

SECTION 01 35 14

OPERATING SYSTEM INTERFACE

PART 1 – GENERAL

1.01 SECTION INCLUDES

- A. Requirements for accessing the BART Operating System
- B. BART Operating Rules and Procedures (OR&P)
- C. Training

1.02 MEASUREMENT AND PAYMENT

- A. Roadway Worker Protection (RWP) certification training and recertification will be provided by the District and measured and paid for as a unit price per manhour of training time as indicated on the applicable Bid Item in the Bid Schedule of the Bid Form. The District will not pay for worker hours spent in retraining and retesting required for Roadway Worker Protection certification.
- B. Training time for District-provided training other than Roadway Worker Protection certification, as described in Article 1.07 herein, will be paid for as a unit price per manhour of training time as indicated on the applicable Bid Item in the Bid Schedule of the Bid Form. Contractor-developed and executed training is not included.
- C. Watchperson activities will be measured and paid for as a unit price per manhour as indicated on the applicable Bid Item in the Bid Schedule of the Bid Form.
- D. Separate measurement or payment will not be made for the remainder of the work required under this Section. All costs in connection with this work will be considered to be included with the related item of work in the Bid Schedule of the Bid Form, or incidental to the Work.

1.03 DEFINITIONS

- A. BART Operating Envelope: That portion of the BART system that has controlled access, including fan and transition structures, pump stations, train control, communication and traction power facilities and equipment, and BART Right-of-Way. For illustration of certain BART Operating Envelope configurations, refer to Attachments 1 thru 4.
- B. BART Operating System: BART owned or operated facilities.
- C. BART Right-of-Way (ROW): That portion of the BART system within protective fencing (including yards), tunnels, tubes, subways, stations or aerial structures wherein trains operate.
- D. Clear of Track: A location with at least 44 inches between you and the nearest running rail when a walkway with a handrail or similar type or means of support is

present (wall, fences or in the case of yards and local control areas, a stationary train appropriately protected from movement). For aerial structures, Clear of Track is when personnel are on the aerial walkway and the EIC declares that the area is cleared for on-rail vehicles to traverse. For all other conditions, Clear of Track is defined as a location with at least 72 inches (6 feet) between you and the nearest running rail. These dimensions are for straight track; on curved track, additional clearance needs to be added for car body overhang.

- E. Clearance: An official authorization which transfers control of an area or equipment to perform an activity subject to clearance rules.
- F. Clearance Verification: A verification by the EIC to ensure that items constructed or modified within the Track Zone meet the minimum clearance envelope. Clearance criteria are specified in the BFS and shall be included in the SSWP, with detailed identification of each item to be verified and the method by which the clearance will be verified.
- G. Detailed Site Specific Work Plan (SSWP): A program, plan, and schedule prepared and submitted by the Contractor and approved by the District, which accurately describes and illustrates the manner in which work shall be accomplished within the District-approved Windows. See Attachment 5.
- H. Employee-In-Charge (EIC): A Roadway Worker who is responsible for ensuring Roadway Worker safety, including use of Roadway Worker protections, at a Jobsite within the BART Operating Envelope, and who is authorized to accept and execute Work Orders. Work within the BART ROW, will require a BART employee to function as the EIC. For work outside of the BART ROW, a District representative may function as the EIC. The Contractor shall not function as the EIC. At the District's discretion, more than one EIC may be assigned to a work area when the District deems the area too large to be adequately controlled by a single EIC. In such situations, a primary EIC will be designated to accept and execute Work Orders.
- I. Global Site Specific Work Plan (GSSWP): A notification prepared and submitted by the Contractor to the Engineer for all work within the BART Operating System, which provides all information as shown in the Attachment 6.
- J. Return to Service Checklist: A checklist showing required activities to return the BART system to service.
- K. Revenue Hours: Hours during which passenger carrying trains operate as defined by the current schedule and which may be modified by the BART Operations Control Center (OCC).
- L. Roadway Worker: A person currently certified by the District's Roadway Worker Protection (RWP) Certification Program.
- M. Safety Escort: A Roadway Worker employed by the Contractor and who is responsible for up to five (5) persons in the ROW, Oakland Transition Structure, San Francisco Transition Structure, or Transbay Tube Lower Gallery who are not qualified as Roadway Workers. The Safety Escort shall participate in the job safety briefing; possess and be competent to use a District-supplied working radio; stay in

continuous contact with the EIC; and ensure that escorted individuals remain safe, stay within the limits of the work area, and do not violate OR&P rules and procedures. A Safety Escort is allowed to perform other work.

- N. Track Zone: An area within 72 inches (6 feet) of the outside rail on both sides of the track.
- O. Watchperson: A Roadway Worker, whose sole duty is to remain in a position to provide effective warning in compliance with the 15-second rule to persons of approaching rail transit vehicles, including trains or any on-rail equipment; who does not perform or assist in any other work aside from the Watchperson duty; possess and is competent to use a District-supplied working radio, and who remains Clear of Track of all active track(s). A Watchperson shall have the means to notify the crew and shall be required for all work in the Track Zone.
- P. Window: District-approved time period during which Clearances are issued for construction purposes.
- Q. Work Orders: A formal communication between the EIC and the control center having jurisdiction to establish authorization to work.
- R. Work Week: The time period starting with 0001 hours Monday and ending at 2359 hours of the following Sunday.

1.04 SUBMITTALS

- A. General: Refer to Section 01 33 00, Submittal Procedures for submittal requirements and procedures.
- B. Detailed Site Specific Work Plan (SSWP): The detailed SSWP shall be submitted no later than 42 calendar days prior to the scheduled start of the work addressed by the SSWP. Each resubmittal of the SSWP shall require an additional 42 calendar days of review time.
- C. Global Site Specific Work Plan (GSSWP): Contractor shall submit GSSWP to the Engineer for approval.
- D. Training Plan: Submit training plan and training materials for Contractor training in accordance with Article 1.07 Training herein.

1.05 ACCESS INTO THE BART OPERATING SYSTEM

- A. Access to the BART Operating System shall be in accordance with BART publication, "Standard Procedure for Access to the BART Operating System" (Management Procedure – 31). A copy of Management Procedure 31 will be provided by the District upon request.
- B. Global Site Specific Work Plan (GSSWP): The GSSWP shall remain in effect for the duration of the Work unless any element of the GSSWP is changed, at which time the Contractor shall resubmit.

C. Detailed Site Specific Work Plan (SSWP)

1. The SSWP is required prior to starting work that may affect the BART Operating Envelope, station paid areas, or has the potential to impact mission-critical systems regardless of location. Mission-critical systems include:
 - a. Station or trackway fire water supply lines, or appurtenances
 - b. Station fire alarm conduits, cables, duct banks, or appurtenances
 - c. Traction power conduits, cables, duct banks, or appurtenances
 - d. Station electrical conduits, cables, duct banks, or appurtenances
 - e. Train control and communications conduits, cables, duct banks, or appurtenances
 - f. Emergency egress pathways
 - g. Fare collection equipment
2. The Contractor shall furnish labor, materials, and equipment as required to perform and complete the Work in the limited time available. The Contractor shall maintain the approved schedule in the SSWP.
3. Detailed SSWPs, shall include a detailed schedule for each activity in the SSWP. The schedule shall show the expected work progress for each activity on an hourly basis. Depending on the complexity of the work, the work schedule may be required to be broken down into 15-minute increments through the period covered by the SSWP. The schedule shall include a time at which activities planned under the SSWP will be completed. Failure of the Contractor to complete the scheduled activities by the planned time, or to put in place an approved contingency plan so that the system is available for operations at the approved completion time, shall make the Contractor liable for Liquidated Damages as specified in Section 01 11 00, Summary of Work.
4. The SSWP shall contain a description of differences to the BART Operating Envelope between the start and finish of the work. The SSWP shall show each activity and where and how it affects normal operation of the system. Each activity in the SSWP shall include labor, materials, and equipment required to complete the activity within the Window, including operating and physical data of the equipment. The SSWP shall include an assessment of any BART personnel (EIC, Electrician, Inspector, Technician, and similar personnel) necessary to complete the work.
5. The SSWP shall include contingency plans for putting the system back in operation in case of an emergency or in case the Contractor fails to perform and complete the work in accordance with the approved schedule. Contingency plans shall address the various stages of work.
6. District reserves the right to delay approval of the SSWP until applicable Submittals required for the Work in the SSWP have been approved.

7. Approval of the SSWP does not relieve the Contractor from fulfilling Contract requirements.
 8. A copy of the District approved SSWP shall be on site during the work performed.
 9. The SSWP shall remain in effect for the duration of the Work. When changes are required, the Contractor shall resubmit a revised SSWP for the District's approval prior to continuation of Work.
- D. A minimum of one Watchperson is required for each work area within the Track Zone. Additional Watchpersons are required if one Watchperson is unable to provide effective warning in compliance with the 15-second rule for all personnel. Watchpersons shall have a District-supplied working radio in their possession. Watchpersons shall not transmit on the radio except when acknowledging an EIC's instruction or during an emergency. The Contractor shall provide Watchpersons as required by this specification and by SSWP requirements. Watchpersons shall remain in place at all times when personnel are in the Track Zone.
- E. Employee in Charge (EIC) Responsibilities:
1. To oversee the operational safety of contractor activities and to ensure that those activities do not affect the safety of the BART Operating System.
 2. To halt contractor activities immediately if they pose a threat to the safety of the BART Operating System or the public.
 3. To remain on the Jobsite at all times in a position to adequately observe contractor activities within their assigned work area. If the EIC determines that he or she is unable to adequately observe contractor work activities, the EIC must suspend work and immediately notify BART Operations Control Center (OCC) and the designated BART Supervisor.
 4. To ensure that BART Operating Envelope restrictions during revenue hours are strictly enforced. Such restrictions may only be modified when alternate measures (i.e., special train detection equipment such as portable shunts or optical sensors) have been approved by BART Engineering and Safety Departments or when OCC has allocated a track exclusively to construction activities and single tracking has been established.
 5. To ensure that construction equipment operating adjacent to BART's Operating Envelope is situated and restrained so that it will not damage BART facilities or violate BART Operating Envelope restrictions.
 6. To order a stop to operations if a condition is noted that could compromise equipment stability within or outside the Operating Envelope and which has the potential to affect the safety of the BART Operating System.
 7. To be familiar with the planned contractor activities and to obtain necessary Clearances/Access Authorizations and protections for those activities.

8. To possess or have immediately available a copy of the approved System Access (Track Allocation) Work Request Form and Site Specific Work Plan/Interim Operating Plan and checklist applicable to contractor activities.
9. To inspect the work area and ensure that BART facilities/equipment are safe for revenue service before a work area is released to put back into service. This includes verifying that all contractor material, tools and equipment have been removed from the BART Operating Envelope or properly secured and that all personnel are clear.
10. To ensure that all provisions of the OR&P are complied with.
11. To have adequate communications equipment on-site including a trunk radio, cellular phone and/or PABX phone. Communications equipment must be successfully tested before work begins.
12. To immediately notify OCC and the designated supervisor when any contractor activity threatens to affect the safety of the BART Operating System and to display stop signals to any approaching train if there is an imminent hazard to safe train operations.
13. To report any accidents, injuries, rule violations, violation of safe work practices or unapproved construction activities to OCC and the designated BART supervisor.
14. To conduct a job safety briefing with all contractor personnel prior to any District access and to complete the assigned daily reports accurately and completely.
15. The EIC cannot function as the Safety Escort without prior approval of the Engineer.

F. System Access/Track Allocation Committee

1. The System Access/Track Allocation Committee (SAC) is a standing BART committee that controls the System Access and Track Allocation process by which work in the BART Operating System is authorized. The SAC authorizes the work to be scheduled to gain access to the BART Operating System. The SAC meets each Wednesday to consider and approve work to be performed during the Work Week following the meeting.
2. Work in the BART Operating Envelope requires the issuance of formal Work Orders, which must be pre-authorized through the approval of a Track Allocation Request. Work outside of the BART Operating Envelope but within the BART Operating System requires a Track Allocation Request to be submitted as an "Advisory" notification. No work may be permitted on BART property without an approved Track Allocation Request.
3. Contractors shall submit each individual request for access to the BART Operating System to the Engineer in writing no later than Thursday before the SAC meeting. The request shall include actual hours that work will be performed and required support by BART forces, including the number of EICs needed. The

District will not approve access request without an approved detailed SSWP or GSSWP, as applicable.

4. The necessary resources to perform the work represented by the SSWP or GSSWP shall be available and demonstrated ready for use on the Friday prior to the Work Week. After verification of the availability of the required resources and confirmation of an approved SSWP and access request, the Engineer will issue a final decision as to whether work proceeds as planned.
5. For work within the BART Operating Envelope, the Contractor may not enter the Jobsite until authorization is obtained by the EIC. For work outside of the BART Operating Envelope, the District Representative or Contractor shall notify the control center having jurisdiction immediately prior to entering the Jobsite and immediately after departing.

1.06 BART OPERATING RULES AND PROCEDURES

- A. Activities within the BART Operating System shall comply with the Operating Rules and Procedures Manual (OR&P). A copy of the OR&P will be made available by the District upon request. Violations of the OR&P will subject the Contractor to prompt and possible permanent exclusion from the Jobsite until the Contractor demonstrates knowledge of proper compliance procedures to the satisfaction of the District. Such exclusion from the Jobsite will not be grounds for additional compensation or extension of the Contract completion time.

1.07 TRAINING

- A. Personnel attending District administered training must first receive proper District issued ID badge in accordance with Section 01 35 54, Identification and Security.
- B. For work within the BART Operating Envelope:
 1. Roadway Worker Protection (RWP) certification training: The District will provide this training to Contractor personnel, as required. The training consists of 40 hours of instruction on safe roadway practices and radio proficiency. The District will administer testing on these subjects at the conclusion of the training period. An individual who fails the testing for safe roadway practices must pass a retest in order to be certified. An individual who fails only the radio proficiency test will take a supplementary radio instruction and must pass a retest of radio proficiency in order to be certified. If the worker fails either retest, the District will disqualify the worker from eligibility for Roadway Worker certification. Worker hours for retraining and retesting shall not be charged to the District. The Roadway Worker certification is valid for two years. Prior to expiration of the certification, the individual must attend an 8-hour recertification class and must pass tests for safe roadway practices and radio proficiency. Supervisors and Health and Safety Representative(s) (HSR) are required to be RWP certified.
 2. Designated Contractor Roadway Workers are responsible for training employees of the Contractor and its Subcontractors who have not completed the RWP training and who are scheduled or expected to perform work within the BART

Operating Envelope. This training shall be at a minimum, four hours in length. These employees are required to have successfully completed training within the previous 24 months before being allowed to work within the BART Operating Envelope. The Contractor shall keep records of those successfully completing the course, and make such records available for review by the District upon request.

Designated Contractor Roadway Workers shall prepare a training plan and course materials for review and approval by the Engineer that shall include at a minimum the training information provided below:

- a. Hazards of the required job duties and the methods to safely carry out those duties. Examples: third rail, running rail, active vs protected tracks, revenue vs non-revenue
 - b. Proper safety procedures to be used to adequately address those hazards. Examples: where to and where not to step, which track and when entry to that track can be made. No horse play. Rule 1101 of the OR&P applies to Contractors.
 - c. Importance of complying with all relevant safety rules. Examples: PPE, time, location, equipment, facility limits.
 - d. On-track safety rules and procedures that Contractor personnel are required to follow. Examples: meaning of blue light, red light, District approved physical barrier, no refuge zone.
 - e. Railroad track and the surrounding space within which on-track safety is required. Examples: fifteen second rule, no refuge zone, clear of track.
 - f. Compliance with on-track safety instruction given by persons responsible for on-track safety functions. Examples: role of EIC, role of the Watchperson, and no use of Personal Electronic Device (PED).
 - g. Signals given by a Watchperson and the procedures upon receiving a train approaching warning. Examples: emergency protocol, horns, whistle, stop, evacuation, time to secure the work area and leave.
3. Contractor personnel shall be trained as Roadway Worker(s) in sufficient numbers to supply an adequate number of Watchpersons and Safety Escorts to conduct the work.

C. For work outside the BART Operating Envelope:

1. The District will provide training and retraining every 24 months, for up to four supervisory-level personnel, one of whom shall be the HSR. The Contractor shall have at least one of these supervisors on the project at all times when working within the BART Operating System. The course is 4 hours long, and the trainees must pass the required exams to successfully complete the course. Certification as a Roadway Worker will satisfy the requirements of this Article.
2. Supervisory personnel trained in accordance with Article 1.07C.1 herein shall be responsible for training employees of the Contractor and its Subcontractors who have not completed the training and who are scheduled or expected to perform

work within the BART Operating System. The training shall be a minimum of one hour in length. Employees are required to have a successfully completed training within the previous 24 months before being allowed to work within the BART Operating System. The Contractor shall keep records of those successfully completing the course, and make such records available for review by the District upon request.

3. Supervisors shall prepare a training plan and course materials for review and approval by the Engineer that shall include as a minimum, topics provided by the District. The District will provide these topics as part of the 4 hour training.

1.08 RETURN TO SERVICE CHECKLIST

- A. In accordance with the District's policy, a Return to Service Checklist shall be completed prior to the return of any safety critical systems to service. The Contractor shall support the District and its representatives in preparing and implementing the Return to Service Checklist to ensure the elimination or mitigation of identified potential hazards. A Return to Service Checklist is provided as part of the SSWP template.
- B. For any structure constructed by the Contractor within the Track Zone, Clearance Verification must be completed prior to the return of any safety critical systems to service. The Contractor shall remain on site and immediately available until clearance is verified by the EIC, train inspection has been completed, and all Work Orders and Clearances have been cleared by the control center having jurisdiction.

PART 2 – PRODUCTS

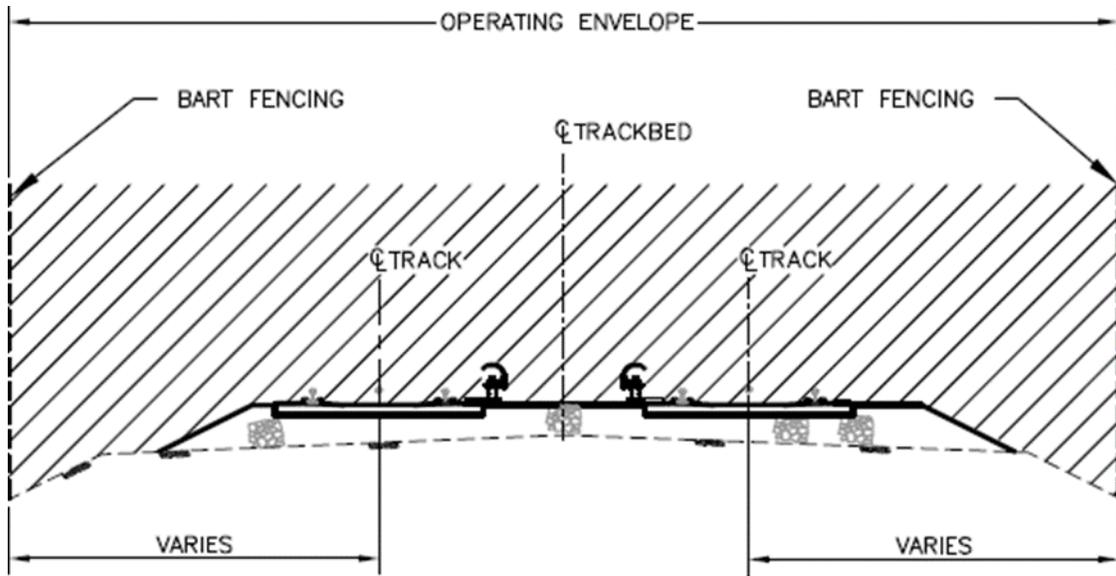
Not Used

PART 3 – EXECUTION

Not Used

END OF SECTION 01 35 14

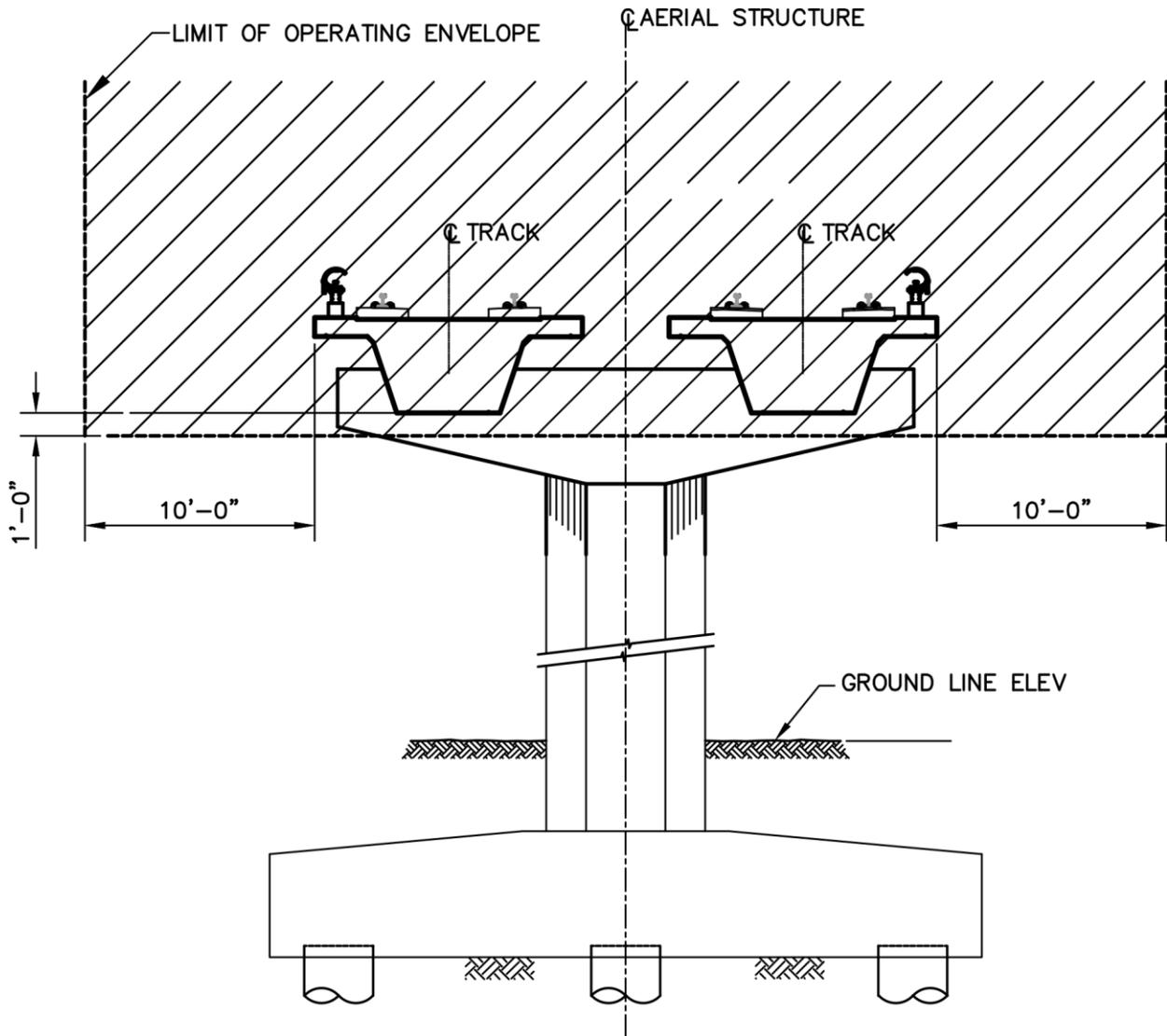
ATTACHMENTS TO FOLLOW



Attachment 1: BART Operating Envelope- Grade Track

Source: IL013361

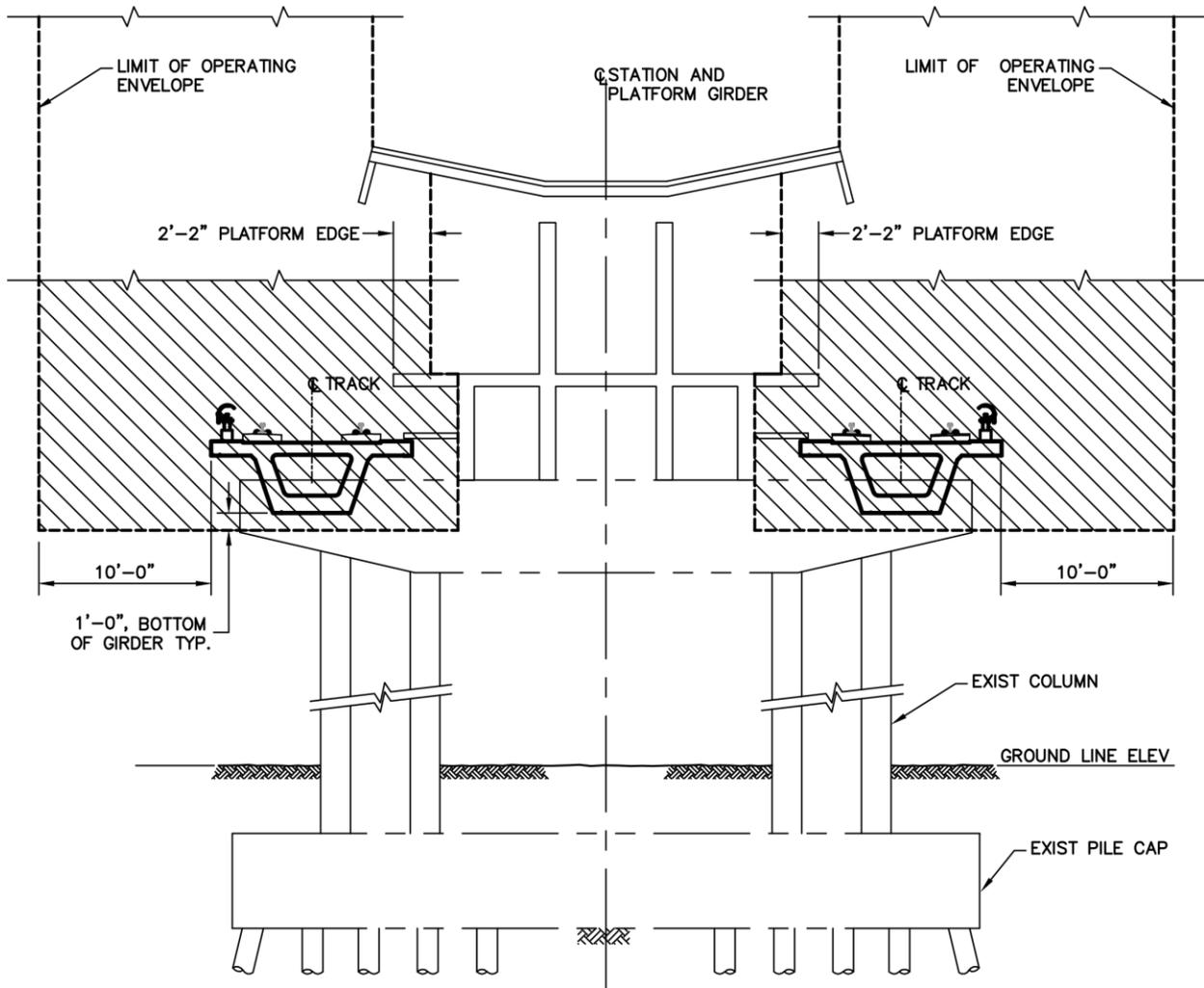
OPERATING SYSTEM INTERFACE



Attachment 2: BART Operating Envelope - Aerial Track

Source: IL013362

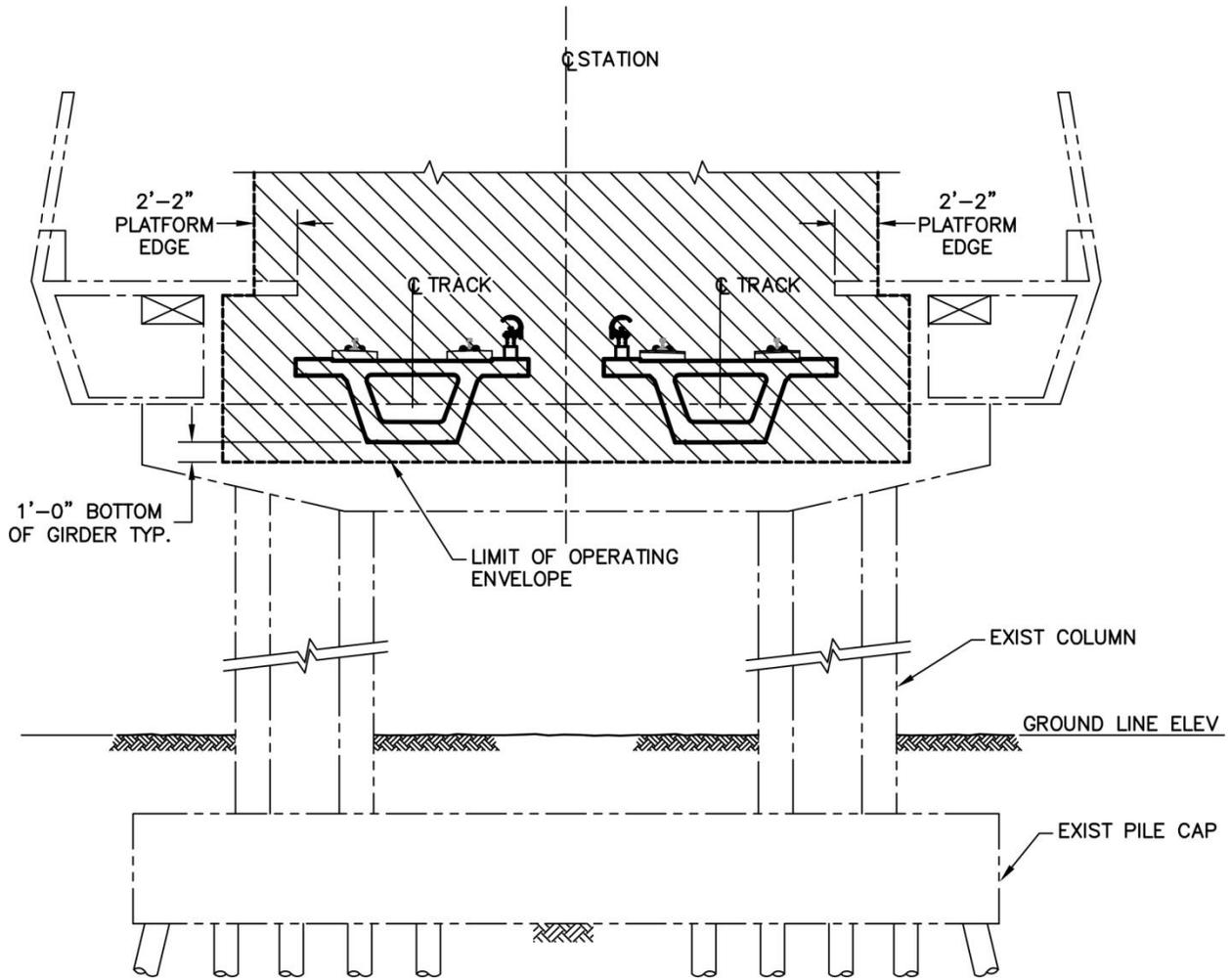
OPERATING SYSTEM INTERFACE



Attachment 3: BART Station Operating Envelope - Outside Track

Source: IL013363

OPERATING SYSTEM INTERFACE



Attachment 4: BART Station Operating Envelope - Inside Track

Source: IL013364

ATTACHMENT 5:
EXAMPLE OF DETAILED SITE SPECIFIC WORK PLAN (SSWP)

BAY AREA RAPID TRANSIT

[Contract Name]

CONTRACT # *[XXXX-XXX]*

Company Logo or Name

Date Submitted

SITE SPECIFIC WORK PLAN (SSWP) #*[X.X]*:

ADDENDUM LETTER (IF APPLICABLE)

[Submittal number]

***BART Station/Facility Location Designation
and/or Milepost (MP) location of work***

* As applicable

Contractor: *[Contractor Name]*
Contract Number: *[XXXX-XXX]*

Submitted By: _____ Date _____
Contractor *[Requester]*

Approved By: _____ Date _____
BART *[Resident Engineer/Oversight Manager]*

Approved By: _____ Date _____
BART *[Project Manager or Principal Engineer]*

Approved By: _____ Date _____
BART *[Engineering] **

Approved By: _____ Date _____
BART *[Maintenance]**

Approved By: _____ Date _____
BART *[Operations Control Center]*

Approved By: _____ Date _____
BART *[Transportation]*

Approved By: _____ Date _____
BART *[System Safety]*

Approved By: _____ Date _____
BART *[Operations Planning] **

Approved By: _____ Date _____
BART *[BART PD]**

Approved By: _____ Date _____
BART *[Operations Liaisons]**

Approved By: _____ Date _____
BART *[District Architect]**

Approved By: _____ Date _____
BART *[Other BART Department]**

Approved By: _____ Date _____
BART *[Rolling Stock and Shops]**

Approved By: _____ Date _____
BART *[M&E System Access Committee Chair]*

* As applicable

Contractor: [Contractor Name]
Contract Number: [XXXX-XXX]

Project: [project name]

Contract No.: [XXXX-XXX]

Contractor: [Contractor Name]

Site Specific Work Plan: # [X.X]

Addendum Letter: [X]

Work Location: [Specify by facility location designation, nearest cross streets and milepost]

Work Hours (Military Time):

- Weekday: Monday thru Friday from XXXX hrs to XXXX hrs
- Saturday: XXXX hrs to XXXX hrs (if applicable)
- Sunday: XXXX hrs to XXXX hrs (if applicable)

I. DESCRIPTION OF WORK

{Define the general scope of work covered in this SSWP}

II. BART SYSTEM IMPACT

a. WILL THE WORK IN THIS SSWP BE LOCATED?

i. IN AN AREA OPEN TO THE PUBLIC?

- YES NO

ii. WITHIN THE BART RIGHT-OF-WAY (ROW)?

- YES NO

iii. WITHIN SIX FEET FROM THE NEAREST RUNNING RAIL (TRACK ZONE)?

- YES NO

iv. IN AN AREA IN CLOSE PROXIMITY TO UTILITIES TIED TO THE SYSTEM?

- YES NO

v. IN PROXIMITY TO THE BART ROW WHERE ACTIVITIES MAY POTENTIALLY IMPACT OR ENTER THE BART ROW?

- YES NO

b. Other BART Operating Facilities Potentially Affected by this Work

{List facilities and brief description of impact or potential impact}

* As applicable

III. SAFETY

- a. Shift will start with a Safety Meeting for a minimum of 15 minutes, which must include the assigned EIC(s). All Safety Meetings shall include (at a minimum):
 - i. All personnel must attend and discuss the Job Hazard Analysis (JHA) in order to identify all possible dangers or hazards in the work zone or job site.
 - ii. Explanation of emergency evacuation procedures and egress points.
 - iii. If work is in the ROW, or may affect the ROW, personnel must also be advised to be diligent when working in the near vicinity of the third rail and its cover board, to prevent injury, death, damage and delay to revenue service. Personnel shall not step, stand, sit or recline on the third rail cover board. Personnel shall not stand, sit or step on the running rail.
 - iv. BART Employee in Charge (EIC) will conduct a Site Specific Safety Briefing prior to starting any work activity. All individuals that enter the worksite during the shift shall receive a Safety Briefing by the EIC.
 - v. All personnel are required to sign the EIC Safety Briefing Roster.
 - vi. The EIC will notify the crew when it is safe to begin work.
- b. The approved Health and Safety Representative (HSR) or Assistant Health and Safety Representative (AHSR) will be onsite throughout the work shift.
- c. If the BART EIC or District Representative sees any unsafe condition, he/she will stop the work and work will not re-start until the EIC gives the clear signal. Contractor shall assist with restoring safe conditions as required.
- d. All employees will wear required personal protective equipment. Mandatory PPE includes
 - i. BART approved safety vest
 - ii. BART approved hard hats
 - iii. Eye protection
 - iv. Work boots
 - v. Other PPE
- e. BART Operations Rules & Procedures (OR&P)
 - i. Rule 1101: The rules contained in this book apply to all District employees, Contractors and others working on BART property.
- f. Types of Work Clearance (Work Orders) that may be Requested in Work Area (select only those that apply to this SSWP):
 - i. **Category A:** Non Track Zone Access: Defined as Access to mainline right-of-way where work does not encroach in the Track Zone (within six feet of outside rail on both sides of track).
 - ii. **Category B:** Access to Track Zone: Defined as Access to the mainline right-of-way where work will encroach in the Track Zone (within six feet of outside rail on both sides of track).
 - iii. **Category C:** Access to Yard Tracks: Defined as authorization to work a designated section of track(s) with specific limits in which protection from train movement has been provided.
 - iv. **Category F:** Equipment/Facilities Clearance: Defined as an authorization to work on remotely controlled and monitored equipment, or work that may affect the operation of trains.
 - v. **Category P:** Physical Barrier Clearance: Defined as authorization to access and work within the Right-of-Way in an area when the Roadway Workers are separated from the Track Zone by a District-approved physical barrier.

* As applicable

- vi. **Category BL:** Blanket Work Area: Defined as mainline track areas between specified interlocking gates or between interlocking gates and end of line stations where train movement is prohibited on all tracks and access is controlled by a Blanket Area Supervisor.
- vii. **Advisory Work:** Work conducted in the Operating System that does not require the issuance of formal Work Orders. The control center having jurisdiction must be contacted by phone or radio before advisory work may commence.
- g. **Work Area Protection (OR&P Rule 6328)*:** All Work Areas shall be restricted to a maximum speed of 27 MPH to include all adjacent tracks not separated by a District approved physical barrier. Determine whether the work to be conducted is Category A, B or C. The work area is protected from train movement by one or more of the following:
 - i. Route prohibits
 - ii. Forced track occupancies or zero speed codes
 - iii. By operating trains in the area in manual mode and issuing movement instructions, restrictions and holds for train movement or Confirmed Hold
 - iv. Restricted speed
 - v. The insertion of switch machine cranks or flags
 - vi. Notification of reverse running trains shall be provided to Roadway Workers
 - vii. Blue Lights
- h. **Type of Electrical Protection Needed (Safe Clearance)***
 - i. **Roadway Worker Protection**
 - i. All Roadway Worker Protection rules will be strictly enforced. A Roadway Worker must have completed the BART Roadway Worker Protection Training (40 hours) and must have BART ID badge displaying "orange sticker" to validate that worker has completed training. Employee in Charge (EIC) will be on site at all times and shall lead and conduct job briefing.
 - ii. When escorting non-RWP Trained personnel in the trackway under work orders, one (1) Roadway Worker shall be responsible for a party of not more than five (5) non-RWP Trained individuals. Additional Roadway Workers are required for larger groups with a maximum of five (5) non-RWP Trained individuals per Roadway Worker. The responsible Roadway Worker shall stay with all non-RWP Trained personnel and possess a District-approved working radio at all times. The responsible Roadway Worker(s) shall not cancel the work orders until all personnel are physically clear of the work area. (OR&P Rule 6335).
 - iii. A minimum of one Watchperson will be required for each work area within the Track Zone. Additional Watchpersons will be necessary if one Watchperson is unable to provide effective warning in compliance with the 15-second rule for all personnel. All Watchpersons shall have a District-supplied working radio in their possession. The Watchperson shall not transmit on the radio except when acknowledging an EIC's instruction or during an emergency. The Contractor shall provide Watchpersons as required by this specification and by SSWP requirements. Watchpersons must remain in place at all times when personnel are in the Track Zone and shall not leave the area unless directed by the EIC. A Watchperson may not perform or assist in any other work aside from the Watchperson duty, and remains Clear of Track of all active track(s).
 - iv. Red and Blue Lights shall be placed at work site according to OR&P Section V, Subsection 5700, Rule 5701 & 5702.

* As applicable

- v. {Contractor shall specify the number of Watchpersons that will be assigned to each shift, including their approximate location and the area where red and blue lights will be placed to protect the work area}.

IV. REQUESTED BART SUPPORT (examples)

- a. Employee-in-Charge (EIC): required for work in the BART Operating Envelope or SSI Locations.
- b. Certified Track Inspector
- c. Electricians, Communications, Grounds, Facilities etc.
- d. Test trains (4 cars minimum)
- e. District Equipment

V. WORK DETAILS

- a. **Governing Codes and References**
 - i. [BFS x.x]
 - ii. [other associated with this work]
- b. **Work Scope** {Define the scope of Work, schedule, cut-in requirements including requirements to restore or return facility and/or appliance to revenue service and any modifications to the Operating System between the start and finish of such work. Provide a step-by-step procedure on how the work is to be accomplished. This should be detailed enough to allow a non-engineer individual to understand the work that is being done. Include a general description of all activities necessary to perform any work within, or in close proximity to the Operating Envelope, or interfacing with remotely controlled or monitored systems. Detailed (structural, electrical, mechanical, etc.) calculations are not required – they should be approved beforehand and noted in the SSWP that they were reviewed and approved by the appropriate engineer.}
- c. **Work Schedule Breakdown** {Provide times associated with the steps, as appropriate. Depending on the complexity of the Work, the work schedule may be required to be broken down into 15-minute increments through the period covered by the SSWP. Indicate critical decision points milestones where the work must be completed or points of no-return. Indicate which steps are to be conducted during non-revenue hours. Indicate if an “Electrical Safe Clearance” is required. Indicate if and when train service will be affected.}
- d. **Equipment and Manpower** {List the equipment and man power associated with completing the work described, (e.g. back hoes, cranes, drills, Operators, Carpenters)}

VI. CONTINGENCY PLANS

- Should any unauthorized person enter the site, they will be escorted out of the site and the BART Representative and BART Police notified.
- Upon request by proper authority the Operations Control Center (OCC), BART Police Department, and/or the BART Safety Department, etc. the Contractor will stop work

* As applicable

- immediately. The Contractor will return the site to a safe condition expeditiously and vacate the area as quickly and as safely as possible, lending all reasonable support to the restoration of revenue service if so requested.
- The Contractor will immediately notify the BART Representative of any fires or other emergencies, who will then notify BART OCC. If the BART Representative is incapacitated, the HSR will notify BART OCC and 911 or BART Police. The work will be stopped and work area will be secured from any unauthorized individuals until emergency services arrive.
 - These procedures may be amended, with concurrence from the Resident Engineer who will notify Operations Liaisons and the assigned BART Engineer, as needed to further the work and additionally safety requirements may be considered and implemented. The goal is to complete the work while ensuring the safety of BART patrons and employees and the integrity of the BART System.
 - If patrons or pedestrians ask any questions, they will be referred to BART Community Relations. {Contractor} will not have any unauthorized communication with residents or patrons.

{Contractor to identify what could go wrong. Identify all likely hazards. What actions will be taken in the rare, extreme and or unlikely event something does go wrong. What outside assistance might be necessary? Will this assistance be available if this situation occurs in the middle of the night?}

Examples include –

- *Should a Contractor notice any damage to the third-rail cover board, immediately notify the EIC who will inform the proper authorities.*
- *Contractor working in the Train Control Room noticing an unusual condition (e.g.: water, excessive heat, objects, etc.) shall immediately notify the EIC, who will notify OCC.*
- *Ensure that any items, including barriers, that have a potential to accidentally foul the trackway are secured prior to leaving the Jobsite each day. Should any items foul the trackway during the work shift, Contractor shall immediately notify the BART Representative.*
- *Man-Lift could tip over into the BART security fence. Solution – Before booming up to assist the crane with the column form, have machine pointed as shown on the drawings to prevent entering the BART security fence.*

* As applicable

Contractor: [Contractor Name]
Contract Number: [XXXX-XXX]

VII. OWNER AND GENERAL CONTRACTOR INFORMATION

[OFFICE, 24-HOUR CONTACT, RESPONSE TIME]

Contractor:

Project Manager: 510-XXX-XXXX

Project Superintendent: 510-XXX-XXXX

Health and Safety Representative: 510-XXX-XXXX

BART:

Project Manager:

Resident Engineer:

Operations Liaisons: 510-464-4945

Operations Control Center 510-834-1297

BART Police 510-464-7000

BART Police Watch Commander 510-464-7020

BART Project Duty Officer 510-910-5164

EMERGENCY SERVICES

BART Police 24-HR Emergency
510.464.7000

California Highway Patrol 24-Hr Emergency
911

[Local] Police Non-Emergency
XXX.XXX.XXXX

[Local] Police Emergency
XXX.XXX.XXXX

[Local] Fire Department 24-HR Emergency
XXX.XXX.XXXX
or 911

Medical Clinic – [Site Specific]: XXX.XXX.XXXX

Medical Hospital – [Site Specific]: XXX.XXX.XXXX

BART Operations Control Center (OCC) 510.834.1297

* As applicable

VIII. DRAWINGS/ATTACHMENTS/CUT-SHEETS/PHOTOGRAPHS

[Emergency Flow Chart, pertinent drawings, attachments, cut-sheets and/or photographs that more fully explain the work that is to be accomplished or equipment that will be used. Drawings, attachments etc. should be referenced in document via number and/or page.]

IX. RETURN TO SERVICE PROTOCOL*

Fixed objects installed or altered within the Track Zone must be confirmed to be clear of the Dynamic Envelope and not in a proximity that they could be struck by a moving train or on-rail equipment and or a threat to life/safety. The following Protocol is to be implemented to ensure clearance of the Dynamic Envelope when a fixed object is installed or modified.

1. The Resident Engineer (RE), BART Engineer or BART Project Manager will be immediately on site and available to supervise the Contractor for all installations of, or alterations to fixed objects within the Track Zone. The RE will remain on site immediately available until all inspections and or clearance checks are reported complete and there is no detected or suspected threat to automatic train operations (ATO) and the integrity of revenue service is protected. In the rare, extreme or unlikely event there is a detected or suspected threat to automatic train operations and or the integrity of revenue service, the fixed and or altered item must be immediately removed or restored to its original condition, and the clearance protocol must be implemented.
2. The contractor will take measurements and confirm clearance of the Dynamic Envelope.
3. The RE will observe, duplicate and confirm the contractor's measurements and clearance of the "Dynamic Envelope."
4. The RE will implement the use of the BART Principal Track Engineer certified template to confirm the installed or altered fixed object is clear of the Dynamic Envelope.
5. The RE will call the Operations Control Center (OCC) and advise the Central Manager that a fixed object has been installed or altered, measurements have been taken and the area is clear and available for Automatic Train Operations (ATO). This does not release the RE or the Project from the responsibility of remaining on site, immediately available, until clearance has been validated and the Project is released by the OCC.
6. The EIC is to call the OCC and advise the Central Manager of the installation and or alteration of a fixed object and its exact location and request a train inspection to validate clearance of the Dynamic Envelope
7. The EIC, RE, Contractor, and Project Inspector are to remain on site immediately available until clearance is validated by train inspection and all are released by the OCC.

* As applicable

Contractor: [Contractor Name]
Contract Number: [XXXX-XXX]

RETURN TO SERVICE CHECKLIST

(This form is to be completed for any type of work that may impact or cause intrusion in the Track Zone.)

At completion of work or portion of work identified within this SSWP, and prior to releasing the work area, the following list of activities and inspection points shall be performed by the Employee in Charge (EIC) to ensure a safe state of readiness for revenue operations. Enter time inspection activity is performed. Any planned or unplanned physical alteration to the existing infrastructure or variation to design shall be documented. The completed checklist shall be signed by the EIC that performed the inspection and forwarded to the Operations Control Center (Fax: 510-464-6751), at the earliest opportunity, before the end of the work shift.

Contract No. & Project Description: _____

Person in Charge & Contact No: _____

(As indicated on approved Track Allocation Request form)

SSWP/IOP No.: _____

Inspection Date: _____

Inspected by (Print Name and Emp. ID No.): _____ **Title:** _____

Verification and/or activity: _____ **Time:** _____

1. Wayside/platform installation(s) secure from movement. _____
2. Wayside/platform installation(s) clearance verified. _____
3. Pre-inspection for restoration of Work Area for revenue service. _____
4. Tools/materials removed from Work Area or properly secured. _____
5. Final inspection of Work Area for return to service. _____
6. Release Safe Clearance/Prohibit tags. _____
7. All personnel clear of track. _____
8. All access doors/gates secured. _____
9. Release Work Area to proper jurisdiction. _____
10. Contact OCC for Clearance Verification/Track Inspection (first train). _____
11. All personnel released by OCC. _____
12. Briefly describe any planned or unplanned physical alteration to infrastructure, work variations and/or any contingency plans implemented (use additional sheets as needed):

Signature: _____ **Date:** _____

* As applicable

ATTACHMENT 6:
EXAMPLE OF GLOBAL SITE SPECIFIC WORK PLAN

Company Logo or Name

GLOBAL SITE SPECIFIC WORK PLAN

Brief Description of Work (e.g. Girder Shoring and Concrete Repair)

CONTRACT NUMBER: _____

GSSWP # _____

REVISION # _____

CONTRACTOR NAME: _____

WORK DATES: _____

WORK LOCATION: _____

MEANS OF ACCESS TO WORK LOCATION: _____

WORK HOURS: Weekdays: _____

Saturday: _____ (if different)

Sunday: _____ (if different)

1. DESCRIPTION OF WORK:

Provide a 1-2 sentence description of the work to be accomplished under this GSSWP.

2. CONTINGENCY PLANS:

- Should any unauthorized person enter the site, they will be escorted out of the site and the BART Operations Control Center (OCC) or BART Police Department notified.
- Upon request by proper authority the OCC, BART Police Department, and/or the BART Safety Department, etc. the Contractor will stop work immediately. The Contractor will return the site to a safe condition expeditiously and vacate the area as quickly and as safely as possible, lending all reasonable support to the restoration of revenue service if so requested.
- If patrons or pedestrians ask any questions, they will be referred to BART Community Relations. {Contractor} will not have any unauthorized communication with residents or patrons.

{Contractor to identify what could go wrong. Identify all likely hazards. What actions will be taken in the rare, extreme and/or unlikely event something does go wrong. What outside assistance might be necessary? Will this assistance be available if this situation occurs in the middle of the night?}

Examples include:

- *If a fire starts within the work area, Contractor will take action to put out the fire per Safety Plan, notify local Fire Department, OCC, and the Engineer*
- *If a utility is struck, Contractor to notify OCC and the Engineer*

3. EMERGENCY CONTACTS [24-HOUR CONTACT and RESPONSE TIME]

CONTRACTOR:

- Project Manager: 510-XXX-XXXX
- Project Superintendent: 510-XXX-XXXX
- Health and Safety Representative: 510-XXX-XXXX

BART:

- Project Manager:
- Resident Engineer:
- Operations Liaisons:
- Operations Control Center 510-834-1297
- BART Police 510-464-7000
- BART Police Watch Commander 510-464-7020
- BART Project Duty Officer 510-910-5164