

**DEPARTMENT OF TRANSPORTATION****DIVISION OF ENGINEERING SERVICES**

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Be energy efficient!***\*\* WARNING \*\* WARNING \*\* WARNING \*\* WARNING \*\*****This document is intended for informational purposes only.**

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September 29, 2005

04-SF-80-13.2/13.9

04-0120F4

Addendum No. 2

Dear Contractor:

This addendum is being issued to the contract for construction on State highway in SAN FRANCISCO COUNTY IN SAN FRANCISCO FROM 0.6 KM TO 1.3 KM EAST OF THE YERBA BUENA 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 February 1, 2006.

This addendum is being issued to revise the Project Plans, the Notice to Contractors and Special Provisions, and provide supplemental materials information to the Information Handout.

Project Plan Sheets 11, 21, 22, 48 and 50 are revised. Half-sized copies of the revised sheets are attached for substitution for the like-numbered sheets.

In the Special Provisions, in the "NOTICE TO CONTRACTORS," the fourth paragraph is revised as follows:

"This project has a goal of 1 percent disabled veteran business enterprise (DVBE) participation."

In the Special Provisions, Section 2-1.03, "DVBE GOAL FOR THIS PROJECT," the first paragraph is revised as follows:

"The Department has established the following goal for Disabled Veteran Business Enterprise (DVBE) participation for this project:

Disabled Veteran Business Enterprise (DVBE): 1 percent."

In the Special Provisions, Section 2-1.055, "SMALL BUSINESS UTILIZATION," is added as follows.

**"2-1.055 SMALL BUSINESS UTILIZATION**

Contractors, subcontractors, suppliers and service providers who qualify are requested to apply for certification as a "Small Business" by submitting an application to the Department of General Services, Office of Small Business and DVBE Services, 707 3rd Street, West Sacramento, CA 95605 Telephone No. (916) 375-4940 or (800) 559-5529.

Attention is directed to the provisions of the Small Business Procurement and Contract Act, Government Code Section 14835 et seq., and Title 2, California Code of Regulations, Section 1896 et seq. regarding certification as a Small Business.

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By Executive Order Nos. D-37-01 the Governor has declared that the policy of the State is to promote the use and participation of Small Businesses Enterprises in the State contracting process. The Department has determined that it will promote a 2 percent Small Business participation level for this project. The Department desires to encourage the highest possible participation of Small Businesses to achieve the goals as stated in the Executive Orders."

In the Special Provisions, Section 5-1.13, "PROJECT INFORMATION," subsection "DISTRICT MATERIALS INFORMATION," listing A is revised as follows:

"A. Water Quality, Permits and Agreements:

1. California Regional Water Quality Control Board (RWQCB)
  - a. Order 01-120, October 17, 2001
  - b. Order R2-2002-0011, January 23, 2002
2. California Department of Fish and Game (CDFG), Permit No. 2081-2001-021-03, Issued November 19, 2001
3. United States Army Corps of Engineers (ACOE)
  - a. Permit No. 023014-0S, December 4, 2001
  - b. Permit No. 023014-0S, Letter of Modification, April 2, 2002
4. San Francisco Bay Conservation Development Commission (BCDC), Permit No. 8-01, Issued on November 20, 2001, As Amended through July 13, 2005
5. National Marine Fisheries Service (NMFS)
  - a. Biological Opinion and Incidental Take Statement, October 30, 2001
  - b. Incidental Harassment Authorization, November 4, 2003
  - c. Incidental Harassment Authorization Amendment, June 28, 2004
6. United States Fish and Wildlife Service (USFWS), Biological Opinion, October 29, 2001
7. United States Coast Guard (USCG)
  - a. Record of Decision and Bridge Permit 3-01-11, December 11, 2001
  - b. Memorandum of Agreement, June 21, 2002
  - c. Licenses DTCG-Z71111-03-RP-010L and DTCG-Z71111-03-RP-002L, December 23, 2002
  - d. License DTCG-Z71111-03-RP-002L, Amendment No. 1, May 14, 2003
8. Correspondence with Dredged Material Management Office (DMMO) regarding dredging, October 31, 2000, through November 21, 2001.

Updated versions of environmental permits can be found at the following website:  
[www.biomitigation.org](http://www.biomitigation.org)"

In the Special Provisions, Section 5-1.23, "PERMITS AND LICENSES," the second and third paragraphs are revised as follows:

"The Department has obtained permits and licenses from the following agencies for this project:

- A. California Regional Water Quality Control Board (RWQCB)
- B. U.S. Army Corps of Engineers (ACOE)
- C. San Francisco Bay Conservation Development Commission (BCDC)
- D. United States Coast Guard (USCG)
- E. California Department of Fish and Game (CDFG)
- F. United States Fish and Wildlife Service (USFWS)
- G. National Marine Fisheries Service (NMFS)

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Copies of these permits and licenses have been made on CD-ROMs as part of the information handout that is available to the Contractor, as specified in "Project Information," of these special provisions, or can be obtained at the Department of Transportation, Plans and Bid Documents Section, MS 26, 1120 N Street, Room 200, Sacramento, CA 95814, Telephone 916-654-4490 or may be seen and are available for inspection at the office of the Duty Senior, District 04 Office, 111 Grand Avenue, Oakland, CA 94612, email: duty\_senior\_district04@dot.ca.gov, telephone number (510) 286-5209."

In the Special Provisions, Section 5-1.28, "GENERAL MIGRATORY BIRD TREATY ACT," is replaced with Section 5-1.28, "GENERAL MIGRATORY BIRD PROTECTION," as attached.

In the Special Provisions, Section 5-1.29, "ENVIRONMENTAL WORK RESTRICTIONS," subsection "SPECIES OF CONCERN," the first and second paragraphs are revised as follows:

"Attention is directed to the existence of environmental work restrictions that require special precautions to be taken by the Contractor to protect the species of concern in conforming with the provisions in "General Migratory Bird Protection," of these special provisions.

The Contractor shall comply with the California Endangered Species Act, the Federal Endangered Species Act, the Federal Migratory Bird Treaty Act, Magnuson-Stevens Fishery Conservation and Management Act, and the Marine Mammal Protection act, which govern the protection of the American peregrine falcon, California least tern, California brown pelican, double-crested cormorant, western gull, nesting birds found on Yerba Buena Island, marine mammals, as well as the following fish species: herring, Central California Coast and Central Valley steelhead, Central Valley spring-run Chinook, Sacramento River winter-run Chinook, and Central California Coho salmon."

In the Special Provisions, Section 5-1.29, "ENVIRONMENTAL WORK RESTRICTIONS," subsection "SPECIES OF CONCERN," subsection "Pacific Herring," the first paragraph is revised as follows:

"Surveys and monitoring of Pacific herring spawning locations will be conducted by the State and others. Open water construction operations will not be allowed between December 1 and March 31 unless approval is granted by BCDC and the Engineer per the follow conditions:

- a. The open water construction operation was begun prior to December 1 of any year and could not be completed by the December 1 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 open water construction operations which occur between December 1 through March 31; and
- c. Open water construction 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 the operations may be resumed."

In the Special Provisions, Section 5-1.30, "ENVIRONMENTALLY SENSITIVE AREAS (GENERAL)," is revised as attached.

In the Special Provisions, Section 5-1.35, "RELATIONS WITH UNITED STATES COAST GUARD," is revised as attached.

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In the Special Provisions, Section 5-1.36, "RELATIONS WITH SAN FRANCISCO BAR PILOTS," the first paragraph is revised as follows:

"This project is located in the Bay of San Francisco, in which the Contractor's shipping vessels and waterborne operations may be under the jurisdiction of the San Francisco Bar Pilots. Attention is directed to Division 5, "Pilots for Monterey Bay and the Bays of San Francisco, San Pablo, and Suisun" of the California Harbors and Navigation Code. The Contractor shall have knowledge of and comply with the requirements of the California Harbors and Navigation Code."

In the Special Provisions, Section 10-1.01, "ORDER OF WORK," subsection "DESIGNATED PORTIONS OF WORK," subsection "Designated Portion of Work – Phase 4," the fifth paragraph is revised as follows:

"Attention is directed to "General Migratory Bird Protection," "Environmental Work Restrictions," and "Environmentally Sensitive Areas (General)," of these special provisions."

In the Special Provisions, Section 10-1.33, "CLEARING AND GRUBBING," the second paragraph is revised as follows:

"Attention is directed the provisions in "General Migratory Bird Protection," and in subsection "Species of Concerns," of "Environmental Work Restrictions," of these special provisions."

In the Special Provisions, Section 10-1.45, "CONCRETE STRUCTURES," subsection "CONCRETE CAP BEAM AND CROSSBEAM," is revised as follows:

**"CONCRETE CAP BEAM AND CROSSBEAM"**

The following tests shall be performed on concrete used in the first lift of the cap beam at Pier W2 and the crossbeam at Pier E2. Test results shall be submitted to the Engineer in writing within 10 days of test completion.

- A. Modulus of Elasticity: Modulus of elasticity testing shall be conducted in accordance with the requirements in California Test 522. The samples shall be moist-cured for 7 days, followed by air drying at 23°C and 50% relative humidity until test age. The modulus shall also be reported at 28, 90, and 365 days. Test specimens shall be 152 x 305 mm cylinders. Test results shall be based on the average of three test specimens at each age.
- B. Creep: Creep testing shall be conducted in accordance with the requirements in ASTM Designation C 512. Test specimens shall be 152 x 305 mm cylinders and shall be moist-cured for 7 days, followed by air drying at 23°C and 50% relative humidity. Test cylinders shall be loaded at 28 days to a stress of 20% to 40% of the 56-day design compressive strength shown on the plans but not less than 20% nor greater than 40% of the measured strength at 28 days. Creep tests shall continue until the test specimens have been loaded for 24 months. In addition to the measurements required by ASTM Designation: C 512, strain readings shall be taken after 15, 18, 21, and 24 months under load.
- C. Shrinkage: Shrinkage testing shall be conducted in accordance with the requirements in ASTM Designation: C 157. Sample size shall be 100 x 100 x 285 mm. Samples shall be moist-cured for 7 days followed by air drying at 23°C and 50% relative humidity. Shrinkage strain shall be calculated as the change in strain from the beginning of drying at 7 days. The test shall continue for an air storage period of 24 months. In addition to the measurements required by ASTM Designation: C 157, readings shall be taken at 18, 21, and 24 months of air storage.

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Concrete testing shall be performed by the Contractor's independent test laboratory. The laboratory shall be accredited or inspected for conformance to the requirements in ASTM Designation: C 1077 and approved by the Engineer. All testing shall be performed by ACI certified technicians.

The Contractor's proposed concrete mix design submittals shall include test results for ball penetration (or slump), air content, freshly mixed concrete unit weight, and the results of compressive strength at 1, 3, 7, 28, 56, and 90 days.

At the Contractor's option, shrinkage-reducing admixtures may be used."

In the Special Provisions, Section 10-1.45, "CONCRETE STRUCTURES," following subsection "CONCRETE CAP BEAM AND CROSSBEAM," subsection "SELF-CONSOLIDATING CONCRETE FOR PIER W2 CAP BEAM AND PIER E2 CROSSBEAM" is added as attached.

In the Special Provisions, Section 10-1.59, "STEEL STRUCTURES," subsection "FABRICATION," subsection "Shop Size" is revised as follows:

**"Shop Size**

The shop or yard shall be of sufficient size and shall have adequate facilities to permit checking and controlling of the alignment of the box girder and tower lifts before they are shipped to the site. Shop or yard size shall be sufficient to join one lift and one adjacent segment or any three contiguous segments, whichever is larger."

In the Special Provisions, Section 10-1.60, "CABLE SYSTEM," subsection "MATERIALS AND FABRICATION," subsection "Cable Wrapping Wire," the seventh and eighth paragraphs are revised as follows:

"The price quoted by the manufacturer for S-shaped cable wrapping wire is \$7.20 per kilogram. The manufacturer's charge for a technical supervisor shall be \$1,500 per person per day, and shall apply from the day of departure from Japan or China to the day of return back to Japan or China. The minimum charge for a technical supervisor shall be \$30,000 per trip. The daily allowance for a technical supervisor, including accommodations, shall be \$180 per person per day. The charge for round trip airfare between Japan and San Francisco, California, United States, shall be \$4,200 per person. The FOB location shall be International Port, Japan or China. Quoted prices are in United States dollars.

The prices quoted will be firm for all orders placed on or before December 31, 2006, provided delivery is accepted within 150 days after the order is placed. The total price will be increased five (5) percent per year for orders placed after December 31, 2006, provided delivery is accepted within 150 days after the order is placed. The above prices include Japanese and/or Chinese taxes, but do not include other taxes, freight, and insurance."

To Proposal and Contract book holders:

Attached is a copy of the supplemental materials information for the Information Handout in CD ROM format.

Inquiries or questions in regard to this addendum must be communicated as a bidder inquiry and must be made as noted in the NOTICE TO CONTRACTORS section of the Notice to Contractors and Special Provisions.

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. A copy of this addendum and 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](http://www.dot.ca.gov/hq/esc/oe/weekly_ads/addendum_page.html)**

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

#### **5-1.28 GENERAL MIGRATORY BIRD PROTECTION**

The Contractor shall protect migratory birds, their occupied nests, and their eggs as specified in these special provisions.

Nesting or attempted nesting by migratory birds is anticipated to occur between, but not limited to, December 1 and September 30.

The Federal Migratory Bird Treaty Act (16 U.S.C. 703 et seq.), Title 50 Code of Federal Regulations part 10, and California Department of Fish and Game Code Sections 3503, 3513, and 3800, protect migratory birds, their occupied nests, and their eggs.

The Federal and California Endangered Species Acts protect occupied and unoccupied nests of some threatened and endangered bird species.

When evidence of migratory bird nesting that may be adversely affected by construction activities is discovered, or when birds are injured or killed as a result of construction activities, the Contractor shall immediately stop work and notify the Engineer. Work shall not resume until the Engineer provides written notification that work may begin in this location.

When ordered by the Engineer the Contractor shall use exclusion devices or remove and dispose of partially constructed and unoccupied nests of migratory birds on a regular basis to prevent their occupation. Nesting prevention measures performed by the Contractor will be paid for as extra work as provided in Section 4-1.03D, "Extra Work," of the Standard Specifications.

A delay to the controlling item due to migratory birds or their nests will be considered a temporary suspension of work in accordance with the provisions in Section 8-1.05, "Temporary Suspension of Work," of the Standard Specifications. Adjustments will be made for delays that the Engineer determines are not due to the Contractor's failure to perform the provision of the contract in the same manner as for suspensions due to unsuitable weather in Section 8-1.05.

Nest removal activities shall not deposit in, permit to pass into, or place nest materials where they can pass into the waters of this state.

Penalties as used in this section, "General Migratory Bird Protection," shall include fines, penalties, and damages; whether proposed, assessed, or levied against the Department or the Contractor. Penalties shall also include payments made or costs incurred in settlement for alleged violations of applicable laws, regulations, or requirements. Costs incurred could include sums spent instead of penalties, in mitigation or to remediate or correct violations.

Notwithstanding any other remedies authorized by law, the Department may retain or withhold monies due the Contractor under the contract, in an amount determined by the Department, up to and including the entire amount of penalties proposed, assessed, or levied as a result of the Contractor's violation of Federal or State law, regulations or requirements. Funds may be retained by the Department until final disposition has been made as to the penalties. The Contractor shall remain liable for the full amount of penalties until such time as they are finally resolved with the entity seeking the penalties. Upon final disposition, the Department will inform the Contractor of the withheld amount.

### **5-1.30 ENVIRONMENTALLY SENSITIVE AREAS (GENERAL)**

#### **1. ENVIRONMENTALLY SENSITIVE AREAS**

Environmentally sensitive area (ESA) shall consist of areas within and near the limits of construction where access is prohibited or limited for the preservation of archeological site, historic architectural resource or existing vegetation, or protection of biological habitat as shown on the plans. The Engineer will determine the exact location of the boundaries of the ESAs. No work shall be conducted within the following ESAs, except ESAs 1a and 1b:

A. ESA 1a and 1b, Environmentally Sensitive Areas

ESA 1a consists of asphalt concrete paved area and unpaved slope area.

ESA 1b is located within the asphalt concrete paved area.

Within the paved boundaries of ESAs 1a and 1b as shown on the plans, no work involving asphalt removal or earth disturbance and/or removal, including but not limited to driving posts for fencing, signing, or utility trenching, shall be allowed. Limited access to these ESAs may be allowed for vehicle and equipment access, storage or transport of materials or equipment vehicle or equipment access, storage and stockpiling, or transport of materials, when approved in writing by the Engineer.

Unpaved slope area of ESA 1a shall be protected from earth disturbing activities, such as equipment access and shall be approved by the Engineer.

B. ESA 2a, 2b and 2c

ESA 2a consists of Building No. 262 (Torpedo Factory), Historic Architectural Resource

ESA 2b consists of the Senior Officers' Quarters Historic District (Quarters 1 through 7), Historic Architectural Resource, and grounds.

ESA 2c consists of Quarters 8, and grounds

C. ESA 3, Quarters 10, Building 267 (garage), and grounds.

D. ESA 5, Vegetation, Environmentally Sensitive Areas, including mature vegetation screen located on slope southwest of Quarters 1 (Nimitz House), and pittosporum trees

E. ESA 6, Tidal wetlands, water-based ESA (by others), located on the north side of YBI

F. ESA 7, Eelgrass beds, water-based ESA (by others), located on the south sides of YBI

G. ESA 8, Eelgrass beds, water-based ESA (by others), located on the north sides of YBI

H. ESA 9a and 9b, concrete retaining walls and weir, Historic Architectural Resource

Attention is directed to Section 7—1.01 "Laws to be Observed," and Section 7—1.04 "Permits and Licenses," of the Standard Specifications regarding State and Federal regulations, permits, or agreements which pertain to an ESA.

Water-based ESA boundaries have been marked with USCG-approved buoys, and have been established and will be maintained by others.

Land-based ESA boundaries, within the designated "Area for Contractor Use" as shown on the plans, have been clearly marked by chain link fence (Type CL 1-8) by others. The boundaries shall be checked periodically and the shall be repaired or replaced as necessary during construction.

Within the boundaries of land-based ESAs 1a, 1b, 2b, 2c, 3, 5, 9a and 9b and water-based ESAs 6, 7, and 8, no project related activities shall take place, without the written approval from the Engineer. This specifically prohibits vehicle and barge access, storage or transport of any materials, including hydrocarbon and lead contaminated material, or any other project related activities. The Contractor shall take such measures, including the posting of written notices to his employees and subcontractors, to ensure that ESAs are not entered or disturbed.

The Contractor shall mitigate damage or impacts to the ESA caused by the Contractor's operations, at the Contractor's expense in accordance with Section 7-1.11 of the Standard Specifications. Any additional mitigation assessed to the Department will be the responsibility of the Contractor. If necessary, deductions from moneys due or to become due the Contractor will be made for the mitigation costs.

#### **RESOURCE REGULATIONS AND MANDATES**

In compliance with Section 106 of the National Historic Preservation Act of 1966, any archaeological resource discovered during construction activities must be evaluated by the Department of Transportation Archaeologist.

The California Public Resources Code (PRC) Sections 5097.00 and 5097.8 require protection of Native American remains which might be discovered and outlines procedures for handling any burials found. The California PRC Section 5097 and Health and Safety Code Section 7050 require coordination with the Native American Heritage Commission.



Under California PRC, Chapter 1.7, Section 5097.5, it is a misdemeanor charge for anyone to knowingly disturb a historical feature or steal an archaeological resource. The California Administrative Code, Title 14, Section 4307, mandates that no person shall disfigure any object of historical interest or value. Under California Penal Code, Title 14, Part 1, Section 622-1.2, it is a misdemeanor to destroy anything of historical value within any public place.

All archaeological resources located on Department of Transportation property are property of the State of California. All archaeological resources located on Federal property are property of the Federal government and are governed by federal environmental laws, such as, but not limited to, the Antiquities Act of 1906, the Archaeological Resources Protection Act, and the Native American Graves Protection and Repatriation Act.

#### **PROTECTION OF ESA 2a, BUILDING No. 262**

Attention is directed to Section 7-1.12, "Preservation of Property," and Section 7-1.12, "Responsibility for Damage," of the Standard Specifications, and the provisions in "Photo Survey of Existing Facilities," and "Vibration Monitoring," of these special provisions, regarding Building No. 262, a historical building that is included in ESA 2.

Attention is directed to "Project Information," of the special provisions, regarding the as-built plans of Building No. 262.

The Contractor shall take measures to protect the building from damage caused by the Contractor's operations. The Contractor shall submit a building protection plan for the Engineer's review at least 30 days prior to the start of adjacent or overhead construction. The Contractor shall also notify the Engineer at least 48 hours prior to the start of adjacent or overhead construction.

The Contractor shall bear full liability for any damage to Building No. 262 caused by the Contractor's operations.

Should any damage to Building No. 262 occur, the Contractor shall notify the Engineer within 24 hours. The Engineer may order the suspension of construction operations until the Contractor takes all necessary measures to prevent further damage to the building, and until an approved repair is completed. The Contractor shall submit a repair plan to the Engineer for approval prior to the start of such work. The Engineer will review the plan within 90 days. All repairs must follow the Secretary of the Interior's Standards for the Treatment of Historic Properties (<http://www2.cr.nps.gov/tps/standguide/index.htm>), and must be undertaken by a licensed preservation architect who meets the Secretary of the Interior's Professional Qualifications Standards for Historic Architecture ([http://www.cr.nps.gov/local-law/arch\\_stnds\\_9.htm](http://www.cr.nps.gov/local-law/arch_stnds_9.htm)). The Department may retain not less than \$2,100,000 from moneys due or that may become due the Contractor under the contract, until an approved repair or reconstruction is complete.

#### **2. AREA TO BE MONITORED (ATM)**

No work involving asphalt removal or earth disturbance and/or removal, including but not limited to driving posts for fencing, signing, or utility trenching, shall be allowed, within the ATM area as shown on the plans.

#### **3. SPECIAL CONSTRUCTION AREA (SCA)**

The special construction area is designated as the landscaping restoration area to be constructed by others.

No work shall be conducted within the SCA boundaries.

#### **PAYMENT**

Full compensation for checking, repairing or replacing the land-based ESA marking within the designated "Area for Contractor Use", shall be considered as included in the contract price paid for various items of work involved and no separate payment will be made therefor.

Full compensation for protecting the unpaved slope area of the ESA 1a from soil disturbing activities caused by equipment access shall be considered as included in the contract price paid for various items of work involved and no separate payment will be made therefor.

### **5-1.35 RELATIONS WITH UNITED STATES COAST GUARD**

This project is located adjacent to and across a navigable channel, which is located between the Yerba Buena Island and the county line between San Francisco City and County and Alameda County and is under the jurisdiction of the United States Coast Guard (USCG), Eleventh District, Coast Guard Island, Alameda, California, 94501-5100.

Attention is directed to "Project Information," and "Permits and Licenses," of these special provisions.

The permits and licenses from U.S. Coast Guard (USCG) have been obtained covering work to be performed under this contract. The Contractor shall be fully informed of all rules, regulations and conditions that may govern the Contractor's operations within the construction right-of-way and shall conduct the Contractor's work accordingly. The permits and licenses shall be considered an integral part of the contract special provisions.

Copies of the permits and licenses may be obtained at the Department of Transportation, Plans and Bid Documents, Room 200, Transportation Building, P.O. Box 942874, Sacramento, California 94274-0001, telephone number (916) 654-4490, and are available for inspection at the Duty Senior at the District 4 Office, 111 Grand Avenue, Oakland, CA 94612, email: duty\_senior\_district04@dot.ca.gov, telephone number (510) 286-5209.

The Contractor's attention is directed to Sections 7-1.01, "Laws to be Observed," 7-1.11, "Preservation of Property," and 7-1.12, "Indemnification and Insurance," of the Standard Specifications, and to the section entitled "Sound Control Requirements" of these special provisions.

The Contractor shall comply with all requirements of the USCG with regard to the manner in which he conducts his operations and disposes of material. Any restriction of the channel and all navigation and warning lights shall be in accordance with regulations and subject to the approval of the USCG.

The Contractor's attention is directed to the following conditions which are among those established by the USCG in the work authorization for this project:

**Navigation.**--The Contractor's operations shall conform to the USCG regulations. Work shall be such that the free navigation of the waterway, navigable depths and channel widths are not impaired, except as otherwise approved by the USCG. At least 50 days before anchoring barges or constructing docks, trestles, and temporary structures, including temporary towers and falsework within the construction right-of-way, or as directed by the Engineer, the Contractor shall notify the Engineer, in writing, along with drawings, of their proposed method for anchoring barges, the location of docks, trestles, and temporary structures, including temporary towers and falsework, and of any planned full channel closures. The Engineer will transmit the Contractor's proposal to the USCG for approval. The Contractor shall not anchor any barges until their procedure has been approved by the USCG. In the event that the required USCG approval, in the opinion of the Engineer, delays the Contractor's operations, the Contractor will be granted a time extension commensurate with the delays. No barges can be anchored within the ESAs.

Attention is directed to the minimum navigational clearance diagram shown on the plans. Brief full channel closures are an inconvenience to vessel traffic and will only be permitted if and when approved by the Coast Guard. Among other requirements for a full channel closure that may be required by the Coast Guard, the Contractor may be required to provide assistance to vessels to safely pass through the falsework or circumnavigate Yerba Buena Island. The Contractor shall minimize the number and duration of any requested full channel closures. The Contractor shall propose any full channel closures to the Engineer in writing 50 days in advance of any full channel closure. The Engineer will transmit the Contractor's proposal to the USCG for approval. The proposal shall contain the schedule of the closure, activities required during the closure, and contingency plans. The contingency plans shall include provisions for rapid reopening of the channel, as well as plans for notifying vessels of the closure and providing assistance for vessels to safely pass through the falsework or circumnavigate Yerba Buena Island. Any effort expended by the contractor to get approval for a full channel closure or to comply with any of the requirements of the Coast Guard's approval shall be at the Contractor's expense.

**Aids to Navigation.**--The Contractor shall coordinate with the USCG Commander, Eleventh Coast Guard District, Building 50-6, Coast Guard Island, Alameda, California 94501-5100, Telephone (510) 437-2983 for written authorization at least 60 days prior to any relocation or temporary removal of any aids to navigation within or near any areas involved with dredging or construction. In addition, the Contractor shall not obstruct, willfully damage, make fast to, or interfere with any aid to navigation.

**Navigational Obstructions.**--Any debris, material, plant or machinery that are incidentally dropped into the waters of the Bay during the progress of work, which may present a hazard or which may obstruct navigation shall be promptly recovered or removed. Floating objects shall be immediately recovered or tied down and marked, so that they do not present hazards to navigation. The Contractor shall give immediate notice of in-place obstructions to the proper authorities and shall mark or buoy such obstructions until they are removed. Should the Contractor neglect or delay compliance with the above requirements, such obstructions may be removed by the Department of Transportation and the cost of such removal will be deducted from the moneys due to the Contractor or may be recovered from their bond.

**Navigational Lighting.**--The Contractor shall keep proper warning lights each night between the hours of sunset and sunrise upon all floating equipment, falsework connected with the work and all buoys which are of a size and location as to endanger or obstruct navigation. The Contractor shall provide suitable navigational lighting at any time that construction operations obstruct the waterways. All floating equipment shall be marked in accordance with USCG Regulations.

**Nighttime Lighting.**--The Contractor shall direct lighting on to the immediate area under construction and avoid shining lights towards residences on YBI and marine traffic. The Contractor shall also not shine lights into the water at night.

**Temporary Structures.**--Following the completion of construction, the Contractor shall remove all temporary structures, including docks, trestles, and temporary structures, including temporary towers and falsework. Pilings shall be removed and shall be cut off at least 1.0 meter below the original mudline in-bay, and 1.0 meter below the original ground in-land.

The Contractor shall be aware of the USCG facility on the southeast side of Yerba Buena Island. The Contractor's activities shall not interfere with the twenty-four hour a day operations at the USCG facility. The Contractor shall not restrict land or sea access to that facility.

Attention is directed to Section 8-1.06, "Time of Completion," of the Standard Specifications. Days during which the Contractor's operations are restricted in the navigation channel by others shall be considered to be nonworking days if, in the opinion of the Engineer, these restrictions cause a delay in the current controlling operation or operations.

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

## **SELF-CONSOLIDATING CONCRETE FOR PIER W2 CAP BEAM AND PIER E2 CROSSBEAM**

At the Contractor's option, self-consolidating concrete as specified herein may be used for Pier W2 cap beam and Pier E2 Concrete Crossbeam to meet the consolidation requirements of Section 50, "Concrete Structures" of the Standard Specifications.

The Contractor shall submit working drawings in conformance with the provisions in "Working Drawings" of these special provisions, and the requirements specified herein.

Working drawings shall include self-consolidating concrete mix design and placement procedures. The Contractor's proposed self-consolidating concrete mix design submittals shall include test results for slump flow, slump flow time to a 500 mm diameter, stability of the concrete mixture, column segregation test and compressive strengths at 7, 28 and 56 days.

Working drawings shall also include details and procedures of the mock-up construction to demonstrate self-consolidating concrete. Working drawings shall be approved prior to mock-up construction.

The final approval of the Contractor's mix design for self-consolidating concrete is contingent upon the successful mock-up construction as specified in "Mock-up Trial Batch" herein. Attention is directed to "Mass Concrete" of these special provisions.

Self-consolidating concrete shall be flowing concrete capable of spreading without segregation to a level state without the use of internal or external vibrators. Self-consolidating concrete shall conform to "Concrete Structures" of these special provisions and the requirements specified herein.

During any concrete placement, the depth of mortar at the top surface of any lift shall be no more than 6 mm above the top plane of course aggregate and the surface shall be free of crazing, dusting or other defects. Concrete surface removal may be necessary to meet the above requirements.

In addition to the chemical admixtures listed on the Department's current list of approved brands of admixtures that may be used, the Contractor may use a viscosity modifying admixture made by a chemical admixture manufacturer for the purpose of producing self-consolidating concrete. The use of the viscosity-modifying admixture shall be in accordance with the manufacturer's recommendations. The combined aggregate grading shall be any of the four maximum size grading limits specified in Section 90-3.04, "Combined Aggregate Gradings," of the Standard Specifications.

The maximum cementitious material content specified in Section 90, "Portland Cement Concrete" of the Standard Specifications shall not apply to self-consolidating concrete.

### **Pre-Qualification**

The Contractor's proposed mix design shall be pre-qualified for use in the mock-up trial batch. Trial batch reports shall be in conformance with Section 90-9, "Compressive Strength" of the Standard Specifications. Consistency shall be measured by the slump flow test and bleeding shall be measured by ASTM Designation: C 232, Method A. Segregation shall be measured by conducting at least one column segregation test.

The slump flow test shall conform to the requirements in ASTM Designation: C 143 with the following revisions:

- A. The cone shall be filled in one lift without rodding. The cone shall be placed on a flat, moist, non-absorbent, rigid base plate that is at least 700x700 mm. The base plate shall have concentric circle marks showing 200-mm and 500-mm diameter circles.
- B. Measure the time it takes for the concrete to reach 500 mm diameter circle. Report this as "Slump Flow Time" to the nearest 0.5 seconds.
- C. After the concrete ceases to flow, measure the diameter in 2 perpendicular directions. Report the average diameter as "Slump Flow" to the nearest 5 mm.
- D. Visually inspect the concrete spread to observe and report the distribution of coarse aggregate throughout the spread. Measure and report the radial width of any mortar ring without coarse aggregate. If no mortar ring without coarse aggregate exists, report as zero.

Consistency of the self-consolidating concrete shall be determined using the slump flow test method. The slump flow shall be selected by the Contractor based on the concrete constituent materials and placement procedures chosen. Field measurements more than plus or minus 10% from the accepted slump flow value shall be cause for rejection. The Contractor may propose a larger tolerance if 2 successful mock-up trial batches, one with the minimum proposed slump flow and one with the maximum proposed slump flow, meet the mock-up trial batch requirements as specified herein. No coarse aggregate pile shall remain in the concrete spread during the slump flow test.

The percent bleeding when determined by ASTM Designation: C 232, Method A, except that the container shall be filled in one lift without rodding, shall be at the discretion of the Contractor to match the construction methods used and shall be reported for information only.

The column segregation test shall consist of casting concrete in a column with a diameter of at least 200 mm, a height of at least 650 mm and divided into three sections. The top and bottom sections shall have a depth of 165 mm. Self-consolidating concrete shall be placed in the column in one lift and allowed to sit undisturbed for 15 minutes. Concrete shall then be removed from the top and bottom sections and the coarse aggregate content of each section determined using the procedures of California Test 529. The coarse aggregate content of concrete in the two sections shall not differ from the mix design content by more than 15 percent.

The following amendments to California Test 540, "Method of Making, Handling, and Storing Concrete Compressive Test Specimens in the Field," shall only apply to self-consolidating concrete. The Items "a" and "b" under "2. Test Specimen Fabrication" of "C. Preparation of Test Specimens" of California Test 540 shall be amended to read:

- a. Place test molds on a firm, flat surface to prevent distortion of the bottom surface. When more than one specimen is to be made from the same batch, make all specimens simultaneously. Fill the mold in one lift with a circular motion of the scoop to distribute the concrete evenly in the mold. Pat sides of the mold lightly by hand or rock the mold from side to side using a jig.
- b. After the sides of the mold have been patted, strike off the surface of the concrete even with the top edge of the mold. Wipe the sides of the mold free of excess concrete and press the lid on the molded specimen to prevent evaporation.

### **Mock-up Trial Batch**

Prior to placing self-consolidating concrete in the mass concrete demonstration pours, the Contractor shall construct at least one mock-up trial batch to demonstrate that a 5 cubic meter concrete trial batch will flow for the longest distance required by the proposed construction procedure or 3 meters, whichever is greater. The placement of self-consolidating concrete in the mock-up trial batch shall be witnessed by the Engineer.

The mock-up forms shall be rectangular with a depth of 300 mm minimum and a width of 450 mm minimum. The length of one side shall be such that the flow of the concrete from discharge is the longest distance anticipated for a 5 cubic meter batch to travel during actual production, or a minimum 3 meters if the anticipated flow travel is less than 3 meters. The Contractor shall determine exact discharge location within the forms to meet the travel of concrete distance requirement. The mock-up shall include concrete, reinforcement, and all concrete embedments as shown on the plans and approved working drawings, except that all reinforcement and embedments shall stop 300 mm from both longitudinal ends of the blockout so that concrete can be removed later and tested for segregation. The section location of the production element to be used for mock-up shall be selected by the Engineer.

Acceptance criteria of the self-consolidating concrete mock-up trial batch shall be as follows:

- A. Self-consolidating concrete shall flow from the point of discharge to the required length having a final depth within 25 mm of that at the discharge end without aid of external or internal vibrations or any other action by the Contractor to facilitate travel.
- B. After consolidation against the perimeter forms, the Contractor shall take a sample of at least 45 kg of concrete from that traveled to within 300 mm of the perimeter form, and a 45 kg sample from concrete at the point of discharge to check for segregation by comparing coarse aggregate content values. The coarse aggregate content of each sample shall be determined using California Test 529. The coarse aggregate content of concrete at the perimeter of the pour shall not differ from the coarse aggregate content of concrete at discharge by more than 125 kg/m<sup>3</sup>.

If the concrete fails to meet any of the acceptance criteria as determined by the Engineer, additional mock-ups shall be constructed at the Contractor's expense until the acceptance criteria are met.

The mock-up trial batch shall not be part of the permanent structure and shall become the property of the Contractor. The mock-up shall be removed from the work site and shall be disposed of in conformance with the provisions in Section 7-1.13, "Disposal of Material Outside the Highway Right of Way," of the Standard Specifications.

Full compensation for self-consolidating concrete, including mock up and required testing, shall be considered as included in the contract price paid per cubic meter for the type of concrete item involved and no additional compensation will be allowed therefor.

