penalties and damages whether assessed against the City or the Contractor, including those levied under the Federal Clean Water Act and the State Porter Cologne Water Quality Act.

If measures being taken by the Contractor are inadequate to control water pollution effectively, the Owner's Representative may direct the Contractor to revise the operations and the water pollution control measures. No further work shall be performed until the water pollution control measures are adequate as determined by the Owner's Representative.

Measurement and Payment

The contract lump sum price paid for Water Pollution Control and Final Stabilization includes full compensation for furnishing all labor, materials, tools, equipment, and incidentals and for doing all the work necessary, including implementing, monitoring, maintaining, and correcting water pollution control practices, final stabilization (hydroseeding) and doing all other work as shown on the plans, as specified in the Standard Specifications and these Special Provisions, and as directed by the City. Payment for water pollution control shall be paid for as "Water Pollution Control and Final Stabilization." Partial Payments will be made in accordance with the following:

Percent of Original Contract Amount Earned	Allowable Percentage of Lump Sum Price for the Item
5%	5%
10%	10%
25%	25%
50%	50%
75%	75%
100%	100% (Contract Acceptance)

11.0 DUST CONTROL

General

Dust control shall conform to the provisions in Section 14-11.04, "Dust Control," of the Standard Specifications and these Special Provisions.

Construction

The following on-site mitigation measures shall be implemented for the duration of clearing and grubbing, demolition, excavation, concrete and paving activities to control dust:

1. Trucks hauling dirt or other loose materials that exceed the top of the sides of the bed shall be covered.
2. A water truck shall be available as needed to prevent a dust nuisance or as directed by the City's Representative.

This list is not inclusive and Contractor is responsible and liable for controlling dust at all times from all activities in the project area.

Measurement and Payment

Full compensation for conforming to the provisions in this section, not otherwise provided for, shall be considered as included in prices paid for the various contract items of work involved and no additional compensation will be allowed therefor.

12.0 CLEARING AND GRUBBING

General

Clearing and grubbing shall conform to the provisions in Section 17-2, "Clearing and Grubbing," of the Standard Specifications. Site clearing, grubbing, and stripping should be conducted during dry-weather conditions only, unless approved in advance by the City.

Construction

Clearing and grubbing shall include, but not be limited to, the removal from the areas of work all weeds, trees, debris, concrete/asphalt rubble, vegetation including roots and stumps as necessary to accommodate construction operations, or as directed by the City's Representative. In addition, minor clearing of trash and debris may be necessary for within the limits of work.

The Contractor shall coordinate with South Fortuna Elementary School prior to clearing and grubbing any existing vegetation on school grounds. Remove and salvage existing plants to the School at their request.

Vegetation and organic material should be cleared and stripped of the upper 4-inches containing organic matter. Actual stripping depth may be determined by the City's Representative in the field at the time of stripping. The strippings shall be removed from the site and disposed of by the Contractor.

Measurement and Payment

The lump sum price paid for Clearing and Grubbing shall include full compensation for furnishing all labor, materials, tools, equipment and incidentals necessary to perform the work as stated herein and shown on the plans including but not limited to removal and disposal of trash, concrete rubble, vegetation, trees, sod, roots, weeds and other debris, pruning of existing vegetation as specified herein and as directed by the City's Representative. Payment for clearing and grubbing shall be paid for as "Clearing and Grubbing."

13.0 DEMOLITION AND REMOVAL

General

The work performed in connection with various existing facilities shall conform to the provisions in Section 15, "Existing Facilities," of the Standard Specifications and these Special Provisions. Work also includes resetting existing sprinkler heads as shown on the plans.

Construction

All ditches, swales, gutters, etc. should be considered active storm conveyances unless otherwise indicated.

Sawcut or grind the existing hot mix asphalt (HMA) pavement where old HMA pavement is to tie into the new HMA pavement.

Prior to removing concrete and hot mix asphalt surfacing, all utility covers shall be marked and identified to avoid causing damage to the lid or frame. Contractor will be responsible for maintaining any temporary HMA fill material over these facilities until the final paving surface is installed.

Existing concrete structures, drainage inlets, pipe culverts, waterlines, signs, posts, striping, markings, pavement markers, and other miscellaneous items where specified on the plans shall be removed and disposed or salvaged, in accordance with the provisions of Section 15 of the Standard Specifications.

The material planed or removed from the roadway surface, including material deposited in existing gutters or on the adjacent traveled way, shall be disposed of in accordance with the Standard Specifications and applicable regulations at the Contractors' expense. Before disposing material on non-City property, the Contractor shall obtain any required legal permissions from property owner.

The Contractor shall restore at their expense all landscaping including sod, irrigation lines, miscellaneous concrete and/or other item of work to preconstruction status, in like kind or better, damaged by their operations.

Measurement and Payment

Measurement and payment for demolition of existing facilities shall include furnishing all labor, materials, tools, equipment and incidentals for doing all the work involved in removing, disposing and salvaging concrete structures, drainage inlets, pipe culverts, bollards, utilities, signs, posts, striping, markings, pavement markers, resetting sprinkler heads, and other miscellaneous items where specified on the plans including necessary sawcut, as shown on the plans, as specified herein and in the Standard Specifications and as directed by the City's Representative. Payment for various demolition and removal items will be measured and paid on a lump sum basis as "Miscellaneous Demolition and Removal."

14.0 EARTHWORK

General

Earthwork shall conform to the provisions in Section 19-2 "Roadway Excavation" and Section 19-6 "Embankment Construction" of Section 19 "Earthwork," of the Standard Specifications and these special provisions. Earthwork activities should be conducted during dry-weather conditions only.

Materials

Embankment material shall be from jobsite excavations or import borrow. Imported borrow, if needed, shall comply with Section 19-7 "Borrow Material" of the Standard Specifications.

Imported topsoil (sidewalk backfill) shall consist of fertile, friable soil of loamy character that contains organic matter in amounts natural to the region and be capable of sustaining healthy plant life. Imported topsoil must be free from deleterious substances such as litter, refuse, toxic waste, stones larger than ½

inch in size, coarse sand, heavy or stiff clay, brush, sticks, grasses, roots, weeds, and other substances detrimental to plant, animal, and human health.

Construction

Earthwork consist of all excavation (cut) and embankment (fill) necessary for the grading and construction of curbs, gutters, sidewalks, driveways, curb ramps roads, trails, staging area connections, slope rounding, benching, planters, rain gardens, and ditches regardless of the nature or characteristics of material encountered during construction. Work also includes the removal of existing sub-base and base as well as subgrade preparation.

The upper 6 inches of subgrade shall be scarified, moisture conditioned, and recompacted to a minimum of 95 percent relative compaction beneath HMA and concrete surfaces (curbs, sidewalks and driveways). All other areas shall meet a minimum of 90 percent relative compaction.

In addition to required testing, the City's Representative may require the Contractor to demonstrate compliance with subgrade requirements by proof rolling (in addition to compaction testing), which shall be conducted with a fully loaded 10 yard dump truck with a minimum rear axle load of 8 tons or equivalent. The subgrade surface should provide a firm and unyielding surface under the load of the dump truck. Unsuitable soils identified during proof rolling shall be removed and replaced in accordance with this section.

Embankment (fill) construction includes:

1. Preparing areas to receive embankment material
2. Placing and compacting embankment material including:
 - a. Suitable material within roadway areas where unsuitable material has been removed
 - b. Material in holes, pits, and other depressions within the roadway and trail areas

All embankment fill material shall be compacted to a minimum of 90 percent except for the upper 6" beneath a concrete or HMA surface. This material shall be compacted to a minimum of 95 percent. Fill should be placed in loose lifts (less than approximately 8-inches-thick) on a prepared subgrade.

Unrestrained cutslopes should be sloped at 2:1 (Horizontal:Vertical) or flatter.

Before disposing of any excess material, the Contractor shall obtain any required legal permissions from property owner.

Curbs (excluding warning curbs), sidewalks, driveways and curb ramps shall be backfilled to within 2 inches of finished walking surface grade. The top 3 inches of backfill material shall be loosely compacted import topsoil. Topsoil shall be hydroseeded per these Special Provisions.

During wet weather periods, sequence construction in a manner to minimize impact on open earthwork and compaction operations.

Measurement and Payment

Full compensation for complying with the above provisions shall be considered as included in the contract price for the various bid items which include earthwork and no separate payment will be made. The full compensation fee for the various other bid items will include all of the fees and costs associated with the furnishing of all labor, materials (including import borrow and import topsoil), tools, equipment, transportation, and incidentals; and for performing placement, compaction, and all of the work involved as detailed in the Standard Specifications, these Special Provisions, and the plans.

15.0 ADJUST WATER METER BOX AND UTILITY VALVE COVER TO GRADE

General

This work shall consist of raising or adjusting existing water meter boxes and utility valve covers to the finished grade of the resurfaced asphalt pavement or new concrete and shall conform to the provisions in Section 15 "Existing Facilities" of the Standard Specifications, these Special Provisions, the plans, and as directed by the City's Representative.

Materials

Contractor shall provide new water meter and utility boxes for all covers to be adjusted. Salvage existing valve covers to the City if requested.

New materials shall be in accordance with local standards:

1. Water Meter Box (with CI Reader):
 - a. In sidewalk areas – Size B16
 - b. In driveway areas – Size B1017 with steel checker plate lid
2. Sewer Cleanout: G-05, marked "Sewer"
3. Water Valve: G-05, marked "Water"

Concrete used to adjust utility covers to grade shall conform to Minor Concrete, of these Special Provisions.

Construction

Unless specifically allowed by the City's Representative, grade rings shall not be used to adjust utility covers.

The Contractor shall properly locate and mark all existing facilities to be raised in advance of paving operation. The Contractor shall adjust all boxes in advance of concrete operations.

The surface of the adjusted facilities shall be true to the new pavement or concrete surface to within one-eighth (1/8") inch deviation. This tolerance shall apply in a single direction only, either up or down. In addition, the adjusted facility shall not vary to the high tolerance on one side and the low tolerance on the other (i.e., the total aggregate tolerance on both sides shall be limited to the 1/8"-inch variation). This variation shall apply to the adjacent patch paving around the facility as well such that neither the paving nor facility vary by more than the stated tolerances.

Measurement and Payment

Measurement for utility covers to grade shall be on a unit basis for each unit adjusted. The above contract unit cost shall be considered full compensation for furnishing all labor, materials, tools, equipment, transportation, and incidentals; and for performing all of the work involved as detailed in the Standard Specifications, these Special Provisions, and the plans and typical sections. Payment for adjusting utility covers to grade shall be paid for as "Adjust Utility Cover to Grade (SSCO, WM & WV)"

16.0 STORM DRAIN PIPE AND STRUCTURES

General

This work shall consist of furnishing and installing new storm drain pipe, sidewalk underdrains and catch basins and inlets where called for in the plans and these Special Provisions.

Materials

Prior to ordering storm drainage inlets, catch basins or pipes, Contractor shall pothole to verify depth and location of existing underground utilities which may affect the depth and location of new storm drainage facilities.

HDPE storm drain pipe shall be corrugated HDPE pipe, dual wall, smooth interior wall with annular exterior corrugations and shall conform to the provisions of Section 64, Plastic Pipe of the Standard Specifications. Pipe shall be joined using a bell & spigot joint meeting ASTM F2648. The joint shall be soil-tight and gaskets, when applicable, shall meet the requirements of ASTM F477. Gaskets shall be installed by the pipe manufacturer and covered with a removable wrap to ensure the gasket is free from debris. A joint lubricant supplied by the manufacturer shall be used on the gasket and bell during assembly.

Storm Catch Basins and Inlets shall be precast concrete, with minimum 4-inch thick walls, and 6-inch thick bottom or as specified on the plans. Storm Drain Inlets shall conform to the provisions of Section 70 "Miscellaneous Drainage Facilities" and these Special Provisions. Flat grates for Storm Drain Inlets, unless notes otherwise on the plans, shall be galvanized steel, ADA compliant, Bicycle proof, with H-20 loading.

Sidewalk underdrain material shall be per plans.

Construction

Excavation and embankment operations shall comply with the requirements of Section 19, "Earthwork", of the Standard Specifications. During any excavation and backfilling operations, the Contractor is specifically directed to "Preservation of Property" of these Special Provisions. The Contractor shall protect any items, facilities, or improvements, as necessary, in order to avoid causing damage.

Place bedding material at trench bottom, level materials in continuous layer. No pipe shall be laid until the trench subgrade and bedding have been inspected and approved. Laying of lines shall begin at the lowest point in the direction of flow. All piping, fittings, and accessories shall be assembled per manufacturer's recommendations. Pipe deflections shall be kept to a minimum, any deflection in piping shall be per manufacturer's requirements. Before lowering pipe into the trench, the pipe shall be inspected. Cracked, chipped, broken, or otherwise defective pipe will be rejected and removed from the job site. Where sewer lines are being crossed, pipelines of 20 foot lengths shall be used with the length centered to provide 10 feet of distance from the sewer line to the nearest joint.

Catch basins and other structures shall be placed as shown on the plans. Catch basin units shall be installed on a minimum 6" pad of level class II aggregate base. Wall sides to be plumb. Establish elevations and pipe inverts for inlets and outlets as indicated on plans. All penetrations and joints shall be grouted smooth. The catch basin rim elevations shall be installed within the tolerance of +0.00' and -0.10' from the rim elevations shown on the plans. The finish grade around the catch basin inlet must slope to drain storm water into the catch basin, refer to the grading plan. No depressions resulting in the ponding of water will be permitted adjacent to the catch basin grate.

Protect catch basins, pipe, and aggregate cover from damage or displacement until backfilling operation is in progress. Take care not to damage or displace installed pipe and joints during construction of pipe supports, backfilling, testing, and other operations. Repair or replace pipe that is damaged or displaced from construction operations.

Connect new pipe to existing storm drain catch basins, manhole or other structures at the locations shown on the plans. Remove only enough material from the existing structure as necessary to accommodate the new pipe. Grout gap around pipe penetration to form a smooth and watertight seal.

Modify existing structures as called for on the plans.

Measurement and Payment

Measurement and payment for storm drain catch basins, sidewalk underdrain pipe, and modifications to existing storm drain catch basins and junction boxes shall be paid on a unit cost basis as identified in the Bid Schedule and specified below:

- New storm drain pipe required for the completed installation of each new storm drain catch basin will be measured and paid for on a unit basis for the lineal foot of installed, complete and in place storm drain pipe. Payment for new storm piping shall be paid for as “18-Inch HDPE Storm Drain Pipe.”
- Storm catch basins will be measured and paid on a unit basis for each assembly installed, complete and in place. Payment for new storm drain catch basins shall be paid for as “Storm Drain Catch Basin, Type G0.”
- Sidewalk undrain piping will be measured and paid on the lineal foot of underdrain installed, complete and in place. Payment for new sidewalk underdrain piping shall be paid for as “Sidewalk Underdrain.”
- Storm drain catch basin modifications will be measured and paid for on a unit basis for each catch basin modified, complete and in place. Payment for catch basin modifications shall be paid for as “Convert Storm Drain Catch Basin to Storm Drain Junction Box.”

The above contract unit cost shall be considered full compensation for laying out the storm drain catch basins, and modifying existing storm drain inlets and junction boxes, measuring and evaluating existing or new pipes to determine the final dimensions and alignment, excavation, subgrade preparation, bedding, backfill, aggregate base, compaction, concrete, connection of piping, frames and grates, and site cleanup. This item covers all labor, materials, tools, equipment, transportation, and incidentals; and other expenses to provide a finished product and all of the work involved as detailed in the Standard Specifications, these Special Provisions, and the plans.

17.0 AGGREGATE BASE

General

This work shall consist of furnishing, grading, and compacting aggregate base for new structural pavement section on the prepared surface or sub-grade to the lines, grades, and thickness where called for in the plans and these Special Provisions.

Materials

Class 2 Aggregate base shall conform to Subsection 26-1.02A and 26-102B of the Standard Specifications. The grading shall be as indicated on the plans, or as directed by the City’s Representative.

Construction

Grading shall comply with the requirements of Section 19, “Earthwork”, of the Standard Specifications, and these Special Provisions. During any grading operations, the Contractor is specifically directed to Subsection 5-1.36, “Property and Facility Preservation”. The Contractor shall protect any items, facilities, or improvements, as necessary, in order to avoid causing damage.

Measurement and Payment

Full compensation for complying with the above provisions shall be considered as included in the contract price for the various bid items which include aggregate base placement and no separate payment will be made. The full compensation fee for the various other bid items will include all of the fees associated with the furnishing of all labor, materials, tools, equipment, transportation, and incidentals; and for performing placement, compaction, and all of the work involved as detailed in the Standard Specifications, these Special Provisions, and the plans.

18.0 MINOR CONCRETE

General

Minor Concrete shall conform to the provisions of Section 51-7 "Minor Structures", Section 90-2 "Minor Concrete", Section 73 "Concrete Curbs and Sidewalks", Section 52 "Reinforcement", all of the Standard Specifications, and applicable portions of these Special Provisions.

Concrete curbs, gutters, curb ramps, sidewalks, mountable median, driveways, and driveway conforms shall conform to Section 73 "Concrete Curbs and Sidewalks" of the Caltrans Standard Specifications.

Materials

Concrete shall be minor concrete conform to the provisions of Section 90-2 of the Standard Specifications and these Special Provisions.

Admixtures shall comply with the provisions of Section 90-1.02E of the Standard Specifications.

Reinforcement steel shall conform to the provisions in Section 52, "Reinforcement," of the Standard Specifications and these Special Provisions.

Class 2 aggregate base shall conform to Section 26-1.02B of the Standards Specifications.

Drilling and bonding of reinforcement into existing concrete shall conform to the provisions in Section 51-1.03E(3), "Drill and Bond Dowels" of the Standard Specifications and these Special Provisions.

Storm drain extensions through sidewalks shall be PVC.

Construction

The Contractor shall protect existing facilities from damage, and discoloration from concrete splash. Adjacent concrete facilities shall be covered during concrete placement to prevent concrete splash and excess concrete from staining the adjacent concrete. After initial placement, strikeoff and finishing, the protection shall be removed and the adjacent concrete cleaned.

After the subgrade is prepared, moisture conditioned, and compacted to the relative compaction shown in the plans, the Contractor shall continuously maintain the subgrade in a uniform condition at the moisture content obtained during subgrade compaction until the concrete is placed.

When new concrete pavement (concrete curbs, gutters, sidewalks, curb ramps, driveways and other concrete pavement) adjoins existing pavement, drill and dowel rebar as shown on the plans, but not less than #4's at 24-inches on-center.

The maximum variation from design elevation shall not exceed +/- 0.02 feet. In some instances, particularly in critical drainage areas, tolerances may be reduced to zero.

Concrete facilities shall be installed to maintain or provide positive drainage. The ponding of water in excess of 1/8" will not be allowed. Concrete placed that results in the ponding of water in excess of 1/8" shall be removed and replaced at Contractors expense. At City's request, Contractor shall provide and apply sufficient water to concrete pavement to determine whether pavement provides adequate surface drainage.

Adding water to the surface of the concrete to assist in finishing operations shall not be permitted.

Before final finishing is completed and before the concrete has taken its initial set, the edges shall be carefully finished with the radius shown on the plans or a radius to match the existing construction. Apply medium broom finish transverse to centerline or direction of travel. Final surface shall be slip resistant.

Concrete shall be thoroughly consolidated against and along the faces of all forms and adjacent concrete. After the forms are removed, excess concrete below the form surface shall be removed to be flush with the form face.

The Contractor shall always have materials available to protect the surface of the fresh concrete against rain. These materials shall consist of burlap, curing paper, or plastic sheeting. If plastic sheeting is used, it shall not be allowed to contact finished concrete surfaces.

Concrete shall be cured by protecting it against loss of moisture, rapid temperature change, and mechanical injury. The concrete shall be allowed to cure for 72 hours prior to placing adjacent HMA.

After the concrete is placed, cured, and the forms have been removed, the Contractor shall clean the site of all concrete and forming debris. Any gaps remaining between the new curbs, gutters, driveways, etc., shall be filled with full depth HMA. The total thickness of the restored pavement shall match that of the existing pavement.

Concrete smoothness test may be required at City's sole discretion. Test and correct both high and low points as determined by a straightedge. A 12-foot straightedge shall be used to determine deficiencies parallel to the direction of travel and shall not exceed 3/8 of an inch. A 4-foot straightedge shall be used to determine deficiencies perpendicular to the direction of travel and shall not exceed 1/4 of an inch. The smoothness test results shall be independent of any grade requirements. Acceptance of smoothness test does not necessarily guarantee final acceptance.

The City may also test slope conformance with the plans and CBC. Finished slopes will be tested with a 2-foot long digital level. Any work found to not be in conformance with the plans or CBC, shall be replaced at Contractor's expense.

The Contractor shall also protect the concrete against damage from traffic and vandalism. If the concrete is damaged or vandalized, the Contractor shall make the necessary repairs at its own expense. The repair procedure for damaged or vandalized concrete shall be approved in advance by the City's Representative. Grinding the surface of vandalized concrete will not be considered an approved method of repair.

Curbs (excluding warning curbs), sidewalks, driveways and curb ramps shall be backfilled to within 2 inches of finished walking surface grade. The top 3 inches of backfill material shall be loosely compacted import topsoil. Topsoil shall be hydroseeded per these Special Provisions.

Measurement and Payment

Measurement and payment for minor concrete shall be paid on a unit cost basis as identified in the Bid Schedule and specified below:

- Median curbs, vertical curbs, sidewalk retaining curbs (excluding curb ramp retaining curbs), and curb and gutter will be measured and paid on a lineal foot basis measured along the top or flowline of curb. Drop curbs and gutter pans adjacent to curb ramps and driveways will be measured and paid as curbs/gutters. Payment shall include incidental items associated with curbs including but, not limited to curb cuts, sawcutting and 12" wide HMA edge patch.
- Sidewalks (including thickened edges), blended transitions (including thickened edges), valley gutters, concrete islands, curb ramps (including retaining curbs), driveways and concrete driveway conforms will be measured and paid on the square foot basis.

All work shall be performed as shown on the plans and described here. The price paid shall be considered full compensation for furnishing all labor, materials and equipment necessary to complete the work, including but not limited to: layout of forms, earthwork, aggregate base grading and compaction, extending PVC storm drains through sidewalk/curb, concrete and concrete placement and finishing, curing of concrete, striping of forms, site and area cleanup, disposal of waste material and waste

concrete, and all other work necessary for completion of minor concrete work. No additional compensation will be allowed therefor.

19.0 DETECTABLE WARNING SURFACES

General

Detectable warning surface shall conform to section 73-1.02B of the Standard Specifications, applicable portions of these Special Provisions, and the requirements established by the Department of General Services, Division of State Architect.

Material

Detectable warning surfaces shall be by Armor-Tile, ADA Solutions, Armorcast Products, or approved equal. The manufacturer shall provide a written 5-year warranty for prefabricated detectable warning surfaces, guaranteeing replacement when there is defect in the dome shape, color fastness, sound-on-cane acoustic quality, resilience, or attachment. Any detectable warning surface equivalent specification will be submitted in writing for approval to the City's Representative.

Detectable warning surfaces shall be surface applied when wholly or partially installed on existing concrete surfaces or when allowed by the Engineer.

Detectable warning surfaces shall be cast-in-place when installed wholly on new facilities which are constructed as part of the project.

The color of detectable warning surfaces shall be Federal Yellow.

Detectable warning mats shall be used at the full width, to the maximum extent possible using the largest standard size available for each specific location. The contractor shall limit the number of cuts or splices necessary and shall only splice mats as needed to conform to the shape of the curb ramp or crossing. If a mat must be cut and joined, the splice shall be flush, gap-free and shall maintain the dome spacing as specified on the plans.

Construction

Install detectable warning surface in accordance with the manufacturer's written recommendations. Detectable warning surfaces shall be installed at a 1.5% maximum slope, and shall be installed to maintain or provide positive drainage. The ponding of water in excess of 1/8" will not be allowed. Detectable warning surfaces placed that results in the ponding of water in excess of 1/8" shall be removed and replaced at Contractors expense. At City's request, Contractor shall provide and apply sufficient water to concrete pavement to determine whether installed mat provides adequate surface drainage.

Measurement and Payment

Measurement of Detectable Warning Surface will be measured on a square foot basis. The contract price paid per square foot for detectable warning surface shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals, and for doing all of the work involved installing detectable warning surfaces new concrete, complete and in place, as shown on the plans, in accordance with the manufacturer's recommendations, and as directed by the City's Representative. Payment for detectable warning surfaces shall be paid for as "Detectable Warning Surface (cast-in-place)" or "Detectable Warning Surface (surface applied)" and quantities shall be final pay quantities stated in the Bid Schedule. No additional allowance will be made unless the dimensions as shown on the plans are changed by the City's Representative.

20.0 HOT MIX ASPHALT

General

This work includes producing and placing Hot Mix Asphalt (HMA) using the MINOR process, in accordance with Section 39 of the Standard Specifications, these Special Provisions, and the plans. Work to be performed under this Section covers all labor, materials, tools, equipment, transportation and incidentals necessary to construct HMA pavements. This shall include HMA patches and transitions behind and adjacent to new concrete, as shown on the plans and these specifications.

Material

All HMA materials shall be as specified in Section 39, "Hot Mix Asphalt", of the State Standard Specifications; these Special Provisions; and the plans and typical sections.

1/2 inch, Type A HMA mix (Caltrans approved) shall be used and shall not include crumb rubber unless modified by the City's Representative. Provide Caltrans approved mix design for review by City.

The asphalt binder grade shall be PG 64-16 conforming to Section 92, "Asphalts", of the State Standard Specifications.

Tack coat shall be emulsified asphalt Grade RS-1, SS-1, or SS-1h and shall conform to Section 94, "Asphaltic Emulsions", of the State Standard Specifications.

Each delivery ticket shall include information on the material type, binder type, oil content, and the mix design number. Material delivered to the project without such annotations shall be subject to rejection.

Class 2 aggregate base shall be in accordance to the Caltrans Standard Specification.

Construction

A minimum 2 days prior to paving operations, the paving foreman shall attend a meeting with the Owner's construction management team to review Contractors planned paving operations, including traffic control.

Prior to paving, Contractor shall mark all existing utility boxes using an approved marker. Spread and compact HMA in accordance with Section 39 of the Standard Specifications and these Special Provisions, to the thickness specified on the plans.

HMA pavement shall be installed to maintain or provide positive drainage. The ponding of water in excess of 1/8" will not be allowed. HMA pavement placed that results in the ponding of water in excess of 1/8" shall be removed and replaced at Contractors expense. At City's request, Contractor shall provide and apply sufficient water to pavement to determine whether pavement provides adequate surface drainage.

Provide tack coat to all vertical surfaces (curbs, gutters, construction joints existing pavements, etc.) against which new HMA paving is placed. Failure to provide tack coat as required may result in a reduction of payment made for HMA.

Taper the new HMA surfacing to match the existing pavement section at tie-in points and to provide for a smooth transition as directed by the City's Representative.

Smoothness may be tested by the City using a 12-foot straightedge, and shall conform to Section 39 of the Standard Specifications and these special provisions.

Measurement and Payment

HMA will be measured and paid on lump sum basis. HMA will be paid for at the contract price for HMA furnished and placed per the lines and grades shown on the plans, and shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals, and for doing all the work involved in

constructing HMA pavement, complete in place, and placement of temporary raised pavement markers, as shown on the plans and as specified in the State Standard Specifications and these Special Provisions, and as directed by the City's Representative and no additional compensation will be allowed therefor. Payment for HMA shall be paid for as "Hot Mix Asphalt, Patch Paving."

No payment will be made for the correction of deficiencies in construction. No payment will be made for over-run quantities unless pre-approved by City's Representative. The collection and signing of weight tickets shall not either constitute or construe acceptance or approval of over-run quantities.

21.0 ASPHALT SEAL COAT

General

This work shall consist of furnishing and placing a seal coat on the exiting parking lot in accordance with Section 37-5, "Parking Area Seals", of the Standard Specifications and these Special Provisions.

Materials

The asphalt seal coat shall be a water dispersed, polymer modified, slate and mineral filled, black, emulsion asphalt coating. The seal coat materials, as manufactured, undiluted, shall conform to the following requirements:

Test Description	Value	Test Method
Cone Penetration	340 - 700	ASTM D-217
Water Absorption	< 1%	ASTM D-570
Weight per Gallon	> 10 lbs/gallon	ASTM D-1475
Percent Solids	>50%	
Biocide Content	None	
Wet Track Abrasion	< 35 grams/sf	ASTM D-3910
VOC	< 10 grams/liter	BAAQMD Vol 3 Lab 22

Asphalt seal coat shall contain a minimum 3% latex additive. Latex additive may be manufacturer applied at plant or field mixed by installer (or a combination of both).

Crackfiller shall be a hot applied product designed for use in asphaltic concrete made from petroleum asphalt, modified polymers, and suitable inert fillers. Crackfiller shall comply with ASTM D-5078 or D-6690. The properties of the crackfiller shall be such as to be compatible with the asphalt seal coat.

Oil spot seal shall be a quick drying latex emulsion with suitable admixtures manufactured specifically for the purpose of isolating the asphalt seal coat from any residual oils, petroleum grease, and gasoline stained pavement. The properties of the oil spot seal shall be such as to be compatible with the asphalt seal coat.

Latex additive shall be an acrylic polymer manufactured specifically for the purpose of resisting ultraviolet radiation, oils, fats, lubricants, and hydrocarbon solvents. The properties of the latex additive shall be such as to be compatible with the asphalt seal coat.

The seal coat materials, as manufactured, undiluted, except as noted, may be tested at the Universities discretion for conformance to the following requirements:

Test Description	Value	Test Method
Cone Penetration	340 - 700	ASTM D-217
Water Absorption	< 1%	ASTM D-570
Weight per Gallon	> 10 lbs/gallon	ASTM D-1475
Wet Track Abrasion	< 35 grams/sf	ASTM D-3910
VOC	< 10 grams/liter	BAAQMD Vol 3 Lab 22

Construction

Surface Preparation

Surface preparation and placement for sealcoat shall be per Section 37-5.03B of the Standard Specifications, as approved by the Owner's Representative, and per these Special Provisions.

The surface to receive asphalt seal coat must be free of all foreign material and dry immediately prior to seal coat application. Cleaning may be by air blowing, vacuum, mechanical sweeper, mechanical vacuum-washing sweeper, or other techniques as approved by the City's representative in advance of application. The surface shall not have any standing water prior to application of the seal coat. Salt, deicing agents, fertilizers, hard water deposits and other such chemicals will promote lack of bonding of the seal coat to the existing surface any may require extraordinary cleaning measures.

Existing pavement markings and stripes shall be removed by grinding or painting over with two (2) coats of black paint.

Cracks in excess of ¼ inch, but less than one inch in width must be sealed prior to application of the seal coat. Cracks must be cleaned of all weeds and debris prior to cracksealing with crackfiller. The crackfiller shall be applied per manufacturer's recommendations and must be dry to the touch prior to application of the seal coat. Cracks that contain weed and other live vegetable matter must be treated with locally approved non-oil based sterilant prior to application of crackfiller.

Cracks wider than one inch shall be filled with a fine aggregate hot, dense graded asphalt concrete conforming to Section 39 of the Standard Specifications for 3/8 inch Maximum Asphalt Concrete.

Prior to application of seal coat, deposits of grease or oil shall be cleaned by scraping, burning, and/or the use of approved detergents in order to promote adhesion of the seal coat. After cleaning the areas described above, the areas shall be sealed with an oil spot seal.

Areas where the foreign oil or grease has penetrated the asphalt concrete such that cleaning as described above is not effective must be properly repair by removing and replacing asphalt to the depth necessary but not less than 3/4 inch. The removed asphalt concrete shall be replaced with new asphalt concrete conforming to these specifications. Notify the City's representative in advance if such areas exist.

On excessively weathered surfaces or areas such that cleaning operation leave a film of dust, a tack coat of SS1h conforming to Section 94 of the Standard Specifications shall be applied. The tack coat shall consist of One (1) part SS1h with Four (4) parts water or Two (2) parts asphalt seal coat with One (1) part water applied at a rate of 0.05 to 0.10 gal/sq. yd. The tack coat must be dry prior to application of the asphalt seal coat.

Areas of structurally unsound asphalt concrete such as alligator cracking, low spots (bird baths) or rutting must be properly repaired prior to placement of the asphalt seal coat. Notify the City's representative in advance if such areas exist. Asphalt seal coat shall not be placed on new asphalt concrete until after a 30 day minimum cure period or as directed by the City's representative.

Before applying seal coat, cover manholes, valve and monument covers, grates, or other exposed facilities located within the area of application with plastic or oil-resistant construction paper secured by tape or adhesive to the facility being covered. Reference the covered facilities with enough control points to locate the facilities after the application of the seal coat. After completion of seal coat activities, remove covers from the facilities.

Before applying seal coat, cover the edges of existing pavement not receiving seal coat using a material such as kraft paper. Remove the paper after the seal coat application.

Prior to applying seal coat, the prepared surface shall be reviewed by the City's representative for conformance to the requirements of this Section. Contractor to notify City's representative and request a review a minimum of 48-hours prior to the application of seal coat.

Seal Coat Application

Do not apply materials when surface and ambient temperatures are outside temperature ranges required by the product manufacturer. Do not apply materials during rain or snow when relative humidity is outside humidity ranges, or moisture content of surfaces exceed those required by the product manufacturer. Do not apply materials when the ambient temperature is less than 55 degrees Fahrenheit or the surface temperature is less than 60 degrees Fahrenheit.

Application of the asphalt seal coat shall be by mechanical means using either pressurized spray application equipment or self-propelled squeegee equipment. Pressurized spray equipment shall be capable of spraying pavement sealer. Equipment shall have continuous agitation or mixing capabilities to maintain homogeneous consistency of pavement sealer mixture throughout the application process. Self-propelled squeegee equipment shall have at least 2 squeegee or brush devices (one behind the other) to assure adequate distribution and penetration of sealer into bituminous pavement. Hand squeegees and brushes shall be acceptable in areas where practicality prohibits the use of mechanized equipment.

The asphalt seal coat being applied shall be uniform and free flowing, free of lump or other inconsistencies. Potable water may be added as necessary as per manufacturer's recommendation, for consistency and spread ability but shall not exceed 15% by volume or as directed by the City's representative. If, after the addition of the maximum allowable water volume, the seal coat is unsuitable, the materials shall be rejected and removed from the site.

Asphalt seal coats consist of two application coats of material. Additional applications may be required as directed by the City's representative. The seal coat must be thoroughly dry prior to application of the second or subsequent coats.

Application of asphalt seal coat in ambient temperatures in excess of 80 degrees Fahrenheit shall require pretreatment of the asphalt concrete surface with a water mist. The water must not be standing, but the surface should be damp prior to seal coat application. This treatment is also recommended for application on porous surfaces where the water within the seal coat may be absorbed too quickly by the existing pavement surface.

Asphalt seal coat shall be applied uniformly over the prescribed area in continuous parallel lines in a manner so that no ridges or uncoated areas shall exist. Application rates will vary depending on the texture of the existing asphalt surfaces requiring more seal coat than smooth surfaces. Apply seal coat as follows:

ASPHALT SEAL COAT RECOMMENDED MINIMUM APPLICATION RATES (per coat based on two coats undiluted material)	
Smooth, Dense Surface	2 Gals./ 100 Sq / Ft
Medium Surface	3 Gals./ 100 Sq / Ft
Rough, Aged Surface	4 Gals./ 100 Sq / Ft
Excessively Rough, Aged Surface	5 Gals./ 100 Sq / Ft

Traffic and Irrigation water shall not be allowed on the asphalt seal coat until the seal coat is thoroughly cured which in warm weather conditions is approximately 24 hours. Maintain barriers to protect areas and prevent access until seal coat has thoroughly cured.

Striping for parking and traffic flow should be done only after the seal coat has thoroughly dried.

Measurement and Payment

Measurement and payment for seal coat shall be on the square yard basis of area covered. Payment for seal coating asphalt concrete pavement shall be paid for as "Seal Coat."

Payment of the seal coat shall conform to Section 9-1.02C of the Standard Specifications and quantities shall be final pay quantities stated in the Bid Schedule. No additional allowance will be made unless the dimensions as shown on the plans are changed by the Engineer.

22.0 CONCRETE WHEELSTOPS

General

Section includes specifications for precast concrete wheelstops for vehicular parking stalls in parking lots as indicated.

Material

Concrete wheelstops and reinforcing shall conform to section 21, Minor Concrete, of these Special Provisions.

Construction

Securely attach wheelstops into at-grade surface with not less than two steel dowels embedded in holes cast into wheel stops. Firmly bond each dowel to wheel stop and to pavement. Seal hole in wheelstop with mortar. Wheelstops shall be painted with curb paint (two coats), as indicated on Plans.

Measurement and Payment

Measurement for concrete wheelstop shall each be on a unit basis for each unit installed complete and in place. The contract price paid shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals, and for doing all of the work involved installing concrete wheelstops, complete and in place, as shown on the plans, including painting, and as directed by the Owner's Representative. Payment for placing new concrete wheelstops shall be paid for as "Concrete Wheelstop." Payment for resetting existing concrete wheelstops shall be paid for as "Reset Concrete Wheelstop."

23.0 MODIFY CHAIN LINK FENCE

General

Modifying and/or relocating chain link fences (including gates) shall conform to the provisions in Section 80-3, "Chain Link Fences," of the Standard Specifications.

Materials

Chain link fences posts and braces, fittings and all hardware shall be the same or better than that of the existing fence being modified.

New terminal posts shall be 2 3/8" diameter and new line posts shall be 1 5/8" diameter.

Construction

Modify and/or adjust chain link fences per the provisions in Section 80-3.03. Provide new posts, braces, fittings, fabric, hardware and other materials as necessary to complete the work. Replace damaged posts and braces. Remove concrete from existing posts before resetting.

Measurement and Payment

Full compensation for modifying chain link fencing and gates will be measured and paid for at the contract unit price per linear foot, which price shall constitute full compensation for furnishing all labor, materials, tools, equipment and incidentals, and doing all the work involved in modifying existing chain link fence including coordination, layout, setting grade, concrete fence post footings, posts and braces, fabric, hardware, and all other requirements for a complete installation as shown on the Plans and Standard Plans, and specified in these construction details, and no additional allowances will be made therefor. Payment for fences and gates shall be paid for as "Modify/Relocate Chain Link Fence/Gate."

24.0 ROADSIDE SIGNS

General

This work shall consist of resetting existing roadside signs (panels only) on a new post and furnishing new roadside sign and post as identified on the plans. Roadside signs shall conform to the Provisions in Sections 82-2, "Signs Panels" and 82-3, "Roadside Signs", of the Standard Specifications and these Special Provisions.

Materials

All roadside signs shall be mounted on a removable metal post with sleeve and anchor in accordance with the Plans. Posts, sleeves and anchors shall be manufactured from galvanized 12 gauge steel conforming to ASTM A653, G90, structural quality, Grade 50, Class 1. Corner welds shall be zinc coated after scarfing operation.

Sign panels shall conform to Section 82-2, "Signs Panels", of the Standard Specifications and the California MUTCD, current Edition.

Construction

Excavate holes to dimensions shown on Plans. Cover post bottom and perforation below ground with duct tape, and place posts in the holes. Back fill around post with minor concrete. Dispose of surplus excavation material offsite.

The line between the center of the top of a post and the center of the post at ground level must not deviate from a plumb line by more than 0.02 foot in 10 feet.

Attached sign panels using manufacturers recommended hardware and procedures. Sign panels shall be securely attached with no excessive movement (no wobbling/shaking of sign panels will be permitted).

Reset existing sign panels on new sign post with anchor sleeves per the plans.

Measurement and Payment

Roadside Signs shall be measured and paid on a per unit basis for each sign (one or multiple panels) and post system installed complete and in place. The contract price shall include full compensation for furnishing all labor, tools, equipment, and incidentals, and for doing all of the work involved in furnishing and installation complete and in place, including but not limited to: excavation, perforated square steel post with anchor sleeve, installing new or existing sign panel, concrete foundation, disposal of excess excavation material, cleanup and all work as described by the plans and the Standard Specifications, these Special Provisions, and as directed by the City's Representative. Payment for roadside signs shall be paid for as "Reset Roadside Sign, 1-Post" and "Roadside Sign, 1-Post."

25.0 TRAFFIC STRIPE, PAVEMENT MARKINGS AND PAVEMENT MARKERS

General

Painted traffic stripes (traffic lines), pavement markings and curb paint shall be applied in conformance with the provisions in Section 84-2, "Traffic Stripes and Pavement Markings," of the Standard Specifications and these Special Provisions.

Thermoplastic traffic stripes (traffic lines) and pavement markings shall be applied in conformance with the provisions in Section 84-2, "Traffic Stripes and Pavement Markings," of the Standard Specifications and these Special Provisions.

Pavement markers shall be placed in conformance with the provisions in Section 81-3, "Pavement Markers," of the Standard Specifications and these Special Provisions. Retroreflective pavement markers shall be marked as abrasion resistant on the body of the markers

Material

Thermoplastic material shall be free of lead and chromium, and shall conform to the requirements in State Specification PTH-02ALKYD. Retroreflectivity of the thermoplastic traffic stripes and pavement markings shall conform to the requirements in ASTM Designation: D 6359-99. White thermoplastic traffic stripes and pavement markings shall have a minimum initial retroreflectivity of 250 mcd m lx. Yellow thermoplastic traffic stripes and pavement markings shall have a minimum initial retroreflectivity of 150 mcd m lx.

Preformed melt down thermoplastic striping and markings will not be allowed.

Glass beads comply with section 84-2.02D of the Standard Specifications.

Paint shall comply with section 84-2.02C of the Standard Specifications.

Raised and reflective pavement markers shall comply with Section 81-3 of the Standard Specifications. The specific type to be used shall be consistent with the type generally in use within the local jurisdiction unless directed otherwise by the City's Representative.

Construction

All construction shall conform to the respective provisions of the Standard Specifications, manufacturer's installation requirements, and these Special Provisions. Where striping joins existing striping, as shown on the plans, the Contractor shall begin and end the transition from the existing striping pattern into or from the new striping pattern a sufficient distance to ensure continuity of the striping pattern. Traffic stripes and pavement markings shall be free of runs, bubbles, craters, drag marks, stretch marks, and debris.

Thermoplastic traffic stripes and pavement markings shall be applied in one (1) coat. Red curb paint shall be applied in two (2) coats. The 1st coat of paint must be dry before applying the 2nd coat.

Measurement and Payment

Measurement and payment for traffic striping, pavement markings, and curb paint shall be made at the contract unit price as shown in the Bid Schedule and as specified below, and shall be full compensation furnishing all labor, materials and equipment necessary to complete the work, including but not limited to: establishing alignment for stripes and layout work, placement of temporary tabs, preparation of surface, placing traffic striping, pavement markings and curb paint, pavement markers, coordination with the City's Representative, cleanup, and all other work necessary for completion of minor concrete work.

Measurement and payment for Red Curb Paint shall be made on a linear foot basis measured along the top of the curb in which it is applied. Double coats will not be measured individually. Payment for red curb paint shall be paid for as "Red Curb Paint."

Measurement and payment for painted parking lot stripes and thermoplastic traffic stripes shall be made on a linear foot basis measured along the center of each individual stripe type including gaps or dashes. Payment for traffic stripes shall be paid for under the respective payment items for "Painted Parking Lot Stripe" and "Thermoplastic Traffic Stripe."

Measurement and payment for painted parking lot pavement markings and thermoplastic pavement markings (including stripes > 8-inches wide) shall be made on the square foot basis for each marking installed as shown on the plans. Quantities will be determined based on the dimensions shown in the Standard Plans. Payment for painted parking lot pavement markings shall be paid for as "Painted Parking Lot Pavement Markings." Payment for thermoplastic pavement markings shall be paid for as "Thermoplastic Pavement Markings."

Payment of the "Painted Parking Lot Stripe" and "Painted Parking Lot Pavement Markings" shall conform to Section 9-1.02C of the Standard Specifications and quantities shall be final pay quantities stated in the Bid Schedule. No additional allowance will be made unless the dimensions as shown on the plans are changed by the Engineer.

26.0 TRAFFIC SIGNAL MODIFICATIONS

General

The Contractor shall furnish and install new traffic detector loops, replace existing signal heads with LED enhanced signal heads, and replace existing push button assemblies with LED enhanced push button activation mechanisms. The System shall be installed at the locations shown on the plans in conformance with the applicable provisions of Section 86, "Electrical Work" and 87, "Electrical Systems" of the Standard Specifications, Standard Plans, these Special Provisions, the manufactures installation manual, as directed by the Engineer, and conform to federal, state or local regulations.

Certificates of Compliance shall be furnished for all materials.

Material

The system components shall include the new detector loops, ADA compliant push button stations, and mounting hardware as required. The materials selected for the required components will be in conformance with and at the locations shown on the plans.

Construction

Splices shall be insulated by "Method B" or, at the Contractor's option, splices of conductors shall be insulated with heat shrink tubing of the appropriate size after thoroughly painting the spliced conductors with electrical insulating coating.

In addition to the requirements for splices in detector circuits, the open end of cable jackets or tubing shall be sealed in a manner similar to the splicing requirements to prevent the entrance of water.

All conductors between the controller assembly and the service shall be stranded THW polyvinyl chloride coated.

Bonding and grounding shall conform to the provisions in Section 86-1.02F(2)(c)(ii), "Bonding Jumpers and Equipment Grounding Conductors," of the Standard Specifications and these Special Provisions.

Measurement and Payment

Detector loops shall be paid for on a lump sum basis and paid for as "Detector Loop."

Replacing signal heads shall be paid for on a lump sum basis and paid for as "Replace Signal Heads."

Replacing pedestrian push button shall be paid for on a lump sum basis and paid for as "Replace Pedestrian Push Button."

The price for the above items shall include full compensation for furnishing all labor, materials, tools and equipment to construct the system complete and in place, including but not limited to all detector loops, conduit/conductors/ wiring, signal heads and mounting hardware, and pedestrian push button post assemblies, as shown on the plans and as specified herein, and no additional compensation will be allowed. Payment for the above bid items will not be paid until the contractor had demonstrated that each system is functioning properly and fully operational.

27.0 FINAL CLEAN-UP

General

Before final inspection of the work, the Contractor shall clean the work and all ground occupied in connection with the work, of all rubbish, excess materials (including liquid asphalt), and equipment. The roads and driveways shall be thoroughly swept clean of all dirt, dust and foreign material.

All parts of the work shall be left in neat and presentable condition. All existing landscaped and unpaved areas which are disturbed by construction or earthwork operations shall be returned to original existing conditions

Measurement and Payment

Payment for clean-up in general, shall be considered as included in the unit bid price for other contract items and no additional payment shall be made.

GHD Inc.

718 Third Street

Eureka, CA 95501 USA

T: 1 707 443 8326 F: 707 444 8330 E: eureka@ghd.com

© GHD Inc. 2020

This document is and shall remain the property of GHD. The document may only be used for the purpose for which it was commissioned and in accordance with the Terms of Engagement for the commission. Unauthorized use of this document in any form whatsoever is prohibited.

www.ghd.com

