DEPARTMENT OF TRANSPORTATION
DES-OE MS #43
1727 30TH Street, 2ND Floor
Sacramento, CA 95816

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December 5, 2001

04-SF,Ala-80-13.9/14.3,0.0/1.6
04-012024
ACIM-080-1(085)8N

Addendum No. 10

Dear Contractor:

This addendum is being issued to the contract for construction on State highway in THE CITY AND COUNTY OF SAN FRANCISCO AND ALAMEDA COUNTY IN SAN FRANCISCO AND OAKLAND FROM 1.3 km TO 3.3 km EAST OF THE YERBA BUENA ISLAND TUNNEL EAST PORTAL.

Submit bids for this work with the understanding and full consideration of this addendum. The revisions declared in this addendum are an essential part of the contract.

Bids for this work will be opened on December 19, 2001.

This addendum is being issued to revise the Project Plans, the Notice to Contractors and Special Provisions, the Proposal and Contract, and the Federal Minimum Wages with Modification Number 18 dated 11-30-01. A copy of the modified wage rates are available for the contractor's use on the Internet Site:

http://www.dot.ca.gov/hq/esc/oe/weekly_ads/addendum_page.html

Project Plan Sheets 1, 30, 37, 44, 437, 702, 741, 802, 815, 824, 846, 872, 876, 877 and 878 are revised. Half-sized copies of the revised sheets are attached for substitution for the like-numbered sheets.

In the Special Provisions, Section 2-1.04, "ESCROW OF BID DOCUMENTATION," the seventh and eighth paragraphs are revised as follows:

> "The bid documentation shall include, but not be limited to: quantity takeoffs; rate schedules for the direct costs and the time- and nontime-related indirect costs for labor (by craft), plant and equipment ownership and operation, permanent and expendable materials, insurance and subcontracted work; estimated construction schedules, including sequence and duration and development of production rates; quotations, scoping documents and subcontracts related to subcontractors, manufacturers and suppliers; estimates of field and home office overhead; contingency and margin for each contract item of work; names of the persons responsible for preparing the bidder's estimate, and other reports, calculations, assumptions and information used by the bidder to arrive at the estimate submitted with the proposal.

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The Contractor shall also submit bid documentation for each subcontractor, manufacturer and supplier whose total subcontract exceeds $250,000. Subcontractor, manufacturer and supplier bid documentation shall be enclosed with the Contractor's submittal. If at the time that bid documentation is submitted for escrow, the subcontractor, manufacturer or supplier does not have a executed subcontract, and a subcontract is subsequently executed, then a copy of the executed subcontract shall be submitted into escrow within 14 days of the execution of the respective subcontract. The examination of subcontractors', manufacturers' and suppliers' bid documentation will be accomplished in the same manner as for the Contractor's bid documentation. If a subcontractor, manufacturer or supplier is replaced, bid documentation for the new subcontractor, manufacturer or supplier shall be submitted for review and escrow before authorization for the substitution will be granted. Upon request of a subcontractor, manufacturer or supplier, the bid documentation from that subcontractor, manufacturer or supplier shall be reviewed only by the subcontractor, manufacturer or supplier and the Department."

In the Special Provisions, Section 3, "PRE-AWARD MEETING AND AWARD AND EXECUTION OF CONTRACT," subsection 3-1.01A, "PRE-AWARD MEETING," is revised as follows:

"**3-1.01A, "PRE-AWARD QUALIFICATIONS REVIEW.--**The Engineer will review the responses to the "Bridge Construction Information/Questionnaire" submitted by the apparent low bidder. The Engineer will make a determination on the bidder's qualifications for performing bridge construction work in a manner that is safe for the workers and the public, based on the bidder's experience, qualifications of the on-site supervisory personnel, equipment, conceptual approach to the bridge construction work and safety history of the bidder and its supervisory personnel.

If the Engineer determines it necessary, a pre-award qualifications review meeting will be conducted by an agent of the Director, and the apparent low bidder shall participate. Notification of whether a meeting will be conducted will be provided on or before December 28, 2001. The meeting, if held, will be on January 3, 2002 at 10:00 a.m. in the third floor conference room, 1727 30th Street, Sacramento, Ca. 95816. Non-attendance by the apparent low bidder at the pre-award qualifications review meeting shall be just cause for rejection of the bid and forfeiture of the proposal guaranty.

At the pre-award qualifications review meeting, the low bidder shall be prepared to discuss and answer questions relative to the responses to the "Bridge Construction Information/Questionnaire". The Director's agent will prepare written findings and recommendations to the Engineer regarding award of the contract to the apparent low bidder based on the "Bridge Construction Information/Questionnaire" and responses submitted, and on the information provided at the pre-award qualifications review meeting. The decision of the Engineer regarding the bidder's qualifications shall be final.

The second and third apparent low bidders shall participate in pre-award qualifications review meetings if requested to do so by the Department. Notification by the Department will be provided at least 48 hours prior to the pre-award qualifications review meeting. Non-attendance by the second or third apparent low bidder at any such requested meeting shall be just cause for rejection of bid and forfeiture of the proposal guaranty."

In the Special Provisions, Section 4, "BEGINNING OF WORK, TIME OF COMPLETION AND LIQUIDATED DAMAGES," the fourth paragraph is revised as follows:

"The Contractor shall pay the State of California the sum of **$80,000** per day, for each and every calendar day's delay in finishing the work in excess of the number of working days prescribed above."

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In the Special Provisions, Section 5-1.31, "RELATIONS WITH SAN FRANCISCO BAY CONSERVATION DEVELOPMENT COMMISSION," the fifth paragraph is revised as follows:

"The Contractor shall submit to the Engineer a plan for in-Bay temporary falsework, temporary structures, trestles and other temporary in-Bay constructed facilities within 15 days following notice of award. The plan shall include the area and volume of material to be placed between the mean-high-water-line and the mudline. The Engineer and BCDC will review the plan and the Engineer will provide comments to the Contractor within 60 days. The Contractor will have 15 days to revise and resubmit."

In the Special Provisions, Section 5-1.35, "ELECTRONIC DAILY EXTRA WORK REPORT," is added as attached.

In the Special Provisions, Section 5-1.36, "PHOTO IDENTIFICATION SYSTEM," is added as attached.

In the Special Provisions, Section 5-1.37, "INDEMNIFICATION," is added as attached.

In the Special Provisions, Section 8-3.01, "WELDING," subsection "GENERAL," the following paragraph is added after the third paragraph:

"When welding is to be performed per AWS D1.5, approval of the WPS will be based on conformance with the requirements in AWS D1.5 Sections 5.1, and the additional requirements in AWS D 1.5, Sections 5.2 through 5.20.2, and the additional requirements in these special provisions."

In the Special Provisions, Section 10-1.01, "ORDER OF WORK," the eighth paragraph is revised as follows:

"Marine pile driving energy attenuator systems shall be approved and operating prior to restriking existing steel shell test piles. Existing steel shell test piles shall be redriven prior to installing production piling."

In the Special Provisions, Section 10-1.12, "WORKING DRAWING SUBMITTAL SCHEDULE," the fourth paragraph is revised as follows:

"The Contractor's proposed working drawing submittal schedule shall be in the order of the activities listed in the Baseline Schedule, except as noted herein. Working drawings for Temporary Towers and Pipe Beam Temporary Support System shall be submitted to the Engineer no later than 260 working days after contract award. Working drawing submittal schedules in contradiction with the Baseline Schedule will not be accepted. If there are any related working drawings with overlapping review time on the Controlling Operations listed on the Baseline Schedule, adjustment may be made by the Engineer in required review time."

In the Special Provisions, Section 10-1.23, "DREDGING," is revised as attached.

In the Special Provisions, Section 10-1.24A, "MARINE PILE DRIVING ENERGY ATTENUATOR," is revised as attached.

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In the Special Provisions, Section 10-1.25, "TEMPORARY TOWERS," subsection, "CONSTRUCTION," the fourth and fifth paragraphs are replaced with the following:

"Welding, welder qualifications, and inspection of welding shall conform to the requirements in "CONCRETE STRUCTURES," subsection "FALSEWORK," subsection "'Welding And Nondestructive Testing," of these special provisions."

In the Special Provisions, Section 10-1.27, "CONCRETE STRUCTURES," the first paragraph through the seventh paragraph, inclusive, are replaced as attached.

In the Special Provisions, Section 10-1.27, "CONCRETE STRUCTURES," subsection, "LIGHTWEIGHT CONCRETE," subsection, "Lightweight Concrete Panel and Cast-In-Place Concrete For Closure Segments," the following paragraph is added after the twenty-first paragraph:

"The Contractor shall submit to the Engineer an erection plan for precast lightweight concrete panels to be erected at pier tables. This erection plan shall include the following:

A. Details of handling, storing, and shipping the panels.
B. Step-by-step erection procedures and the equipment information and details that are to be used for erection of the panels.
C. Locations and details of the lifting devices cast into precast lightweight concrete panels.
D. Details of any localized strengthening consisting of bar reinforcement (that is in addition to that shown on the plans) to be placed for concentrated loads induced by lifting operations and all other temporary construction loads.
E. Substantiating stress and load calculations for precast lightweight concrete panels subject to lifting forces and all other temporary construction loads at every stage of handling, storage, shipping, and erection."

In the Special Provisions, Section 10-1.27, "CONCRETE STRUCTURES," subsection, "MASS CONCRETE," is revised as attached.

In the Special Provisions, Section 10-1.27, "CONCRETE STRUCTURES," subsection, "FALSEWORK," is revised as attached.

In the Special Provisions, Section 10-1.27, "CONCRETE STRUCTURES," the attached subsection, "DECK CRACK TREATMENT," is added after the subsection, "COST REDUCTION INCENTIVE PROPOSALS FOR PRECAST CONCRETE SEGMENTS."

In the Special Provisions, Section 10-1.27, "CONCRETE STRUCTURES," subsection, "MEASUREMENT AND PAYMENT," the following paragraph is added after the first paragraph:

"Full compensation for deck crack treatment, including a program for public safety, shall be considered as included in the contract price paid per cubic meter for structural concrete, bridge and no additional compensation will be allowed therefor."

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In the Special Provisions, Section 10-1.40, "FOOTING CONSTRUCTION," the following paragraph is added after the first paragraph:

"Cofferdams shall conform to Section 19, "Earthwork," of the Standard Specifications."

In the Special Provisions, Section 10-1.40, "FOOTING CONSTRUCTION," subsection "WORKING DRAWINGS," the following item is added in the second paragraph:

"D. Cofferdam details"

In the Special Provisions, Section 10-1.44, "STEEL STRUCTURES," the fourth paragraph is revised as follows:

"Erectors shall be certified under the AISC Quality Certification Program, Category CASE, Certified Advanced Steel Erector."

In the Special Provisions, Section 10-1.56, "BRIDGE DECK DRAINAGE SYSTEM," is revised as attached.

In the Special Provisions, Section 10-1.72, "PHOTO SURVEY OF EXISTING NON-HIGHWAY FACILITIES," is added as attached.

In the Proposal and Contract, pages 10 and 11 are attached to clarify that they were not deleted by previous addenda.

In the Proposal and Contract, the Engineer’s Estimate Items 5 and 80 are revised as attached.

To Proposal and Contract book holders:

Replace pages 3 and 6 of the Engineer's Estimate in the Proposal with the attached revised pages 3 and 6 of the Engineer's Estimate. The revised Engineer's Estimate is to be used in the bid.

Attached CD containing the San Francisco Bay Conservation And Development Commission Permit, San Francisco Bay Regional Water Quality Control Board 401 Certification, National Marine Fisheries Service Biological Opinion, California Department of Fish and Game Biological Opinion, United States Fish and Wildlife Service Biological Opinion and a DMMO Letter with regards to the Upland Disposal Of Dredge Material to the Skyway Information Handout.

Indicate receipt of this addendum by filling in the number of this addendum in the space provided on the signature page of the proposal.

Submit bids in the Proposal and Contract book you now possess. Holders who have already mailed their book will be contacted to arrange for the return of their book.

Inform subcontractors and suppliers as necessary.

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This office is sending this addendum by UPS overnight mail to Proposal and Contract book holders to ensure that each receives it.

If you are not a Proposal and Contract book holder, but request a book to bid on this project, you must comply with the requirements of this letter before submitting your bid.

Sincerely,

ORIGINAL SIGNED BY

REBECCA D. HARNAGEL, Chief
Office of Plans, Specifications & Estimates
Office Engineer

Attachments

5-1.35 ELECTRONIC DAILY EXTRA WORK REPORT

Attention is directed to Sections 5-1.10, "Equipment and Plants," 7-1.01A(3), "Payroll Records," 9-1.03C, "Records," and 9-1.06, "Partial Payments," of the Standard Specifications and these special provisions.

Daily extra work reports shall be furnished to the Engineer using the Department's electronic extra work billing system. The reports shall conform to the requirements set forth in the "Extra Work Billing System User's Guide." The Guide is available from the Department, and is also found on the Internet at http://www.dot.ca.gov/hq/construc/EWB_INSTRUCTION.pdf. The Department will provide electronic extra work billing system accounts to the Contractor's representatives only after they have received training. The Department will provide system training to the Contractor's authorized representatives within 30 days of the Contractor's request for training.

An account, user identification assigned by the Department, and password used by the Contractor's representative are deemed to meet the requirement in Section 9-1.03C of the Standard Specifications that daily extra work reports shall be signed by the Contractor or the Contractor's authorized representative.

Daily extra work reports that include materials shall be substantiated by a valid copy of a vendor's invoice as required in Section 9-1.03C, "Records," of the Standard Specifications. Each invoice shall clearly identify the applicable electronic extra work report and the cost of the materials. In addition to postal service and parcel service, invoices may be sent by FAX or as an electronic-mail attachment, if approved by the Engineer.

The Engineer will compare the Engineer's records with the completed electronic daily extra work report. The Engineer will reject a report that has an error that affects payment, and will indicate the necessary adjustments the Contractor must make prior to sending a corrected electronic extra work report. A daily extra work report that the Contractor's representative sends to the Department using the electronic extra work billing system will be deemed to be signed by the Contractor. A daily extra work report that the Engineer approves using the electronic extra work billing system will be deemed to be signed by the Engineer.

Electronic submittals submitted by the file transfer process shall conform to the Department's specified format. The Contractor is responsible for maintaining the required data file format and requirements in the file transfer process. The Contractor is responsible for maintaining and operating the Contractor's interface with the Department's electronic extra work billing system.

Full compensation for furnishing daily extra work reports using the Department's electronic extra work billing system shall be considered as included in the various contract items involved and no separate payment will be made therefor.

5-1.36 PHOTO IDENTIFICATION SYSTEM

Photo identification system shall consist of photo identification (ID) cards, production equipment and database. The contractor shall submit a database record of every person contemplated to work on the project, including the employees of the subcontractors, vendor and suppliers.

All employees, including subcontractor, vendors and suppliers, shall have photo ID cards when reporting to work at the jobsite. Photo ID cards shall consist of a visible badge which can be worn plainly at all times and a wallet-size card which shall be available for inspection as required. The front side of the badge shall contain a visible, identifiable photograph with a minimum size of 25mm x 25mm, the person's last name, first name, employee ID number, issue date, expiration date and employer logo. Wallet-size cards shall contain the last name, first name, middle initial, issue date, expiration date and issuer signature. Any lost badges or cards shall be immediately reported to the Engineer prior to being replaced. Individuals who do not possess the required photo ID cards shall be removed from the work site immediately at the Engineer's request.

Production equipment shall consist of system software, camera and duplex card printer. Equipment shall have the following standard features or equivalent, as determined by the Engineer:

A. **System Software.--**ID works production software will have the following standard features:

1. Microsoft Windows-compatible operation;
2. Full user audit log;
3. Administrator and user security;
4. .BMP, .JPG, .PCX, .PNG, and .PSD image import formats;
5. .BMP, .JPG, .PCX, .TGA, .TIF, .WMF image export formats;
6. Full character recognition search (alphabets, numbers) in all fields;
7. Automatic update of database after badge production;
8. Simultaneous batch print of multiple card formats;
9. Software license key;
10. Online Help and reference library; and
11. Documentation, installation, training and Help Desk support.

B. **Camera.--**The camera used for producing employee ID badges shall be USB digital with the following specifications:

1. Compatible with Windows 98, ME, 2000 Professional;
2. External AC power supply (auto-switch);
3. Operating Environment for humidity of 30%-90% and for temperature of 32-104° F (0-40° C);
4. Resolutions of 1600 x 1200, 1024 X768, or 640 x 480 pixels;
5. Lens of 7.1 to 21.3 mm, F/1.8 to F/2.6 (equivalent to 40-120 mm lens on 35mm camera);
6. Flash range appropriate for a subject 6 meters to 1.8 meters from camera;
7. 8 MB SmartMedia memory card; and
8. CE Mark, FCC Class B and UL approved.

In addition, the camera shall have the following features and components:

1. Datacard Integrated USB Digital Camera Software with controlled Auto-Crop or Manual Crop;
2. USB cable connection to PC;
3. High, Medium and Low resolution (customer selectable);
4. Built-in flash;
5. Automatic focus and exposure;
6. 3x Optical Zoom;
7. 2.11 Megapixel RGB CCD;
8. Country Specific Power Cords;
9. Power adapter (auto switches for the appropriate voltage);
10. Tripod, backdrop, frame and stand;
11. Installation instruction and manuals; and
12. Optional 10 Foot USB Cable.

C. **Duplex Card Printer.--**The duplex card printer shall have the following features and specifications:

1. Windows 95, NT, 98, 2000 2000printer drivers;
2. CD ROM Tutorial;
3. Operator-replaceable printhead;
4. Audio and visual error prompts;
5. Operator messages displayed on PC screen;
6. Automatic card feed;
7. “True” exception card system;
8. Full-color or monochrome imaging;
9. One-step ribbon cartridge replacement;
10. Hands-free card cleaning system;
11. In-line topcoat application;
12. Portable, desktop design;
13. Input hopper holds 100 - .030 in. (.76mm) cards;
14. Output hopper holds 25 - .030 in. (.76mm) cards;
15. One-year depot warranty for printer;
16. One-year printhead warranty - no prorating, no card counting;
17. Continuous-tone, full-color, with alphanumeric text and logos print capability;
18. Background patterns with 300 dots per inch print resolution, In-line ribbon application of single topcoat capability, and dual voltage-auto sensing electrical requirements;
19. 100/120V, 50/60 Hz and 220/240V, 50/60 Hz;
20. Parallel ECP mode or Compatible mode communications;
21. CR80-30 Plastic cards accepted:
22. PVC, with glossy overlaminate laminate surface ID cards, 86mm x 54mm in size and 0.8mm in thickness;
23. Resident memory of 2MB; and
24. UL, CSA, FCC Class A (for U.S. and Canada) approved.

A database record shall be furnished to the Engineer at least three days prior to beginning of work. It will be updated for new employees, subcontractors or suppliers at least three days prior to the individual reporting to work on the project. This database shall contain the following information:

A. Caltrans contract number;
B. Contractor/Subcontractor/Vendor/Supplier ID number;
C. Employee ID number;
D. Last name;
E. First name;
F. Middle name;
G. Labor classification;
H. Date of hire/employment date;
I. Length of employment;
J. Issue date; and
K. Expiration date.

All data shall be delivered to the Engineer electronically, on Microsoft Windows compatible 3 1/2" floppy disks or CD ROM.s. The Contractor shall provide an updated personnel information whenever there is a change or at least five working days after requested by the Engineer. The file format for all files delivered to the Engineer shall be standard comma delimited (CSV), plain text files. Characteristics of this type of file are:

A. All data is in the form of plain ASCII characters;
B. Each row of data is delimited by a carriage return character: and
C. Within row, each column (field) of data is delimited by a comma character.

Full compensation for providing photo identification system shall be considered as included in the various items of work involved, and no separate payment will be made therefor.

In addition to photo identification system, access control measures shall be placed as directed by the Engineer. Access control measures will be paid for as extra work as provided for in Section 4-1.03D of the Standard Specifications, and will not be considered a special service as specified in Section 9-1.03D of the Standard Specifications.

5-1.37 INDEMNIFICATION

The Contractor shall be responsible for any liability imposed by law and for injuries to or death of any person including, but not limited to, workers and the public or damage to property, and shall indemnify and save harmless T.Y. Lin International / Moffatt & Nichol Engineers, a Joint Venture, P.O. Box 12675, Oakland, CA 94604-2675, its officers and employees connected with the work, all in the same manner and to the same extent conforming to the provisions in Section 7-1.12, "Indemnification and Insurance," of the Standard Specifications, for the protection of the State of California and all officers and employees thereof connected with the work.

10-1.23 DREDGING

Dredging shall include removal and disposal of marine sediment. All material resulting from dredging for access, including dredging for barge access, structure excavation, removal of material in cast-in-steel shell concrete piling, dredging for trestles, and dredging for temporary towers, over-excavation and maintenance dredging operations, shall be considered dredging in these special provisions and under the terms of the various permits obtained by the Department.

Attention is directed to "Permits And Licenses" and "Environmental Work Restrictions" of these special provisions.

Attention is directed to "Mobilization" of these special provisions for marine access. No dredging shall be allowed in the Contractor access area outside the limits of access dredging shown on the plans.

Attention is directed to "Turbidity Control" of these special provisions for turbidity control requirements for all dredging, including dredging work within turbidity control zone, adjacent to the Environmentally Sensitive Area shown on the plans.

Excavation within the limits of structure excavation as shown on the plans shall be as specified in "Earthwork," of these special provisions.

Removal of materials within cast-in-steel shell concrete piling shall be as specified in "PILING" elsewhere in these special provisions.

At the Contractor's option, the Contractor may perform dredging for access in the areas within the horizontal limits shown on the plans. Access dredging shall not be done at other locations.

Attention is directed to "Obstructions" of these special provisions and to the construction details sheets of the plans regarding the presence of the United States Navy's 12 kV power cable, the 250 mm PG&E gas main, and the East Bay Municipal Utility District outfall structure.

Unless authorized in writing, all dredging shall be performed in the presence of the Engineer. Where dredged material is to be disposed at the State-furnished deep ocean disposal site (SF-DODS), dredging shall be performed by either (or a combination of) hopper dredging, hydraulic dredging, clamshell dredging, or other approved method. The draghead of dredges shall be operated with the intake at or below the surface of the material being removed. The intake may be raised a maximum of three feet above the bed for brief periods of purging or flushing of the intake system. At no time shall the dredge be operated at a level higher than one meter above the bed.

The total amount of dredged material for access dredging as shown on the plans shall not exceed 104,000 cubic meters. The combined total amount of dredged and excavated materials for all construction work, including but not limited to, dredged material for access dredging (including dredging for barge access), structure excavation (310,000 cubic meters), removal of materials in cast-in-steel shell concrete piling, dredging for trestles, and dredging for temporary towers, over-excavation, and maintenance dredging operations, shall not exceed 450,000 cubic meters.

Over-excavation beyond the pay limits shown on the plans may be allowed if deemed necessary to complete the work, however no additional compensation shall be allowed therefore and these additional quantities are included in the maximum amount of dredging allowed. Lateral displacement of bay sediment material shall not be allowed. Maintenance dredging and removal of material entering excavations from outside the limits of excavation dredged by the Contractor shall be removed and no additional compensation shall be allowed therefor and these additional quantities are included in the maximum amount of dredging allowed. Modifications to the existing permits proposing revisions to the maximum quantities of dredged material shall not be allowed. If during the progress of the work, it becomes apparent that the Contractor may exceed the maximum quantity of dredged material permitted for this project, the Contractor shall immediately stop all dredging activities and notify the Engineer in writing. The Contractor shall then reevaluate the construction methods used to perform the dredging work and shall submit a revised dredging operations plan, as outlined elsewhere in these special provisions, to the Engineer, outlining the proposal to complete the work without exceeding the permitted quantity of dredged material. This revised dredging operations plan may require the use of alternate means and methods of construction, which may be required to complete the work. The Contractor shall not be allowed to resume any dredging activities until the revised dredging operations plan has been approved by the Engineer. There shall be no compensation or extension of contract time in accordance with Section 8-1.09, “Right of Way Delays,” of the Standard Specifications for any delays resulting from conforming to the requirements of this section of the special provisions. Dredging shall be done in accordance with the provisions of the various permits obtained by the Department. All dredged material shall be disposed of according to the permit requirements and these special provisions.

Dredging Operations Plan.-- Prior to beginning any dredging work, the Contractor shall submit a Dredging Operations Plan (DOP) 60 calendar days prior to the proposed commencement of dredging. Dredging shall not commence until all comments have been addressed and written approval has been granted by the Army Corps of Engineers and the Engineer. The DOP shall show barge anchoring locations, hydraulic pipelines, pipe anchoring locations, hopper dredging lanes, description of hopper overflow operations, instrumentation used, coordinates and land elevations of all control points for electronic positioning system and MLLW determination, estimated daily dredge advances, quality control survey procedures, anticipated problem areas of project involving poor access, and procedures to assure that dredging will proceed within the contract template and performed in the most economical manner. The DOP shall also include the following:

A. Name and telephone number of the dredging Contractor's representatives on site;
B. Army Corp of Engineers permit number;
C. Dredging start and completion dates;
D. Schedule of dredging operations including sequence of work, anticipated quantities and production rates;
E. Name(s) of vessels;
F. Numbers or identification for all equipment;
G. Bin or barge capacities;
H. Identification and purpose of work;
I. Proposed dredging procedures, including types of equipment to be used, method of slurry of the material with detailed drawings or specifications of the grid or centrifugal pump system;
J. Quality of material to be removed;
K. Overall location of the area authorized to be dredged;
L. A vicinity map showing the proposed upland disposal sites;
M. Proposed volume of material to be dredged and disposed;
N. Dredging design depth based on 1929 National Geodetic Vertical Datum (NGVD) and typical cross section including overdepth; and
O. Date of last dredging operations and design depth.

The DOP shall also provide the following information:

A. The controls being established to ensure that dredging operations occur at the locations shown on the plans and as specified in these special provisions.
B. The controls being established to ensure that disposal of the dredged material at the disposal sites is at the assigned location and depth and the horizontal and vertical positioning systems that will be utilized.
C. Method of determining horizontal and vertical electronic positioning of dredge or dump scow during entire dredging operation at dredge site, disposal site and en route to and from disposal site.
D. Contractor's Dredging Quality Control Plan (DQCP) including:

    1. A description of the DQCP organization including, a chart showing lines of authority; and acknowledgment that the Contractor quality control staff shall conduct the inspections for all aspects of the work specified and shall report to the Contractor's Project Manager, or someone of higher authority, in the Contractor's organization;
    2. The name, qualifications, duties, responsibilities and authorities of each person assigned a quality control function;
    3. A copy of the letter to the DQCP manager; signed by an authorizing official of the firm, which describes the responsibilities and delegates the authorities of the DQCP manager; shall be furnished to the DQCP manager and shall be countersigned by the DQCP manager acknowledging receipt; and
    4. Reporting procedures and methods used to obtain information for quality control forms, including the submittal of displacement and capacity charts for all scows.

After acceptance of the DOP, the Contractor shall notify the Engineer in writing of any proposed changes. Proposed changes are subject to acceptance by the Engineer.

Herring Spawning Season.--Approval to dredge from November 15 to March 31 of any year shall only be allowed as follows:

A. The dredging operation was begun prior to November 15 of any year and could not be completed by the November 15 deadline due to unforeseen delays;
B. A biologist provided by the State will monitor for the presence of herring spawns within 200 meters of construction operations in open water and will be at the project site during dredging operations which occur between November 15 through March 31; and
C. Dredging operations within 200 meters of spawn shall cease within eight hours of notification by the Engineer for a minimum of 14 days or until the Engineer notifies the contractor that dredging may be resumed.

Solid Debris Management Plan.--The Contractor shall submit a solid debris management plan 60 calendar days prior to commencement of dredging, a plan which describes measures to ensure that solid debris generated during any dredging operation is retained and properly disposed of. At a minimum the plan shall include the following:

A. Source and expected type of debris;
B. Debris retrieval method;
C. Disposal method and site;
D. Schedule of disposal operations; and
E. Debris containment method to be used, if floatable debris is involved.

All such debris shall become the property of the Contractor and shall be disposed of outside the State's right of way in accordance with Section 7-1.13 of the Standard Specifications. No such material shall be disposed of within the jurisdictions of the Army Corps of Engineers and Bay Conservation and Development Commission. Material deemed to be of historical significance as determined by the Engineer shall become the property of the State.

Overflow.--No overflow of dredged material or water will be allowed from the receiving barges, bins or dump scows during the dredging operations except as follows:

A. The material is dredged with a clamshell, power shovel, or hydraulic dredge (cutter-head, suction, or vortex type); and
B. Only dense, clean sands are dredged, as approved by the Engineer. Where overflow is allowed, overflow time shall be limited to 15 minutes and the discharge shall be below the water surface.

Overflow during hopper dredging will be allowed. During hopper dredging, the time of allowable overflow of dredged material and water from hopper bins shall be limited to the most economical load based on hopper load charts for hopper dredges as approved, but in no case longer than 15 minutes. All overflows shall be discharged below the water surface.

In the event the Contractor chooses to fill a receiving barge, bin or dump scow, the receiving vessel shall be located in an approved anchor site.

Spillage and Leakage.--Dredged material and water shall not be permitted to spill over or leak out of barges, hopper bins or dump scows while in transit to the disposal site. Barges or dump scows which exhibit an average loss in vessel draft in excess of 0.3 meters between the loaded barge draft recorded at the dredging site and the predisposal draft recorded at the disposal site, will be taken out of service for this project until repaired. The Contractor shall record draft of hull for each scow load as specified under quality control. If applicable, no loss in draft or volume will be permitted from containers transporting dredged materials for land disposal. The Contractor shall paint visible draft levels at 0.3 meter intervals and at the 80 percent load line on the inside of each scow and hopper bin.

Overflow and Leakage Monitoring Requirements.--The Contractor shall provide equipment that will furnish a continuous printed record of readings and measurements of bulk density and mass flow rate for each pump. These records shall be provided to the Engineer as requested and approved in the Dredging Operation Plan. The Contractor shall provide a list of equipment that will provide the required records. In the event either velocity or displacement equipment breaks down during the dredging operation, the following actions shall be accomplished:

A. An alternative means of measurement shall be performed as approved; and
B. Alternative measurements shall not exceed duration of 72 hours after the equipment breakdown. Verification of repairs shall be provided to the Engineer in the form of receipts or other documentation.

For clamshell dredges, the Contractor shall monitor hull displacement of each scow loaded by the dredge. For hydraulic dredges the Contractor shall provide equipment that will furnish a continuous printed record of readings for measurement of flow rate of the material within 6 meters of the dredge pump, and furnish a continuous printed record of readings for measurement of flow rate of the material within 6 meters of the discharge manifold. The Contractor shall also furnish continuous velocity records at booster pumps. Equipment shall be accessible from above water platforms. If the readings from the velocity flow equipment indicate leakage within the system, the Contractor shall immediately cease work and repair the leaks. In the event that the dredged material is pumped into a barge or scow, displacement shall be monitored as specified for clamshell dredges after dredging and before disposal at the disposal site. The Contractor shall furnish to the Engineer, displacement and capacity plans of all scows. Monitoring for clamshell and hydraulic dredges shall be continuous from initial loading through discharge at the disposal site. The Contractor may use the general configuration in these special provisions for developing his system of monitoring displacement or submit his own method for approval. The method shall provide average hull displacement of each scow as specified. The data recorders shall store two-minute averages of the one second input signals from the sensors. The Contractor shall provide and maintain throughout the duration of the contract, one data transfer unit with support software to the State within 30 Calendar days after award of the contract, which shall become State property upon completion of the contract. In the event the displacement monitoring equipment breaks down during the dredging operation for any of the scows, an alternative means of measurement shall be performed and results reported using a form. Alternative measurements shall not exceed duration of 72 hours after equipment breakdown. If repairs to the primary equipment are not accomplished within this period, the scow shall not be used until repaired.

The Contractor shall submit the continuous recording records specified for clamshell dredge reports on computer diskettes. Data shall be submitted on 3-1/2" (1.44 MB) disks, operating under MSWindows 2000 or newer version. All data shall be recorded in ASCII text. Any alternatives submitted by the Contractor shall be subject to the approval of the Engineer.

Control and Monitoring Surveys.--A short to medium range Electronic Positioning System (EPS) or Global Positioning System (GPS) shall be provided on all vessels involved in dredging operations. The EPS shall be established, operated and maintained by the Contractor during the period of the contract when dredging work is actively underway. The EPS using range-range methods shall display and record the vessel's location continuously during dredging and transport for disposal. A continuous graphic printout plotter and/or graphic monitor shall be provided on any dredge utilizing a range-range positioning system and a complete record copy of the position data (dredge track history) including date, time, coordinates and Root Mean Square (quality of position closure); and such record shall be submitted to the Engineer as part of the daily report. The Engineer shall have access to the monitoring equipment in order to observe its operation during the dredging work.

The EPS system shall be similar or equal in design, performance, accuracy, operating characteristics, and frequency to those identified in "Hydrographic Surveying" Department of the Army Engineering Manual No. 1110-2-1003, 28 February 1991 (or latest version). This manual is available for purchase at:

USACE Publications Depot
2803 52nd Avenue
Hyattsville, MD 20781-1102

or which may be reviewed at the Army Corps of Engineers Construction-Operations Division, San Francisco District Office, 333 Market Street, San Francisco, California:

The Contractor shall be responsible for establishing the horizontal control to locate active or passive shore-based EPS transmitter/receiver devices. All control shall meet Third Order, Class 1, accuracy standards as defined in the publication "Standards and Specifications for Geodetic Control Networks" published by the Federal Geodetic Control Committee (and referenced) under chapter 2 of the Army Corps of Engineers Manual "Hydrographic Surveying". The Contractor shall obtain all right-of-entry permits and/or leases as required to operate and maintain shore-based electronic equipment on public/private property.

EPS calibration techniques shall conform to standard hydrographic surveying practice; consistent with minimization of systematic errors inherent to, and consistent with, the selected EPS system as specified under Chapter 6 of the Army Corps of Engineers manual "Hydrographic Surveying". The Contractor shall be responsible for accurate and reliable EPS calibration for the duration of this contract.

Transporting and Disposal.--The Contractor shall transport and dispose of the dredged material in accordance with these special provisions and the conditions of the various permits the State has obtained for this contract.

During transport to the disposal sites, no material shall be permitted to overflow, spill, or leak out of the barges, bins or dump scows.

Tugboats are required to use an electronic positioning system (i.e., a miniranger system with at least two transponders or a Global Positioning System (GPS) with a minimum accuracy and precision of 8 meters for disposal operations). If the positioning system fails, all disposal operations shall cease until the navigational capabilities are restored.

The Contractor shall maintain daily records of dredging operations, transportation schedules, barge load volumes disposed, and exact location and time of disposal.

The tug captain shall maintain a copy of all weather reports and shall make wind and sea observations.

The Contractor shall observe all dredging operations and submit reports containing; a description of operations for each barge load, a checklist, a transit route map, a printout of coordinates from each way point and release point, a record of radio transmission, and facsimile from the tug captain on a daily basis.

The Contractor shall allow observers from the State and other appropriate independent observers as specified in permits and approved by the Engineer to be present on disposal vessels on trips to the disposal areas.

Development and implementation of a more sophisticated surveillance systems, which can be demonstrated to and approved by the Engineer to be effective and capable of being audited, may be substituted for one or more of the above provisions.

The Electronic Positioning System (EPS) and methods used for the dredge, as specified herein, shall also be used to display and record the disposal vessel's location at one minute time intervals.

All of the above-mentioned documentation shall be submitted to the Engineer after each transportation and disposal event.

Air Quality Requirements.--If the work is performed by a hopper dredge, the Bay Area Air Quality Maintenance District (BAAQMD) requires that the dredge must be in compliance with Regulation #1, Section 301(emission standards). Mechanical failures resulting in violations of particulate matter or sulfur compounds (Regulation #2) would be handled through application, by the Contractor, for a variance from the BAAQMD.

If any of the work is to be performed by clamshell or hydraulic dredge, the Contractor shall be responsible for compliance with all BAAQMD regulations and standards including obtaining a permit for operation of a stationary source of air pollutants. A copy of the permit shall be included with the quality control plan. If applicable, at the Contractor-furnished land disposal site(s), the Contractor will be required to obtain any necessary air quality permits for operation of pumps and equipment. Copies of the permits shall be included with the quality control plan.

Unless "optimized" or diesel powered equipment with the "Best Available Control Technology" emission devices are used, injection timing on diesel powered dredges and equipment shall be retarded two degrees from manufacturer’s recommended setting to reduce air pollutant emissions.

Reformulated diesel fuel shall be used for all diesel-powered dredges and equipment to reduce air pollutant emissions. Reformulated diesel fuel shall be a low sulfur, reduced aromatics diesel fuel meeting the following specifications, unless otherwise approved by the Engineer:

A. Sulfur content less than 0.05 percent by weight; and
B. Aromatic content less than 20 percent by volume. Prior to dredging or construction operations, the Contractor shall submit certification from the fuel supplier or manufacturer stating that the fuel contents meet the above requirements and proof of purchase of the above-specified fuel shall be submitted to the Engineer. Dredges and equipment shall not be allowed to idle when not required in performing the work. Dredges and equipment shall be given a tune-up at least annually.

Radiological Safety.--If the Contractor intends to use any radiological source on the project, such use shall be reported by letter to the Engineer. The letter shall state the type of radioactive material in the source, serial number of the equipment, manufacturer, licensee, and the purpose for which the equipment will be used. A copy of the last safety certification(s) from the appropriate 01430-3 Federal and State agencies shall be included with the letter. No radiological materials shall be stored, handled or used on this contract without the prior approval of the Engineer. The storage, handling and use of radioactive materials shall comply with the pertinent State and Federal (EM 385-1-1) safety regulations.

Landfill Disposal.--Landfill disposal shall be provided by the Contractor for the following dredged material:

A. Synthetic slurry used in pile operations;
B. Material in contact with synthetic slurry used in pile operations;
C. Waste concrete resulting from pile operation;
D. Material resulting from test boring operations; and
E. Material that does not pass through a debris grid as specified.

In-Bay (Aquatic) Disposal.--Aquatic disposal has been approved for the bay sediment not listed in "Landfill Disposal" of this Section consisting of clay, silt or sand resulting from structure excavation, removal of material in cast-in-steel concrete piling, dredging for trestles, temporary towers, and over-excavation, and from maintenance dredging operations except for the upper 3.7 meters of material from piers E1 though E6, Eastbound and Westbound, and E15 through E18, Eastbound and Westbound, measured from the existing mudline. Disposal of this upper 3.7 meters of material shall be at an approved upland disposal site. In-bay (aquatic) disposal may be at the Alcatraz Dredged Material Disposal Site (DMDS, SF-11).

Ocean (Aquatic) Disposal.--Aquatic disposal has been approved for the bay sediment material not listed in “Landfill Disposal” of this Section consisting of clay, silt, or sand resulting from dredging for access, including the barge access. Aquatic disposal may be at the SF-DODS. Attention is directed to the "Skyway Information Handout."

Other Upland Disposal Sites Proposed by the Contractor.--Other land disposal sites for the bay sediment material not listed in "Landfill Disposal" of this Section consisting of clay, silt, or sand resulting from dredging for access, including the access channel dredging structure excavation, removal of material in cast-in-steel concrete piling, dredging for trestles, temporary towers and over-excavation, and maintenance dredging operations may be approved by the Engineer upon a written request by the Contractor. Attention is directed to the "Skyway Information Handout."

Alcatraz Dredged Material Disposal Site (DMDS, SF-11).--The Alcatraz disposal site is a dispersive site defined as a circular area of radius 305 meters with its center located at latitude 37º49'17" N, longitude 122º25'23" W. The specific location within the disposal area will be determined by the Army Corps of Engineers at the time of review of the DOP.

All dredged material shall be slurried in one of the following manners:

A. Pumped with a centrifugal pump prior to leaving the dredge site for the disposal site; or
B. The material shall pass through a debris grid, with a maximum opening size of 305 mm by 305 mm, which will cover the entire loading area of the dump scow. All material that does not pass through the grid will be considered solid debris and shall be disposed of as specified in “Landfill Disposal” of this Section. At a minimum all solid debris shall be removed from the grid and disposed of at the end of each 8-hour shift.

Each tug boat shall maintain a computer printout from GPS or other approved navigation system showing transit routes and disposal coordinates including the time and position of the disposal barge when the barge doors open and close.

If performance of the Contractors work is delayed as a result of scheduling disposal of dredged material at the Alcatraz disposal site and if in the opinion of the Engineer this delay impacts the controlling operation, an extension of contract time determined pursuant to the provisions of Section 8-1.07, "Liquidated Damages," of the Standard Specifications will be granted. No additional compensation will be allowed therefor.

Disposal of Dredged Material at Deep Ocean Disposal Site (SF-DODS).--Dredged material resulting from dredging for access, including the access channel dredging may be transported by hopper dredge or barge and deposited by open water dumping at the SF-DODS under the terms of the various permits obtained by the Department. Each load drop shall be identified with northing and easting coordinates on the daily Quality Control Report for that day. Disposal operations shall be performed as directed and unless otherwise authorized (by verbal communication or in writing), shall be in the presence of the Engineer. No debris or material other than natural clay, sand or silt shall be deposited in the ocean disposal area.

Site Management and Monitoring Plan (SMMP) Requirements for Ocean Disposal Area.--The Contractor shall adhere to the following SMMP provisions for disposal of dredge material at the ocean disposal area:

A. Barges shall not leave the bay when wave heights along the transit route are predicted to exceed 3.05 meters and wave periods are less than 12 seconds, or when waves are greater than 4.88 meters regardless of wave period. Under less severe weather conditions, extra precautions (such as reducing the load up to 15 percent) shall be taken to prevent spillage or other loss of material during transit to the site. The Contractor shall verify predicted Sea State via marine forecasting on the radio and Internet and note results of both forecasts in their daily quality control report. No vessel shall commence transit without such verification and notation in the daily quality control report.
B. For each tugs trip to the ocean disposal site, barges shall be loaded to 80 percent of their load lines or 80 percent of bin capacity, whichever governs, to avoid spillage. Loading shall be reduced below 80 percent if weather or sea conditions cause spillage.
C. No disposal barge shall be filled above its load limitation that shall be defined as 80 percent of its load line or 80 percent of bin capacity, whichever governs, and all loads shall be certified by the Engineer that the requirement has been met prior to departing for the disposal area. The scows shall have the 80 percent load line clearly marked inside of the bin for visual verification by the Engineer.
D. No water or dredged material shall be permitted to leak or spill from barges during transit to the ocean disposal area.
E. The maximum tow speed shall be 11.1 km/hour (6 knots) over the bottom for loaded barges or as approved by the Engineer.
F. Tugboats with barges shall remain outside of the territorial sea boundary surrounding the Farallon Islands by following the inner portion of the outbound western shipping lane for transit into and out of the bay. Vessels shall remain at least 5.6 km from the Farallon Islands at all times. The Contractor shall furnish a vessel transit alignment plan for approval to the Engineer for submittal to the Army Corps of Engineers.
G. The U.S. Coast Guard's (USCG) Offshore Vessel Movement Reporting System, which extends 61.2 km offshore from Mount Tamalpais, shall be used to track barges within its range.
H. Tugboats are required to use an electronic positioning system (i.e., a Global Positioning System (GPS) with a minimum accuracy and precision of 30.5 m) for disposal operations. If the positioning system fails, all disposal operations shall cease until the navigational capabilities are restored.
I. No more than one disposal vessel shall be present within the permissible dumping target (as described in the following paragraph) at any time.
J. Dredged material shall be discharged within a 1219-meter-diameter circle centered at 37°39'N, 123°29'W (NAD 1983). When dredged material is disposed, no portion of the barge shall be further than 610 m from the center of the ocean disposal area.
K. The Contractor shall maintain daily records of dredging operations, transportation schedules, barge load volumes disposed, and exact location and time of disposal.
L. The tug captain shall maintain a copy of all weather reports and shall make wind and sea observations.
M. Each tug boat shall maintain a computer printout from GPS or other approved navigation system showing transit routes and disposal coordinates, including the time and position of the disposal barge when the barge doors open and close.
N. The Contractor's quality control staff shall observe all dredging operations and submit reports containing a description of operations for each barge load, a checklist, a transit route map, a printout of coordinates from each waypoint and release point, a record of radio transmission and facsimile from the tug captain on a weekly basis.
O. The Contractor shall allow appropriate independent observers on a sufficient number of vessel trips as specified in various permits obtained by the Department to be present on disposal vessels on all trips to the ocean disposal area for the purpose of conducting surveys and monitoring. At a minimum, the Contractor shall ensure that independent observers are present on at least one disposal trip in any calendar month in which a disposal trip to the ocean disposal area is made.
P. The Contractor shall allow on-board inspections by United States Environmental Protection Agency (EPA) Region IX staff, Army Corps of Engineers staff, or a certified inspector to ensure that the transportation and disposal of sediments occur within the designated discharge zone and that compliance with all permit terms and conditions are met.
Q. The Contractor shall report any violation to the Engineer. In the event of a violation, the Contractor must make all necessary changes to bring disposal operations into compliance before making another trip to the ocean disposal area.

R. Development and implementation of more sophisticated surveillance systems, which can be demonstrated to the Engineer to be effective and capable of being audited, may be substituted pending approval from the Engineer for one or more of the above provisions.
S. The Contractor shall allow observers from the Point Reyes Bird Observatory or other appropriate independent observers as specified in permits to be present on disposal vessels on all trips to the ocean disposal area for the purpose of conducting surveys of seabirds and marine mammals.

Disposal Vessel Location (for Ocean Disposal Area).--Methods used for the dredge positioning, as specified under these special provisions shall also be used to display and record the disposal vessel's location at 1-minute time intervals throughout the loading, transport and disposal cycle of each disposal vessel. The data shall be received onboard the actual disposal vessel. Position data shall be annotated for the time actual dumping is in progress. A copy record of the Dredge Data Logging System position data, correlated with time and annotated with date, shall be submitted to the Engineer as part of the daily Quality Control Report. The Engineer shall have access to the monitoring equipment in order to observe its operation during disposal operations. Dredge inspectors shall be provided with hand-held GPS equipment to verify dredge disposal in SF-DODS.

Disposal of Debris (for Ocean Disposal Area).--Man-made objects, timber, chains, anchors, flotsam, miscellaneous metal objects and other foreign material removed during dredging shall not be disposed in the State-furnished disposal areas. The Contractor is responsible for the disposal of such material at a land site.

Misplaced Material (for Ocean Disposal Area).--Any material that is intentionally or unintentionally deposited in places other than those specifically designated or approved by the Engineer will not be paid for and the Contractor shall be required to remove such misplaced material and deposit it where directed at his expense.

Notification (for Ocean Disposal Area).--When utilizing the ocean disposal area, the Contractor shall notify the U.S. Coast Guard via radio (S.F. Bay Traffic on Channel 14) five minutes in advance of actual departure from the dredge site and immediately prior to actual disposal operations. The Contractor shall follow established guidelines by the USCG and maintain a log of disposal movements. By Monday morning of each week, the Contractor shall submit the prior week's electronic disposal site logs on a CD to the Engineer.

Contractor–Furnished Land or Disposal Area.--The Contractor may propose to use alternative aquatic or land disposal site for disposing dredged material intended to be disposed at Alcatraz or the SF-DODS. If an aquatic or land disposal site is proposed, its acceptance will be based on receipt of written evidence from the Contractor stating that the owner's written consent for use of such area has been obtained; that the proposed area has been coordinated with the applicable Federal, State and local agencies; and that all permits have been obtained for use of such sites.

The Contractor shall also submit to the Engineer for approval a plan for the disposal site, which covers, as a minimum, impounding levees and weir structures, pipeline leakage and repair, and effluent weirs and spillways. All expenses incurred in connection with providing and making available such disposal site shall be borne by the Contractor, and all materials deposited thereon, and all operations in connection therewith shall be at the Contractor's risk. EPS monitoring of land disposal operations will not be required.

Combination State and Contractor-Furnished Disposal Sites.--The use of both State and Contractor-furnished disposal sites will be allowed. The Contractor may propose to utilize all or a portion of the State-furnished disposal sites. The acceptance of such proposal will be subject to the approval of the Engineer.

Disposal Site Verification Log (DSVL).--The Contractor shall submit a weekly log by 10:00 a.m. each Monday to the Engineer. The DSVL sheets attached to the Army Corps of Engineers Permit (Pages 1 & 2) shall be used to enumerate the work accomplished during the preceding week for submission to the Army Corps of Engineers, Regulatory Branch. The Vessel Traffic Control System will issue a confirmation number, which shall be included in the weekly log. If the DSVL is not submitted on Monday by 10:00 a.m., no work shall begin on the dredging operations for that week.

Hydrographic Surveys.--The Contractor shall be responsible for providing an independent surveyor to perform the pre- and post-dredging and quality control surveys for performing the related computations and furnishing the required drawings.

The independent surveyor's equipment and work force shall be independent from the Contractor. The name of the surveyor and samples of previous hydrographic work shall be submitted to the Engineer for review and approval.

The Engineer shall be allowed to board all watercraft performing the hydrographic surveys.

The independent surveyor shall be required to document and certify in writing to the Engineer that he has at least three years of experience in hydrographic surveying of navigable channels and possess either a current land surveyor's or professional engineer's license valid in California and American Congress on Surveying and Mapping (ACSM) certification as an "Inshore Certified Hydrographic Surveyor." He shall provide documentation that modern electronic horizontal positioning and depth finding equipment are available for the surveys to be performed including Differential Global Positioning System (DGPS) capability and shall include as a minimum; the name, model, and year of manufacture of the electronic equipment; the electronic frequencies of the horizontal positioning equipment and the depth finding equipment; and the manufacturer's stated positioning accuracy and capability of the equipment proposed for usage. In addition, he shall document availability of a safe and suitable workboat for operation in the water where the surveys are to be performed, and that experienced staff are available for the operation of the workboat as well as the operation and calibration of the electronic positioning and depth finding equipment calibration. Survey procedures, data collection equipment, methods and densities, and equipment calibration for this work shall follow the criteria given in the hydrographic survey manual specified in this Section for a Class I hydrographic survey. Survey line spacing shall not exceed the limits given in Table 3-1 of the hydrographic survey manual for a Class I hydrographic survey. Survey lines shall be referenced to the project horizontal and vertical datum. Cross sections shall be run at 10 meters center to center (c/c) and shall extend 10 meters past the slope-original ground intersect point.

The Contractor's hydrographic survey procedures (positioning modes, EPS calibration, accuracy requirements, depth measurement/calibration, and data reduction, adjustment, processing, and plotting) shall conform to industry standards identified in the hydrographic survey manual specified elsewhere in these special provisions. Horizontal location observations shall compensate for errors, geodetic corrections, and atmospheric variations. Data recordation, annotation, and processing procedures shall be in accordance with the hydrographic survey manual specified elsewhere. Failure to perform and process such surveys in accordance with the manual and these specifications will result in rejection and nonpayment for work performed. All vertical control shall be of second order accuracy, including levels for the setting of tide gage to NGVD elevation. An automatic electronic tide recording system shall be required during all surveying and dredging operations.

Survey data shall include tidal cycle(s) (whether ebb, flood or slack tide conditions) while performing surveys.

The Contractor shall conduct surveys using electronic system positioning method in accordance with the Hydrographic Survey Manual. The Contractor shall use an echo sounder to obtain soundings. The analog recording of soundings shall indicate a calibration check (bar check) of the echo sounding at the beginning and end of each analog paper change and at such times as necessary to ensure sounding accuracy. Echo sounder shall have a frequency of 200 kHz, with 3.5 degrees cone measured at 6-dB point. The top of the return signal trace shall be the point of interpretation of sounding. The bar check shall be taken at identical locations. Soundings shall be on NGVD datum. The excavation centerlines and slope toes shall be field marked on the fathogram chart during the data acquisition. The contract station, time of survey, tide height and direction that line is surveyed shall also be marked on the fathograms. Annotated survey data shall include tidal cycle(s), i.e., slack or slack tide conditions are occurring while performing surveys.

Field notes shall indicate the location of each sounding line, the date and the time (hour and minutes) each sounding line was taken and explanation for any line terminated early. The tide shall be recorded for each line surveyed and noted on the sections during the survey. Notes shall include tidal data, i.e., height of tide (Mean Lower Low Water Datum), bar checks, time of the tide readings and date and location of the tide gage used for each survey.

Bound field survey books shall be used to record all field data. Fully automated survey systems shall require a field log to supplement the data recorded on magnetic media.

The cross sections of hydrographic sounding line survey results shall be plotted at the scales specified in Table 3-1 of the hydrographic survey manual. Soundings shall be plotted on transparent sheets and show pay quantity excavation templates shown on the plans with survey cross-section. The Contractor's firm name shall be printed on each sheet along with contract name, number and date of survey. Plot scales shall be as approved by the Engineer.

The Contractor shall perform Pre-Dredging Surveys not earlier than 60 calendar days and not later than 30 calendar days before commencement of dredging. The Pre-Dredging Survey shall be completed with accuracy to within 30 mm which delineates the following: areas to be dredged; width overdepth allowances; existing depths; estimated quantities to be dredged for the project; and estimated quantities for overdepth.

The Contractor shall perform hydrographic Quality Control Surveys thirty days after start of dredging and every thirty calendar days thereafter, and after any natural event that would create shoaling of previously dredged areas of the project (e.g., severe storms and earthquakes). These surveys shall verify that all foundation excavation dimensions are being obtained as specified. All surveys shall begin where dredging commenced and end as close as possible to last dredging position. The accuracy shall be consistent with the Pre-Dredging Survey above.

From the Quality Control Surveys, the Contractor shall compute quantities by the average end area method to the nearest cubic meter based on the sounding lines surveyed and the dredging section indicated on the plans. Tabular summaries shall be submitted to show standard depth, overdepth, and total dredging quantities both incrementally and cumulative for open water locations.

The Contractor shall perform a Post-Dredging Survey within 15 calendar days of the last disposal activity at each open water location prior to placing backfill (last being defined as that activity after which no further activity occurs for 15 calendar days), a survey with accuracy to one-tenth foot which delineates the following: areas dredged; dredged depths; actual quantities dredged for the project; and actual quantities of overdepth. The Post-Dredging Survey shall contain the dates of commencement and completion. The Contractor shall substantiate the total quantity dredged by including calculations used to determine the volume difference (in cubic meters) between the Pre- and Post Dredging Surveys and explain any variation in quantities greater than 15 percent beyond estimated quantities.

The quantities calculated from pre-dredging, quality control, and post-dredging surveys shall only be used for permit reporting purposes. Quantities from these surveys shall not be used for measurement of quantities for payment.

The Contractor shall submit all drawings, field notes and quantity computations within five calendar days after completion of any survey. The number of sets of drawings shall be as specified below. The Contractor shall mail or deliver drawings and computations to the Engineer for review and submission to the various agencies:

A. Three sets of transparent drawings for each survey;
B. Three sets of computer sheet printouts or calculation sheets for dredging quantities for each survey; and
C. Three sets of cross-sections for each survey.

The Contractor shall submit for each survey, the ASCII file of raw and corrected survey data. Data shall be on 3 1/2" (1.44 MB) disks, operating under MSWindows 2000 or newer version. The files shall have hydrosurvey information, in both raw and adjusted format. The raw data shall be original data from the hydrosurvey computer. The adjusted data shall be corrected to National Ocean Survey NGVD datum. The record of raw data shall be comma delimited and consist of the following information: index, "x" coordinate; "y" coordinate; "z" elevation; and time. Each adjusted record shall consist of the following information: index; "x" coordinate; "y" coordinate; "z" elevation; time; and tide. The index shall be the first entry, representing the sequence that each point was taken. The index shall be numerical, beginning with the number "one" and continuing until a 24 hour work effort is completed. Each day shall be in one file (one or more disks). This convention is applicable for both raw and adjusted data. Time shall be reported in Gregorian day and military hours and seconds. (For example, "17 March 2001, 9:00 a.m." would be "170301, 090000"). The recording distance between the hydrosurvey points shall be 3 meters or less. All data recorded shall be in ASCII test. Other data collection formats will be considered if presented by the Contractor. Revisions in collection format will not be considered after the project has begun. All alternatives shall be approved by the Engineer.

The Contractor shall provide a complete listing of hydrographic equipment to be used on the project prior to the survey conference specified herein below.

At least five calendar days prior to performing any survey, the person responsible for that survey, the Contractor's chief surveyor and/or the independent surveyor, shall meet with the Engineer in a survey conference to outline the scope of survey and section interval. No survey work shall be performed until such conference has taken place.

The Department will retain an amount equal to 5 percent of the estimated value of the associated item of work performed during each estimate period in which the Contractor fails to complete the hydrographic surveys.

MEASUREMENT AND PAYMENT

Full compensation for Dredging Operation Plan preparation and updating; preparing and implementing Solid Debris Management Plan; overflow and leakage monitoring; implementing air quality requirements; performing control and monitoring surveys; preparation of disposal site verification logs; implementing SMMP requirements; and performing hydrographic surveys including data collection and preparation of drawings, cross-sections and calculations shall be considered as included in the contract prices paid for the items of work involved and no additional compensation will be allowed therefor.

10-1.24A MARINE PILE DRIVING ENERGY ATTENUATOR

This work shall consist of designing, furnishing, installing, operating, monitoring, maintaining, and removing an air bubble curtain system to attenuate underwater energy generated by driving 2.5 meter cast-in-steel shell concrete piling. For purposes of this specification, pile installation refers to the all activities involved with driving a single pile; pile driving refers to the time when the hammer is physically driving the pile.

Attention is directed to "Relations with United States Coast Guard," of these special provisions regarding navigation requirements.

Attention is directed to "Order of Work," of these special provisions regarding redriving of existing test piles.

The approved attenuator system shall be operating prior to beginning pile driving at any given pile location, including redriving of existing test piles. If the attenuator fails, as determined by the Engineer, pile driving shall immediately stop. Piling driving at any given location shall not resume until the attenuator system at that location is again operating in conformance with the requirements of this section, as determined by the Engineer.

At the Contractor's option, cofferdams that conform to the following requirements may be used as a marine pile driving energy attenuator:

A. Cofferdams shall be continuous (no openings in the sides).
B. Cofferdams shall be made of concrete or steel members.
C. Cofferdams shall extend from Mean Higher High Water to at least 0.5 meters below the original mudline.
D. Cofferdams shall be dewatered prior to pile driving.

GENERAL

An air bubble curtain system is generally composed of an air compressor(s), supply lines to deliver the air, distribution manifolds or headers, perforated aeration pipes, and a frame. The frame facilitates transport and placement of the system, keeps the aeration pipes stable, and provides ballast to counteract the buoyancy of the aeration pipes in operation.

Air bubble curtain system shall conform to the following:

A. Air bubble system shall consist of multiple and concentric layers of perforated aeration pipes stacked vertically in accordance with the following:

Water Depth (m)	No. of Layers
0 to less than 5	1
5 to less than 10	2
10 to less than 15	3
15 to less than 20	4
20 to less than 25	5

B. Pipes in any layer shall be arranged in a geometric pattern, which shall allow for the pile driving operation to be completely enclosed by bubbles for the full depth of the water column and for a radial dimension of at least 2 meters as measured from the outside surface of the pile.
C. The lowest layer of perforated aeration pipes shall be designed to ensure contact with the mudline without sinking into the bay mud.
D. The system shall provide a bubble flux of 3.0 cubic meters per minute per linear meter of pipe in each layer. Air holes shall be 1.6 mm in diameter and shall be spaced approximately 20 mm apart. Air holes shall be placed in four adjacent rows along the pipe to provide uniform bubble flux.
E. Meters shall be provided in accordance with the following:

    1. Pressure meters shall be installed at all inlets to aeration pipelines and at points of lowest pressure in each branch of the aeration pipeline.
    2. Flow meters shall be installed in the main line at each compressor and at each branch of the aeration pipelines at each inlet.

Gauges shall be installed above the water line and shall be easily accessible to the Engineer. The Contractor shall keep a continuous log of all meters when the system is operating. Readings shall be logged every 30 minutes and at other times, as determined by the Engineer, when variation in the readings exceed 10%. The Contractor shall maintain a graphical plot showing the variation of the meter readings with time.

Operating values for pressure and flow rates will be established by the Engineer during redriving of the existing piles. If the pressure or flow rate in any meter falls below 90% of its operating value, the Contractor shall cease pile driving operations until the problem is corrected and the system is tested to the satisfaction of the Engineer.

Air pressure and air flow meters and gauges shall be calibrated by a private laboratory approved by the Engineer prior to use in the attenuator system. Meters shall be accurate to within 2 percent.

The Contractor shall monitor the condition of the attenuator system and prepare inspection reports daily during pile installation operations and no less than every other day during periods of no activity.

The Contractor's design, installation, maintenance, monitoring, operation and removal of the attenuator system shall take into account the site conditions and the requirements of pile installation. Factors to be taken into account include anchoring, moving, and dismantling the system; configuration of bay bottom; water velocity; water-surface conditions; air and water temperatures; and positioning of pile and pile-driving equipment relative to the bubble curtain system.

Water velocity at the site is expected to vary from zero to 2 knots and vary in direction due to changes in tidal flow. The design of the system shall ensure that the system extends from bay bottom to the water surface during maximum water-current conditions and accommodates tidal changes.

The pile-driving barge shall be isolated from the noise-producing operations. This isolation shall be such that noise from the pile driving operation is not transmitted through the barge to the water column. The barge deploying or containing the pile-driving equipment is not required to be contained within the system.

The Contractor shall completely remove the attenuator system at the completion of the project and the system will remain the property of the Contractor.

WORKING DRAWINGS

The Contractor shall submit working drawings with supplement for the attenuator system to the Engineer for approval in conformance with the provisions in "Working Drawings," of these special provisions, except as otherwise noted.

Working drawings with supplement shall be signed by a Mechanical Engineer who is registered in the State of California. Working drawings shall include the following:

A. Complete details of the system including mechanical and structural details.
B. Details of anchorage components, air compressors, supply lines, distribution manifolds, aeration pipes and frame.
C. Details of proposed means of isolating noise-producing systems on the pile-driving barge.
D. Details of meters, gauges, and recording devices.

The supplement to the working drawing shall include the following:

A. Independently checked design calculations.
B. Materials list including the name of the manufacturer and the source, model number, description, and standard of manufacture.
C. Manufacturer's descriptive data and catalog cuts for all products proposed for the system including air compressors.
D. Calculations showing pressure loss in the piping system and estimated flows from the most removed orifice of the aeration piping.

Within 40 working days after the approval of the contract, the Contractor shall submit working drawings, with supplements, to the Engineer. The Contractor shall allow the Engineer 20 working days to review the working drawings. If revisions are required, as determined by the Engineer, the Contractor shall revise and resubmit the working drawings within 15 working days of receipt of the Engineer's comments. The Contractor shall allow the Engineer 10 working days to review the revised working drawings.

The Contractor shall submit inspection reports in conformance with "Working Drawings," of these special provisions within 48 hours following inspection.

MEASUREMENT AND PAYMENT

Attenuator systems will be measured and paid for at the lump sum price for marine pile driving energy attenuator.

The contract lump sum price paid for marine pile driving energy attenuator shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals and for doing all the work involved in marine pile driving energy attenuator, complete in place, including designing, maintaining, monitoring, recording, and removing the attenuator system, as specified in these special provisions, and as directed by the Engineer.

Full compensation for inspections and monitoring of the attenuator system and isolation of pile-driving barge from pile installation noise shall be considered as included in the contract lump sum price paid for marine pile driving energy attenuator and no additional compensation will be allowed therefor.

If the Contractor elects to use cofferdams for the marine pile driving energy attenuator, no additional compensation will be allowed and no extension of time will be granted for use of this option.

10-1.27 CONCRETE STRUCTURES

Portland cement concrete structures shall conform to the provisions in Section 51, "Concrete Structures," of the Standard Specifications and these special provisions.

The sixth paragraph in Section 51-1.09, "Placing Concrete," of the Standard Specifications is amended to read:

> •Vibrators used to consolidate concrete containing epoxy-coated bar reinforcement or epoxy-coated prestressing steel shall have a resilient covering to prevent damage to the epoxy-coating on the reinforcement or prestressing steel.

Section 51-1.17, "Finishing Bridge Decks," of the Standard Specifications is amended by deleting the thirteenth and fourteenth paragraphs.

The fourteenth paragraph in Section 51-1.23, "Payment," of the Standard Specifications is amended by deleting "and injecting epoxy in cracks".

Concrete mix designs for precast and cast-in-place concrete shall be submitted within 25 working days after Notice to Proceed.

Shotcrete shall not be used as an alternative construction method for reinforced concrete members.

Construction joints in precast concrete walls shall not be permitted.

The concrete temperature during curing shall not exceed 65°C.

The Contractor shall submit the creep and shrinkage test results to the Engineer for proposed mixture. These tests shall conform to ASTM Designation C512 and shall be conducted within 6 months of the review and acceptance by the Engineer of the concrete mixes and in 6 months intervals thereafter. The test results shall be submitted in both printed form and electronic media. Electronic media shall be presented in a tab-delimited format on 90 mm diskette with a capacity of at least 1.4 megabytes. The Engineer will notify the Contractor in writing when the creep and shrinkage test results have been determined to be complete. After the creep and shrinkage test results have been received, the Contractor shall allow the Engineer 25 working days to review the submittal. Superstructure concrete shall not be placed until the Engineer reviews and approves the test results. Creep and shrinkage cylinders shall be retained and the test results shall be reported at age after loading of 365 days.

The Contractor shall take all precautions necessary to minimize cracking of the precast concrete elements. Crack repair in precast concrete segments and precast lightweight concrete panels shall conform to “Furnish Precast Concrete Segment,” subsection “Damaged or Defective Segments,” elsewhere in these special provisions.

Precast concrete walls and precast concrete fender modules at the footings will be jointly inspected by the Engineer and the Contractor after casting, after moving to storage, and before and after erection. Crack widths larger than 0.15 mm shall be repaired. Cracks longer than 300 mm shall be filled with pressure-injected epoxy. Cracks to be filled shall be cleaned and filled by pressure injection methods so that all portions of the crack are completely filled with epoxy. No repairs shall begin until the Engineer has approved the repair plan.

The Contractor shall place the footing concrete and pier access casing concrete in a dewatered condition. Prior to placement of concrete for a footing or pier access casing, the Contractor shall wash (with fresh water) the previously placed concrete and steel. The wash water shall be disposed in conformance with the requirements in “Non-Storm Water Discharges” of these special provisions.

At the Contractor's option, precast concrete footing walls may be cast-in-place. If said walls are cast-in-place, the Contractor shall provide dry access so that the Engineer can inspect the footing walls.

Cementitious material content for pile concrete shall be 300 kg/m^3 minimum. The cement content for pile concrete shall be 65 percent and the mineral admixture content shall be 35 percent of the cementitious material content.

The 28-day compressive strengths shown on the plans for pile concrete shall be a requirement for acceptance of the concrete.

MASS CONCRETE

Portions of structure that are mass concrete include piles, pile cap structural concrete (except lightweight concrete), pier columns, pier table diaphragms, and pier table soffits. Mass concrete shall conform to the requirements of Section 90, "Portland Cement Concrete," of the Standard Specifications and “Concrete Structures” of these special provisions. Mass concrete construction shall include modeling, providing temperature control and monitoring during placement.

After the mass concrete pour has been topped out and finished, it shall be revibrated and refinished. Revibration shall extend below the top mat of reinforcement and shall be done as late as the concrete will again respond to vibration. For concrete pours without top reinforcement, revibration shall extend to a depth of 150 mm.

The Contractor shall control the internal and surface temperature of mass concrete during curing in accordance with the Thermal Control Plan specified herein. Temperature modeling and temperature monitoring shall be required for the placement of mass concrete. The maximum internal temperature of the mass concrete once placed shall not exceed 65°C and the maximum temperature difference between any surface of the mass concrete and the calculated hottest point will be controlled as described in the Thermal Control Plan.

The concrete temperature shall be monitored by thermocouples placed into the concrete, as required in the Thermal Control Plan. Use of ice, liquid nitrogen, insulated curing blankets, insulated forms, cooling pipes and other measures may be necessary to satisfy the temperature requirements.

Thermal Control Plan.—For each mass concrete structure component, prior to commencing any mass concrete placement, the Contractor shall submit a Thermal Control Plan to the Engineer for approval. The Thermal Control Plan shall be based on the design assumption that cracking of the concrete as a result of heat of hydration shall not occur. Analysis shall be performed to determine the maximum allowable temperature differentials between the hottest point of the concrete and the exterior faces. The Thermal Control Plan shall include the following:

A. The length and method of curing.
B. The procedures to control maximum concrete temperature at time of placement.
C. The report of thermal modeling, temperature sensor types and locations.
D. Data acquisition method.
E. Proposed method of controlling temperature differentials.
F. Provisions for field measures to ensure meeting the maximum concrete temperature and temperature differentials requirements.
G. Mix design.

Concrete temperatures shall be monitored at the calculated hottest point of concrete, on at least two outer faces, on at least two corners, on the top surface, and for pile caps, at the geometric center of the bottom face of the concrete pour. The air temperature shall also be recorded. Temperature readings shall be automatically recorded on an hourly basis. A redundant set of sensors shall be installed near the primary set. Provision shall be made for recording the redundant set, but records of the redundant sensors need not be made if the primary set is operational. Temperature monitoring may be discontinued when the maximum allowable temperature difference is greater than the difference between the interior concrete temperature and the average daily temperature for three consecutive days. Wiring from thermocouples that must be cast into the concrete shall be protected to prevent damage. Wire runs shall be as short as possible. Temperature monitoring equipment shall be capable of printing and data storage and shall be able to download monitoring data to a computer. Data shall be downloaded and submitted daily to the Engineer. During monitoring, should the specified maximum internal temperature of the mass concrete be exceeded or the maximum allowable temperature difference between any surface of the mass concrete and the hottest point be exceeded, the Contractor shall take immediate measures to correct the situation as specified in the Thermal Control Plan. Failure to meet the temperature requirements of the specifications and the Thermal Control Plan will be cause for rejection of the concrete.

The Contractor shall remove all equipment and materials from the mass concrete element and clean the surface for the Engineer to measure the crack intensity. Surface crack intensity will be determined after monitoring shows the maximum internal temperature has dropped to within 5°C of the outer concrete temperature. Cracking shall be considered excessive if a surface crack intensity on any face of a concrete surface where cracks greater than 0.15 mm in width measure more than 1.0 m in cumulative length within any 2 m square area or where individual cracks greater than 0.15 mm in width measure more than 300 mm in length.

In case of excessive cracking, the Contractor shall suspend further work on members of similar size and configuration, submit a written explanation of the thermal cracking and additional steps to be taken in future to eliminate excessive cracking, and submit proposed modifications in writing to the Engineer for review. Concrete placement may not resume until the Engineer approves the proposed modifications.

Cracks greater than 0.15 mm in width shall be repaired. Cracks greater than 0.15 mm in width and longer than 300 mm shall be filled with pressure-injected epoxy. Cracks to be filled shall be cleaned and filled by pressure injection methods so that all portions of the crack are completely filled with epoxy.

Core drilling may be necessary, as determined by the Engineer and at the Contractor's expense, to sample and examine the extent of the cracking and crack filling. The minimum depth of core sampling for mass concrete shall be 0.6 m and the number of cores taken per mass concrete element shall be in accordance with ASTM Designation: C 823. Prior to coring, the Contractor shall identify the location of the main reinforcing steel. The holes shall be cored by methods that will not shatter or damage the concrete adjacent to the holes. Water for core drilling operations shall be fresh water . The coring water shall be disposed in conformance with the requirements in "Non-Storm Water Discharges" of these special provisions. Immediately after coring, the concrete cores shall be identified by the Contractor with a description of the core locations and submitted to the Engineer for inspection.

If any reinforcement is cut during coring, coring operations shall be terminated, and the Contractor shall submit to the Engineer for approval, the procedure proposed to repair the cut reinforcement and to prevent further cutting of reinforcement. All cored holes shall be filled with nonshrink grout. Cracks not showing full penetration with epoxy shall be reinjected.

Demonstration Pours.—The Contractor shall cast at least one mock-up for the pier and the pier table diaphragm as shown on the plans to demonstrate adequacy of hydration and thermal properties of concrete predicted by the Thermal Control Plan. The mock-ups shall demonstrate that the procedures defined in the Thermal Control Plan meet the performance criteria as specified in the Thermal Control Plan and these special provisions.

After the final Thermal Control Plans are submitted, the Contractor shall allow the Engineer 20 working days for review and approval.

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

FALSEWORK

Falsework shall conform to the provisions in Section 51, "Concrete Structures," of the Standard Specifications and these special provisions.

The first and second paragraphs in Section 51-1.06A, "Falsework Design and Drawings," of the Standard Specifications are amended to read:

· The Contractor shall submit to the Engineer working drawings and design calculations for falsework proposed for use at bridges. For bridges where the height of any portion of the falsework, as measured from the ground line to the soffit of the superstructure, exceeds 4.25 m; or where any individual falsework clear span length exceeds 4.85 m; or where provision for vehicular, pedestrian, or railroad traffic through the falsework is made; the drawings shall be signed by an engineer who is registered as a Civil Engineer in the State of California. Six sets of the working drawings and 2 copies of the design calculations shall be furnished. Additional working drawings and design calculations shall be submitted to the Engineer when specified in "Railroad Relations and Insurance" of the special provisions.

· The falsework drawings shall include details of the falsework erection and removal operations showing the methods and sequences of erection and removal and the equipment to be used. The details of the falsework erection and removal operations shall demonstrate the stability of all or any portions of the falsework during all stages of the erection and removal operations.

The seventh paragraph in Section 51-1.06A, "Falsework Design and Drawings," of the Standard Specifications is amended to read:

· In the event that several falsework plans are submitted simultaneously, or an additional plan is submitted for review before the review of a previously submitted plan has been completed, the Contractor shall designate the sequence in which the plans are to be reviewed. In such event, the time to be provided for the review of any plan in the sequence shall be not less than the review time specified above for that plan, plus 2 weeks for each plan of higher priority which is still under review. A falsework plan submittal shall consist of plans for a single bridge or portion thereof. For multi-frame bridges, each frame shall require a separate falsework plan submittal.

Section 51-1.06A, "Falsework Design and Drawings," of the Standard Specifications is amended by adding the following paragraphs:

· If structural composite lumber is proposed for use, the falsework drawings shall clearly identify the structural composite lumber members by grade (E value), species, and type. The Contractor shall provide technical data from the manufacturer showing the tabulated working stress values of the composite lumber. The Contractor shall furnish a Certificate of Compliance as specified in Section 6-1.07, "Certificates of Compliance," for each delivery of structural composite lumber to the project site.

· For falsework piles with a calculated loading capacity greater than 900 kN, the falsework piles shall be designed by an engineer who is registered as either a Civil Engineer or a Geotechnical Engineer in the State of California, and the calculations shall be submitted to the Engineer.

The first paragraph in Section 51-1.06A(1), "Design Loads," of the Standard Specifications is amended to read:

· The design load for falsework shall consist of the sum of dead and live vertical loads, and an assumed horizontal load. The minimum total design load for any falsework, including members that support walkways, shall be not less than 4800 N/m^2 for the combined live and dead load regardless of slab thickness.

The eighth paragraph in Section 51-1.06A(1), "Design Loads," of the Standard Specifications is amended to read:

· In addition to the minimum requirements specified in this Section 51-1.06A, falsework for box girder structures with internal falsework bracing systems using flexible members capable of withstanding tensile forces only, shall be designed to include the vertical effects caused by the elongation of the flexible member and the design horizontal load combined with the dead and live loads imposed by concrete placement for the girder stems and connected bottom slabs. Falsework comprised of individual steel towers with bracing systems using flexible members capable of withstanding tensile forces only to resist overturning, shall be exempt from these additional requirements.

The third paragraph in Section 51-1.06B, "Falsework Construction," of the Standard Specifications is amended to read:

· When falsework is supported on piles, the piles shall be driven and the actual bearing value assessed in conformance with the provisions in Section 49, "Piling."

Section 51-1.06B, "Falsework Construction," of the Standard Specifications is amended by adding the following paragraphs:

· For falsework piles with a calculated loading capacity greater than 900 kN, the Contractor shall conduct dynamic monitoring of pile driving and conduct penetration and bearing analyses based on a wave equation analysis. These analyses shall be signed by an engineer who is registered as a Civil Engineer in the State of California and submitted to the Engineer prior to completion of falsework erection.

· Prior to the placement of falsework members above the stringers, the final bracing system for the falsework shall be installed.

Section 51-1.06C, "Removing Falsework," of the Standard Specifications is amended by adding the following paragraph:

· The falsework removal operation shall be conducted in such a manner that any portion of the falsework not yet removed remains in a stable condition at all times.

In addition to the provisions in Section 51-1.06A, "Falsework Design and Drawings," of the Standard Specifications, the time to be provided for the Engineer's review of the working drawings for specific structures, or portions thereof, shall be as follows:

Structure or Portion of Structure	Total Review Time - Weeks
Each Pier Table	12
Each Pier	4

Welding and Nondestructive Testing

Welding of steel members, except for previously welded splices and except for when fillet welds are used where load demands are less than or equal to 175 N/mm for each 3 mm of fillet weld, shall conform to AWS D1.1 or other recognized welding standard. The welding standard to be utilized shall be specified by the Contractor on the working drawings. Previously welded splices for falsework members are defined as splices made prior to the member being shipped to the project site.

Splices made by field welding of steel beams at the project site shall undergo nondestructive testing (NDT). At the option of the Contractor, either ultrasonic testing (UT) or radiographic testing (RT) shall be used as the method of NDT for each field weld and any repair made to a previously welded splice in a steel beam. Testing shall be performed at locations selected by the Contractor. The length of a splice weld where NDT is to be performed, shall be a cumulative weld length equal to 25 percent of the original splice weld length. The cover pass shall be ground smooth at the locations to be tested. The acceptance criteria shall conform to the requirements of AWS D1.1, Section 6, for cyclically loaded nontubular connections subject to tensile stress. If repairs are required in a portion of the weld, additional NDT shall be performed on the repaired sections. The NDT method chosen shall be used for an entire splice evaluation including any required repairs.

For all field welded splices, the Contractor shall furnish to the Engineer a letter of certification which certifies that all welding and NDT, including visual inspection, are in conformance with the specifications and the welding standard shown on the approved working drawings. This letter of certification shall be signed by an engineer who is registered as a Civil Engineer in the State of California and shall be provided prior to placing any concrete for which the falsework is being erected to support.

For previously welded splices, the Contractor shall determine and perform all necessary testing and inspection required to certify the ability of the falsework members to sustain the stresses required by the falsework design. This welding certification shall be in writing, shall be signed by an engineer who is registered as a Civil Engineer in the State of California, and shall be provided prior to placing any concrete for which the falsework is being erected to support.

The Contractor's engineer who signs the falsework drawings shall also certify in writing that the falsework is constructed in conformance with the approved drawings and the contract specifications prior to placing concrete. This certification shall include performing any testing necessary to verify the ability of the falsework members to sustain the stresses required by the falsework design. The Contractor's engineer who signs the drawings may designate a representative to perform this certification. The Contractor's engineer designated representative shall be qualified to perform this work, shall have at least three years of combined experience in falsework design or supervising falsework construction, and shall be registered as a Civil Engineer in the State of California. The Contractor shall certify the experience of the designated representative in writing and provide supporting documentation demonstrating the required experience if requested by the Engineer.

DECK CRACK TREATMENT

The Contractor shall use all means at the Contractor's disposal to eliminate or minimize the development of shrinkage cracks.

The Contractor shall remove all equipment and materials from the deck and clean the surface as necessary for the Engineer to measure the crack intensity. Surface crack intensity will be determined by the Engineer after completion of concrete cure, prior to prestressing, and prior to the release of falsework. In any 50-m^2 portion of deck within the limits of the new concrete deck, should the intensity of cracking be such that there are more than 5 m of cracks whose width at any location exceeds 0.5-mm, the deck shall be treated with methacrylate. The area of deck to be treated shall have a width that extends for the entire width of new deck inside the barrier rails and a length that extends at least 1.5 m beyond the furthest single continuous crack outside the 50-m^2 portion, measured from where that crack exceeds 0.5-mm in width, as determined by the Engineer.

Deck crack treatment shall consist of test sealing, and furnishing and applying methacrylate in conformance with the requirements of these special provisions. If grinding operation is required, deck treatment shall take place after grinding.

Prior to the start of deck treatment work, the Contractor shall submit for approval by the Engineer, a program for public safety associated with the use of methacrylate resin. The program shall identify materials, equipment, and methods to be used. The Contractor shall not perform deck treatment work, other than that specifically authorized in writing by the Engineer, until the program has been approved.

If the measures being taken by the Contractor are inadequate to provide for public safety associated with use of methacrylate resin, the Engineer will direct the Contractor to revise the operations and the public safety program. Directions for revisions will be in writing and will specify the items in which the Contractor's program is inadequate. No further deck treatment shall be performed until public safety measures are adequate, and a revised program for public safety has been approved.

The Engineer will notify the Contractor of the approval or rejection of any submitted or revised program for public safety associated with the use of methacrylate resin within 10 working days of receipt of the final submitted program.

The State will not be liable to the Contractor for failure to approve all or any portion of an originally submitted or revised program for public safety associated with the use of methacrylate resin, nor for any delays to the work due to the Contractor's failure to submit an acceptable program for public safety associated with the use of methacrylate resin. If the Engineer does not review or approve the program submitted by the Contractor within the time specified and if, in the opinion of the Engineer, the Contractor's controlling operation is delayed or interfered with by reason of the delay in reviewing the program for public safety, the delay will be considered a right of way delay in conformance with the provisions in Section 8-1.09, "Right of Way Delays," of the Standard Specifications.

Materials

The material used for treating the deck shall be a low odor, high molecular weight methacrylate resin. Prior to adding initiator, the resin shall have a maximum volatile content of 30 percent when tested in conformance with the requirements in ASTM Designation: D 2369, and shall conform to the following:

PROPERTY	TEST METHOD	REQUIREMENT
Viscosity mPa·s, maximum, (Brookfield RVT with UL adaptor, 50 RPM at 25°C)	ASTM D 2196	0.025
Specific Gravity minimum, at 25°C	ASTM D 1475	0.90
Flash Point °C, minimum	ASTM D 3278	82
Vapor Pressure mm Hg, maximum, at 25°C	ASTM D 323	1.0
Tack-free time minutes, maximum at 25°C	California Test 551	400
PCC Saturated Surface-Dry Bond Strength MPa, minimum at 24 hours and 21±1°C	California Test 551	3.5
* Test shall be performed prior to adding initiator.		

A Material Safety Data Sheet shall be furnished prior to use for each shipment of high molecular weight methacrylate resin.

The promoter and initiator, if supplied separately from the resin, shall not be mixed directly with each other. Containers of promoters and initiators shall not be stored together in a manner that will allow leakage or spillage from one to contact the containers or material of the other.

Testing

The Contractor shall allow 14 days for sampling and testing by the Engineer of the high molecular weight methacrylate resin prior to proposed use.

The Contractor shall treat a test area within the project limits of approximately 50 m^2 at a location approved by the Engineer. Conditions during the test treatment shall be similar to those expected on the deck. Equipment used in the test shall be similar to those used for the deck treating operations. If the test area is on the traveled way, traffic shall not be allowed on the treated test area until (1) the treated surface is tack free (non-oily), (2) the sand cover adheres sufficiently to resist brushing by hand, and (3) the coefficient of friction of the deck is at least 0.35 when tested in conformance with the requirements in California Test 342.

Should the above requirements for traffic use not be met, the Contractor shall suspend treating of bridge decks until another test area is treated and complies with the requirements.

Construction

Prior to deck treatment with methacrylate, the bridge deck surface shall be cleaned by abrasive blasting and all loose material shall be blown from visible cracks using high-pressure air. Concrete curing seals shall be cleaned from the deck surface to be treated, and the deck shall be dry when blast cleaning is performed. If the deck surface becomes contaminated at any time prior to placing the penetrating sealer, the deck surface shall be cleaned by abrasive blasting.

Equipment shall be fitted with suitable traps, filters, drip pans, or other devices as necessary to prevent oil or other deleterious material from being deposited on the deck.

Where abrasive blasting is being performed within 3 m of a lane occupied by public traffic, the residue including dust shall be removed immediately after contact between the abrasive and the surface being treated. The removal shall be by a vacuum attachment operating concurrently with the abrasive blasting operation.

The relative humidity shall be less than 90 percent at time of treatment.

A compatible promoter/initiator system shall be capable of providing a resin gel time of not less than 40 minutes nor more than 1.5 hours at the temperature of application. Gel time shall be adjusted to compensate for the changes in temperature throughout treatment application.

The quantity of resin mixed with promoter and initiator shall be limited to 20 L at a time for manual application.

Machine application of the resin shall be performed by using a two-part resin system using a promoted resin for one part and an initiated resin for the other part. This two-part resin system shall be combined at equal volumes to the spray bars through separate positive displacement pumps. Combining of the 2 components shall be by either static in-line mixers or by external intersecting spray fans. The pump pressure at the spray bars shall not be great enough to cause appreciable atomization of the resin. Compressed air shall not be used to produce the spray. A shroud shall be used to enclose the spray bar apparatus. Hand held spray apparatus shall not be used.

The Contractor shall allow methacrylate to be applied only to the specified area. Barrier rails, joints, and drainage facilities shall be adequately protected to prevent contamination by the treatment material. Contaminated items shall be repaired at the Contractor's expense.

The prepared area shall be dry and the surface temperature shall be less than or equal to 38°C when the resin is applied. The rate of application of promoted/initiated resin shall be approximately 2.5 square meters per liter, ± 0.1 square meter per liter.

The deck surfaces to be treated shall be flooded with resin, allowing penetration into the concrete and filling of all cracks. The treatment shall be applied within 5 minutes after complete mixing. A significant increase in viscosity shall be cause for rejection. Excess material shall be redistributed by squeegees or brooms within 10 minutes after application.

After the resin has been applied, at least 20 minutes shall elapse before applying sand. The sand shall be commercial quality dry blast sand. Ninety-five percent of the sand shall pass the 2.36-mm sieve, and 95 percent shall be retained on the 850-µm sieve. The sand shall be applied at a rate of one kilogram per square meter, ± 0.1 kilogram per square meter.

Excess sand shall be removed from the deck surface by vacuuming or sweeping prior to opening to traffic.

Traffic shall not be allowed on the treated test area until (1) the treated surface is tack free (non-oily), (2) the sand cover adheres sufficiently to resist brushing by hand, and (3) the coefficient of friction of the deck is at least 0.35 when tested in conformance with the requirements in California Test 342.

10-1.56 BRIDGE DECK DRAINAGE SYSTEM

This work shall consist of furnishing and installing bridge deck drainage system as shown on the plans, in accordance with the provisions in Section 75, "Miscellaneous Metal," of the Standard Specifications, and these special provisions.

Attention is directed to "Welding" of these special provisions.

Self-tapping screws used for sleeve connections shall be hex-head stainless steel, installed in holes drilled to fit the self-tapping screws, conforming to the requirements of ASTM Designation: A 276, Type 316.

Cast-in-place inserts shall be the ferrule loop type.

Metal parts of concrete anchorage devices and threaded rods shall be fabricated from stainless steel conforming to the requirements of ASTM Designation: A 276, Type 316.

Scuppers shall be fabricated steel scuppers as shown on the plans.

After galvanization of the scupper, all inside surfaces shall be coated with bridge deck membrane waterproofing.

Inlet gratings shall be ductile iron castings. The bearing surface of the inlet gratings shall be machined so that the grating has a full and even bearing on the scupper, and shall fit into the scupper without rocking.

All pipe and pipe fittings shall be welded and galvanized steel pipe.

Pipe brackets and supports shall conform to the requirements of ASTM Designation: A-575, Grade 1015 and 1020. Supports for horizontal and vertical piping shall be spaced as shown on the plans.

Prior to acceptance of the system, the system shall be flushed out and tested to insure that it is flowing at full capacity. Any obstruction preventing the free flow of drainage or its operation at full capacity shall be removed.

MEASUREMENT AND PAYMENT.—Bridge deck drainage system will be measured and paid for as lump sum.

The contract price paid lump sum for bridge deck drainage system shall include full compensation for furnishing all labor, materials, tools, equipment and incidentals, and for doing all the work involved in furnishing and installing bridge deck drainage system, complete in place, as shown on the plans, as specified in the Standard Specifications and these special provisions, and as directed by the Engineer.

10-1.72 PHOTO SURVEY OF EXISTING NON-HIGHWAY FACILITIES

This work shall consist of performing photo survey, elevation survey and crack monitoring of existing buildings at the west end of the Oakland Mole which might be damaged by the operations of the Contractor. In addition, this work shall include installing survey hubs on Burma Road and the existing Caltrans Maintenance Road.

The Contractor shall install a total of 10 survey hubs on the existing curb along Burma Road and the existing Caltrans Maintenance Road. The Engineer will determine the exact location of the survey hubs at the time of the construction.

The photo survey, elevation survey and crack monitoring shall be conducted at the following buildings or as directed by the Engineer:

A. Key Pier Substation
B. Bay Bridge Substations
C. PG&E Substation
D. Pacific Bell Switching Station
E. EBMUD Outfall Structure
F. EBMUD Declorination Facility

The pre-construction survey and monitoring shall be performed at least 30 calendar days prior to beginning excavation, demolition activity, pile driving activity, shoring, installation, or other significant impact work that has a potential to cause damage to existing facilities that occurs within 60 meters of the listed facilities. Additional survey and monitoring shall be performed as the work progresses and as directed by the Engineer. A post construction survey and monitoring shall be performed on the same facilities within 10 calendar days after the completion of excavation, demolition activity, pile activity, shoring installation, or other significant impact work that has a potential to cause damage to existing facilities.

The Contractor shall submit to the Engineer for approval a complete description of the work to be completed for each of the surveyed locations and existing facilities. The work to be completed shall consist of records of observations, videotapes, and photographs.

The Contractor shall notify the Engineer 48 hours prior to beginning the photo and elevation survey and crack monitoring work.

The scope of the examination for photo survey shall consist of photographic and video recording of the conditions of the facilities specified above.

The photo survey shall show the condition of the facility, including, but not limited to, any and all deficiencies in the facility such as cracks, settlement, leakage, distress and the like. The photo survey shall document the condition of the foundation walls, ceiling, roof, improvements and other building elements on the interiors and exteriors of the listed facilities.

The photograph prints shall be in color, and have a printed image size of at least be 130 mm x 180 mm (5" x 7"). All prints shall be on glossy photographic paper. Proof sheets, thumbnail prints, or contact prints are not acceptable. All negative shall be provided in protective sleeves. The negatives shall be indexed to facilitate expeditious reproduction. All photos shall be identified by date, location, orientation, and labeled with a detailed description. All photos shall be submitted in a 3-ring binder and shall include the following: protective photo sleeves, building layout (including layout of each floor as necessary), and a summary sheet indexing all photos.

The digital camera shall be color and shall have a minimum resolution of 1280 x 960 pixels or defined as "megapixel." Digital photo prints shall be on either dye sublimation printer capable of color fusion and continues tone, a color laser printer capable of printing l200 x l200 dots per inch (dpi), or a professional graphics color inkjet printer capable of printing 1440 x 720 dpi and using six separate color reservoirs. All digital prints shall utilize photo quality glossy heavy weight paper (as defined by the printer manufacturer and as approved by the Engineer). All digital prints shall be printed at the highest print mode or print quality available to the approved printer (photo mode or best print quality). The digital prints shall also include the path name (folder and subfolder names) and file name of the picture location on the photo CD-ROM. All digital photos saved on CD-ROM shall be saved in the JPEG file format. The image quality option of the JPEG file shall be set to high. The JPEG files should be stored in separate folders based on photo location. The CD-ROM shall be submitted to the Engineer as part of the photo survey submittal.

The contractor shall include a letter of authenticity certifying the that every digital photo image in the photo survey submittal has not been modified using photographic software. This letter shall be included with every photo survey submittal.

The Contractor shall submit a list of digital photo equipment proposed for use, including digital cameras, photographic software, photo printers and photo quality glossy heavyweight paper. The submittal shall include actual recent samples of digital photos taken with the proposed camera and printed with the proposed printer. The photos shall be printed to the highest quality on the required photo quality glossy heavyweight paper.

The contractor shall videotape the foundation, floors, walls, ceilings, roof, improvements and all building elements inside and outside the specified facilities as part of the photo survey.

The video recording shall show the condition of the facility, including, but not limited to, any and all deficiencies in the facility such as cracks, settlement, leakage and distress. The video tape recording shall be narrated contemporaneously by the camera operator, documenting the location, orientation, time and date of the scene. The narration may be supplemented by onscreen text either generated by the camera or by other methods approved by the Engineer. The video survey shall be conducted using premium grade VHS color tape and shall be recorded in the Standard Play (SP) mode. All video tape recording shall be made to the highest quality and standards. No more than one facility shall be recorded on a single videotape. The contractor shall submit the original, unedited video recording to the engineer. Copies of the video shall be professionally made and shall not incur signal degradation during copying.

A written report of the record of observations shall also be submitted with the videotape. The written report shall include the date and time of the recording and the location of the facility in question. The report shall also include a table listing the anomalies with a detailed description, and orientation. The table shall also list the beginning and the ending times of the videocassette counter for each anomaly recorded on the videotape.

Crack monitoring shall be made on all existing cracks in each of the facilities included in this survey and shall be performed concurrent with the photo survey. The gage installation shall be done concurrent with the pre-construction photo survey. Crack monitoring shall be performed using, a calibrated crack monitoring device approved by the Engineer. The crack gage shall be capable of measuring cracks to the nearest millimeter. The location of the crack gauges shall be identified in the pre-construction survey report.

Cracks shall be monitored monthly during the pre-construction photo survey and weekly throughout the duration of any work that has a potential to cause damage to the existing facilities. The crack gauge measurements shall be recorded at the same time each day in an effort to eliminate deviations in crack magnitude due to heat fluctuations. A report detailing such readings shall be provided to the Engineer on a monthly basis.

The elevation survey shall be conducted to obtain vertical elevations of existing buildings, foundations and other improvements. A minimum of three points shall be monitored at each facility. Elevation measuring equipment shall be of a type approved by the Engineer. Such equipment shall be capable of measuring changes in elevations to the nearest 0.13 mm.

The elevation survey shall be performed by a Professional Land Surveyor registered in the State of California.

Three calendar days prior to beginning any impact work, the Contractor shall document elevations of the required points per facility. During the significant impact work, the Contractor shall document the elevations of the points daily. After the impact work is complete for the specified location, the Contractor shall document the elevations on a daily basis for two days. If there is variation in elevation of a 3 mm or more, the impact work shall be halted, and the Engineer shall be immediately notified. If the work is halted due to fluctuations in elevation the Contractor shall modify their operations to eliminate future fluctuations in elevations, at no cost to the state.

Within 20 working days after the completion of any impact work, the Contractor shall submit to the Engineer a report documenting the results of the survey. Each facility shall have a separate report. The report shall be signed by a Professional Land Surveyor registered in the State of California. The report shall include the location of the monitoring points, including the address of the facility surveyed and the building layout. A general layout plan shall be included in the report showing the elevations, dimensions and distances of the monitoring locations.

Survey hubs should be surveyed in x, y, and z directions and they should be surveyed every other week and as directed by the Engineer.

The photographs, videotapes, and reports of all observations shall be prepared in triplicate by the Contractor and the authorized representatives of the State and of the Contractor shall sign every document.

The pre-construction survey records and the documentation specified above shall be submitted to the Engineer prior to commencement of any significant impact work as defined above. The Engineer shall have 5 working days to review the submittal for adequacy. No work shall take place until the Engineer approves the pre-construction survey records.

The package of the post-construction survey documents shall be submitted within 10 working days after the impact work has been completed adjacent to each of the specified facilities.

The photo survey package may be submitted in portions based on Stage Construction, if in the opinion of the Engineer, detrimental actions can be avoided in the subsequent stages. The submittal package shall include all records, documents, photos, videotapes, and observations. The Engineer shall have five working days to review the submittal for adequacy.

Records in triplicate of all observations shall be prepared by the Contractor and every document shall be signed by the authorized representatives of the State and of the Contractor. Video tapes and photographs, as deemed advisable by the Engineer will be made by the Contractor and signed in the manner specified above. One signed copy of every document and photograph will be kept on file by the Engineer.

The above referenced records, video tapes, and photographs are intended for use as indisputable evidence in ascertaining the extent of any damage which may occur as a result of the Contractor's operations. The above-referenced records, video tapes, and photographs are for the protection of the adjacent property owners, the Contractor, and the State. These records will be used to determine any damage from the Contractor's operations during the work.

Attention is directed to Sections 7-1.11, "Preservation of Property," and 7-1.12, "Indemnification and Insurance," of the Standard Specifications. The Contractor will immediately inform the Engineer in writing, of any damage to these and other facilities.

MEASUREMENT AND PAYMENT

The contract lump sum price paid for photo survey of existing facilities shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals, and for doing all the work involved in photo survey and elevation survey of existing facilities, crack monitoring, and survey hubs as specified in the Standard Specifications and these special provisions, and as directed by the Engineer.

The Engineer may order photo surveys, elevation surveys and crack monitoring of existing facilities other than those facilities listed under "Photo and Elevation Survey and Crack Monitoring," Photo surveys, elevation surveys and crack monitoring of existing facilities other than those facilities listed under "Photo and Elevation Survey and Crack Monitoring," will be paid for as extra work as provided in Section 4-1.03D of the Standard Specifications.

THE BIDDER'S EXECUTION ON THE SIGNATURE PORTION OF THIS PROPOSAL SHALL ALSO CONSTITUTE AN ENDORSEMENT AND EXECUTION OF THOSE CERTIFICATIONS WHICH ARE A PART OF THIS PROPOSAL

The bidder , proposed subcontractor , hereby certifies that he has , has not , participated in a previous contract or subcontract subject to the equal opportunity clauses, as required by Executive Orders 10925, 11114, or 11246, and that, where required, he has filed with the Joint Reporting Committee, the Director of the Office of Federal Contract Compliance, a Federal Government contracting or administering agency, or the former President's Committee on Equal Employment Opportunity, all reports due under the applicable filling requirements.

Notes:

- The above certification is required by the Equal Employment Opportunity Regulations of the Secretary of Labor (41 CFR 60-1.7(b) (1)), and must be submitted by bidders and proposed subcontractors only in connection with contracts and subcontracts which are subject to the equal opportunity clause. Contracts and subcontracts which are exempt from the equal opportunity clause are set forth in 41 CFR 60-1.5. (Generally only contracts or subcontracts of $10,000 or under are exempt.)
- Currently, Standard Form 100 (EEO-1) is the only report required by the Executive Orders or their implementing regulations.
- Proposed prime contractors and subcontractors who have participated in a previous contract or subcontract subject to the Executive Orders and have not filed the required reports should note that 41 CFR 60-1.7(b) (1) prevents the award of contracts and subcontracts unless such contractor submits a report covering the delinquent period or such other period specified by the Federal Highway Administration or by the Director, Office of Federal Contract Compliance, U.S. Department of Labor.

SMALL BUSINESS STATUS

Are you certified as a "Small Business" by the Office of Small Business Certification and Resources of the Department of General Services of the State of California ?

Please check one of the following: yes, no, unsure.

Note:

- This small business questionnaire is included for statistical reporting only, and your answer neither affects your bid on this contract, nor will it be cause for penalty.

Certification for Federal Aid Contracts

The prospective participant certifies, by signing and submitting this bid or proposal, to the best of his or her knowledge and belief, that:

A. No Federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of any Federal agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.

B. If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any Federal agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form-LLL, \"Disclosure of Lobbying Activities,\" in conformance with its instructions.

This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by Section 1352, Title 31, U.S. Code. Any person who fails to file the required certification shall be subject to a civil penalty of not less than $10,000 and not more than $100,000 for each such failure.

The prospective participant also agrees by submitting his or her bid or proposal that he or she shall require that the language of this certification be included in all lower tier subcontracts, which exceed $100,000 and that all such subrecipients shall certify and disclose accordingly.

ENGINEER'S ESTIMATE
04-012024

Item	Item Code	Item	Unit of Measure	Estimated Quantity	Unit Price	Item Total
1	021678	TRANSPORTATION FOR THE ENGINEER	LS	LUMP SUM	LUMP SUM	
2	021679	ENGINEER'S FIELD OFFICE	LS	LUMP SUM	LUMP SUM	
3	021680	ELECTRONIC MOBILE DAILY DIARY COMPUTER SYSTEM DATA DELIVERY	LS	LUMP SUM	LUMP SUM	
4	021681	TEMPORARY FENCE (TYPE ESA)	M	200		
5	021682	PHOTO SURVEY OF EXISTING BUILDINGS	LS	LUMP SUM	LUMP SUM	
6	070010	PROGRESS SCHEDULE (CRITICAL PATH)	LS	LUMP SUM	LUMP SUM	
7	070018	TIME-RELATED OVERHEAD	WDAY	1000		
8	048536	FURNISH TEMPORARY TOWER (LOCATION AE)	LS	LUMP SUM	LUMP SUM	
9	048537	FURNISH AND REMOVE TEMPORARY TOWER (LOCATION BE)	LS	LUMP SUM	LUMP SUM	
10	048538	FURNISH TEMPORARY TOWER (LOCATION CE)	LS	LUMP SUM	LUMP SUM	
11	048539	FURNISH TEMPORARY TOWER (LOCATION AW)	LS	LUMP SUM	LUMP SUM	
12	048540	FURNISH AND REMOVE TEMPORARY TOWER (LOCATION BW)	LS	LUMP SUM	LUMP SUM	
13	048541	FURNISH TEMPORARY TOWER (LOCATION CW)	LS	LUMP SUM	LUMP SUM	
14	120090	CONSTRUCTION AREA SIGNS	LS	LUMP SUM	LUMP SUM	
15	074019	PREPARE STORM WATER POLLUTION PREVENTION PLAN	LS	LUMP SUM	LUMP SUM	
16	074020	WATER POLLUTION CONTROL	LS	LUMP SUM	LUMP SUM	
17	021683	TEMPORARY CONCRETE WASHOUT FACILITY	LS	LUMP SUM	LUMP SUM	
18	021684	TURBIDITY CONTROL	LS	LUMP SUM	LUMP SUM	
19 (S)	153225	PREPARE CONCRETE BRIDGE DECK SURFACE	M2	97 600		
20	048542	JACK SUPERSTRUCTURE (FRAME E1)	LS	LUMP SUM	LUMP SUM	

REVISED PER ADDENDUM NO. 10 DATED DECEMBER 5, 2001

ENGINEER'S ESTIMATE
04-012024

Item	Item Code	Item	Unit of Measure	Estimated Quantity	Unit Price	Item Total
61 (S)	048580	MODULAR JOINT SEAL ASSEMBLY (HINGE DE)	M	25		
62 (S-F)	520102	BAR REINFORCING STEEL (BRIDGE)	KG	16 490 000		
63 (S-F)	520110	BAR REINFORCING STEEL (EPOXY COATED) (BRIDGE)	KG	9 110 000		
64 (S-F)	048581	HEADED BAR REINFORCEMENT	EA	140 500		
65 (F)	048582	FURNISH STRUCTURAL STEEL (ORTHOTROPIC BOX GIRDER)	KG	2 600 000		
66 (S-F)	048583	ERECT STRUCTURAL STEEL (ORTHOTROPIC BOX GIRDER)	KG	2 600 000		
67 (F)	048584	FURNISH STRUCTURAL STEEL (BRIDGE FOOTING)	KG	21 600 000		
68 (S-F)	048585	ERECT STRUCTURAL STEEL (BRIDGE FOOTING)	KG	21 600 000		
69 (F)	048586	FURNISH STRUCTURAL STEEL (PIPE BEAM)	KG	1 580 000		
70 (S-F)	048587	ERECT STRUCTURAL STEEL (PIPE BEAM)	KG	1 580 000		
71 (F)	048588	FURNISH STRUCTURAL STEEL (PIPE BEAM FUSE)	EA	20		
72 (F)	048589	FURNISH STRUCTURAL STEEL (BRIDGE BIKEPATH)	KG	3 290 000		
73 (S-F)	048590	ERECT STRUCTURAL STEEL (BRIDGE BIKEPATH)	KG	3 290 000		
74 (S-F)	048591	TRAVELER SUPPORT RAILS	KG	192 000		
75 (S)	048592	TRAVELER SCAFFOLD	LS	LUMP SUM	LUMP SUM	
76 (S)	048593	TRAVELER SCAFFOLD MECHANICAL	LS	LUMP SUM	LUMP SUM	
77	021685	SERVICE PLATFORMS	EA	26		
78	560218	FURNISH SIGN STRUCTURE (TRUSS)	KG	29 000		
79	560219	INSTALL SIGN STRUCTURE (TRUSS)	KG	29 000		
80	562004	METAL (RAIL MOUNTED SIGN)	KG	1650		