

DEPARTMENT OF TRANSPORTATION

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October 11, 2002

04-SF-101-R8.0/7.5
 04-291404

Addendum No. 1

Dear Contractor:

This addendum is being issued to the contract for construction on State highway in THE CITY AND COUNTY OF SAN FRANCISCO FROM SOUTH VAN NESS AVENUE TO FELL STREET ON THE CENTRAL FREEWAY.

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 November 6, 2002.

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

Project Plan Sheet 1 is revised. A half-sized copy of the revised sheet is attached for substitution for the like-numbered sheet.

Project Plan Sheets 52A, 52B, 52C, 52D, 52E, 52F, 52G, 52H, 52I, 52J, 52K, 52L, 52M, 52N, 52O, 52P, 52Q, 52R, 52S, 52T, 52U and 52V are added. Half-sized copies of the added sheets are attached for addition to the project plans.

In the Special Provisions, the "STRUCTURE SEAL AND SIGNATURE," is added as attached.

In the Special Provisions, under the "STANDARD PLANS LIST," the following Standard Plans are deleted:

COLUMN	Level of Contaminants
LOCATION	
COLUMN	Level of Contaminants
LOCATION	

In the Special Provisions, under the "STANDARD PLANS LIST," the following Standard Plans are added:

A20A	Pavement Markers and Traffic Lines, Typical Details
A20B	Pavement Markers and Traffic Lines, Typical Details
A20C	Pavement Markers and Traffic Lines, Typical Details
A20D	Pavement Markers and Traffic Lines, Typical Details
A24A	Pavement Markings – Arrows

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A24B	Pavement Markings – Arrows
A24C	Pavement Markings – Symbols and Numerals
A24D	Pavement Markings – Words
A24E	Pavement Markings – Words and Crosswalks
A62F	Excavation and Backfill – Metal and Plastic Culverts
A73A	Object Markers
A73B	Markers
RSP A73C	Delineators, Channelizers and Barricades
A81A	Crash Cushion, Sand Filled (Unidirectional)
A81B	Crash Cushion, Sand Filled (Unidirectional)
A81C	Crash Cushion, Sand Filled (Bidirectional)
A85	Chain Link Fence
A88A	Curb Ramp Details
A88B	Curb Ramp Details
T1A	Temporary Crash Cushion, Sand Filled (Unidirectional)
T1B	Temporary Crash Cushion, Sand Filled (Bidirectional)
T3	Temporary Railing (Type K)
T4	Temporary Traffic Screen
T10	Traffic Control System for Lane Closure On Freeways and Expressways
T10A	Traffic Control System for Lane and Complete Closures On Freeways and Expressways
T11	Traffic Control System for Lane Closure On Multilane Conventional Highways
T12	Traffic Control System for Lane Closure On Multilane Conventional Highways
T13	Traffic Control System for Lane Closure On Two Lane Conventional Highways
T14	Traffic Control System for Ramp Closure
RS1	Roadside Signs, Typical Installation Details No. 1
RS2	Roadside Signs, Wood Post, Typical Installation Details No. 2
RS3	Roadside Signs - Laminated Wood Box Post Typical Installation Details No. 3
RS4	Roadside Signs, Typical Installation Details No. 4
ES – 1A	Signal, Lighting and Electrical Systems – Symbols and Abbreviations
ES – 1B	Signal, Lighting and Electrical Systems – Symbols and Abbreviations
ES – 2A	Signal, Lighting and Electrical Systems – Service Equipment
ES – 2C	Signal, Lighting and Electrical Systems – Service Equipment Notes, Type III Series
ES – 2D	Signal, Lighting and Electrical Systems – Service Equipment and Typical Wiring Diagram Type III-A Series
ES – 4A	Signal, Lighting and Electrical Systems – Signal Heads and Mountings
ES – 4B	Signal, Lighting and Electrical Systems – Signal Heads and Mountings
ES – 4C	Signal, Lighting and Electrical Systems – Signal Heads and Mountings
ES – 4D	Signal, Lighting and Electrical Systems – Signal Heads and Mountings
ES – 4E	Signal, Lighting and Electrical Systems – Signal Heads and Mountings
ES – 5C	Signal, Lighting and Electrical Systems – Detectors

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ES – 7B	Signal and Lighting Standards – Type 1 Standards and Equipment Numbering
ES – 7I	Signal and Sign Standards – Type 33, Left Turn
ES – 7M	Signal and Sign Standards – Details No. 1
ES – 7N	Signal and Sign Standards – Details No. 2
ES – 8	Signal, Lighting and Electrical Systems – Pull Box Details
ES – 11	Signal, Lighting and Electrical Systems – Foundation Installations
ES – 13A	Signal, Lighting and Electrical Systems – Splicing Details

In the Special Provisions, Section 10-1.25, "EXISTING HIGHWAY FACILITIES," subsection "BRIDGE REMOVAL," is replaced as attached.

In the Special Provisions, Section 10-3.17, "PAYMENT," is replaced as attached.

In the Special Provisions, Section 13, "RAILROAD RELATIONS AND INSURANCE REQUIREMENTS," is added as attached.

To Proposal and Contract book holders:

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.

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

BRIDGE REMOVAL

Bridge removal shall conform to the provisions in Section 15-4, "Bridge Removal," of the Standard Specifications and these special provisions.

Attention is directed to "Order of Work," of these special provisions.

Attention is directed to "Hazardous and Non-Hazardous Material, General," "Hazardous and Non-Hazardous Material Excavation," and "Bridge Removal: Asbestos-Containing Material," of these special provisions.

Attention is directed to Section 7-1.11, "Preservation of Property" and Section 7-1.12, "Responsibility for Damage" of the Standard Specifications.

Attention is directed to "Relations with Railroad Company" and "Obstructions" of these special provisions for tunnels and overhead lines.

General

Existing bridge to be removed shall include, in general, the following:

BRIDGE REMOVAL CENTRAL VIADUCT (REMOVAL) (Bridge No. 34-0077)

Remove the 6-span steel plate girder viaduct with reinforced concrete deck on steel bent caps and steel column bents between Bent E-94 and Bent 8, approximately 169.7 meters long and the 28-span reinforced concrete box girder viaduct on steel cased concrete column bents between Bent 8 and Abutment FL36, approximately 750.4 meters long.

Bridge removal shall also include the removal and disposal of the restrainer brackets, high strength rods and hardware not required for restrainer modification.

Bridge removal shall also include saw cutting into the concrete and asphalt concrete pavement or sidewalk surfaces to a true line prior to column removal to the limits shown on the plans.

Bridge Removal Plan

Prior to any bridge removal, the Contractor shall submit a complete bridge removal plan for the Central Viaduct (Bridge No. 34-0077), including working drawings and design calculations, to the Engineer for the proposed bridge removal plan, detailing procedures, sequences, and all features required to perform the removal in a safe and controlled manner. The bridge removal plan, including the working drawings and design calculations, shall be prepared and signed by an engineer who is registered as a Civil Engineer in the State of California.

The bridge removal plan shall include, but not be limited to the following:

- A. The removal sequence, including staging of removal operations.
- B. Equipment locations on the structure during removal operations.
- C. Temporary support shoring or temporary bracing.
- D. Locations, descriptions and values of all loads including construction equipment loads, demolition equipment loads and bridge removal loads, description of equipment to be used, and complete details and calculations for supporting the existing structure where work is to be performed over traffic or railroad property.
- E. Details, locations, and types of protective covers to be used.
- F. Measures to assure that people, property, utilities, and improvements will not be endangered.
- G. Details and measures for preventing material, equipment, and debris from falling onto public traffic or railroad property.
- H. Details for dismantling, removing, loading and hauling painted steel plate girder, steel bent caps, steel columns, and steel column cages.
- I. Location of disposal for painted steel elements.
- J. Details for removing concrete.
- K. Details for removing the concrete box girder span over Market Street, at a minimum, addressing stability of the span during demolition considering the support of the box girder, railroad overhead wires and underground facilities, including tunnels.

The design calculations shall be adequate to demonstrate the stability of the structure during all stages of the removal operations. Calculations shall be provided for each stage of bridge removal and shall include dead and live load values assumed in the design of protective covers. At a minimum, a stage will be considered to be removal of the deck, the soffit, or the girders, in any span; or walls, bent caps, or columns at support locations.

The bridge removal plan shall conform to the provisions in Section 5-1.02, "Plans and Working Drawings," of the Standard Specifications. The number of sets of drawings, design calculations, and unless otherwise specified in the following table, the time for reviewing bridge removal plans shall be the same as specified for falsework working drawings in Section 51-1.06A, "Falsework Design and Drawings," of the Standard Specifications.

The time to be provided for the Engineer's review of the working drawings for removing specific portions thereof, shall be submitted in separate drawings for the specified bents as follows and shall be submitted concurrently:

Portions of Structure	Review Time - Weeks
Central Viaduct (Br. No. 34-0077)	10 weeks total
A. Bent 6 to Hinge by Bent 10	
B. Bent 20 Hinge on top of column to Hinge by Bent 23	
C. Remaining portions of the bridge to be removed	

For bridge removal over railroads, including overhead wires, tunnels and underground facilities, approval by the Engineer of the bridge removal plans will be contingent upon the drawings being satisfactory to the railroad company involved.

In addition to having an approved bridge removal plan, no bridge removal work shall be started until the Contractor is in compliance with all requirements necessary for the bridge removal operations.

Temporary support shoring, temporary bracing, and protective covers over railroads, shall conform to the latest guidelines of the railroad company involved and shall provide the minimum clearances required under "Relations with Railroad Company" of these special provisions for the passage of railroad traffic.

The following additional requirements apply to the removal of portions of the bridge that are over or adjacent to roadways that may be closed to public traffic or railroad property:

- A. The closure of roadways to public traffic shall conform to the provisions "Order of Work" and "Maintaining Traffic" of these special provisions.
- B. Prior to closing a roadway to traffic to accommodate bridge removal operations, the Contractor shall have all necessary workers, materials, and equipment at the site as needed to proceed with the removal work in an expeditious manner, and all submittals requiring approval of the Engineer shall be approved. While the roadway is closed to public traffic, work shall be pursued promptly and without interruption until the roadway is reopened to public traffic.
- C. Bridge removal operations shall be performed during periods of time that the roadway is closed to public traffic except as specified herein for preliminary work.
- D. Preliminary work shall be limited to operations that will not reduce the structural strength or stability of the bridge, or any element thereof, to a level that in the judgment of the Engineer would constitute a hazard to the public. This preliminary work shall also be limited to operations that cannot cause debris or any other material to fall onto the roadway. Protective covers may be used to perform preliminary work such as chipping or cutting the superstructure into segments, provided the covers are of sufficient strength to support all loads and are sufficiently tight to prevent dust and fine material from sifting down onto the traveled way. Protective covers shall extend at least 1.2 m beyond the limit of the work underway. Bottom slabs of box girders may be considered to be protective covers for preliminary work performed on the top slab inside the limits of the exterior girders.

- E. Temporary support shoring and temporary bracing shall be used in conjunction with preliminary work when necessary to insure the stability of the bridge.
- F. Temporary support shoring, temporary bracing, and protective covers shall not encroach closer than 1.2 m horizontally from the edge or 4.6 m vertically above any traffic lane or shoulder that is open to public traffic.
- G. During periods when the roadway is closed to public traffic or parking lot is closed, debris from bridge removal operations may be allowed to fall directly onto the lower roadway or parking lot provided adequate protection is furnished for all roadway and parking lot facilities. The Contractor shall place a temporary protective pad consisting of timber (or other materials that minimize dust) to protect existing facilities from damage due to falling concrete. Earthen or concrete debris pads shall not be used. Prior to reopening the roadway to public traffic and parking lot, all debris, protective pads, and devices shall be removed and the roadway and parking lot swept clean with wet power sweepers or equivalent methods.
- H. The removal operations shall be conducted in such a manner that the portion of the structure not yet removed remains in a stable condition at all times. For girder bridges, each girder shall be completely removed within a span before the removal of the adjacent girder is begun.

The following additional requirements apply to the removal of portions of the bridge whenever the removal work is to be performed over public traffic or railroad property:

- A. A protective cover shall be constructed before beginning bridge removal work. The protective cover shall be supported by shoring, falsework, or members of the existing structure. The Contractor shall be responsible for designing and constructing safe and adequate protective covers, shoring, and falsework with sufficient strength and rigidity to support the entire load to be imposed.
- B. The construction and removal of the protective cover, and the installation and removal of temporary railings shall conform to the provisions in "Order of Work," "Maintaining Traffic," "Temporary Railings" of these special provisions.
- C. Bridge removal methods shall be described in the working drawings, supported by calculations with sufficient details to substantiate live loads used in the protective cover design. Dead and live load values assumed for designing the protective cover shall be shown on the working drawings.
- D. The protective cover shall prevent any materials, equipment, or debris from falling onto public traffic or railroad property. The protective cover shall have a minimum strength equivalent to that provided by good, sound Douglas fir planking having a nominal thickness of 50 mm. Additional layers of material shall be furnished as necessary to prevent fine materials or debris from sifting down upon the traveled way and shoulders.
- E. During the removal of bridge segments, and when portions of the bridge, such as deck slabs or box girder slabs, comply with the requirements for the protective cover, a separate protective cover need not be constructed.
- F. The protective cover shall extend at least 3 m beyond the outside face of the bridge railing.
- G. The protective cover shall provide the openings specified under "Maintaining Traffic" of these special provisions, except that when no openings are specified for bridge removal, a vertical opening of 4.6 m and a horizontal opening of 9.8 m shall be provided for the passage of public traffic.
- H. The construction of the protective cover as specified herein shall not relieve the Contractor of responsibilities specified in Section 7-1.12A, "Indemnification," and Section 7-1.12B, "Insurance," of the Standard Specifications.
- F. Before removal of the protective cover, the Contractor shall clean the protective cover of all debris and fine material.

Columns supporting a span being demolished and the columns supporting the two adjacent spans shall be temporarily braced before demolition of the span may proceed.

Temporary support shoring, temporary bracing, and protective covers, as required, shall be designed and constructed in conformance with the provisions in Section 51-1.06, "Falsework," of the Standard Specifications and these special provisions.

The assumed horizontal load to be resisted by the temporary support shoring and temporary bracing, for removal operations only, shall be the sum of the actual horizontal loads due to equipment, construction sequence or other causes, and an allowance for wind, but in no case shall the assumed horizontal load to be resisted in any direction be less than 15 percent of the total dead load of the structure to be removed.

The following requirements apply to temporary bracing and temporary support shoring:

- A. Temporary bracing and temporary support shoring shall remain in place until the supported portions of the structure have been removed.
- B. The shear and moment capacity in the existing column connections shall be disregarded in the design of column bracing.
- C. Lateral bracing of columns between column connections shall be designed to resist any lateral loads imposed by the Contractor's bridge removal procedure and sequence as defined in the bridge removal plan.
- D. Temporary support shoring shall be designed to support the vertical loads imposed by the Contractor's bridge removal procedure and sequence as defined in the bridge removal plan.
- E. Welding, welder qualifications, and inspection of welding for all steel members shall conform to the requirements of ANSI/AASHTO/AWS D1.1.

Temporary support shoring shall be mechanically connected to the structure. Friction forces developed between the existing structure and temporary support shoring shall not be considered as an effective mechanical connection.

An engineer for the Contractor who is registered as a Civil Engineer in the State of California shall inspect the temporary support shoring, temporary bracing, and protective coverings, for conformity with the working drawings. The Contractor's engineer shall certify in writing that the temporary support shoring, temporary bracing, and protective coverings conform to the details on the working drawings, and that the material and workmanship are satisfactory for the purpose intended. A copy of the certification shall be submitted to the Engineer and a copy of this certification shall be available at the site of the work at all times.

The registered engineer, who prepared and signed the bridge removal plan, shall be present at all times when bridge removal operations are in progress. The engineer shall inspect the bridge removal operation and report in writing on a daily basis the progress of the operation and the status of the remaining structure. A copy of the daily report shall be available at the site of the work at all times. The Contractor shall submit to the Engineer a copy of the daily reports on a weekly basis.

Should an unplanned event occur or the bridge removal operation deviate from the approved bridge removal plan, the bridge removal operations shall immediately cease. The Contractor's engineer shall submit immediately to the Engineer for approval, the procedure of operation proposed to correct or remedy the occurrence of an unplanned event or to revise the approved plan. The engineer shall report in writing within 24 hours of the event, the details of the event and the procedure for correction. In addition, the engineer shall include proposed procedures to eliminate similar events in the future.

The registered engineer, who prepared and signed the bridge removal plan, may authorize, in writing, a representative for on site inspection of temporary support shoring, temporary bracing, protective covers and bridge removal operations. The authorized representative shall also be a registered Civil Engineer with a current license in the State of California. A copy of the written authorization shall be provided to the Engineer a minimum of 24 hours in advance of anticipated field inspection of temporary support shoring, temporary bracing, protective covers (as required by the bridge removal plan) and bridge removal operations.

Approval by the Engineer of the bridge removal plans or field inspection performed by the Engineer will in no relieve the Contractor of full responsibility for the bridge removal plan and procedure.

Bridge Removal

A free falling mass or a falling mass attached to a cable, rope or chain shall not be used.

Prior to the removal of the concrete box girder portion of the viaduct, all of the lost deck timber shall be removed and disposed of before bridge removal in that portion is begun.

All sawcuts shall be to a minimum depth of 50-mm.

At Abutment FL-36 the reinforced concrete footing and piling shall be removed to not less than one meter below the bottom of the footing.

Excavation for bridge removal work shall include non-hazardous and hazardous materials. Limits of hazardous and non-hazardous structure excavation are specified in "Hazardous and Non-Hazardous Material, General" of these special provisions.

Holes resulting from concrete removal shall be backfilled with non-hazardous structure backfill to the adjacent existing grades.

Bridge removal shall also consist of abrasive blast cleaning paint from the surfaces of the concrete collars at the steel columns, including the containment, collection, handling and disposal of the resultant debris. Abrasive blast cleaning shall conform to Section 51-1.13, "Bonding" of the Standard Specifications. Containment, collection, handling and disposal of the resultant debris shall conform to the requirements as specified in "Existing Paint Systems" herein.

In addition to the provisions in Section 8-1.05, "Temporary Suspension of Work," of the Standard Specifications, bridge removal may also be suspended by the Engineer for any one of the following:

- A. Demolition plans are not approved.
- B. The Contractor is not proceeding in accordance with the approved bridge removal plans, including the sequence and procedures of the approved bridge removal operations.
- C. Safety precautions are inadequate.
- D. Existing neighboring facilities are damaged as a result of bridge removal.
- E. Dust control is inadequate.

Suspension of bridge removal operations shall in no way relieve the Contractor of their responsibilities under the terms of the contract. Bridge removal operations shall not resume until modifications have been made to correct the conditions that resulted in the suspension.

Bridge removal complaints by the public shall be accurately recorded by the Contractor as to complaint, location, date, time, nature of complaint, the complaint investigation conducted, and the disposition of the complaint. Complaint records shall be available to the Engineer at all times.

Removed materials that are not to be salvaged or used in the reconstruction shall become the property of the Contractor and shall be disposed of in conformance with the provisions in Section 7-1.13, "Disposal of Material Outside the Highway Right of Way," of the Standard Specifications. .

The existing paint systems for the steel plate girders with steel bent caps and steel columns between Bents E-94 and Bent 8, and for the top surfaces of the concrete collars at the steel columns between Bents 3 and 7 on Bridge Number 37-0077 consist of lead and zinc. The existing paint systems for the steel column casings between Bent 8 and Abutment FL-36 on Bridge Number 37-0077 consist of zinc. Traces of lead may also be present on the steel or within the existing paint system of the steel column casings.

Payment

Full compensation for bridge removal work including cutting and heating coated materials, debris handling and disposal, the containment system, and protective work clothing and access to hygiene facilities for State personnel, shall be considered as included in the contract lump sum price paid for bridge removal and no additional compensation will be allowed therefor.

Full compensation for saw cutting into concrete and asphalt concrete pavement or sidewalk surfaces prior to column removal to the limits shown on the plans shall be considered as included in the contract lump sum price paid for bridge removal and no additional compensation will be allowed therefor.

Full compensation for the removal and disposal of existing restrainer brackets, high strength rods, and hardware not required for restrainer modification shall be considered as included in the contract lump sum price paid for bridge removal and no additional compensation will be allowed therefor.

Full compensation for abrasive blast cleaning paint from the surfaces of the concrete collars, including containment, collection, handling and disposal of the resultant debris shall be considered as included in the contract lump sum price paid for bridge removal and no additional compensation will be allowed therefor.

Full compensation for the removal and disposal of piling at Abutment FL-36 one meter below the bottom of the footing shall be considered as included in the contract lump sum price paid for bridge removal and no additional compensation will be allowed therefor.

Full compensation for the removal, loading, transporting and the disposal of hazardous and non-hazardous structure excavation shall be considered as included in the contract lump sum price paid for bridge removal and no additional compensation will be allowed therefor.

Full compensation for conforming to the requirements of this section shall be considered as included in the contract lump sum price paid for bridge removal and no additional compensation will be allowed therefor.

10-3.17 PAYMENT

Full compensation for hauling and stockpiling electrical materials shall be considered as included in the contract price paid for the item requiring the material to be salvaged and no additional compensation will be allowed therefor.

The contract lump sum price paid for modify signal and lighting (City – Location 3) shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals, and for doing all the work involved in modify signal and lighting (City – Location 3), complete in place, as shown on the plans, as specified in the Standard Specifications and these special provisions, and as directed by the Engineer.

The contract lump sum price paid for modify signal and lighting stage construction (City – Location 1) (Stages A & B) shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals, and for doing all the work involved in modify signal and lighting stage construction (City – Location 1) (Stages A & B), complete in place, as shown on the plans, as specified in the Standard Specifications and these special provisions, and as directed by the Engineer.

The contract lump sum price paid for removal signal and lighting stage construction (City – Location 1) shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals, and for doing all the work involved in removal signal and lighting stage construction (City – Location 1), complete in place, as shown on the plans, as specified in the Standard Specifications and these special provisions, and as directed by the Engineer.

The contract lump sum price paid for signal and lighting (City – Location 1) shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals, and for doing all the work involved in signal and lighting (City – Location 1), complete in place, as shown on the plans, as specified in the Standard Specifications and these special provisions, and as directed by the Engineer.

The contract lump sum price paid for modify signal and lighting (City – Location 2) shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals, and for doing all the work involved in modify signal and lighting (City – Location 2), complete in place, as shown on the plans, as specified in the Standard Specifications and these special provisions, and as directed by the Engineer.

The contract lump sum price paid for modify signal and lighting (City – Location 4) shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals, and for doing all the work involved in modify signal and lighting (City – Location 4), complete in place, as shown on the plans, as specified in the Standard Specifications and these special provisions, and as directed by the Engineer.

The contract lump sum price paid for modify signal and lighting (City – Location 5) shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals, and for doing all the work involved in modify signal and lighting (City – Location 5), complete in place, as shown on the plans, as specified in the Standard Specifications and these special provisions, and as directed by the Engineer.

SECTION 13: RAILROAD RELATIONS AND INSURANCE REQUIREMENTS

13-1: RELATIONS WITH RAILROAD COMPANY

13-1.01 GENERAL

The term "Railroad" shall mean the San Francisco Bay Area Rapid Transit District (BART) and the San Francisco Municipal Railway (MUNI).

It is expected that the Railroad will cooperate with the Contractor to the end that the work may be handled in an efficient manner. However, except for the additional compensation provided for hereinafter for delays in completion of specific unit of work to be performed by the Railroad, and except as provided in Public Contracts Code Section 7102, the Contractor shall have no claim for damages, extension of time, or extra compensation in the event his work is held up by work performed by the Railroad.

The Contractor must understand the Contractor's right to enter Railroad's property is subject to the absolute right of Railroad to cause the Contractor's work on Railroad's property to cease if, in the opinion of Railroad, Contractor's activities create a hazard to Railroad's property, employees, and operations.

The Contractor shall sign and submit to the Railroad the Contractor's Endorsement, in the form attached hereto.

13-1.02 RAILROAD REQUIREMENTS

The Contractor shall notify Mr. Edwin Kung, Manager Special Services Engineering, BART, 101 8th Street Oakland, CA 94607, telephone (510) 464-6445, fax (510) 464-6470, Mr. Patrick Rivera, Manager Street and Highway Section, Bureau of Engineering, Department of Public Works, City of San Francisco, 1680 Mission Street 3rd Floor San Francisco, CA 94103, telephone (415) 554-8280, fax (415) 554-8243, and the Engineer, in writing, at least 10 working days before performing any work on, or adjacent to the property or subway structure of the Railroad.

The Contractor shall cooperate with the Railroad where work is over the subway structure, or within the limits of Railroad property, to expedite the work and avoid interference with the operation of railroad equipment.

The Contractor shall comply with the rules and regulations of Railroad or the instructions of its representatives in relation to protecting the subway structure and property of Railroad and the traffic moving inside such subway structure, as well as the wires, signals and other property of Railroad, its tenants or licensees, at and in the vicinity of the work during the period of construction.

The Contractor shall perform work to not endanger or interfere with the safe operation of the subway structure and property of Railroad and traffic moving inside such subway structure, as well as wires, signals and other property of Railroad, its tenants or licensees, at or in the vicinity of the work.

The Contractor shall take protective measures to keep railroad facilities free of sand or debris resulting from his operations. Damage to railroad facilities resulting from Contractor's operations will be repaired or replaced by Railroad and the cost of such repairs or replacement shall be deducted from the Contractor's progress and final pay estimates.

The Contractor shall contact the Railroad's "Call Before You Dig" at least 48 hours prior to commencing work, at BART (510) 464-6445, MUNI (415) 554-8280 to determine location of fiber optics. If a telecommunications system is buried anywhere on or near railroad property, the Contractor will coordinate with the Railroad and the Telecommunication Company(ies) to arrange for relocation or other protection of the system prior to beginning any work on or near Railroad Property.

The Contractor shall not pile nor store any materials nor park any equipment over the subway structure closer than 7'-6" to the exterior face of subway structure, unless directed by Railroad's representative.

The Contractor shall also abide by the following general guidelines for design and construction over or adjacent to Railroad's subway structures during the course of construction:

Structures over or adjacent to Railroad's subway structures shall be designed and constructed so as not to impose any temporary or permanent adverse effects on subway. The minimum clearance between any part of the adjacent structures to exterior face of substructures shall be 7'-6". Minimum cover of 8 feet shall be maintained wherever possible.

Allowable additional average vertical loading over cut-and-cover subways shall be in accordance with the following:

D (ft)	Allowable Additional Average Vertical Loading (psf)
D>20	0
5<D<20	800-40D
D<5	600

Where D is the vertical distance from the top of the subway roof to the ground surface.

Allowable additional average vertical loading over steel-lined tunnels shall be in accordance with the following:

D (ft)	Allowable Additional Average Vertical Loading (psf)
D=35	0
D<35	120x(35-D)

Where D is the vertical distance from the top of tunnel roof to the ground surface.

The above shall be considered as general information only and is not intended to cover all situations. The net effect of equipment load over the Railroad's subway structure shall be calculated and submitted to Railroad for review and approval.

Notwithstanding these guidelines, pertinent design and construction documents shall be submitted to the Railroad for review and approval.

Walkways with railing shall be constructed by Contractor over open excavation areas when in close proximity of subway structures, and railings shall not be closer than 2.286-meter (7'-6") horizontally from exterior face of subway structure.

Infringement on the above temporary construction clearances by the Contractor's operations shall be submitted to the Railroad through the Engineer, and shall not be undertaken until approved by the Railroad, and until the Engineer has obtained any necessary authorization from any governmental body or bodies having jurisdiction there over. No extension of time or extra compensation will be allowed in the event that the Contractor's work is delayed pending Railroad approval and governmental authorization.

Four sets of plans, in 11" x 17" format, and two sets of calculations showing details of construction affecting the Railroad's subway structure and property not included in the contract plans, including but not limited to shoring and falsework, shall be submitted to the Engineer for review prior to submittal to Railroad (Les Freligh, District Real Estate Surveyor, BART, 1330 Broadway Suite 1800, Oakland, CA 94612) for final approval. Falsework shall comply with Union Pacific Railroad's guidelines. Demolition of existing structures shall comply with Union Pacific Railroad's guidelines. Shoring shall be designed in accordance with Railroad's shoring requirements. All plans and calculations shall be prepared and signed by a professional civil engineer registered in the State of California. The review and approval by Railroad may take up to 6 weeks after receipt of all necessary information. No work shall be undertaken until such time as the Railroad has given such approval.

Heavy equipment crossing over subway structure of Railroad for the purpose of hauling abandoned material, earth, rock, paving or other materials will not be permitted. If the Contractor, for the purpose of highway structures, desires to move equipment or materials across Railroad's subway structure, the Contractor shall first obtain permission from Railroad. Should Railroad approve the crossing, the Contractor shall bear the cost of the warning devices that might be required. The Contractor shall furnish the Contractor's own employees as flagmen to control movements of vehicles.

Blasting will be permitted only when approved by the Railroad.

The Contractor shall, upon completion of the work covered by this contract to be performed by Contractor upon the premises or over or adjacent to the subway structure of Railroad, promptly remove from the premises of Railroad, Contractor's tools, implements and other materials, whether brought upon said premises and cause said premises to be left in a clean and presentable condition.

13-1.03 PROTECTION OF RAILROAD FACILITIES

Upon advance notification of not less than 10 working days by the Contractor, Railroad representatives, conductors, flagmen or watchmen will be provided by Railroad to protect its facilities, property and movements of its trains or engines. Notice shall be made to Mr. Edwin Kung, Manager Special Services Engineering, BART 101 8th Street Oakland, CA 94607, telephone (510) 464-6445. At the time of notification, the Contractor shall provide Railroad with a schedule of dates that construction activities will be held, as well as times, if outside normal working hours. Subsequent deviation from the schedule shall require 10 working days advance notice from the first affected date. The Railroad will furnish such personnel or other protective devices:

- a) For any excavation below elevation of street surface if, in the opinion of Railroad's representative, subway structure or other Railroad facilities may be subject to overloading, damage or movement.
- b) During any clearing, grubbing, grading or blasting in proximity to Railroad which, in the opinion of Railroad's representative, may endanger Railroad facilities or operations.
- c) During any of Contractor's operations when, in the opinion of Railroad's representatives, Railroad facilities, including, but not limited to, tracks, subway structures, buildings, signals, wire lines or pipe lines, may be endangered.

The cost of inspection provided by Railroad during the period of constructing or demolishing that portion of the project located on or near Railroad property, as deemed necessary for the protection of Railroad's facilities and trains, will be borne by the State for a period of 60 working days, consisting of 30 working days for the BART tunnel at Mission Street/Otis Street and 30 working days for the MUNI tunnel at the Market Street, beginning on the date work commences on or near property of Railroad. The Contractor shall pay to the State liquidated damages in the sum of \$500 per day for each day in excess of the above 60 working days the Contractor works on or near Railroad property, and which requires protection of Railroad's facilities and trains.

13-1.04 WORK BY RAILROAD

Railroad will furnish or cause to be furnished as necessary due to construction, labor materials, tools and equipment to perform certain works including relocation of telephone, telegraphy and signal lines and appurtenances and will perform any other work in connection therewith.

The following work by Railroad will be performed by Railroad forces and is not a part of the work under this contract.

- (a) The Railroad will perform preliminary engineering inspection as specified in Section 13-1.03, "Protection of Railroad Facilities," of these special provisions.

13-1.05 DELAYS DUE TO WORK BY RAILROAD

No delay due to work by the Railroad is anticipated

If delays due to work by the Railroad occur, and the Contractor sustains loss which, in the opinion of the Engineer, could not have been avoided by the judicious handling of forces, equipment and plant, the amount of said loss shall be determined as provided in Section 8-1.09, "Right of Way Delays," of the Standard Specifications.

If a delay due to work by Railroad occurs, an extension of time determined pursuant to the provisions in Section 8-1.07, "Liquidated Damages," of the Standard Specifications will be granted.

13-1.06 LEGAL RELATIONS

The provisions of Section 13-1, "Relations with Railroad Company," and the provisions of Section 13-2, "Railroad Protective Insurance," of these special provisions shall inure directly to the benefit of Railroad.

13-2 RAILROAD PROTECTIVE INSURANCE

The term "Railroad" shall mean the San Francisco Bay Area Rapid Transit District (BART) and the San Francisco Municipal Railway (MUNI).

In addition to any other form of insurance or bonds required under the terms of the contract and specifications, the Contractor will be required to carry insurance of the kinds and in the amounts hereinafter specified.

Such insurance shall be approved by the Railroad before any work is performed on Railroad's property and shall be carried until all work required to be performed on or adjacent to the Railroad's property under the terms of the contract is satisfactorily completed as determined by the Engineer, and thereafter until all tools, equipment and materials have been removed from Railroad's property and such property is left in a clean and presentable condition.

The insurance herein required shall be obtained by the Contractor, who shall furnish the Railroad with completed certificates, in the form attached hereto, signed by the insurance company or its authorized agent or representative, reflecting the existence of each of the policies required by 1 and 2 below including coverage for X, C and U and completed operations hazards, and the original policy of insurance (or a certified duplicate original policy) required by 3 below, to:

Les Freligh
District Real Estate Surveyor
BART
1330 Broadway Suite 1800
Oakland, CA 94612

Certificate of insurance shall guarantee that the policy under 1 and 2 will not be amended, altered, modified or canceled insofar as the coverage contemplated hereunder is concerned, without at least thirty (30) days notice mailed by registered mail to the Railroad.

Full compensation for all premiums which the Contractor is required to pay on all the insurance described hereinafter shall be considered as included in the prices paid for the various items of work to be performed under the contract, and no additional allowance will be made therefor or for additional premiums which may be required by extensions of the policies of insurance.

The approximate ratio of the estimated cost of the work over or under or within 50 feet of Railroad's subway structure to the total estimated cost is 0.08. Railroad traffic is undersurface.

1. Contractor's Public Liability and Property Damage Liability Insurance

The Contractor shall, with respect to the operations he performs within or adjacent to Railroad's property, carry regular Contractor's Public Liability and Property Damage Liability Insurance providing for the same limits as specified for Railroad's Protective Public Liability and Property Damage Liability insurance to be furnished for and in behalf of Railroad as hereinafter provided.

If any part of the work within or adjacent to Railroad's property is subcontracted, the Contractor in addition to carrying the above insurance shall provide the above insurance on behalf of the subcontractors to cover their operations.

2. Contractor's Protective Public Liability and Property Damage Liability Insurance.

The Contractor shall, with respect to the operations performed for him by subcontractors who do work within or adjacent to Railroad's property, carry in his own behalf regular Contractor's Protective Public Liability and Property Damage Liability Insurance providing for the same limits as specified for Railroad's Protective Public Liability and Property Damage Liability Insurance to be furnished for and on behalf of Railroad as hereinafter provided.

3. Railroad's Protective Public Liability and Property Damage Liability Insurance

The Contractor shall, with respect to the operations he performs within or adjacent to Railroad's property or that of any of his subcontractors who do work within or adjacent to Railroad's property perform, have issued and furnished in favor of Railroad, Policy or policies of insurance in the Railroad Protective Liability Form as hereinafter specified.

INSURANCE

At all times during the life of this Permit, or as may further be required by this Permit, Permit tee at its own cost and expense, shall provide the insurance specified as follows:

1. Evidence Required

At or before execution of this Permit, Permit tee shall provide BART with a certificate of insurance executed by an authorized representative of the insurer(s) evidencing that Permit tee's insurance complies with this Article, including a copy of all required endorsements.

2. Notice of Cancellation, Reduction or Material Change in Coverage.

Policies shall be endorsed to provide thirty (30) days prior written notice of any cancellation, reduction or material change in coverage. Notices, including evidence of insurance, shall be forwarded to:

San Francisco Bay Area Rapid Transit District
Attention: Manager of Insurance
P. O. Box 12688
Oakland, California 94604-2688

3. Qualifying Insurers

All policies shall be issued by California admitted companies which hold a current policy holders alphabetic and financial size category rating of not less than A:VIII according to Best's Insurance Reports.

4. Insurance Required

A. Commercial General Liability Insurance for bodily injury (including death) and property damage which provides limits of not less than Ten Million Dollars (\$10,000,000) per occurrence and Ten Million Dollars (\$10,000,000) annual aggregate as applicable.

1. Coverage included shall include:

- a) Premises and Operations;
- b) Products/Completed Operations;
- c) Broad Form Property Damage;
- d) Contractual liability;
- e) Personal Injury liability; and
- f) Cross-Liability and Sever ability of Interests.
- g) Explosion, Collapse and Underground (XCU) *

2. Such insurance shall include the following endorsements, copies of which shall be provided to BART:
 - a) Inclusion of BART, its directors, officers, representatives, agents and employees as additional insured as respects to Permit tee's operations in connection with this Permit;
 - b) Stipulation that the insurance is primary insurance and that no insurance or self-insurance of BART will be called upon to contribute to a loss.

- B. Automobile Liability for bodily injury (including death) and property damage which provides a coverage limit of at least One Million Dollars (\$1,000,000) combined single limit per occurrence applicable for all owned, non-owned and hired vehicles.

- C. Statutory Workers' Compensation and Employer's Liability Insurance for not less than One Million Dollars (\$1,000,000) per accident applicable to Employer's Liability coverage for all employees engaged in services or operations under this Permit. The policy shall include broad form all-states/other states coverage.

- D. Railroad Protective Liability with respect to the operations of Permit tee and any of its contractors or subcontractors above the railroad tracks or within fifty (50) feet horizontally of the railroad tracks, Railroad Protective Liability Insurance with a policy form acceptable to BART, including pollution coverage for job site fuels and lubricants in an amount not less than Ten (\$10,000,000) million dollars per occurrence, combined single limit, for Coverages A and B, for losses arising out of injury to or death of any person and for physical loss of or damage to or destruction of property, including loss of use thereof. Prior to commencing work or entering onto the Property, Permit tee shall file the original copy of the policy with the BART Insurance Department. This policy is to be kept in effect until the entire project is completed. If the \$10 million limit is diminished at any time during the Project, Permit tee will be obligated to restore the Railroad Protective Liability Insurance limit to the full \$10 million.

5. Special Provisions

The foregoing requirements as to the types and limits of insurance coverage to be maintained by Permit tee and any approval of said insurance by District is not intended to and shall not in any manner limit or qualify the liabilities and obligations otherwise assumed by Permit tee pursuant to this Permit, including but not limited to the provisions concerning indemnification. Should any of the work be contracted, Permit tee shall require each of its contractors of any tier to provide the aforementioned insurance.

* (Note: XCU coverage (Section 4.A.1.g) is only required under certain circumstances (excavation, borings, etc.). General liability limits may be increased relative to risk involved).