

DEPARTMENT OF TRANSPORTATION

DES-OE MS #43
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August 4, 2003

04-SF-80-12.6/13.2
04-0120R4
ACBRIM-080-1(097)N

Addendum No. 7

Dear Contractor:

This addendum is being issued to the contract for construction on State highway in IN THE CITY AND COUNTY OF SAN FRANCISCO FROM YERBA BUENA TUNNEL TO 0.6 KM EAST OF THE YERBA BUENA TUNNEL.

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 September 16, 2003.

This addendum is being issued to revise the Project Plans, the Notice to Contractors and Special Provisions, and the Proposal and Contract.

Project Plan Sheets 2, 5, 8, 12, 13, 14, 22, 41, 42, 47, 48, 49, 50, 53, 56, 58, 59, 60, 61, 68, 69, 71, 72, 75, 76, 77, 78, 79, 80, 81, 83, 94, 95, 96, 97, 98, 100, 101, 102, 104, 106, 107, 109, 110, 112, 114, 115, 116, 117, 118, 119, 120, 121, 122, 123, 124, 125, 126, 131, 132, 142, 143, 147, 149, 151, 161, 162, 164, 165, and 169 are revised. Half-sized copies of the revised sheets are attached for substitution for the like-numbered sheets.

Project Plan Sheets 36A, 84A, 85A, 133A, and 134A are added. Half-sized copies of the added sheets are attached for addition to the project plans.

On Project Plan Sheets 108, 137, 138, 139, and 146, in the sheet border at the bottom of the plan sheet the call-out "LIVE LOADING: HS20-44 DESIGN LOAD" is revised to read ""LIVE LOADING: HS20-44 DESIGN LOAD AND ALTERNATIVE AND PERMIT DESIGN LOAD."

In the Notice to Contractors and Special Provisions, and the Proposal and Contract, "IMPORTANT SPECIAL NOTICES," the following paragraphs are added after the last paragraph:

"Submission of DBE Information

Attention is directed to Section 2-1.02B, "Submission of DBE Information," of the special provisions, regarding submittal of the "CALTRANS BIDDER - DBE INFORMATION" form and GOOD FAITH EFFORT (GFE) DOCUMENTATION form.

ALL bidders shall complete the "CALTRANS BIDDER - DBE INFORMATION" form included in the Proposal and submit it WITH THE BID.

The apparent successful bidder (low bidder), the second low bidder and the third low bidder shall submit the GOOD FAITH EFFORT (GFE) DOCUMENTATION form by THE FOURTH DAY following bid opening.

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The bidder shall submit written confirmation from each DBE that the DBE is participating in the contract, and include the confirmation with the submittal of the bid or submit it by the time specified for submittal of the GOOD FAITH EFFORT (GFE) DOCUMENTATION form.

FAILURE TO SUBMIT THE REQUIRED DBE INFORMATION AND THE GFE DOCUMENTATION, IF REQUIRED, BY THE TIMES SPECIFIED WILL BE GROUNDS FOR FINDING THE BID OR PROPOSAL NONRESPONSIVE.

The provisions regarding the information and supporting documents the bidder should submit to establish the bidder's good faith efforts to meet the DBE goal, and the "DBE Information Good Faith Efforts" form in the Proposal, have been enhanced for clarification.

Special Provision Section 2-1.02B "Submission of DBE Information" requires DBE information to be submitted on the "CALTRANS BIDDER – DBE – INFORMATION" form included in the proposal. To meet the DBE goal or to establish that good faith efforts to meet the DBE goal have been made, bidders are reminded that DBE participation should be identified for all items of work performed by DBE's. In this regard, bidders are reminded that utilization of DBE's may be reflected in such bid items as "Establish Marine Access," "Mobilization" and "Time-Related Overhead." The extent of DBE participation in such items of work may be credited towards the DBE contract goal.

Award of Contract

Attention is directed to Section 3, "Award and Execution of Contract," of the special provisions regarding the time in which the contract will be awarded."

In the Special Provisions, Section 2-1.02A, "DBE GOAL FOR THIS PROJECT," the first sentence following the first paragraph is revised as follows:

"Disadvantaged Business Enterprise (DBE): 8 percent"

In the Special Provisions, Section 2-1.02B, "SUBMISSION OF DBE INFORMATION," is revised as attached.

In the Special Provisions, Section 3-1.01B, "AWARD AND EXECUTION OF CONTRACT," the first paragraph is revised as follows:

"Bids will be compared on the basis of the Engineer's Estimate of the quantities of work to be done and the number of working days bid for completion of the work. The award of the contract, if it be awarded, will be made within 30 days after the opening of the proposals if the apparent lowest bidder has met the goal for DBE participation. The award of the contract, if it be awarded, will be made within 60 days after the opening of the proposals if the apparent lowest bidder has not met the goal for DBE participation but has claimed good faith efforts to do so. These periods will be subject to extension for such further periods as may be agreed upon in writing between the Department and the bidders concerned. The award, if made, will be to the lowest responsible bidder whose proposal complies with all the requirements prescribed and who has met the goal for DBE participation or has demonstrated, to the satisfaction of the Department, adequate good faith efforts to do so. Meeting the goal for DBE participation or demonstrating, to the satisfaction of the Department, adequate good faith efforts to do so is a condition for being eligible for award of contract. The lowest bid will be determined on the basis of the "Total Basis for Comparison of Bids (A+B)" set forth in the proposal. The contract price for the awarded contract will be the "Total Bid (A)" set forth in the proposal."

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In the Special Provisions, Section 5-1.13, "PROJECT INFORMATION," subsection, "INFORMATION HANDOUT," subsection "Structure Materials Information," item 12 is added as follows:

"12. Conceptual Study of Yerba Buena Island Temporary Bypass Structure (TBS)"

In the Special Provisions, Section 5-1.13, "PROJECT INFORMATION," subsection, "INFORMATION HANDOUT," subsection "Geotechnical Materials Information," item 8 is added as follows:

"8. Additional Information for Foundations, Yerba Buena Island Temporary Bypass Structure (TBS), SFOBB East Span Seismic Safety Project "

In the Special Provisions, Section 5-1.13, "PROJECT INFORMATION," subsection, "INFORMATION HANDOUT," subsection "District Materials Information," under item "a." the following item is revised as follows:

"4- San Francisco Bay Conservation Development Commission, Copies of the permit and letter requesting Amendment Six"

In the Special Provisions, Section 5-1.13, "PROJECT INFORMATION," subsection, "INFORMATION HANDOUT," subsection "District Materials Information," under item "a." the following item is added as follows:

"9- USCG letter dated July 22, 2003, regarding removing foundation elements on slope"

In the Special Provisions, Section 5-1.13, "PROJECT INFORMATION," subsection, "INFORMATION HANDOUT," subsection "District Materials Information," the following item is added as follows:

"1. Utility plan sheets for YBI South-South Detour (Microstation files)"

In the Special Provisions, Section 5-1.14, "CONTRACTOR DESIGN," is revised as attached.

In the Special Provisions, Section 10-1.15, "TEMPORARY BYPASS STRUCTURE," is revised as attached.

In the Special Provisions, Section 10-1.22, "OBSTRUCTIONS," the eleventh and twelfth paragraphs are revised as follows:

"The existing ground seismographic station, and sanitary sewer lift pump station, including pump station, underground vault and sanitary main system, will remain in service for the duration of this contract. The existing underground facilities: telephone, fiber optic, and high risk electrical lines (12 kV, 4.1kV & 2.4 kV) along the temporary USCG Road and Macalla Road will also remain in service for the duration of this contract. The Contractor shall notify the Engineer and City and County of San Francisco Public Utilities Commission at (415) 648-6882 x 1290, and the Berkeley Seismology Specialist at (510) 486-7314 or 882-9816, at least 10 working days before excavation and piling work is begun. The Contractor shall field verify the location of the cable and ensure that the monitoring cable is not damaged.

Full compensation for protecting the existing ground seismographic station and monitoring cable, and sanitary sewer lift pump station, including pump station, underground vault and sanitary main system, and the telephone, fiber optic, and high risk electrical lines (12 kV, 4.1kV & 2.4 kV) along the temporary USCG Road and Macalla Road, shall be considered as included in the contract prices paid for various items of work and no separate payment will be made therefor."

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In the Special Provisions, Section 10-1.245, "VITRIFIED CLAY PIPE SEWERS," subsection "PART 1. - GENERAL," subsection "SUMMARY," the first paragraph is revised as follows:

"Scope--This work shall consist of furnishing and installing vitrified clay pipe sewers within boundary of the construction, where required by the Contractor's design, including excavating, lagging, backfilling, and other incidental work, necessary or required for a complete, satisfactory sewer installation, in accordance with these special provisions."

In the Special Provisions, Section 10-1.245, "VITRIFIED CLAY PIPE SEWERS," subsection "PART 3. - EXECUTION," subsection "PAYMENT," the first paragraph is revised as follows:

"Full compensation for furnishing and installing vitrified clay pipe sewers within the boundary of construction shall be considered as included in the contract lump sum prices paid for the various temporary bypass structure pay items, and no separate payment will be made therefor."

In the Special Provisions, Section 10-1.38, "EXISTING HIGHWAY FACILITIES," subsection, "EXISTING UNDERGROUND FACILITIES (TEMPORARY BYPASS STRUCTURE)," the third paragraph is revised as follows:

"Existing underground facilities as shown on the plans, which may be affected by the Contractor's operations, design and/or construction of the temporary bypass structure, may require potholing, protection, and/or relocation. Except for the existing utility facilities that shall remain and be protected in place as specified in "Obstructions," of these special provisions, existing underground facilities which are in conflict with the Contractor's operations, design and/or construction of the temporary bypass structure, may be relocated, after the approval of the Engineer."

In the Special Provisions, Section 10-1.38, "EXISTING HIGHWAY FACILITIES," subsection, "EXISTING UNDERGROUND FACILITIES (TEMPORARY BYPASS STRUCTURE)," subsection "Relocation of Utilities," the first paragraph is revised as follows:

"Except for the existing utility facilities that shall remain and be protected in place as specified in "Obstructions," of these special provisions, existing underground facilities, which are in conflict with the Contractor's operations, design and/or construction of the temporary bypass structure, may be relocated (as used herein, relocation includes installation, alteration, removal and/or abandonment) after the approval of the Engineer and the utility owners."

In the Special Provisions, Section 10-1.38, "EXISTING HIGHWAY FACILITIES," subsection, "EXISTING BUILDING NO. 206," the first and second paragraphs are revised as follows:

"Building No. 206, located near ESA No. 2, south of the eastbound Route 80 off-ramp, is a wooden garage structure.

If the Contractor determines that he/she can not work around building 206 and he/she believes that building 206 is an obstruction to perform work, then the Contractor shall physically move Building No. 206 to one of the locations shown on the project plans. If, in the determination of United States Coast Guard, this building is structurally damaged beyond repair during the action to move, store, or reestablish it the Contractor shall reconstruct a building of equal functional utility, to a design that is mutually acceptable to United States Coast Guard and Caltrans, on the original site, or any other site that is mutually acceptable to United States Coast Guard and Caltrans, when project related activities on the premises have concluded. The Contractor's shall notify the Engineer in writing at least 30 working days in advance of the intent work at Building No. 206."

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In the Special Provisions, Section 10-1.38, "EXISTING HIGHWAY FACILITIES," subsection title "REMOVE AND RECONSTRUCT BUILDING No. 206," is revised to read "DEMOLISH AND RECONSTRUCT BUILDING No. 206."

In the Special Provisions, Section 10-1.38, "EXISTING HIGHWAY FACILITIES," subsection title "REMOVE BUILDING NO. 206" is revised to read "DEMOLISH BUILDING No. 206." The first paragraph of subsection "DEMOLISH BUILDING No. 206" is revised as follows:

"If, in the determination of the United States Coast Guard, Building No. 206 needs to be demolished, the Contractor shall submit a comprehensive demolition plan to the Engineer in accordance with "Working Drawings," of these special provisions, describing the proposed sequence, methods, and equipment for demolition, removal, and disposal of structure, including utility services to facilities to be removed or disconnected, cut, and capped. Do not proceed with demolition until the Engineer has given written approval of the demolition plan."

In the Special Provisions, Section 10-1.38, "EXISTING HIGHWAY FACILITIES," subsection "RECONSTRUCT BUILDING NO. 206," the first paragraph is revised as follows:

"If, in the determination of United States Coast Guard, that Building No. 206 is structurally damaged beyond repair during the action to move, store, or reestablish it, Contractor shall reconstruct a building of equal functional utility, to a design that is mutually acceptable to United States Coast Guard and Caltrans, on the original site, or any other site that is mutually acceptable to United States Coast Guard and Caltrans, when project related activities on the premises have concluded. The contractor shall provide new building plans to the Engineer, in advance, in accordance with "Working Drawings," of these special provisions."

In the Special Provisions, Section 10-1.38, "EXISTING HIGHWAY FACILITIES," subsection "DEMOLISH AND RECONSTRUCT BUILDING No. 206," subsection "PAYMENT," is revised as follows:

"No payment shall be paid for the relocation or demolition and reconstruction of the Building No. 206, that may be demolished and reconstructed by the Contractor.

Full compensation for protecting Building No. 206 in place or moving and relocating Building No. 206 shall be considered as included in the contract lump sum prices paid for temporary bypass structures and no additional compensation will be allowed therefor."

In the Special Provisions, Section 10-1.38, "EXISTING HIGHWAY FACILITIES," subsection "REMOVE BASE AND SURFACING," is added after subsection "RELOCATE ROADSIDE SIGN," and is attached.

In the Special Provisions, Section 10-1.38, "EXISTING HIGHWAY FACILITIES," subsection "COLD PLANE ASPHALT CONCRETE PAVEMENT," is added after subsection "REMOVE BASE AND SURFACING," and is attached.

In the Special Provisions, Section 10-1.38, "EXISTING HIGHWAY FACILITIES," subsection "REMOVE PAVEMENT MARKER," the second paragraph is revised as follows:

"Full compensation for removing and disposing of pavement markers and underlying adhesive shall be considered as included in the contract price paid per tonne for Asphalt Concrete (TYPE A) and no separate payment will be made therefor."

In the Special Provisions, Section 10-1.50, "AGGREGATE SUBBASE" is deleted.

In the Special Provisions, Section 10-1.51, "AGGREGATE BASE" is deleted.

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In the Special Provisions, Section 10-1.515, "ASPHALT CONCRETE," is added as attached.

In the Special Provisions, Section 10-1.52, "RUBBERIZED ASPHALT CONCRETE (TYPE O)," subsection "MEASUREMENT AND PAYMENT," is revised to read "PAYMENT," and revised as follows:

"PAYMENT

Full compensation for Rubberized asphalt concrete (Type O) including furnishing and spreading sand on the rubberized asphalt concrete surfacing and for sweeping and removing excess sand from the pavement surface shall be considered as included in the contract lump sum prices paid for the various temporary bypass structure pay items, and no separate payment will be made therefor."

In the Special Provisions, Section 10-3.01, "DESCRIPTION," subsection "ELECTRICAL WORK (Stage 2)," the following items are added as follows:

16. Install 47 new NEMA 4 splice boxes.
17. Install approximately 200 meters of 41C galvanized rigid steel (GRS) conduit.
18. Install and splice approximately 270 meters of 27C liquid tight flexible conduit with 3/C #10+ G.
19. Install and splice approximately 367 meters of 3-1/C #6 + #8G.
20. Remove all existing conduits, signal lights, Tesco flex control panel, splice boxes, receptacles/utility outlets and call boxes that are no longer required and shall become the property of the Contractor.
21. Install and terminate armored cables as shown on the cable schedule.
22. Conduct cable continuity and insulation tests on all circuits.
23. Conduct functional test on all lighting circuits."

In the Special Provisions, Section 10-3.02, "COST BREAK-DOWN," subparagraph "B. Electrical Work (Bypass Stage 2)," the following item is added to the end of the fourth paragraph:

- "10. Conduits, conduit anchors, fittings and supports - list each size and type."

In the Special Provisions, Section 10-3.04, "CONDUIT," subsection "LIQUID-TIGHT FLEXIBLE METAL CONDUIT," is added after subsection "RIGID GALVANIZED STEEL CONDUIT, THREADED COUPLINGS AND ELBOWS," as follows.

"LIQUID-TIGHT FLEXIBLE METAL CONDUIT

The liquid tight flexible metallic conduit shall conform to the following requirements:

- A. The flexible metal shall be constructed of continuously interlocked strip and shall be coated with sunlight resistant PVC jacket.
- B. The metal core shall be hot-dipped galvanized steel core with a heavy coating of zinc.
- C. The jacket shall be resistant to weather, temperature, oil and chemical breakdown.
- D. Conform to the provisions of NEC Article 351 under "Liquid-tight Flexible Metal Conduit.
- E. UL listed for Safety 360."

In the Proposal and Contract, the form "CALTRANS BIDDER – DBE – INFORMATION" is revised as attached.

In the Proposal and Contract, the form "DBE INFORMATION GOOD FAITH EFFORTS" is replaced by "GOOD FAITH EFFORTS DOCUMENTATION" as attached.

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In the Proposal and Contract, the Engineer's Estimate Items 27, 28, 33, 37, 44, 59, 75, 76 and 84 are revised, Items 86, 87 and 88 are added and Items 56, 57, 58 and 85 are deleted as attached.

To Proposal and Contract book holders:

Replace the entire Engineer's Estimate in the Proposal with the attached revised Engineer's Estimate. The revised Engineer's Estimate is to be used in the bid.

Attached are the following: A hard copy of additional Geotechnical Materials Information, a CD ROM containing additional Structure Materials Information and a CD ROM containing additional District Materials Information.

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.

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

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

2-1.02B SUBMISSION OF DBE INFORMATION

All bidders shall complete the "CALTRANS BIDDER - DBE INFORMATION" form included in the Proposal and submit it WITH THE BID.

Failure to submit the "CALTRANS BIDDER - DBE INFORMATION" form with the bid will be grounds for finding the bid nonresponsive.

The bidder shall submit written confirmation from each DBE that the DBE is participating in the contract, and include the confirmation with the submittal of the bid or submit it by the time specified for submittal of the GOOD FAITH EFFORT (GFE) DOCUMENTATION form. A copy of a DBE's quote will serve as written confirmation that the DBE is participating in the contract.

Where the bidder has not met the designated DBE goal, it must submit good faith efforts (GFE) documentation to establish that, prior to the bid, it made adequate good faith efforts to meet the goal.

Bidders are cautioned that even though their "CALTRANS BIDDER - DBE INFORMATION" form indicates they will meet the stated DBE goal, they should also submit their GFE documentation within the time specified herein, to protect their eligibility for award of the contract in the event the Department, in its review, finds that the goal has not been met.

The apparent successful bidder (low bidder), the second low bidder and the third low bidder shall complete and submit the GOOD FAITH EFFORT (GFE) DOCUMENTATION form, if they have not met the goal, to the Department of Transportation, 1120 N Street, Room 0200, MS #26, Sacramento, California 95814 so the information is received by the Department no later than 4:00 p.m. ON THE FOURTH DAY, not including Saturdays, Sundays and legal holidays, following bid opening. GFE documentation sent by U.S. Postal Service certified mail with return receipt and certificate of mailing and mailed on or before the third day, not including Saturdays, Sundays and legal holidays, following bid opening will be accepted even if it is received after the fourth day following bid opening. Other bidders need not submit GFE documentation unless requested to do so by the Department. When a request is made by the Department, the GFE documentation of the other bidders shall be received by the Department within 4 days of the request, not including Saturdays, Sundays and legal holidays, unless a later time is authorized by the Department.

If it is determined that GFE documentation is needed to determine a bidder's eligibility for award, failure of the bidder to have submitted the GFE documentation by the time specified herein will be grounds for finding the bid or proposal nonresponsive.

It is the bidder's responsibility to make enough work available to DBEs and to select those portions of the work or material needs consistent with the available DBEs to meet the goal for DBE participation.

The bidder's "CALTRANS BIDDER - DBE INFORMATION" form shall include the names, addresses and phone numbers of DBE firms that will participate, with a complete description of work or supplies to be provided by each, and the dollar value of each DBE transaction. When 100 percent of a contract item of work is not to be performed or furnished by a DBE, a description of the exact portion of that work to be performed or furnished by that DBE shall be included in the DBE information, including the planned location of that work. The work that a DBE prime contractor has committed to performing with its own forces as well as the work that it has committed to be performed by DBE subcontractors, suppliers and trucking companies will count toward the goal.

The bidder's good faith effort (GFE) documentation shall establish that good faith efforts to meet the DBE goal have been made.

In order to establish the bidder's good faith efforts to meet the DBE goal, the bidder should include the following information and supporting documents, as necessary:

- A. Items of work the bidder has made available to DBE firms. Identify those items of work the bidder might otherwise perform with its own forces and those items that have been broken down into economically feasible units to facilitate DBE participation. For each item listed, show the dollar value and percentage of the total contract. It is the bidder's responsibility to demonstrate that sufficient work to meet the goal was made available to DBE firms.
- B. The names of certified DBEs and the dates on which they were solicited to bid on the project. Include the items of work offered. Describe the methods used for following up initial solicitations to determine with certainty if the DBEs were interested, and the dates of the follow-up. Attach supporting documents such as copies of letters, memos, facsimiles sent, telephone logs, telephone billing statements, and other evidence of solicitation. Bidders are reminded to solicit certified DBEs through all reasonable and available means and provide sufficient time to allow DBEs to respond.

- C. For each item of work made available, the DBEs that provided quotes, the selected firm and its status as a DBE, the price quote for each firm, and the name, address and telephone number for each firm. If the firm selected for the item is not a DBE, provide the reasons for the selection.
- D. The names and dates of each publication in which a request for DBE participation for the project was placed by the bidder. Attach copies of the published advertisements.
- E. The names of agencies, including the firms listed in Section 2-1.02A, "DBE Goal for this Project," and the dates on which they were contacted to provide assistance in contacting, recruiting and using DBE firms. If the agencies were contacted in writing, provide copies of supporting documents.
- F. Descriptions of the efforts made to provide interested DBEs with adequate information about the plans, specifications and requirements of the contract to assist them in responding to a solicitation. Where the bidder has provided information, identify the name of the DBE assisted, the nature of the information provided, and date of contact. Provide copies of supporting documents, as appropriate.
- G. Descriptions of any and all efforts made to assist interested DBEs in obtaining bonding, lines of credit, insurance, necessary equipment, supplies, and materials (excluding supplies and equipment which the DBE subcontractor purchases or leases from the prime contractor or its affiliate). Where such assistance was provided by the bidder, identify the name of the DBE assisted, nature of the assistance offered, and date. Provide copies of supporting documents, as appropriate.
- H. Any additional data to support a demonstration of good faith efforts.

5-1.14 CONTRACTOR DESIGN

This work shall consist of designing and providing detailed design plans, supplemental technical special provisions and quantities of various items of work for the construction of the Temporary Bypass Structure, including all appurtenances required for bridge mounted utilities, deck drainage system, and signs, at locations shown on the plans and as specified in "Temporary Bypass Structure," elsewhere in these special provisions, and in these special provisions.

The Temporary Bypass Structure shall be designed in accordance with the design criteria as shown on the plans, and as specified in these special provisions. Engineering design and calculations, and independent design check calculations shall be submitted to the Engineer for review and acceptance.

Detailed design plans, supplemental technical special provisions and associated quantities of items of work shall be submitted to the Engineer for acceptance and authorization for construction.

Engineering design and calculations for the Temporary Bypass Structure and all associated detailed design plans, supplemental technical special provisions and quantities of items of work shall be signed by an Engineer who is registered as a Civil Engineer in the State of California.

Independent design check calculations for the Temporary Bypass Structure and all associated detailed design plans and quantities of items of work shall be signed by another Engineer who is registered as a Civil Engineer in the State of California.

Two of the Contractor's representative shall be designated as "Design Manager" and "Contractor's Engineer." Design Manager and Contractor's Engineer shall conform to the following:

Design Manager

The Design Manager shall be an engineer who is registered as a Civil Engineer in the State of California, and shall have a minimum of ten years of experience in designing bridges of the type proposed by the Contractor and have managed at least one design project comparable in size, difficulty and cost. Proof of the registration and the required experience shall be submitted by the Contractor on the day following the bid opening date.

The Design Manager shall:

1. Be responsible for the Contractor's design quality control and quality assurance (QC/QA) plan and the quality of the Contractor designs,
2. Verify design compliance with the requirements of the plans and these special provisions,
3. Coordinate the design submittal schedule with the Engineer,
4. Coordinate the Contractor responses to design comments issued by the Engineer, and
5. Ensure that design documents and records are kept in compliance with the requirements of these special provisions.

Contractor's Engineer

The Contractor's Engineer, who is registered as a Civil Engineer in the State of California, shall be the engineer of record who will be responsible for producing, stamping and signing all of the Engineering design calculations for the Temporary Bypass Structure (TBS) and all associated detailed design plans, supplemental technical special provisions and quantities of items of work.

The Contractor's Engineer shall certify in writing that the TBS is constructed in conformance with the authorized detailed design plans and supplemental technical special provisions.

DESIGN QC/QA PLAN

The Contractor shall prepare and submit a design QC/QA plan in accordance with the requirements of these special provisions. The design QC/QA plan shall address, as a minimum, the items described in "Quality Control" in these special provisions.

The design QC/QA plan shall include the following:

- A. Method to be employed by the Contractor to track design tasks, design submittals, approvals, and re-submittals.
- B. Reference section of the Standard Specifications, these special provisions, design criteria, or other design document required or referenced in the production of each design submittal.
- C. A time-scaled logic diagram which shows the schedule of all design activities and associated design submittals, and demonstrates any interdependency between separate submittals.

- D. Allowable time for review of the submittal by the Engineer as specified in the Standard Specifications and these special provisions.
- E. In the event that several related submittals with review times on the controlling/critical path are submitted simultaneously, or an additional submittal is submitted for review before the review of a previous submittal has been completed, the Contractor shall designate the sequence in which the submittals are to be reviewed.
- F. Identification of the first occurrence of any controlling/critical path operation affected by each submittal and a contingency plan describing how the designer will address any required redesign of any submittals previously authorized for construction.

As a minimum, items C and F of the design QC/QA plan shall be submitted by the Contractor on the day following the bid opening date.

Within 5 days after receiving notice that the contract has been approved, as specified in Section 8-1.03, "Beginning of Work," of the Standard Specifications, the Contractor shall submit to the Engineer, for review and approval, the design QC/QA plan in conjunction with the Baseline Schedule. The Engineer shall be allowed 10 days to review the QC/QA plan and to provide comments. All comments are to be implemented into the QC/QA plan. Re-submittal of the QC/QA plan is not required. No contract payments shall be made to the Contractor until a QC/QA plan is submitted in accordance with the above requirements. Attention is directed to the "Progress Schedule (Critical Path Method)" elsewhere in these special provisions for the definitions of Baseline Schedule and Controlling Operation.

DESIGN

Attention is directed to "Project Information," of these special provisions regarding the materials information handout for foundation and design information.

Designing the TBS and the preparation of detailed design plans, production of supplemental technical special provisions, and quantities calculations shall be in conformance with these special provisions and the following:

1. Plans Preparation Manual of the Department
2. Bridge Design Aids Manual of the Department
3. Bridge Design Details Manual of the Department
4. Bridge Memo to Designers Manual of the Department
5. Plans, Specifications and Estimates Guide of the Department
6. Information and Procedures Guide of the Office of Special Funded Projects of the Department
7. Current Electrical and Mechanical codes
8. Current 1999 Standard Special Provisions and Bridge Reference Specifications of the Department
9. July 1999 Standard Specifications of the Department
10. July 1999 Standard Plans of the Department
11. Policy on High and Low Risk Underground Facilities within Highway Rights of Way of the Department

The approach slab, where shown on the plans, shall be included in the Contractor's design of the TBS.

It is expected that temporary excavation shoring will be required to support existing facilities, foundations, and embankments during the various stages of construction. Such temporary shoring systems shall be designed to conform to the requirements for Temporary Structures designated as Important Construction in the design criteria shown on the plans, and to the requirements of Sections 7-1.09, "Public Safety," and 19-1.02, "Preservation of Property," of the Standard Specifications.

The Contractor shall prepare working drawings detailing the temporary excavation shoring in accordance with Section 5-1.02, "Plans and Working Drawings," of the Standard Specifications. All working drawings for temporary excavation shoring shall be signed by an engineer who is registered as a Civil Engineer in the State of California. The temporary excavation shoring shall be approved by the Engineer prior to construction.

Full compensation for furnishing, installing and removing such temporary excavation shoring shall be considered as included in the contract prices paid for the various items of earthwork involved and no additional compensation will be allowed therefor.

Expansion joints connecting TBS superstructure segments shall be included in the Contractor's design of either the west tie-in superstructure or east tie-in superstructure. Expansion joints shall be modular type. Modular expansion joints having designs where movable components are metal on metal will not be permitted.

Where steel forms are proposed for concrete deck construction for the Viaduct segment, the design shall either accommodate removal of steel forms after completion of the deck, or provide for application of an acoustic insulating material to the underside of the deck that is approved by the Engineer.

All permanent supporting elements of the TBS shall be designed to conform to the Department's standards for a permanent highway structure and these special provisions. Permanent supporting elements of the TBS shall not contain structural components that are traditionally acceptable for the construction of temporary structures used to facilitate construction, such as falsework or temporary supports. Structural elements such as timber foundations, timber posts and beams, timber bracing, cables, and the like will not be permitted as part of the permanent supporting elements of the TBS.

Geotechnical Investigation

The foundation design shall conform to the design criteria as shown on the plans, and as supplemented by the following foundation information provided in the information handout:

1. "Geotechnical Foundation Report for YBI Approach and Self-Anchored Suspension Bridge," June 2002 by Fugro-Earth Mechanics, Joint Venture
2. "Final Yerba Buena Island Geotechnical Site Characterization Report, San Francisco Oakland Bay Bridge East Span Seismic Safety Project," December 2001 by Fugro-Earth Mechanics, Joint Venture
3. "Additional Information for Pile Foundations Yerba Buena Island Temporary Bypass Structure (TBS) SFOBB East Span Seismic Safety Project," July 18, 2003, by Fugro-Earth Mechanics, Joint Venture

The available foundation information is not considered to be sufficient to facilitate the design of all required TBS foundations. At the Contractor's expense, the Contractor shall conduct additional foundation investigations to facilitate the design of all TBS foundations in areas where the foundation information is insufficient. Such investigations shall conform to the provisions in Section 49-1.03, "Determination of Length," of the Standard Specifications.

The Contractor shall prepare and submit a Foundation Report for all proposed TBS foundation designs, regardless of whether they are based on the information contained in the information handout or result from investigations conducted by the Contractor. The Foundation Report shall be prepared in conformance with the requirements in the Information and Procedures Guide of the Office of Special Funded Projects of the Department and shall be signed by an engineer who is registered as a Geotechnical Engineer in the State of California. This same engineer shall certify in writing that the TBS foundations are constructed in conformance with the Foundation Report. For foundation designs based on the information contained in the information handout, the Foundation Report shall be a certification by the Contractor's registered Geotechnical Engineer, that the information is adequate for the design, and no further investigation is required.

The Viaduct and West Tie-In segments of the TBS shall not be designed with permanent supports that are required to be founded on the restricted slope area designated on the plans. Due to the steep gradients of the restricted slope area, only geological site reconnaissance has been conducted. The available foundation information provides some information on the soil and rock conditions and groundwater levels interpolated from areas surrounding the slopes. Geotechnical investigation information adequate for foundation design on the restricted slope area is not available. If the Contractor decides to place any foundations to facilitate construction of the TBS on the restricted slope area, the Contractor's Geotechnical Engineer shall conduct geotechnical site investigations to verify local soil and groundwater conditions in this area, and to obtain necessary input parameters for design for the foundations and evaluation of slope stability. The geotechnical site investigations shall conform to these special provisions.

The Contractor's Geotechnical Engineer shall develop foundation designs and measures against potential slope failure initiated by external loading from these foundations. The Contractor shall submit to the Engineer for approval a design report addressing slope stability. This report shall include, but not be limited to, the method of analysis with narrative, input parameters used, design calculations, results and conclusions. For the design procedures and requirements for the slope stability evaluation, consult the following reference:

1. Caltrans 2002, Guideline for Foundation Investigations and Reports (Caltrans 2000 Guidelines) - (Version 1.2, June 2002)
(<http://www.dot.ca.gov/hq/esc/geotech/request.htm#fg>)

Slope stability shall be checked against a static factor of safety of 1.3 for all stages of construction.

The use of spread footings on the slope will require prior stabilization of the upper 2 meters of existing surface soils. Spread footings shall have a horizontal setback of 1.2 meters from the slope face. Any slope modification requires prior slope preparation and installation of a protective catchment system to maintain full-time access to the existing USCG road. The protective catchment system shall be submitted to the Engineer for approval. All earthwork shall conform with the requirements in Section 19, "Earthwork," of the Standard Specifications.

The slope shall be monitored during construction of the TBS to check for any slope displacement within 200 meters of either side of the TBS. The Contractor shall perform an initial topographic survey as part of the displacement monitoring system to record the location of the existing slope prior to the commencement of any work. Two copies of the survey shall be signed by an engineer, who is registered as a Civil Engineer in the State of California, and submitted to the Engineer.

Vandal-resistant displacement monitoring equipment shall be provided and maintained. Vertical and horizontal displacements of the slope shall be monitored continuously and shall be accurately measured and recorded at least weekly during construction of the TBS. The records of vertical and horizontal displacement shall be signed by an engineer who is registered as a Civil Engineer in the State of California.

After completion of construction of the TBS, all foundations constructed to facilitate construction of the TBS on the restricted slope area, shall be removed as follows:

1. At the locations of future permanent foundations, where shown on the plans, foundations shall be completely removed.
2. At all other locations, foundations shall be removed 0.3 meter below existing ground or 1 meter below the finished grade, whichever is lower.

After removal of any foundations placed on the slope to facilitate construction of the TBS, all modified slopes, within 200 meters to either side of the TBS, including excavations required to remove foundation components, shall be restored to a condition that is stable under both static and future earthquake loading. The finished slope shall be designed for a static factor of safety of 1.3 and a pseudo-static factor safety of 1.1, as specified in Caltrans 2002 Guidelines. For the pseudo-static analysis, a seismic coefficient equal to 1/3 of the peak ground acceleration shown on the design criteria may be used, but the peak ground acceleration shall not be greater than 0.2g, as specified in Caltrans 2002 Guidelines.

The final slope shall include protective measures for surficial ground stability and erosion control. Such measures shall conform to the various Erosion Control requirements specified elsewhere in these special provisions, and shall be submitted to the Engineer for approval.

DESIGN SUBMITTALS

The Contractor shall prepare and submit the following Design Submittals to the Engineer for acceptance and authorization of construction:

Proposal Drawing Submittal
Preliminary Design Submittal
Final Design Submittal
Construction Submittal

The term "acceptance" shall mean that the design submittal has been received, that it includes all of the required contents defined in these special provisions for the particular design submittal, and that there is sufficient information, as determined by the Engineer, to properly evaluate the submittal.

The term "authorized for construction" shall mean that the design submittal includes all of the required contents defined in these special provisions for the particular design submittal, including clearly meeting the constraints of the design criteria shown on the plans, satisfactorily addresses design review comments provided by the Engineer, and that there is sufficient information, as determined by the Engineer, to inspect resulting fabrication and construction.

The contents of each Design Submittal shall conform to the following:

Proposal Drawing Submittal

Proposal drawings are drawings submitted by the Contractor on the day following the bid opening date for evaluation of the Contractor's design by the Department. Proposal drawings shall:

1. Contain a drawing index with drawing numbers and drawing titles
2. Be in metric units

3. Comply with the following manuals of the Department:
 - a. Plans Preparation Manual
 - b. Bridge Design Aids Manual
 - c. Bridge Design Details Manual
 - d. Bridge Memo to Designers Manual
 - e. Information and Procedures Guide of the Office of Special Funded Projects
4. Be of sufficient detail to depict the TBS elements and components, as defined in "Temporary Bypass Structure," elsewhere in these special provisions, in plan and elevation, and show at the minimum:
 - a. Bridge geometry
 - b. Each bent in section labeled with a station
 - c. The obstruction free clearance at the point of minimum vertical clearance, and traffic opening width
 - d. Each foundation location and type labeled with station
 - e. Locations and types of joints, both expansion and construction
 - f. Locations and types of bearings
 - g. The arrangement and material type and size of each structural member to demonstrate load paths from the superstructure to the ground through the substructure and foundation
 - h. Locations and type of components to be designed for ductile behavior
 - i. Locations and type of components to be capacity protected
 - j. Fundamental periods of vibration for each segment
5. Include a Type Selection Memo by segment in conformance with the requirements in Chapter 1-29 of the Bridge Memo to Designers Manual
6. Include a structure construction sequencing plan

Preliminary Design Submittal

Preliminary design submittal shall consist of the following:

1. Preliminary design information package
2. Detailed preliminary design drawings
3. Draft supplemental technical special provisions

The preliminary design submittal process shall start by the Contractor 10 days after the approval of the design QC/QA plan. Preliminary design submittal shall be submitted to the Engineer by the Contractor by element of each segment of the TBS.

Preliminary design information package shall, as a minimum, include the following:

1. A statement describing any modifications to or deviations from the information submitted with the proposal drawing submittal
2. Expected expansion joint movements
3. Preliminary loading and linear elastic response spectra force and displacement results (i.e. axial, moment, shear) on all primary components due to design loads conforming to the design criteria shown on the plans
4. Preliminary Inelastic static pushover results showing deformation capacity of all ductile primary members at the displacement limit state (DLS) displacements
5. Preliminary Foundation Report, submitted with foundation elements only

The Contractor shall also furnish additional information as requested by the Engineer to facilitate review of the preliminary design information package.

Detailed preliminary design drawings shall, as a minimum, include the following:

- General Plans
- Structure Plans
- Abutment cross-sections
- Foundation Plans
- Pier (i.e. tower/bent/column) cross-sections
- Foundation Detail Plans
- Typical Sections
- Girder layouts or framing plans
- Expansion joint details
- Bearing details
- Structural joint and connection details

Detailed preliminary design drawings shall:

1. Contain a drawing index with drawing numbers and drawing titles
2. Be in metric units
3. Comply with the following manuals of the Department:
 - a. Plans Preparation Manual
 - b. Bridge Design Aids Manual
 - c. Bridge Design Details Manual
 - d. Bridge Memo to Designers Manual
 - e. Information and Procedures Guide of the Office of Special Funded Projects
4. Be clearly marked "NOT FOR CONSTRUCTION"
5. Show the arrangement and material type and size of each structural member to demonstrate load paths from the superstructure to the ground through the substructure and foundation.
6. Be of sufficient detail to (a) define the TBS elements in plan and elevation, including deck drainage and overhead and bridge mounted signs, (b) define the mounting details for electrical and mechanical systems (c) demonstrate conformance to the requirements of the contract documents.
7. Contain preliminary utility relocation plans identifying relocation of impacted utility within boundary of the construction based on new potholing performed by the Contractor. Contractor may require additional potholing to verify impacted utilities as approved by the Engineer.

Draft supplemental technical special provisions shall be prepared as specified under the heading "Supplemental Technical Special Provisions" of these special provisions.

Final Design Submittal

Final design submittal shall consist of the following:

1. Final design information package
2. Detailed final construction drawings
3. Complete TBS design and independent check calculations
4. Final Foundation Report
5. Complete quantity calculations
6. Final supplemental technical special provisions

The final design submittal shall be submitted to the Engineer by the Contractor after the Department has accepted and reviewed the Contractor's preliminary design submittal. Final design submittal shall be submitted by element of each segment of the TBS.

Final design information package shall, as a minimum, include the following:

1. A statement describing any modifications to or deviations from the information submitted with the preliminary design submittal, including a detailed description of resolution of reviewer comments
2. Any revised document that has changed since the preliminary design submittal
3. Structure construction sequencing plan
4. Resident Engineer's (RE) Pending File contents as specified in the Information and Procedures Guide of the Office of Special Funded Projects of the Department

The Contractor shall also furnish additional information as requested by the Engineer to facilitate review of the final design information package.

Detailed final construction drawings shall conform to the requirements specified above for preliminary design drawings, with the following minimum additional requirements:

1. Bear the stamp, signature, and license expiration date of the Contractor's Engineer or designee, who is responsible for developing the drawing
2. Contain final utility relocation plans identifying relocation of impacted utility within boundary of the construction based on new potholing performed by the Contractor. Contractor may require additional potholing to verify impacted utilities as approved by the Engineer.

Complete TBS design and independent check calculations shall be prepared as specified under the heading "TBS Design Calculations" of these special provisions.

Complete quantity calculations shall be prepared as specified under the heading "Quantity Calculations" of these special provisions.

Final supplemental technical special provisions shall be prepared as specified under the heading "Supplemental Technical Special Provisions" of these special provisions.

Construction Submittal

The construction submittal shall be submitted to the Engineer by the Contractor after the Department has accepted and reviewed the Contractor's final design submittal. The construction submittal shall be submitted by element of each segment of the TBS.

The construction submittal shall address all of the comments by the Engineer during the review of the final design submittal. The construction submittal shall contain the following:

1. Construction information package
2. Revised detailed final construction drawings
3. Revised TBS design and independent check calculations
4. Revised quantity calculations
3. Revised final supplemental technical special provisions

The construction information package shall, as a minimum, include the following:

1. A statement describing any modifications to or deviations from the information submitted with the final design submittal, including a detailed description of resolution of reviewer comments
2. Any revised document that has changed since the final design submittal
3. Revised construction sequencing plan
4. Revised RE Pending File contents

The Contractor shall also furnish additional information as requested by the Engineer to facilitate review of the construction information package.

Revised detailed final construction drawings shall conform to the requirements specified above for final design drawings.

Revised TBS design and independent check calculations shall be prepared as specified under the heading "TBS Design Calculations" of these special provisions.

Revised quantity calculations shall be prepared as specified under the heading "Quantity Calculations" of these special provisions.

Revised Final supplemental technical special provisions shall be prepared as specified under the heading "Supplemental Technical Special Provisions" of these special provisions.

The construction submittal, consisting of final detailed design drawings and supplemental technical special provisions, in conjunction with the standard specifications and these special provisions, shall be of sufficient detail to (a) construct the TBS, including deck drainage and overhead and bridge mounted signs, (b) install the electrical and mechanical systems, and (c) demonstrate conformance to the requirements of the Contract documents.

TBS Design Calculations

TBS design calculations shall include both design and independent check calculations. TBS design calculations shall be submitted to the Engineer. Calculations shall include all analysis and computations necessary to design and check the TBS, including layout, structural elements, and operational features (such as deck drainage and overhead and bridge mounted signs and mounting details for electrical and mechanical systems). Design calculations shall be submitted by segment of the TBS.

1. Design calculations shall:
 - a. Be bound separately for each segment
 - b. Bear the stamp, signature, and license expiration date of the Contractor's Engineer or designee, who is responsible for developing the calculations
 - c. Be clearly labeled as design or check calculations, indicating the contract number and title, and description of the calculations
 - d. Contain a table of contents with page numbers; all calculation pages shall be numbered
 - e. Be decipherable and organized so that the design logic can be easily followed
 - f. Contain documentation of assumptions, conclusions, references and design logic
 - g. Contain copies of design charts, with specific entries highlighted that were used in the design
 - h. Contain only final input and output of computer runs
 - i. Contain hand calculations, or computer-generated calculations.
2. Independent Check Calculations: Independent check calculations shall be prepared by the Contractor using a qualified individual who has not been involved with the design of the TBS. Independent check calculations shall bear the State of California Registered Professional Engineer Registration seal with signature, license number and certificate expiration date of the design engineer who is responsible for the independent check. The independent check shall include all analysis and computations necessary to independently check all aspects of the design of the TBS structural elements, and shall be prepared in the same manner as specified for design calculations. The independent checker shall not review the design calculations prior to preparing the independent check calculations. Independent check calculations shall be submitted with the design calculations by segment and element of the TBS.

Quantity Calculations

Quantity calculations and quantity check calculations shall be prepared, compared and resolved, and submitted in accordance with the requirements of Chapter 11 of Bridge Design Aids Manual and the Plans, Specifications and Estimates Guide of the Department and the Department's current standards for quantity calculations and quantity check calculations for electrical and mechanical systems.

Supplemental Technical Special Provisions

Supplemental technical special provisions shall be prepared to complement these special provisions, and shall bear the State of California Registered Professional Engineer Registration seal, with signature, license number and certificate expiration date of the engineer who is responsible for developing the supplemental technical special provisions. Supplemental technical special provisions shall be prepared by using and editing the most current revisions of the Standard Special Provisions and Bridge Reference Specifications of the Department. The Standard Special Provisions are statewide, approved special provisions and are posted at the Division of Office Engineer website (http://www.dot.ca.gov/hq/esc/oe/specs_html/index.html). The Bridge Reference Specifications are statewide special provisions used for special bridge applications, and are posted at the Structure Office Engineer website (<http://www.dot.ca.gov/hq/esc/structurespecs/>). The Standard Special Provisions and Bridge Reference Specifications will hereinafter be referred to as "SSPs".

All standard and non-standard items of work to be used in the construction of the TBS shall be addressed by the supplemental technical special provisions, regardless of how those items of work are being paid. Even in circumstances where the work is addressed by the Standard Specifications, the items of work shall be addressed in the supplemental technical special provisions by including a reference to the applicable Standard Specification.

Editing of the SSPs shall conform to the requirements in the Plans, Specifications and Estimates Guide of the Department and these special provisions. This includes preparing the supplemental technical special provisions in the version of Microsoft Word currently used by the Division of Office Engineer. When editing the SSPs, deviation from the instructions contained within the SSPs, including the deletion of text, will not be permitted without prior written approval by the Engineer. The Contractor shall obtain prior written approval from the Engineer to modify existing SSPs beyond that allowed in the instructions. Deletion of references to payment clauses for items of work is permitted and expected. The Contractor shall obtain prior written approval from the Engineer to add technical special provisions that originate from a source other than the SSPs.

Department SSPs shall not be edited to change plural to singular or singular to plural or to rewrite text in an attempt to improve it.

Supplemental technical special provisions shall not include provisions that are of an administrative nature or any language attempting to alter the terms of the Contract. Any such language will be rejected.

Supplemental technical special provisions shall be organized as follows:

1. Section 8, "Materials" – This section shall contain all materials specifications and all amendments to materials specifications as provided in the special provisions included for the prospective items of work.
2. Section 10, "Construction Details" - This section shall contain all remaining supplemental technical special provisions for various items of work used in the construction of the TBS.

All conflicts between the supplemental technical special provisions for the TBS and roadway portions of the work shall be resolved by the Contractor before submitting the supplemental technical special provisions to the Engineer for review.

The Engineer will return the supplemental technical special provisions to the Contractor for correction if they do not conform to the requirements in these special provisions.

QUALITY CONTROL

The Contractor shall prepare and submit preliminary design, final design, and construction submittals in accordance with the Contractor's approved design QC/QA plan. The Contractor shall maintain evidence of quality control measures taken during preparation of design submittals. Evidence of quality control measures taken shall be in the form of (a) final marked-up documents and (b) annotated checklists prepared by an individual who has reviewed the documents for conformance to the requirements of the contract documents. Annotated checklists shall depict the design procedures and submittal preparation requirements as found in the manuals and documents referenced in this section of these special provisions, and other specific design requirements listed in these special provisions.

Each design drawing and supplemental technical special provision shall have a check print, representing the final content of the design drawing or supplemental technical special provision. The designer and independent checker shall review the drawing or supplemental technical special provision for (a) conformance to the requirements of the contract documents, (b) incorporation or resolution of marked-up comments, and (c) compatibility with all related design elements. As evidence of their review, the designer and independent checker shall sign and date the check print.

Prior to submittal, the Contractor, using a qualified individual, shall review the design submittal, using annotated checklists, to verify conformance to the requirements of the contract documents.

The annotated checklists shall include, as a minimum, confirmation of the following:

1. The design submittals have been prepared in conformance with the requirements of these special provisions
2. The TBS design, including overhead and bridge mounted signs, conforms to the structural design criteria as shown on the contract plans
3. The design of mounting details for electrical and mechanical systems conforms to the design criteria as shown on the contract plans
4. The TBS design is constructable
5. The electrical and mechanical system design is installable

6. Layout is in compliance with the requirements of the plans and specifications
7. The TBS required construction work area is within the work limits shown on the contract plans
8. Utility conflicts have been identified and addressed in a manner that is consistent with Caltrans policy on high- and low-risk utilities. Utilities relocation by the Contractor are identified and timed to avoid construction conflicts.
9. Drainage has a clear path from source to outfall and storm water run-off pollution prevention is identified
10. Lighting is in compliance with the requirements of the plans and specifications. Lighting foundation have been included
11. Maintenance of the structures can be performed with existing Caltrans practices
12. Environmentally sensitive areas will not be affected by construction
13. Contractor work access is planned to remain within the limits allowed by the contract
14. The TBS and electrical system design has been coordinated with the interfaces shown on the contract plans
15. Schedule for completion and lane closures is obtainable
16. The Design uses materials that are commercially available to the Contractor by the time of construction

Any submission by the Contractor of designs, design plans, and supplemental technical special provisions prepared by the Contractor for Department review shall constitute an affirmation by the Contractor that the work detailed in the Contractor prepared design documents are complete, buildable by the Contractor, and comply with the design criteria shown on the plans and these special provisions and as directed by the Engineer.

DESIGN SUBMITTAL REVIEW

The Contractor shall submit the design submittals in accordance with these special provisions and as follows:

Item	Number of Copies for Each Submittal Stage		
	Preliminary Design Submittal	Final Design Submittal	Construction Submittal
Design Information Package	5	5	5
Design Drawings (paper)	10	10	10
Design Drawings (electronic files)	2	2	2
Design Calculations	N/A	5	5
Check Calculations	N/A	5	5
Quantity Calculations	N/A	3	3
Foundation Report	N/A	3	3
Supplemental Technical Special Provisions (paper)	10	10	10
Supplemental Technical Special Provisions (electronic files)	2	2	2

While the Contractor may submit design submittals for review in any order of segment and segment element, the design submittals will only be reviewed by the Department in the following priority order:

1. Preliminary design submittals for foundations of a structure segment will not be reviewed prior to receiving preliminary substructure and superstructure design submittals for the same structure segment.
2. Final design submittals for elements of a structure segment will not be reviewed until the Engineer has reviewed and provided comments on preliminary design submittals of the same segment.
3. Preliminary design submittals for the electrical or mechanical system on a structure segment will not be reviewed prior to reviewing preliminary superstructure design submittals for the same structure segment.
4. Final utility relocation plans will not be authorized by the Engineer unless approved by the utility owner.

Design submittals made by the Contractor that do not comply with the specified priority order, will not be considered as delaying the Contractor's controlling operation on the critical path.

Design Review Process

Upon receipt of a design submittal after it has been approved by the Contractor's Engineer, the Engineer will review the design submittal for completeness. Within five working days of the receipt of the submittal by the Engineer, the Engineer will notify the Contractor in writing if the submittal is determined to be complete or incomplete. If the submittal is determined to be complete, it will be "accepted" by the Engineer, the review period will begin on that day. If the submittal is determined to be incomplete, it will not be accepted and will be returned to the Contractor for resubmittal. Submittals that do not conform to all design quality control requirements of these special provisions will be determined to be incomplete and will not be accepted by the Engineer. No Department review time will be accrued toward the returned submittal. No compensation will be allowed for any costs incurred or for delay in completing the work resulting from submittals that are not accepted by the Engineer.

The Department will return written comments to the Contractor at the conclusion of the design review for each submittal. The Contractor shall address all comments and modify designs as required by the comments in conformity with the plans, these special provisions, and as directed by the Engineer.

When the final design submittal is approved by the Contractor's Engineer, and accepted and authorized for construction by the Engineer, the Contractor shall prepare and submit the Construction Submittal. After review and authorization for construction by the Engineer, the Construction Submittal shall become Contract Plans and specifications, authorized for construction by the Department.

The Contractor shall not begin construction of pile components for foundation elements prior to making the preliminary design submittal that is accepted by the Engineer. Ordering or fabricating materials prior to receiving construction authorization by the Department, will be at the Contractor's risk.

The time to be provided for the Engineer's review of the design submittals shall be as follows:

Design Submittal	Review Time - Weeks
Preliminary Design	2
Final Design	4
Construction Submittal	1

Should the Engineer fail to review the complete design submittal within the time specified, and the Contractor's controlling operation on the critical path is delayed (as determined by the Engineer) by the Engineer's failure to review within the time specified, an extension of time will be granted in conformance with the provisions in Section 8-1.07, "Liquidated Damages," of the Standard Specifications and in "Progress Schedule (Critical Path Method)," of these special provisions. Should the Engineer fail to review the complete design package submittal within the time specified, compensation, if any, will be made in accordance with Section 8-1.09, "Right of Way Delays," of the Standard Specifications, and "Time Related Overhead," of these special provisions.

Design submittals shall be submitted sufficiently in advance of the start of the affected work to allow time for review by the Engineer and correction by the Contractor of the submittal contents without delaying the work. The time shall be proportional to the complexity of the work, but in no case shall the time be less than the review time as specified for the type of design submittal as required elsewhere in these special provisions.

Should the Contractor submit several related submittals with review times on the controlling/critical path, or an additional submittal for review before the review of a previously submittal has been completed, the time to be provided for the review of any submittal in the sequence shall be not less than the review time specified for that submittal, plus 7 calendar days for each submittal of higher priority which is still under review.

DESIGN CHANGE CONTROL

If the Contractor's design changes at any time during the development of the designs or during the construction of the TBS, after receiving authorization for construction, the Contractor shall resubmit designs for review and authorization by the Engineer prior to commencement with the changed work. Changes to the structural system, including overhead and bridge mounted signs, shall have both preliminary designs and final designs resubmitted to the Engineer for authorization as described herein. Changes to the deck drainage and mounting of electrical or mechanical systems or to non-structural components of the TBS shall have only final designs resubmitted to the Engineer for authorization as described herein.

PAYMENT

Contractor design shall be paid for on the basis of lump sum.

The contract lump sum price paid for contractor design shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals and for doing all the work involved in preparing and submitting contractor design, including geotechnical investigations and slope monitoring, and all work to verify the locations of existing utilities within the boundary of the construction, as shown on the plans, as specified in the Standard Specifications and these special provisions, and as directed by the Engineer.

10-1.15 TEMPORARY BYPASS STRUCTURE

Attention is directed to "Contractor Design," elsewhere in these special provisions regarding the design, acceptance, and authorization for construction by the Department of the temporary bypass structure.

This work shall consist of constructing the temporary bypass structure (TBS) complete in place, including all required bridge barrier railing, bridge paving, bridge mounted utilities and related utility relocations, deck drainage system, and signs, at the location shown on the plans and in accordance with the Contractor's design plans that are accepted and authorized for construction by the Department.

GENERAL

The TBS, is shown schematically on the plans with the required design criteria to enable the Contractor to develop the design. The TBS, as shown on the plans, is divided into three bridge structure segments: 1) West Tie-In, 2) Viaduct, and 3) East Tie-In. Each bridge segment contains the following structure elements: a) foundation(s), b) substructure(s), c) superstructure, and appurtenances as shown on the plans. Each bridge element consists of individual components, such as piles, pile cap, columns, bent cap, girders, and other individual structural members.

Attention is directed to "Temporary Supports," elsewhere in these special provisions. The temporary structures designated as Important Construction shall also be considered as bridge segments of the TBS for the design submittal requirements in "Contractor Design," elsewhere in these special provisions. However, the design of temporary structures designated as Temporary Shoring and Support Structure (Locations A through D), shall only be submitted by complete segment, and not by element or component.

Unless otherwise authorized by the Department, the TBS shall be constructed in conformance with the construction sequence, also defined as steps, as shown on the plans.

The approach slab, where shown on the plans, shall be included in the Contractor's design of the TBS.

Expansion joints connecting TBS superstructure segments shall be included in the Contractor's design. Expansion joints shall be modular type. Modular expansion joints having designs where movable components are metal on metal will not be permitted.

Attention is directed to "Project Information," of these special provisions regarding the materials information handout for foundation and design information. Concrete piles shall not be permitted for the Viaduct and East Tie-In. Piles for the Viaduct and East Tie-In, with the exception of the abutment, shall be driven steel piles.

Attention is directed to the following sections of these special provisions regarding permit restrictions and regulations that may impact TBS design and construction:

- A. Relations with the U.S. Coast Guard
- B. Relations with the Regional Water Quality Control Board
- C. Relations with United States Fish and Game Service
- D. Maintaining Traffic
- E. Sound Control Requirements
- F. Obstructions

Attention is directed to "Order of Work" of these special provisions. The TBS order of work shall have the following limitations per segment:

- A. Substructure construction shall not be permitted until preliminary design submittals for foundation elements have been accepted and authorized for construction by the Department. The Contractor shall not begin construction of pile components for foundation elements prior to making the preliminary design submittal that is accepted by the Engineer.
- B. Public traffic will not be permitted on the TBS until superstructure final design submittals for superstructure elements have been accepted and authorized for construction by the Department.

Attention is directed to Section 7-1.16, "Contractor's Responsibility for the Work and Materials," of the Standard Specifications.

The Contractor may proceed with the work after receiving acceptance of the final design plans submittal by the Department. Prior to proceeding with such work, the Contractor shall notify the Engineer of such operations and shall not begin such operations until the Engineer, or the Engineer's authorized representative, is at the work site to observe the operation. The presence of the Engineer, or the Engineer's authorized representative, shall not relieve the Contractor of the responsibility to pay for any work performed by the Contractor that does not comply with the design plans authorized by the Department.

MEASUREMENT AND PAYMENT

Temporary Bypass Structure, East Tie-In will be paid by the lump sum to the limits shown on the contract plans and the Contractor's design plans that are accepted and authorized for construction by the Department.

Temporary Bypass Structure, Viaduct will be paid by the lump sum to the limits shown on the contract plans and the Contractor's design plans that are accepted and authorized for construction by the Department.

Temporary Bypass Structure, West Tie-in will be paid by the lump sum to the limits shown on the contract plans and the Contractor's design plans that are accepted and authorized for construction by the Department.

The contract lump sum price paid for each segment of the temporary bypass structure listed in the Engineer's Estimate shall include full compensation for furnishing all labor, materials, tools, equipment and incidentals, and for doing all the work involved in constructing the temporary bypass structure, complete in place, as shown on the contract plans and the Contractor's design plans that are accepted and authorized for construction by the Department, and as specified in the standard specifications, the authorized supplemental technical special provisions, and these special provisions.

REMOVE BASE AND SURFACING

Existing base and bituminous surfacing where to be removed, shall be removed to a depth of at least 150 mm below the grade of the existing surfacing. Resulting holes and depressions shall be backfilled with earthy material selected from excavation to the lines and grade established by the Engineer.

The material removed shall be disposed of outside the highway right of way in conformance with the provisions in Section 15-2.03, "Disposal," of the Standard Specifications.

Removing base and surfacing will be measured and paid for as roadway excavation.

COLD PLANE ASPHALT CONCRETE PAVEMENT

Existing asphalt concrete pavement shall be cold planed at the locations and to the dimensions shown on the plans.

Planing asphalt concrete pavement shall be performed by the cold planing method. Planing of the asphalt concrete pavement shall not be done by the heater planing method.

Cold planing machines shall be equipped with a cutter head not less than 750 mm in width and shall be operated so that no fumes or smoke will be produced. The cold planing machine shall plane the pavement without requiring the use of a heating device to soften the pavement during or prior to the planing operation.

The depth, width, and shape of the cut shall be as shown on the typical cross sections or as designated by the Engineer. The final cut shall result in a uniform surface conforming to the typical cross sections. The outside lines of the planed area shall be neat and uniform. Planing asphalt concrete pavement operations shall be performed without damage to the surfacing to remain in place.

Planed widths of pavement shall be continuous except for intersections at cross streets where the planing shall be carried around the corners and through the conform lines. Following planing operations, a drop-off of more than 45 mm will not be allowed between adjacent lanes open to public traffic.

Where transverse joints are planed in the pavement at conform lines no drop-off shall remain between the existing pavement and the planed area when the pavement is opened to public traffic. If asphalt concrete has not been placed to the level of existing pavement before the pavement is to be opened to public traffic a temporary asphalt concrete taper shall be constructed. Asphalt concrete for temporary tapers shall be placed to the level of the existing pavement and tapered on a slope of 1:30 (Vertical: Horizontal) or flatter to the level of the planed area.

Asphalt concrete for temporary tapers shall be commercial quality and may be spread and compacted by any method that will produce a smooth riding surface. Temporary asphalt concrete tapers shall be completely removed, including the removal of loose material from the underlying surface, before placing the permanent surfacing. The removed material shall be disposed of outside the highway right of way in conformance with the provisions in Section 7-1.13, "Disposal of Material Outside the Highway Right of Way," of the Standard Specifications.

Operations shall be scheduled so that not more than 7 days shall elapse between the time when transverse joints are planed in the pavement at the conform lines and the permanent surfacing is placed at the conform lines.

The material planed from the roadway surface, including material deposited in existing gutters or on the adjacent traveled way, shall be removed and disposed of outside the highway right of way in conformance with the provisions in Section 7-1.13, "Disposal of Material Outside the Highway Right of Way," of the Standard Specifications. Removal operations of cold planed material shall be concurrent with planing operations and follow within 15 m of the planer, unless otherwise directed by the Engineer.

Cold plane asphalt concrete pavement will be measured by the square meter. The quantity to be paid for will be the actual area of surface cold planed irrespective of the number of passes required to obtain the depth shown on the plans.

The contract price paid per square meter for cold plane asphalt concrete pavement shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals, and for doing all the work involved in cold planing asphalt concrete surfacing and disposing of planed material, including furnishing the asphalt concrete for and constructing, maintaining, removing, and disposing of temporary asphalt concrete tapers, as specified in the Standard Specifications and these special provisions and as directed by the Engineer.

10-1.515 ASPHALT CONCRETE

Asphalt concrete shall be Type A and shall conform to the provisions in Section 39, "Asphalt Concrete," of the Standard Specifications and these special provisions.

The aggregate for Type A asphalt concrete shall conform to the 12.5 mm Maximum, Coarse grading specified in Section 39-2.02, "Aggregate," of the Standard Specifications.

The asphalt content of the asphalt mixture will be determined in conformance with the requirements in California Test 379, or in conformance with the requirements in California Test 382.

Paint binder (tack coat) shall be applied to existing surfaces to be surfaced and between layers of asphalt concrete, except when eliminated by the Engineer.

Paint binder (tack coat) shall be, at the option of the Contractor, either slow-setting type asphaltic emulsion, rapid setting asphaltic emulsion or paving asphalt. Slow-setting type asphaltic emulsion and rapid setting asphaltic emulsion shall conform to the provisions in Section 39-4.02, "Prime Coat and Paint Binder (Tack Coat)," and the provisions in Section 94, "Asphaltic Emulsions," of the Standard Specifications. When paving asphalt is used for paint binder, the grade will be determined by the Engineer. Paving asphalt shall conform to the provisions in Section 39-4.02, "Prime Coat and Paint Binder (Tack Coat)," and the provisions in Section 92, "Asphalts," of the Standard Specifications.

Paint binder (tack coat) shall be applied in the liter per square meter range limits specified for the surfaces to receive asphalt concrete in the tables below. The exact application rate within the range will be determined by the Engineer.

Application Rates for Asphaltic Emulsion Paint Binder (Tack Coat) for Asphalt Concrete (except Open Graded) and on Portland Cement Concrete Pavement		
Type of surface to receive paint binder (tack coat)	Slow-Setting Asphaltic Emulsion L/m ² (Note A)	Rapid-Setting Asphaltic Emulsion L/m ² (Note B)
Dense, compact surfaces, between layers, and on PCCP	0.20 – 0.35	0.10 – 0.20
Open textured, or dry, aged surfaces	0.35 – 0.90	0.20 – 0.40

Note A: Slow-setting asphaltic emulsion is asphaltic emulsion diluted with additional water. Water shall be added and mixed with the asphaltic emulsion (containing up to 43 percent water) so the resulting mixture contains one part asphaltic emulsion and not more than one part added water. The water shall be added by the emulsion producer or at a facility that has the capability to mix or agitate the combined blend.

Note B: Undiluted rapid-setting asphaltic emulsion.

Application Rates for Paint Binder (Tack Coat) for Asphalt Concrete (except Open Graded)	
Type of surface to receive paint binder (tack coat)	Paving Asphalt L/m ²
Dense, compact surfaces and between layers	0.05 – 0.10
Open textured, or dry, aged surfaces	0.10 – 0.25

When asphaltic emulsion is used as paint binder (tack coat), asphalt concrete shall not be placed until the applied asphaltic emulsion has completely changed color from brown to black.

CALTRANS BIDDER - DBE - INFORMATION

-- DO NOT DETACH --

This information must be submitted **WITH YOUR BID** proposal as specified in Section 2-1.02B, "Submission of DBE Information," of the Special Provisions.
 Failure to submit the required DBE information will be grounds for finding the proposal nonresponsive.

DISTRICT-CO.-RTE.-K.P.: _____
DISTRICT-CONTRACT NO.: _____
BID AMOUNT: \$ _____
BID OPENING DATE: _____
BIDDER'S NAME: _____
DBE GOAL FROM CONTRACT, %: _____
DBE PRIME CONTRACTOR CERTIFICATION ¹: _____

CONTRACT ITEM NO.	ITEM OF WORK AND DESCRIPTION OR SERVICES TO BE SUBCONTRACTED OR MATERIALS TO BE PROVIDED ²	FOR CALTRANS USE ONLY	NAME OF DBEs (Must be certified on the date bids are opened - include Caltrans certification # , DBE address and phone number)	DOLLAR AMOUNT DBE ³
<p>IMPORTANT: Identify all DBE firms being claimed for credit, regardless of tier. Names of the First Tier DBE Subcontractors and their respective item(s) of work listed above shall be consistent, where applicable, with the names and items of work in the "List of Subcontractors" submitted with your bid pursuant to the Subcontractors Listing Law and Section 2-1.01, "General," of the Special Provisions. Copies of the DBE quotes are required PURSUANT TO Section 2-1.02B, "Submission of DBE Information," of the Special Provisions.</p>			<p>Total Claimed Participation</p>	<p>\$ _____ _____ %</p>
<p>1. DBE prime contractors shall enter their DBE certification number. DBE prime contractors shall indicate all work to be performed by DBEs including work performed by its own forces.</p> <p>2. If 100% of item is not to be performed or furnished by DBE, describe exact portion of item to be performed or furnished by DBE.</p> <p>3. See Section 2-1.02, "Disadvantaged Business Enterprise," to determine the credit allowed for DBE firms.</p>			<p>_____ Signature of Bidder</p> <p>_____ Date (Area Code) Tel. No.</p> <p>_____ Person to Contact (Please Type or Print)</p>	

CT Bidder - DBE Information (06-02-03)

GOOD FAITH EFFORTS DOCUMENTATION

Low, second low and third low bidders shall submit the following information to document adequate good faith efforts. Bidders should submit the following information even if the \"CALTRANS BIDDER - DBE INFORMATION\" form indicates that the bidder has met the DBE goal. This will protect the bidder's eligibility for award of the contract if Caltrans determines that the bidder failed to meet the goal for various reasons, e.g., a DBE firm was not certified at bid opening, or the bidder made a mathematical error.

Submittal of only the \"CALTRANS BIDDER - DBE INFORMATION\" form may not provide sufficient documentation to demonstrate that an adequate good faith effort was made.

The following items are listed in the Section entitled \"Submission of DBE Information\" of the Special Provisions:

- A. Items of work the bidder made available to DBE firms. Identify those items of work the bidder might otherwise perform with its own forces and those items that have been broken down into economically feasible units to facilitate DBE participation. For each item listed, show the dollar value and percentage of the total contract. It is the bidder's responsibility to demonstrate that sufficient work to meet the goal was made available to DBE firms.

Item of Work Offered	Bidder Normally Performs Item (Y/N)	Item Broken Down to Facilitate Participation (Y/N)	Amount (\$)	Percentage of Contract

- B. The names of certified DBEs and the dates on which they were solicited to bid on this project. Include the items of work offered and the dates and methods used for following up initial solicitations to determine with certainty whether the DBEs were interested. Attach copies of solicitations, telephone records, fax confirmations, etc.

Names of DBEs Solicited	Date of Initial Solicitation	Item(s) of Work	Follow Up Methods and Dates

- C. For each item of work made available, the selected firm and its status as a DBE, the DBEs that provided quotes, the price quote for each firm, and the price difference for each DBE if the selected firm is not a DBE:

Item(s) of Work	Name of Selected Firm	DBE or non-DBE	Name of Rejected Firm	Quote (\$)	Price Difference (\$)

If the firm selected for the item is not a DBE, provide the reasons for the selection on a separate sheet and attach.

Names, addresses, and phone numbers for the firms listed above:

D. The names and dates of each publication in which a request for DBE participation for this project was placed by the bidder. Attach copies of published advertisements or proofs of publication:

Publications	Dates of Advertisement

E. The names of agencies and the dates on which they were contacted to provide assistance in contacting, recruiting and using DBE firms. If the agencies were contacted in writing, provide copies of supporting documents.

Name of Agency		Method & Date of Contact		Results

F. Efforts made to provide interested DBEs with adequate information about the plans, specifications, and requirements of the contract to assist them in responding to a solicitation. Identify the DBE assisted, the information provided, and the date of contact. Provide copies of supporting documents.

G. Efforts made to assist interested DBEs in obtaining bonding, lines of credit, insurance, necessary equipment, supplies, materials, or related assistance or services, excluding supplies and equipment the DBE subcontractor purchases or leases from the prime contractor or its affiliate. Identify the DBE assisted, the assistance offered, and the date. Provide copies of supporting documents.

H. Any additional data to support a demonstration of good faith efforts:

NOTE: USE ADDITIONAL SHEETS OF PAPER IF NECESSARY.

ENGINEER'S ESTIMATE

04-0120R4

Item	Item Code	Item	Unit of Measure	Estimated Quantity	Unit Price	Item Total
1	031072	ELECTRONIC MOBILE DAILY DIARY COMPUTER SYSTEM DATA DELIVERY	LS	LUMP SUM	LUMP SUM	
2	031073	CONSTRUCTION SURVEYING	LS	LUMP SUM	LUMP SUM	
3	031074	PHOTO SURVEY OF EXISTING FACILITIES	LS	LUMP SUM	LUMP SUM	
4	031075	TURBIDITY CONTROL	LS	LUMP SUM	LUMP SUM	
5	031146	VIBRATION MONITORING	LS	LUMP SUM	LUMP SUM	
6	BLANK					
7	070012	PROGRESS SCHEDULE (CRITICAL PATH METHOD)	LS	LUMP SUM	LUMP SUM	
8	070018	TIME-RELATED OVERHEAD	LS	LUMP SUM	LUMP SUM	
9 (S)	071325	TEMPORARY FENCE (TYPE ESA)	M	730		
10	049372	TEMPORARY BYPASS STRUCTURE, EAST TIE-IN	LS	LUMP SUM	LUMP SUM	
11	049373	TEMPORARY BYPASS STRUCTURE, VIADUCT	LS	LUMP SUM	LUMP SUM	
12	049374	TEMPORARY BYPASS STRUCTURE, WEST TIE-IN	LS	LUMP SUM	LUMP SUM	
13 (S)	031087	CONTRACTOR DESIGN	LS	LUMP SUM	LUMP SUM	
14 (S)	074019	PREPARE STORM WATER POLLUTION PREVENTION PLAN	LS	LUMP SUM	LUMP SUM	
15 (S)	074020	WATER POLLUTION CONTROL	LS	LUMP SUM	LUMP SUM	
16 (S)	074025	TEMPORARY SOIL STABILIZER	M2	17 900		
17 (S)	074029	TEMPORARY SILT FENCE	M	1070		
18 (S)	031077	TEMPORARY PERIMETER CONTROL BARRIER	M	160		
19 (S)	074032	TEMPORARY CONCRETE WASHOUT FACILITY	LS	LUMP SUM	LUMP SUM	
20 (S)	074033	TEMPORARY CONSTRUCTION ENTRANCE	EA	6		

ENGINEER'S ESTIMATE

04-0120R4

Item	Item Code	Item	Unit of Measure	Estimated Quantity	Unit Price	Item Total
21 (S)	074034	TEMPORARY COVER	M2	5000		
22 (S)	031078	TEMPORARY DRAINAGE INLET PROTECTION	EA	42		
23 (S)	031079	STABILIZED CONSTRUCTION ROADWAY	M3	1990		
24	120090	CONSTRUCTION AREA SIGNS	LS	LUMP SUM	LUMP SUM	
25 (S)	120100	TRAFFIC CONTROL SYSTEM	LS	LUMP SUM	LUMP SUM	
26 (S)	120149	TEMPORARY PAVEMENT MARKING (PAINT)	M2	1		
27 (S)	120159	TEMPORARY TRAFFIC STRIPE (PAINT)	M	7830		
28 (S)	120165	CHANNELIZER (SURFACE MOUNTED)	EA	70		
29 (S)	120166	CHANNELIZER (SURFACE MOUNTED) (LEFT IN PLACE)	EA	40		
30 (S)	120300	TEMPORARY PAVEMENT MARKER	EA	1750		
31 (S)	031080	TEMPORARY PERIMETER FENCE (TYPE WM-1.8)	M	390		
32 (S)	128650	PORTABLE CHANGEABLE MESSAGE SIGN	EA	47		
33	129000	TEMPORARY RAILING (TYPE K)	M	730		
34	129100	TEMPORARY CRASH CUSHION MODULE	EA	14		
35	031081	TEMPORARY CRASH CUSHION (ADIEM)	EA	3		
36	150662	REMOVE METAL BEAM GUARD RAILING	M	12		
37 (S)	150714	REMOVE THERMOPLASTIC TRAFFIC STRIPE	M	4095		
38	152386	RELOCATE ROADSIDE SIGN-ONE POST	EA	3		
39	156585	REMOVE CRASH CUSHION	EA	1		
40 (S)	157550	BRIDGE REMOVAL	LS	LUMP SUM	LUMP SUM	

ENGINEER'S ESTIMATE

04-0120R4

Item	Item Code	Item	Unit of Measure	Estimated Quantity	Unit Price	Item Total
41 (S)	157561	BRIDGE REMOVAL (PORTION) , LOCATION A	LS	LUMP SUM	LUMP SUM	
42 (S)	157562	BRIDGE REMOVAL (PORTION), LOCATION B	LS	LUMP SUM	LUMP SUM	
43	160101	CLEARING AND GRUBBING	LS	LUMP SUM	LUMP SUM	
44	190101	ROADWAY EXCAVATION	M3	2713		
45	031082	ROADWAY EXCAVATION (BRIDGE REMOVAL) (HAZARDOUS)	M3	800		
46 (S)	031083	EROSION CONTROL (NETTING)	M2	5220		
47 (S)	203003	STRAW (EROSION CONTROL)	TONN	5.2		
48 (S)	203014	FIBER (EROSION CONTROL)	KG	1490		
49 (S)	031084	EROSION CONTROL (TYPE B)	M2	2150		
50 (S)	203021	FIBER ROLLS	M	1520		
51 (S)	203024	COMPOST (EROSION CONTROL)	KG	4510		
52 (S)	203026	MOVE -IN/MOVE-OUT (EROSION CONTROL)	EA	7		
53 (S)	203045	PURE LIVE SEED (EROSION CONTROL)	KG	280		
54 (S)	203061	STABILIZING EMULSION (EROSION CONTROL)	KG	340		
55	220101	FINISHING ROADWAY	LS	LUMP SUM	LUMP SUM	
56	BLANK					
57	BLANK					
58	BLANK					
59	401108	REPLACE CONCRETE PAVEMENT (RAPID STRENGTH CONCRETE)	M3	212		
60	BLANK					

ENGINEER'S ESTIMATE

04-0120R4

Item	Item Code	Item	Unit of Measure	Estimated Quantity	Unit Price	Item Total
61	566011	ROADSIDE SIGN - ONE POST	EA	28		
62	727901	MINOR CONCRETE (DITCH LINING)	M3	20		
63 (S)	800391	CHAIN LINK FENCE (TYPE CL-1.8)	M	6		
64 (S)	800394	CHAIN LINK FENCE (TYPE CL-1.8, EXTENSION ARM)	M	70		
65 (S)	802592	2.4 M CHAIN LINK GATE (TYPE CL-1.8)	EA	2		
66	820107	DELINEATOR (CLASS 1)	EA	11		
67	820134	OBJECT MARKER (TYPE P)	EA	3		
68	833080	CONCRETE BARRIER (TYPE K)	M	560		
69 (S)	839603	CRASH CUSHION (ADIEM)	EA	2		
70 (S)	840515	THERMOPLASTIC PAVEMENT MARKING	M2	29		
71 (S)	840561	100 MM THERMOPLASTIC TRAFFIC STRIPE	M	3230		
72 (S)	840563	200 MM THERMOPLASTIC TRAFFIC STRIPE	M	380		
73 (S)	840564	200 MM THERMOPLASTIC TRAFFIC STRIPE (BROKEN 3.66 M - 0.92 M)	M	1960		
74 (S)	031088	100 MM THERMOPLASTIC TRAFFIC STRIPE (BROKEN 10.48 M - 4.26 M)	M	3610		
75 (S)	850101	PAVEMENT MARKER (NON-REFLECTIVE)	EA	2090		
76 (S)	850102	PAVEMENT MARKER (REFLECTIVE)	EA	880		
77	BLANK					
78 (S)	031090	ELECTRICAL WORK (STAGE 2)	LS	LUMP SUM	LUMP SUM	
79 (S)	031091	300 MM WATER MAIN	M	73		
80 (S)	031092	100 MM WATER LINE	M	74		

ENGINEER'S ESTIMATE

04-0120R4

Item	Item Code	Item	Unit of Measure	Estimated Quantity	Unit Price	Item Total
81 (S)	031093	12 NPS WATER MAIN (TEMPORARY BYPASS STRUCTURE)	M	410		
82 (S)	031094	4 NPS WATER LINE (TEMPORARY BYPASS STRUCTURE)	M	410		
83	BLANK					
84	031695	SEWER VIDEO SURVEY	LS	LUMP SUM	LUMP SUM	
85	BLANK					
86	153151	COLD PLANE ASPHALT CONCRETE PAVEMENT (25 MM MAXIMUM	M2	2493		
87	390102	ASPHALT CONCRETE (TYPE A)	TONN	2040		
88	999990	MOBILIZATION	LS	LUMP SUM	LUMP SUM	

TOTAL BID (A): _____

TOTAL BID (B):

\$ 100,000.00 x _____

(Cost Per Day) **(Enter Working Days Bid)**

(Not To Exceed 730 Days)

TOTAL BASIS FOR COMPARISON OF BIDS: (A+B): = _____

TOTAL BID: _____