

BART Seismic Retrofit Project

Berkeley Hills Tunnel to the Montgomery Street Station



ENVIRONMENTAL ASSESSMENT

Response to Comments

U.S. Department of Transportation
Federal Highway Administration

and the

State of California Department of Transportation

In cooperation with the

San Francisco Bay Area Rapid Transit District

February 2006





U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
CALIFORNIA DIVISION
650 Capitol Mall, Suite 4-100
Sacramento, CA. 95814
March 10, 2006

IN REPLY REFER TO
HDA-CA
BART Seismic Retrofit Project – Phase I
Berkley Hills Tunnel to Montgomery Street Station
File #: 04-ALA-BART
San Francisco and Alameda Counties
Document #: P54081

Mr. Bijan Sartipi, District Director
California Department of Transportation
District 4
P. O. Box 23660
Oakland, CA 94623-0660

Attention: Mr. Muhaned Aljabiry, Chief, Office of Local Assistance

Dear Mr. Sartipi:

SUBJECT: Finding of No Significant Impact (FONSI) – BART Seismic Retrofit Project

We have completed our review of the February 2006, Environmental Assessment – Response to Comments document, along with all the comments and their responses to the August 2005, Environmental Assessment and to the public involvement meetings for the above referenced project. Both the Fish and Wildlife Service and the National Marine Fisheries Service have determined that the project is not likely to adversely affect, and the State Historic Preservation Officer has concurred in the project's Finding of No Adverse Affect. The (FONSI) for this project is now granted. Enclosed is the original FONSI signature page for your use.

If you have any questions, please contact Leland W. Dong, Project Development Engineer, at (916) 498-5860 or via e-mail to leland.dong@fhwa.dot.gov.

Sincerely,

/s/Leland W. Dong

For
Gene K. Fong
Division Administrator

Enclosure



c: E-mail (w/enclosure)

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FEDERAL HIGHWAY ADMINISTRATION
FINDING OF NO SIGNIFICANT IMPACT (FONSI)
for the
San Francisco Bay Area Rapid Transit (BART)
Seismic Retrofit Project
Berkeley Hills Tunnel to Montgomery Street Station

The Federal Highway Administration (FHWA) has determined that the BART Seismic Retrofit Project will have no significant impact on the human environment. This FONSI is based on both the attached Environmental Assessment – Response to Comments dated February 2006 and the previously approved Environmental Assessment dated August 22, 2005, which have been independently evaluated by the FHWA and determined to adequately and accurately discuss the need, environmental issues, and impacts of the proposed project and appropriate mitigation measures. These two documents provide sufficient evidence and analysis for determining that an Environmental Impact Statement is not required.

The FHWA has cooperated with the BART, the local lead agency for the project and with the California Department of Transportation (Caltrans) and takes full responsibility for the accuracy, scope, and content of the attached EA and supporting technical studies.

3/9/2006
Date



Leland W. Dong, Project Development Engineer
Federal Highway Administration

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1.0 INTRODUCTION

1.1 NEPA PROCESS

Subsequent to release of the Notice of Intent to prepare an Environmental Assessment (EA) for the proposed Seismic Retrofit Project, Berkeley Hills Tunnel to the Montgomery Street Station, the Bay Area Rapid Transit District (BART) issued a Public Notice to solicit input from the public and interested agencies on the nature and extent of issues and impacts to be addressed in the EA. BART held three informational meetings: January 28, 2003 in Oakland; October 23, 2003 in Rockridge; and January 18, 2005 in San Francisco. During these meetings, BART presented project information including identification of agency roles, the purpose and need for the proposed action, development of project alternatives, project construction schedule, project funding, and a summary of possible environment impacts. The public was also provided the opportunity to submit comments on the scope of the proposed environmental analysis.

On August 28, 2005, BART released for public review an EA on the proposed Seismic Retrofit Project, Berkeley Hills Tunnel to the Montgomery Street Station. The 30-day public review and comment period on the EA began on August 28, 2005, and ended on September 27, 2005. BART, in cooperation with the California Department of Transportation (Caltrans) and the U.S. Department of Transportation, Federal Highway Administration (FHWA), held a public open forum hearing on the EA on September 14, 2005.

The NEPA process is guided by the National Environmental Policy Act and its implementing regulations, 23 CFR Part 771. Preparation of a revised EA and Responses to Comments pursuant to NEPA is regulated according to each federal Lead Agency's requirements. The Lead Agency on the proposed project is FHWA, with BART and Caltrans acting as co-Lead Agencies. FHWA's Technical Advisory (T6640.8A) guiding preparation of the revised EA states:

Following the public availability period, the EA should be revised or an attachment provided, as appropriate, to (1) reflect changes in the proposed action or mitigation measures resulting from comments received on the EA or at the public hearing (if one is held) and any impacts of the changes, (2) include any necessary findings, agreements, or determination (e.g., wetlands, Section 106, Section 4(f)) required for the proposal, and (3) include a copy of pertinent comments received on the EA and appropriate responses to the comments.

This revised EA does not identify any substantial effects on the environment, and no new substantial effects on the environment were identified during the public review period. Therefore, BART will submit the record of public comments and responses, and request a Finding of No Significant Impact (FONSI) by FHWA, who is responsible for making the official "finding" that all proposed project effects will be less than substantial.

FHWA regulations require a Notice of Availability (NOA) be sent to any cooperating and jurisdictional federal, state, and local government agency, as well as to the State Clearinghouse and anyone providing comments on the EA. FHWA will take into consideration all public comments received when making a final determination to approve the proposed FONSI and EA. This action would conclude the environmental process pursuant to NEPA.

1 **1.2 CONSULTATIONS**

2 The NEPA process often occurs concurrently with other applicable Federal environmental
3 processes, which are intended to protect a specific element of the environment. These include,
4 but are not limited to, Section 4(f) (Protection of Publicly Owned Park, Recreation Area, Wildlife
5 or Waterfowl Refuge or Land from Historic Sites), Section 106 (Protection of Cultural Resources
6 and Historic Properties), Section 7 (Protection of Endangered Species), Presidential Executive
7 Order 11990 (Protection of Wetlands), and Presidential Executive Order 11998 (Protection of
8 Floodplains). It is generally expected that any applicable Federal environmental processes be
9 completed prior to completion of the NEPA process to ensure compliance and to summarize the
10 findings within the NEPA document. BART, Caltrans, and FHWA have conducted ongoing
11 consultations with other applicable regulatory agencies throughout the preparation of the EA to
12 ensure that a FONSI is warranted. The following consultations have been concluded prior to
13 release of this revised EA.

14 BART has consulted with the National Oceanic and Atmospheric Administration (NOAA)
15 Fisheries/National Marine Fisheries Service (NMFS) pursuant to the Federal Endangered
16 Species Act (ESA) Section 7 (for impacts to marine mammals and fish) and pursuant to the
17 Magnuson-Stevens Act (for impacts to Essential Fish Habitat [EFH]). Teleconferences were held
18 in December 2004, January 2005, and October 2005, during which time NOAA indicated that
19 additional construction schedule restrictions for dredging and pile-driving would be required
20 to mitigate impacts to marine mammals and fish during certain seasons. BART has agreed to
21 implement this measure to avoid impacts to listed salmonid species. NOAA concluded the
22 Section 7 and EFH process by issuing a letter in February 2006 stating that BART's agreement to
23 limit work to within the acceptable timeframe, as well as to implement all other identified
24 mitigation measures in the EA, would ensure a Finding of No Adverse Effect.

25 Formal Section 106 consultation with SHPO was concluded on May 15, 2005, when SHPO
26 provided FHWA a letter of concurrence finding that the project would have no adverse effects
27 on historic (both archaeological and historic architectural) resources.

28 In addition, BART has reconvened consultations with affected permitting agencies and ferry
29 operators using the San Francisco Ferry Plaza Platform to discuss the proposed retrofit of the
30 San Francisco Transition Structure. BART met with the Port of San Francisco and Golden Gate
31 Harbor, Bridge and Transportation District (Golden Gate District) on September 21, 2005,
32 November 7, 2005, and November 29, 2005. BART also met with the Water Transit Authority
33 (WTA) on November 16, 2005, and will meet with the San Francisco Bay Conservation District
34 Committee's (BCDC) Engineering Review Board regarding proposed project design details.

35 **1.3 EA ORGANIZATION**

36 This revised EA for the proposed BART Seismic Retrofit Project (Earthquake Safety Program)
37 extending from the Berkeley Hills Tunnel to the Montgomery Street Station contains
38 information in response to issues raised during the public comment period. Combined with the
39 August 2005 EA, this document identifying revisions as a result of the public comment period
40 comprises the total environmental document pursuant to NEPA. The document's organization
41 is explained below.

- 1 Following this Chapter 1.0, Introduction, Chapter 2.0, Revisions to the EA, contains text changes
2 initiated by BART and those resulting from comments on the EA and errata to the EA.
- 3 Chapter 3.0, Responses to Written Comments on the EA, contains the specific, detailed
4 responses to comment letters submitted by agencies and organizations. A copy of each
5 comment letter received is included, and is identified by an alphabetical letter. Each specific
6 comment in each letter is labeled with a number in the margin. It should be noted that no
7 individual testified or submitted material at the public open forum hearing held on September
8 14, 2005.
- 9 Chapter 4.0, References, identifies the documents (printed references) and individuals (personal
10 communications) consulted in preparing this revised EA.
- 11 Chapter 5.0, Acronyms, presents a list of the acronyms and abbreviations used in this revised
12 EA.

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2.0 REVISIONS TO THE EA

The following corrections and changes are made to the EA and are incorporated as part of the revised EA. Revisions are based on additional BART-initiated design analysis, or in response to public comments on the EA. This information replaces and/or supplements the text provided in the EA.

2.1 PROJECT DESCRIPTION REVISIONS

BART conducted further design review of proposed retrofit activities, which resulted in deletion or refinement of several retrofit techniques analyzed in the EA, as described below. Revisions to the EA are referenced by the associated EA section.

2.1.1 Transbay Tube

Retrofit techniques proposed for the Transbay Tube (Tube) to minimize the potential effects of liquefaction include micropile anchorage and/or vibro-replacement; techniques to strengthen the Tube's seismic joint from structural failure include stitching the Tube and installing a tunnel liner sleeve (see EA section 2.2.1 for details). As a result of further BART design review, stitching the Tube has been determined to be ineffective at preventing longitudinal movement at the seismic joint, and will not be implemented.

The impacts associated with stitching the Tube, including to water quality (from turbidity and sedimentation), noise (from pile installation), and vessel transportation (interruption of ferry operations at the Platform due to the presence of up to 12 barges) are no longer applicable to the proposed project.

Figure 1, below, depicts the full of extent of barge work areas in plan view within the vicinity of the San Francisco Ferry Plaza Platform (Platform), and clarifies EA Figure 2-3 depicting proposed vibro-replacement activities at the San Francisco end of the Tube. As indicated in Figure 1, spud anchors would be used in water depths up to 50 feet in lieu of anchor wire rope to avoid interfering with ferry movement. Therefore, project construction activities associated with vibro-replacement will not interfere with ferry operations in the vicinity of the San Francisco Ferry Terminal.

2.1.2 San Francisco Transition Structure

Retrofit techniques proposed at the San Francisco Transition Structure are described in EA section 2.2.2. Based on further design review, BART has determined the following retrofit techniques to be technically infeasible and/or ineffective in stabilizing the San Francisco Transition Structure from sliding and rocking movements, as well as from the pressure of spreading soils:

- Piles and collar anchorage, including sacrificial walls; and
- Isolation Wall Retrofit Concept.

Therefore, these techniques will not be implemented, and associated impacts are no longer applicable to the proposed project.

1 The marine-based construction option (Construction Method 1) at the Platform, described on EA
2 page 2-24, lines 6-19, has also been removed from consideration. Accordingly, the plaza-based
3 construction method (Construction Method 2), in which construction equipment would be placed
4 directly on top of the Platform, would be implemented. Details of the construction sequence
5 associated with this method are described below, and are depicted in Figures 2 through 7.

6 To facilitate access to and use of the Platform for retrofits at the transition structure, construction
7 would occur in up to six phases. This would allow portions of the Platform to remain publicly
8 accessible throughout the duration of construction, and would allow portions of the Platform to be
9 reconstructed immediately following completion of certain retrofit activities, and before the
10 beginning of others. The total platform area is 108,000 sf, and the maximum area of the Platform to
11 be removed and replaced is approximately 59,000 sf, (approximately 55 percent of the total Platform
12 area). However, the maximum Platform area that would be restricted from physical public access
13 during any of the construction phases would be 39,000 sf, which represents approximately 36
14 percent of the total platform area.

15 Public amenities and uses currently located within the construction footprint on the Platform would
16 be protected in place or temporarily relocated consistent with the Uniform Relocation Assistance
17 and Real Property Acquisition Policies Act of 1970, as amended (42 U.S.C. §4601 *et seq.*), as
18 applicable, including the Gandhi statue, benches, decorative planters, portions of the Farmers
19 Market parking areas (both construction staging and operational spaces), parking for nearby uses
20 and the World Trade Club, and infrastructure associated with the Golden Gate Ferry Terminal (for
21 details regarding the proposed temporary Golden Gate Ferry Terminal, please see the discussion
22 under section 2.2.2, below). As stated in the EA on page 2-23, lines 16-19, any hardscape or
23 landscape removed during construction on or near the San Francisco Transition Structure, including
24 specifically at the Platform, would be replaced in-kind after project completion; this would ensure
25 the same type of vegetation or tree is replaced at a 1:1 ratio. In addition, BART is coordinating with
26 the affected tenants to ensure adequate relocation or protection of uses during construction, and
27 replacement of facilities at project completion. Access to the existing entrance(s) to the World Trade
28 Club located on top of the transition structure would remain operational during the six phases
29 (numbered 0 to 5) of construction. Although vehicular access to the World Trade Club would not
30 remain the same as under existing conditions (e.g., valet parking in front, delivery entrances, etc.), it
31 is expected that patron access to the club and commercial deliveries to the restaurant would
32 continue through the entrances identified on Figures 2 through 7 throughout project construction.
33 The use of alternate entrances is not expected to result in a substantial impact on use at the club.

34 The proposed construction phasing for conducting retrofits at the San Francisco Transition Structure
35 includes the following series of activities.¹ To maintain continual ferry operations, construction of
36 the temporary Golden Gate Ferry Terminal and floating dock (proposed mitigation measure
37 described under section 2.2.2, below) would be completed during Phase 0, and ferry operations
38 relocated to the temporary terminal prior to the beginning of Phase 1 construction on the Platform.
39 All temporary and permanent replacement structures (including Port of San Francisco and Golden
40 Gate Ferry Terminal facilities) will be designed to provide the functional equivalent of the existing

1 The proposed construction phasing represents a reasonable scenario for purposes of impact analysis. The specific details of construction phasing may be revised based on project needs and subsequent discussions with the Port of San Francisco and other affected entities, so long as impacts are not materially increased.

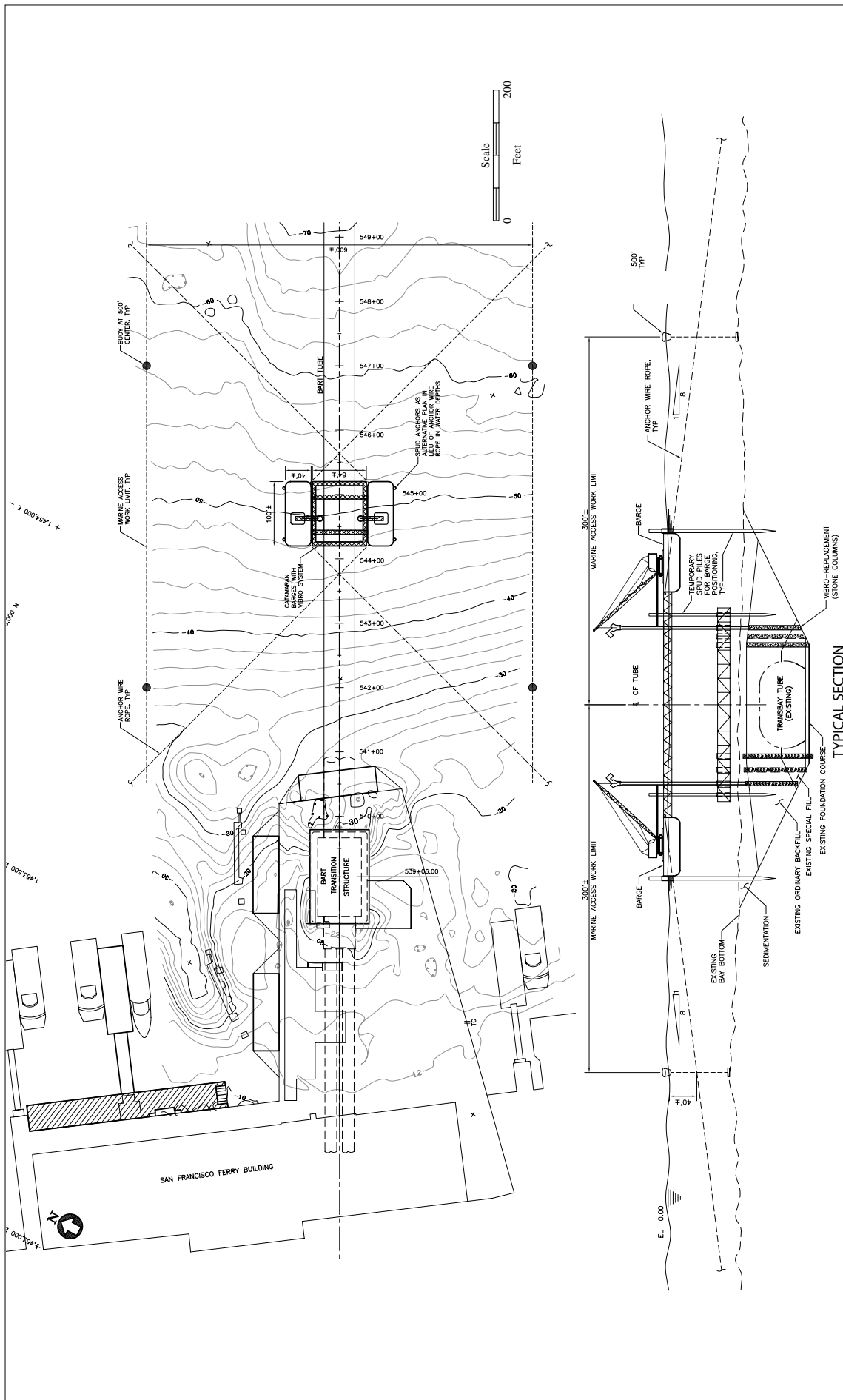


Figure 1. Barge Anchoring Layout and Profile for Vibro-Replacement at the San Francisco End

1 Page 2

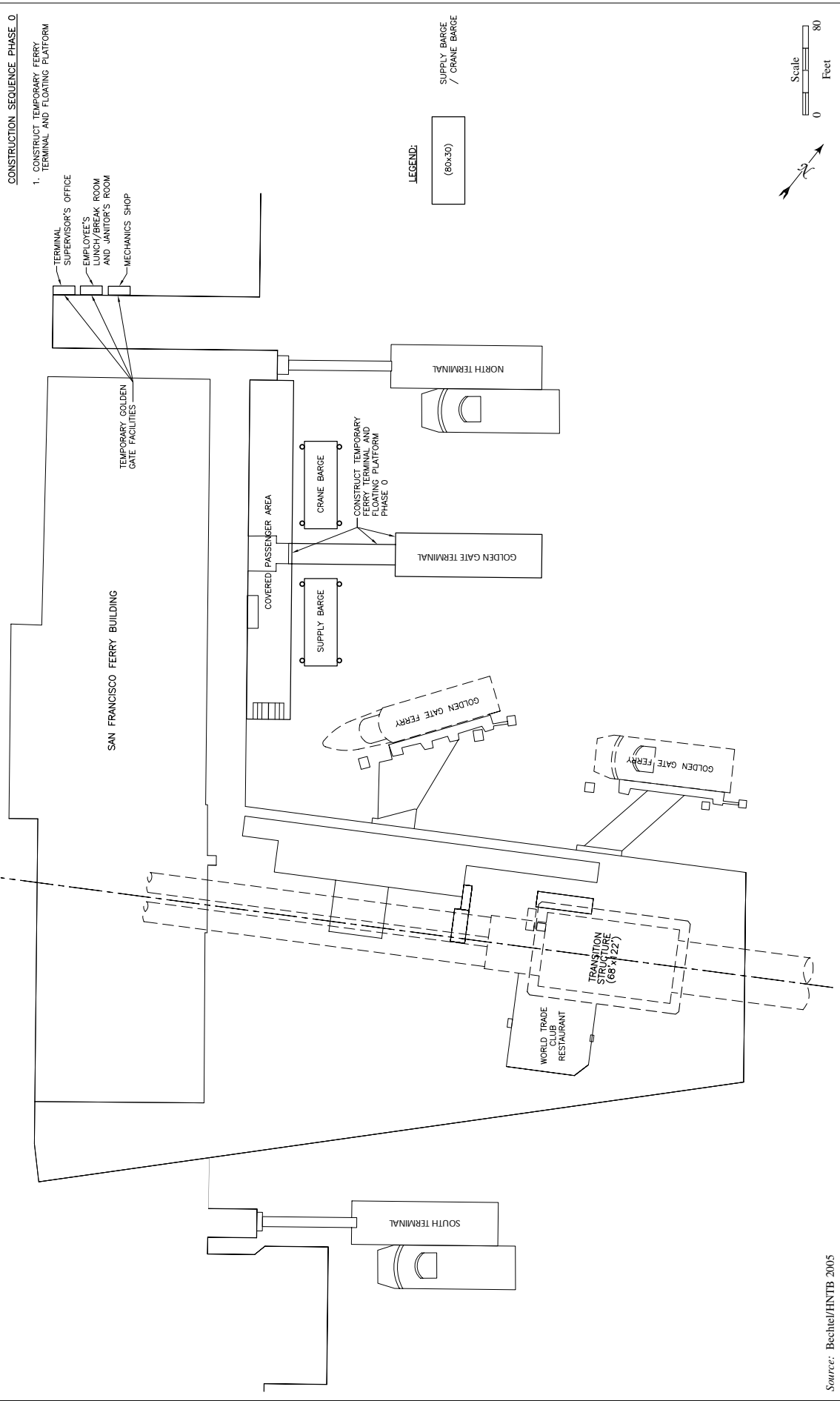


Figure 2. San Francisco Transition Structure Construction Phase 0

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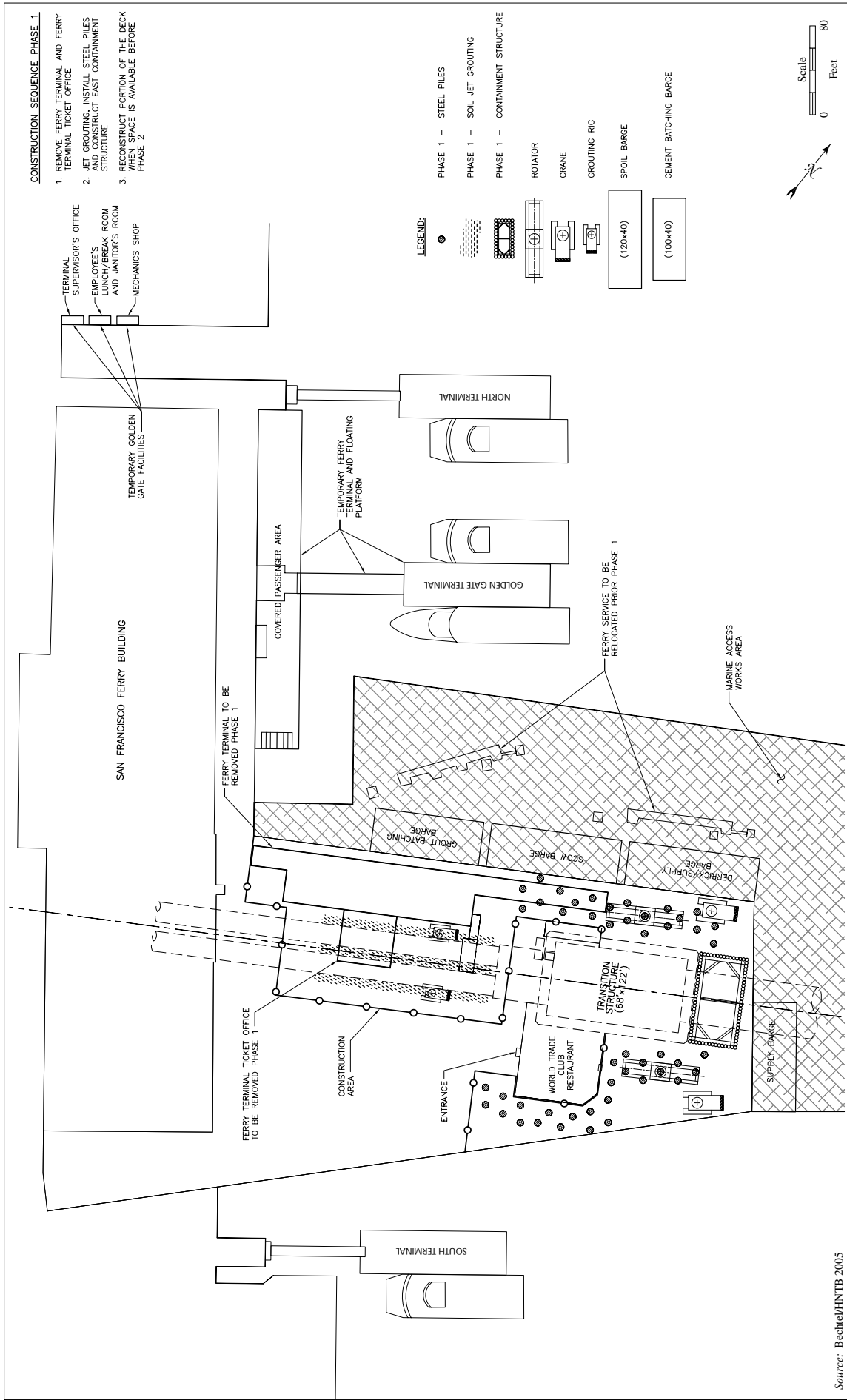


Figure 3. San Francisco Transition Structure Construction Phase 1

Source: Bechtel/HNTB 2005

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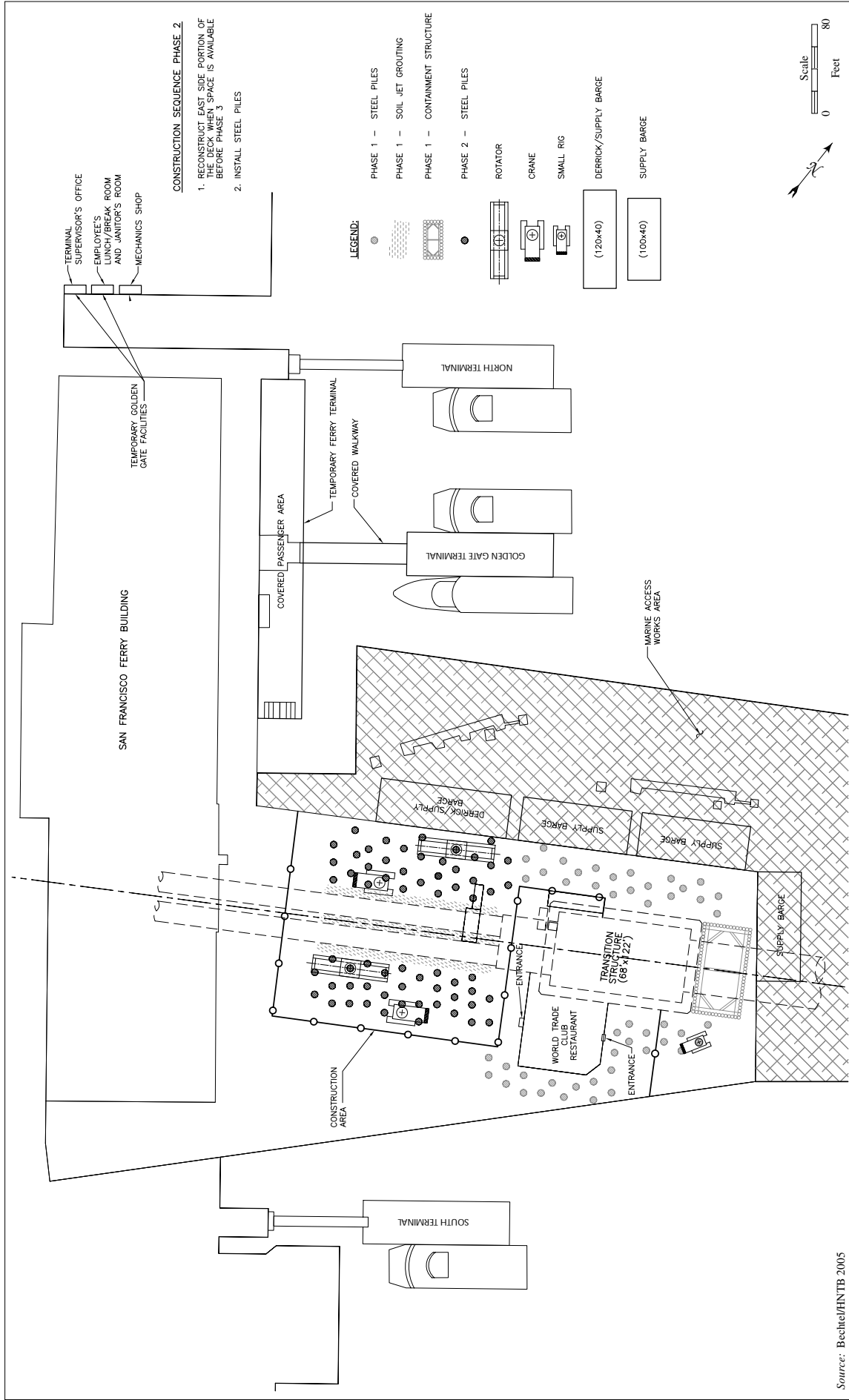
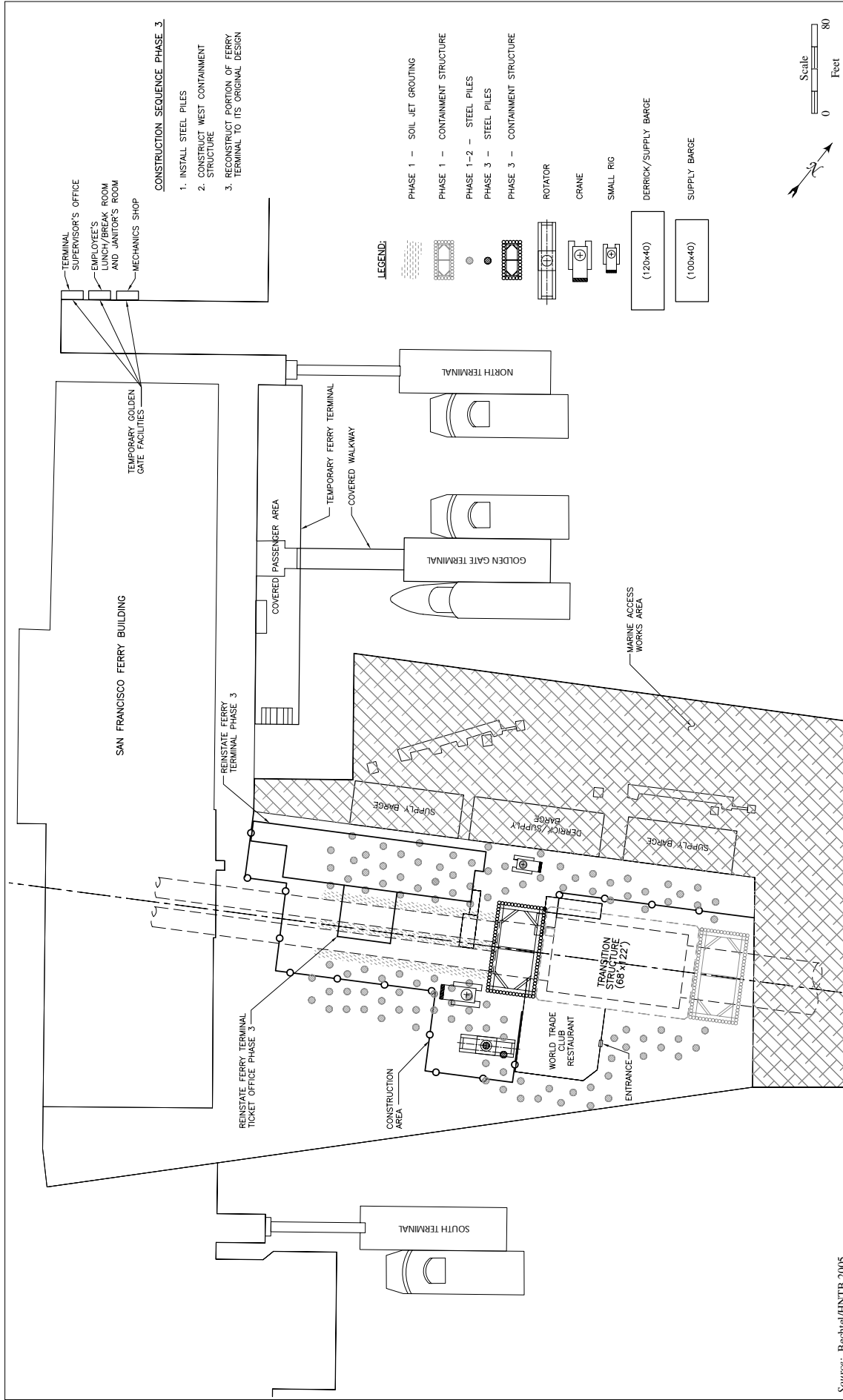


Figure 4. San Francisco Transition Structure Construction Phase 2

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Source: Bechtel/HNTB 2005

Figure 5. San Francisco Transition Structure Construction Phase 3

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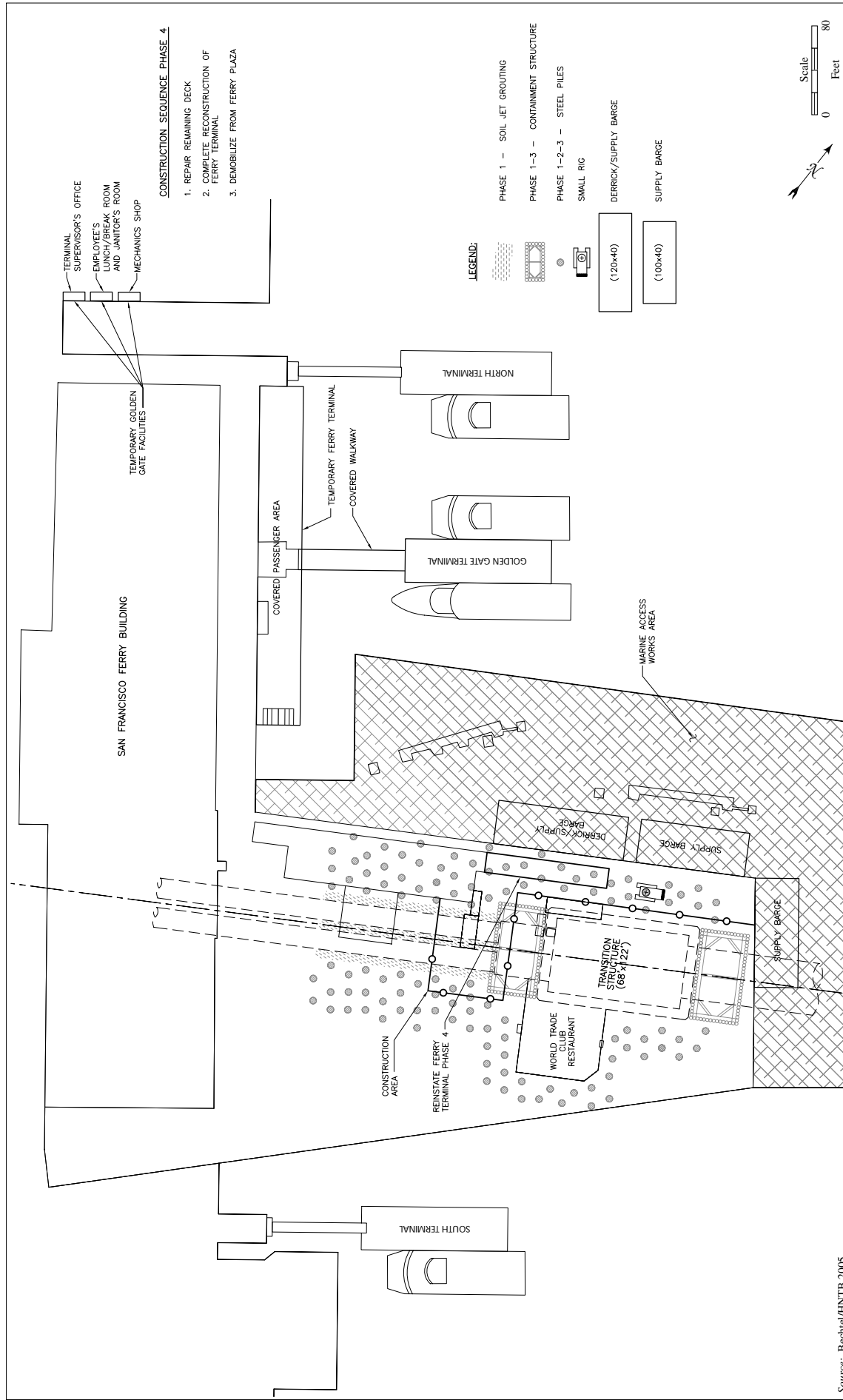
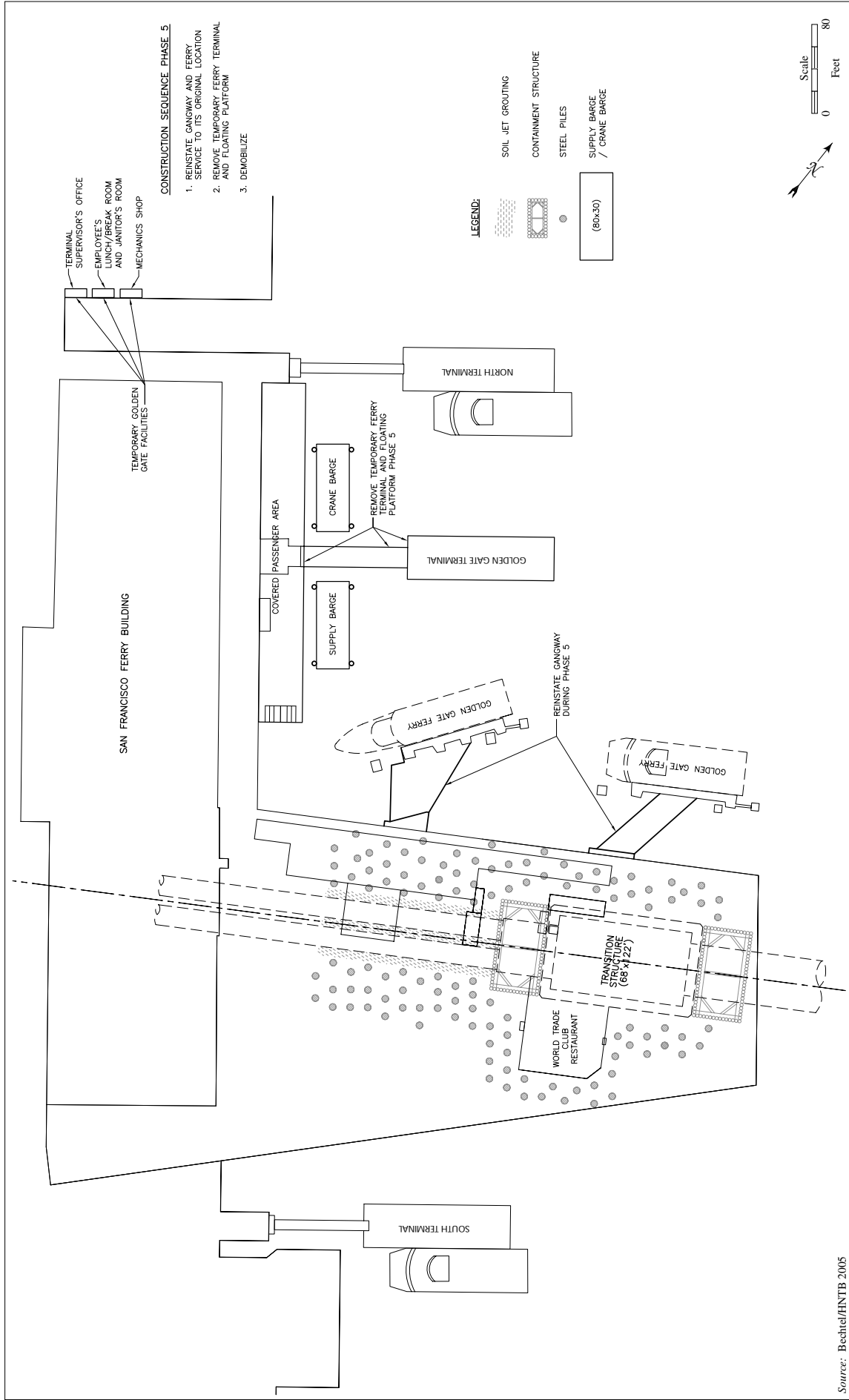


Figure 6. San Francisco Transition Structure Construction Phase 4

Source: Bechtel/HNTB 2005

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Source: Bechtel/HNTB 2005

Figure 7. San Francisco Transition Structure Construction Phase 5

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1 facilities (i.e., a replacement facility that will effectively achieve the same level of operation that
2 presently exists), but will also be consistent with applicable current building and seismic code
3 standards. Construction of the temporary terminal at future Gate C would require use of a
4 supply and crane barge (see Figure 2). BART will continue to coordinate and consult with any
5 affected agencies to determine the final specifications for the proposed relocation, including the
6 location of proposed temporary support facilities.

7 As part of Phase 1 construction, the approximately 13,300 sf Golden Gate Ferry Terminal and
8 Ticket Office would be removed. Implementation of soil jet grouting around the Tube below mud
9 line, installation of up to 48 steel pipe piles associated with the Pile Array, and construction of the
10 east end containment structure would occur during this phase (see Figure 3). Activities associated
11 with Phase 1 would require closure of up to 39,000 sf of public access area on the Platform to
12 accommodate the construction equipment, including cranes, rotators, grouting rigs, and
13 construction supply barges. Reconstruction of a portion of the Platform when space is made
14 available would occur before the beginning of Phase 2 construction activities. The anticipated
15 construction area and the marine access work area are depicted on Figure 3.

16 Phase 2 construction would include installation of up to 64 steel pipe piles associated with the Pile
17 Array, and would affect a smaller portion of the Platform compared to the Phase I construction
18 area (see Figure 4). Closure of public access areas would be required to accommodate the
19 construction equipment, including cranes, rotators, small rigs, and construction supply barges.
20 Reconstruction of the eastern portion of the Platform when space is made available would occur
21 before the beginning of Phase 3 construction activities. The anticipated construction area and the
22 marine access work area are depicted on Figure 4.

23 Phase 3 construction would require closure of a central portion of the Platform to accommodate
24 installation of up to four steel pipe piles associated with the Pile Array, and the west end
25 containment structure (see Figure 5). Closure of public access areas would be required to
26 accommodate the construction equipment, including a crane, a rotator, a small rig, and
27 construction supply barges. Reconstruction of a portion of the Platform when space is made
28 available would occur before the beginning of Phase 4 construction activities. The anticipated
29 construction area and the marine access work area are depicted on Figure 5. All retrofit
30 activities proposed for the transition structure would be concluded during this phase.

31 Phase 4 construction includes replacement of the remaining portion of the affected Platform deck,
32 reconstruction of the Golden Gate Ferry Terminal infrastructure at the Platform, and
33 demobilization. The anticipated construction area and the marine access work area are depicted
34 on Figure 6. At the conclusion of Phase 4, the Platform would be returned to pre-existing
35 conditions, as well as replacement of hardscape and landscape amenities and public uses.

36 Phase 5 construction includes replacement of the original Golden Gate Ferry Terminal gangway,
37 and relocation of Golden Gate District ferry services to its original location on the Platform. The
38 temporary terminal and floating dock at future Gate C, as well as nearby temporary support
39 facilities, would also be removed during this construction phase, and all construction equipment
40 and supply barges demobilized. The anticipated construction area is depicted on Figure 7.

1 The typical marine access work areas identified on Figures 3 through 6 take into account the full
 2 extent of anchor wire rope lines, as all construction supply barges will be tied off to the northern
 3 and eastern end of the Platform and will not interfere with ferry movement at nearby terminals.

4 BART estimates that 6 of the total 116 steel pipe piles associated with the Pile Array may require
 5 installation by impact hammer due to difficult soil conditions. Installation of the remaining
 6 steel pipe piles would occur by oscillating or rotating excavation techniques that produce
 7 minimal noise and vibration effects. The approximately 100 tubular sheet piles associated with
 8 the containment structures would be installed using the hydraulic push method, which would
 9 also result in minimal noise and vibration effects.

10 **2.1.3 Dredged Material and Fill Volumes**

11 As a result of eliminating several retrofit techniques previously analyzed in the EA associated
 12 with Transbay Tube and San Francisco Transition Structure construction (i.e., stitching the
 13 Tube, piles and collar anchorage, and the Isolation Walls Retrofit Concept), the total project
 14 dredge and fill volumes expected in San Francisco Bay by component would be reduced as
 15 identified in revised Table 2-1. In addition, the dredged material reuse scenario, in which
 16 dredged material would be placed back into each of the six project stitching holes along the
 17 Tube near the San Francisco Transition Structure, will not be implemented.

Table 2-1. Proposed Dredge and Fill Volumes in San Francisco Bay by Project Component

<i>Project Component/Location</i>	<i>Dredge Volume (cy)¹</i>	<i>Duration of Construction</i>	<i>Fill Volume (cy)¹</i>	<i>Number of New Piles</i>
Transbay Tube				
Micropile Anchorage	-	-	-	2,200
Vibro-Replacement	-	-	-	-
Seismic Joint Restoration	-	-	-	-
Total	-	-	-	2,200
San Francisco Transition Structure				
Pile Array	-	2 – 3 years	-	116
Containment Structures	5,000	2 – 3 years	5,000	-
Ferry Plaza Platform ²	-	-	-	80 ³
Total	5,000	2 – 3 years	5,000	196
Combined Project Components				
Total Project	5,000	2 – 3 years	5,000	2,396
<i>Notes:</i>				
1. The dredge and fill volumes are based on the proposed retrofit method (containment structures) described in this chapter.				
2. Installation of the pile array, containment structures, and soil grouting at the San Francisco Transition Structure would require removing and then restoring about 59,000 sf of the Ferry Plaza Platform.				
3. Approximately 80 piles would be removed during platform removal; the number of replacement piles may change depending on the pile size and spacing called for in the final design.				

18 Installation of the containment structures would require dredging up to 5,000 cy of material
 19 (primarily new Bay Mud) and placement of up to 5,000 cy of fill (Bentonite slurry). The total
 20 number of barge and/or truck trips required for offsite disposal of project dredged material
 21 would subsequently be reduced from those analyzed in the EA.

1 Project dredged material could be disposed entirely at one of the eight potential offsite
 2 reuse/disposal sites described in EA section 2.2.6.2 and Appendix A, or at a combination of these
 3 sites. All have the capacity to accommodate the 5,000 cy of dredged material. Pending further
 4 testing to determine feasibility for disposal, disposal of dredged material at the identified ocean
 5 site (e.g., SF-DODS) or in-Bay site (e.g., Alcatraz) would result in approximately four barge trips
 6 (assuming an effective barge load capacity of 1,500 cy). Similarly, disposal at any of the four
 7 identified upland reuse sites would require approximately four barge trips.

8 Disposal at the identified landfill sites (Altamont or Vasco Road) would require drying the
 9 dredged material at the Port of Oakland's Berth 10 rehandling facility prior to hauling it to a
 10 landfill. It is expected that all 5,000 cy of dredged material could be dewatered at the
 11 rehandling facility, which is consistent with the Port of Oakland's dewatering requirements.
 12 Transport to the rehandling facility would also require about four barge trips. Assuming use of
 13 12-cy capacity dump trucks, transport of the dredged material (once dried) to a landfill site
 14 would require about 420 total truck trips. This would equate to approximately 7 truck
 15 trips/day during the 2-month dewatering period.

16 **2.1.4 Schedule**

17 As a result of eliminating certain retrofit techniques (i.e., stitching the Tube, piles and collar
 18 anchorage, and the Isolation Walls Retrofit Concept), and through refinement of construction
 19 phasing at the Platform, construction for the San Francisco Transition Structure could be
 20 reduced by up to 1 year compared to the duration analyzed in the EA. The approximate
 21 construction schedule for the project is revised as follows.

- 22 • Transbay Tube and Transition Structures
 - 23 – Transbay Tube micropile anchorage or vibro-replacement – 2 years
 - 24 – Vibro-replacement on land (Oakland end) – 8 to 9 months
 - 25 – San Francisco Transition Structure – 2 to 3 years
 - 26 – Oakland Transition Structure – 6 months
 - 27 – San Francisco Seismic Joint Restoration – 1½ years
- 28 • Aerial Guideways – 4 years
- 29 • Stations – 6 years
- 30 • Oakland Yard and Shop Area – 1¼ years

31 **2.1.5 Alternatives Considered But Eliminated From Further Evaluation**

32 In response to comments received, EA section 2.4.1 has been revised as follows: The following
 33 four design variations were considered as alternatives to stitching the Tube:

- 34 • Chemical or jet grouting was considered for anchoring the Tube's end to improve the
 35 friction between the Tube and soil. This alternative was determined to be less reliable and
 36 more expensive, and was eliminated from further evaluation.
- 37 • Installing a new seismic joint in the first section of the Tube east of San Francisco (east of the
 38 existing seismic joint on the eastern side of the San Francisco Transition Structure) was
 39 considered as an alternative to accommodate potential large movements at the seismic joint.
 40 The new joint would be constructed to have sufficiently large seismic movement capacity to

1 accommodate the predicted seismic motion demand at the end segment of the Tube. This
2 alternative was found not to be viable due to high costs and risks to the BART system
3 during construction, and was eliminated from further evaluation.

- 4 • Internal battered micropile Tube tie-downs were considered but rejected due to the lack of
5 sufficient horizontal tension load capacity that could be generated in the micropiles,
6 together with the complexities of construction in the tight quarters of the Tube gallery.
- 7 • The installation of a permanent cofferdam structure was considered as an alternative,
8 interim safety measure prior to installation of all seismic retrofit measures and as a long-
9 term redundant protection of the Tube. The cofferdam would surround the San Francisco
10 Transition Structure and existing seismic joints, and would minimize the volume of Bay
11 water entering the Tube if water leaks developed at the seismic joints following excessive
12 joint movement. This concept was not feasible because sealing the cofferdam as it crossed
13 the Tube on the Bay side would be very difficult to accomplish, and there would be a
14 potential for damage to the Tube and adjacent structures. Also, the cofferdam structure
15 could potentially alter the hydrological effects of the transition structure on the Bay and
16 would potentially become a long-term maintenance problem because of standing water
17 inside the cofferdam. Therefore, this alternative was eliminated from further evaluation.

18 2.2 RESOURCE AREA REVISIONS

19 The EA analysis of the following environmental resource areas did not change as a result of BART-
20 initiated project revisions or in response to comments: Water Resources; Geology/Seismicity; Risk
21 of Upset/Safety; and Visual Resources.

22 In response to vessel transportation impacts during construction, a mitigation measure
23 requiring construction of a temporary Golden Gate Ferry Terminal at future Gate C was
24 proposed in EA Table 3.4-7. As a result of comments received on the EA, new details regarding
25 this mitigation measure have been developed and are described in section 2.2.3. New analysis
26 was also conducted to determine the extent of potential impacts associated with
27 implementation of this measure. The conclusions of this assessment are summarized under
28 section 2.2.3, and are described in greater detail under section 2.2.8.

29 2.2.1 Noise

30 EA Table 3.2-3 provides a summary of construction noise level data. To clarify the data
31 identified for impact pile drivers, a table note has been added to reiterate that proposed project
32 piles are not typical and that noise levels are expected to reach 110 dBA. This added
33 clarification is consistent with information provided on EA page 3.2-8, lines 13-18. Because the
34 EA assumed that pile driving activities would generate noise levels up to 110 dBA in its analysis
35 (not the lower number identified in Table 3.2-3), no new analysis is required.

36 The following information is provided to clarify noise levels expected from proposed retrofit
37 activities at the San Francisco Transition Structure, including specifically those resulting from
38 impact pile driving. Further design review indicates that an estimated 6 of the total 116 steel
39 pipe piles associated with Pile Array installation at the San Francisco Transition Structure may
40 require installation by an impact hammer due to difficult soil conditions. This substantially
41 reduces the potential for adverse noise impacts, as the remainder of these piles would be

1 installed by rotating or oscillating techniques that are not expected to produce noise levels or
 2 vibration in excess of approved standards. Further testing and monitoring of noise levels
 3 associated with the rotating and oscillating techniques will be conducted through pilot
 4 demonstrations to be completed prior to commencement of construction activities at the
 5 Platform. All tubular sheet piles associated with the containment structures would be installed
 6 using the hydraulic push method, which would result in negligible noise levels.

(Revised) Table 3.2-3. Typical Construction Equipment Noise Emission Levels

<i>Equipment</i>	<i>Typical Noise Level (dBA) at 50 Feet</i>	<i>Equipment</i>	<i>Typical Noise Level (dBA) at 50 Feet</i>
Air Compressor	81-85	Grader	83-85
Backhoe	80-83	Hoe-Ram	85-90
Chain Saw	85	Impact Wrench	85
Compactor	82	Jackhammer ¹	88-89
Compressor	85-90	Loader	85-88
Concrete Truck	81	Paver	80-89
Concrete Mixer	85	Pile Drive, Impact ²	101
Concrete Pump	82	Pile Driver, Sonic	96
Concrete Vibrator	76	Pump	80-85
Crane, Derrick	86-88	Rock Drill	98
Crane, Mobile	83-87	Roller	74
Dozer	84-88	Scraper	89
Drill Rig	88	Slurry Machine	91
Dump Truck	84	Slurry Plant	78
Excavator	84	Truck	85-89
Generator	85	Vacuum Excavator	85-88
Gradall	86		

Notes:

1. Jackhammers (90 lb. class) rated at 82 dBA at 7 meters are available. This would be equivalent to 74 dBA at 50 feet. These are silenced with molded intricate muffler tools.
2. The proposed large-diameter steel pipe piles are not "typical" construction equipment. Based on noise measurements taken while driving these larger piles, noise levels are expected to reach up to 110 dBA at a distance of 50 feet (Illingworth & Rodkin, Inc. 2001).

Source: National Cooperative Highway Research Program (1999)

7 In addition, project construction noise control measures have been revised consistent with
 8 mitigation proposed for the San Francisco Downtown Ferry Terminal Project (San Francisco
 9 Planning Department et al. 1997) and successfully implemented during construction of the San
 10 Francisco Muni Project. The measures would ensure that maximum intermittent noise levels on
 11 sensitive receptors within 200 feet of the transition structure would be reduced to within BART
 12 construction noise limits for commercial areas with no nighttime residency (85 dBA at all times).
 13 Sensitive receptors located over 200 feet from construction would not be subject to excessive noise
 14 levels or vibration, including Sinbad's Restaurant, Agricultural Building, and Pier 1 in the
 15 immediate vicinity. Facilities located further inland along the Embarcadero, including the Golden

1 Gateway residential area, Rincon residential area, Ferry Park, Hyatt Hotel, and Embarcadero
2 Center also would not be substantially affected.

3 *Project Construction Standards for Noise*

4 Implementation of the following standard construction noise control measures will ensure noise
5 levels associated with use of general construction equipment, dredging activities, and oscillating
6 or rotating techniques and experienced by sensitive receptors within 200 feet of the San Francisco
7 Transition Structure are maintained within BART construction noise limits.

- 8 • Temporary noise control barriers will be installed around noise-generating construction
9 equipment to effectively screen adjacent noise sensitive uses. Barriers may be constructed
10 with 8-12 feet tall plywood planks (standard construction site barrier), quilted pre-
11 fabricated noise control blankets, which would cover the construction equipment in its
12 entirety, or other similar materials. The proper utilization of such barriers will reduce
13 noise levels by up to 10-15 dBA, to within BART construction noise limits.
- 14 • All construction equipment driven by internal combustion engines will be equipped with
15 the best available mufflers.
- 16 • Welded rather than bolted steel connections will be used whenever possible to minimize
17 the use of impact wrenches.
- 18 • Construction vehicles will turn off engines and compressors when not in operation.

19 The following construction noise control measures would reduce noise levels on sensitive
20 receptors within 200 feet of the San Francisco Transition Structure associated with the use of
21 impact pile-driving equipment for installation of the estimated 6 piles.

- 22 • Impact pile driving hours will be limited to between 7:00 a.m. and 12:00 noon and
23 between 1:30 p.m. and 3:30 p.m. to reduce the impact on the restaurant patrons and other
24 people using the public outdoor and indoor spaces at the San Francisco Ferry Plaza. This
25 scheduling will be done in conjunction with the restaurant management and persons
26 responsible for public access to the Ferry Plaza.
- 27 • Impact pile drivers will be shielded with shrouding using noise barrier materials to reduce
28 noise impacts at adjacent noise sensitive receptors. Proper shielding will reduce noise
29 levels by at least 10-15 dBA, to within BART construction noise limits.
- 30 • Temporary noise control barriers will be installed around noise-generating construction
31 equipment to effectively screen adjacent noise sensitive uses. Barriers may be constructed
32 by using 8-12 feet tall plywood planks (standard construction site barrier), quilted pre-
33 fabricated noise control blankets, which would cover the construction equipment in its
34 entirety, or other similar materials. The proper utilization of such barriers will reduce
35 noise levels by up to 10-15 dBA, to within BART construction noise limits.

36 Prior to construction, BART will also convene a meeting with representatives of businesses in
37 the area within 200 feet of the Ferry Plaza Platform for the purpose of discussing noise-related
38 issues. The following will be among the topics addressed:

- 39 • Outline the process to inform interested persons of the scheduling of excessive noise-
40 generating construction activities (e.g., pile driving);

- 1 • Identify a noise consultant to conduct pilot demonstration noise monitoring in the
2 tenant buildings prior to commencement of construction activities at the Platform of a
3 major noise-generating construction activity (e.g., pile driving). Based on the results of
4 the trial noise monitoring, BART will implement feasible actions suggested by the noise
5 consultant to further reduce noise levels any excessive noise levels to within acceptable
6 BART construction standards;
- 7 • Describe the proposed noise-limiting specifications that will be issued by BART as part
8 of construction contract specifications for the project; and,
- 9 • Identify a process for interested persons to provide feedback as to the effectiveness of
10 noise reduction measures, whether in person or by hotline.

11 In addition, either BART or the general contractor will assign a Disturbance Coordinator, who
12 will be available to promptly respond to complaints/issues, and will be responsible for
13 resolving any issues in an expeditious manner through implementation of the following tasks:

- 14 • Be familiar with the project and construction schedule, including attending all required
15 construction meetings; and
- 16 • Take an active role in monitoring project complaints with respect to noise. This includes
17 communication with neighboring commercial tenants, property owners, and patrons, and
18 being available to respond to comments and complaints. The Disturbance Coordinator
19 will take an active role in monitoring noise levels and ensuring reduction measures are
20 being implemented properly.

21 Implementation of the above noise reduction measures will ensure that noise impacts remain
22 less than substantial. Nevertheless, BART will continue to consult with the Port and other
23 affected entities to refine the implementation of these measures, in order to further minimize
24 any unanticipated impacts.

25 **2.2.2 Cultural Resources**

26 In response to comments received, EA section 3.3.2.2 is revised to incorporate the following
27 mitigation measure for the San Francisco Ferry Building and Agricultural Building.

28 *Mitigation Measure.* Implementation of the following measure will ensure that unforeseen
29 impacts on the San Francisco Ferry Building and Agricultural Building related to impact pile
30 driver vibration are avoided.

- 31 • A pre-construction and post-construction survey shall be performed on the San Francisco
32 Ferry Building and the Agricultural Building to document the existing condition of the
33 structures. The structural surveys shall identify and describe any pre-existing internal and
34 external structure cracking, settlement, and distress, and the condition of foundations,
35 walls, and other structural elements. The surveys shall be taken under the direction of a
36 licensed Professional Structural Engineer in the State of California and shall be in
37 accordance with industry-accepted standard methods. Written reports documenting
38 conditions before and after project completion shall be prepared under the supervision
39 and approval of a Structural Engineer, licensed to practice in the State of California. The
40 reports shall include photo-documentation to verify that no structural damage occurred to
41 the San Francisco Ferry Building and Agricultural Building during project construction.

1 **2.2.3 Transportation**

2 *Ground Transportation*

3 In response to comments expressing concern that project construction at the San Francisco
4 Transition Structure would result in pedestrian circulation impacts due to restricted public
5 access on the Platform, the following mitigation measures are proposed to ensure adequate flow
6 is maintained in and around the Ferry Building throughout construction.

7 *Mitigation Measures.* The following measures will be implemented to avoid substantial increases
8 in delay for pedestrian movements resulting from blocked access at or near the Ferry Building
9 and ferry terminals.

- 10 • BART shall maintain a 40-foot wide pedestrian corridor behind the Ferry Building
11 throughout project construction at the Ferry Plaza Platform.
- 12 • BART shall not redirect, block, or otherwise interfere, with current ferry passenger
13 queuing areas associated with Bay Link, Blue & Gold Fleet, and City of Alameda ferry
14 services at the North and South Terminals.

15 Additional design review also resulted in revisions to EA section 3.4.1.2.3, which previously
16 discussed the impacts of hauling 222,000 cy of dredged material to a landfill site. Project
17 changes resulting in a 98% reduction in the total dredged material volume requiring offsite
18 disposal (5,000 cy), would result in fewer daily truck trips to a landfill site. Dredged material
19 hauling would only occur for approximately 2 months during the dewatering period.

20 Impacts related to dredged material hauling could still occur from the movement of up to 7
21 daily truck trips (each with 12-cy capacity) from the Port of Oakland to either the Altamont or
22 Vasco Road Landfills, as the four freeway segments identified in the EA on page 3.4-18, lines 16-
23 26, operate at LOS F during the A.M. and P.M. peak hours. However, this temporary impact on
24 freeway operations at these four locations will be avoided because the construction contractor
25 will be required to transport dredged material outside of peak hours (6 A.M. to 10 A.M. and 3
26 P.M. to 7 P.M.). Hauling dredged material outside of peak hours when these freeway segments
27 are operating at LOS D or better would not degrade freeway operations.

28 In addition, dredged material hauling would add approximately 7 daily truck trips for 2 months
29 to the Southfront Road and Interstate 580 eastbound ramp intersection along the proposed haul
30 route; the intersection currently operates at LOS F during the P.M. peak hour. However, this
31 temporary impact will also be avoided because the construction contractor will be required to
32 transport dredged material outside of peak hours (6 A.M. to 10 A.M., and 3 P.M. to 7 P.M.).

33 *Vessel Transportation*

34 The existing circulation and transportation uses located at the San Francisco Ferry Building and
35 Ferry Plaza Platform were summarized in the EA on page 3.4-23. To ensure these uses are
36 accurately depicted, the following updated information is provided.

37 The San Francisco Ferry Building is located in downtown San Francisco on the far eastern edge of
38 the city, on the western edge of the Bay. As shown in EA Figure 3-4, the Ferry Building has three
39 platforms (the North Terminal, Ferry Plaza Platform, and South Terminal) providing six berths.

1 A fourth float, Pier ½, is no longer used for regular ferry service. Four ferry companies with
2 various routes operate from the Ferry Building: Bay Link; Blue & Gold Fleet; Golden Gate Ferry;
3 and City of Alameda Ferry. Service is provided by monohulls and catamarans. Monohull vessels
4 are typically the slower of the two types, but are larger, deeper draft vessels with a greater
5 passenger capacity, while catamarans are faster and smaller with a more shallow draft. In 2000-
6 2001, approximately 11,800 persons per day took ferries to or from the Ferry Building, resulting in
7 an annual ridership to/from the Ferry Building of 3,705,550 passengers (WTA 2002). Ridership
8 across all routes is expected to increase by about 12 percent annually (WTA 2002).

9 *North Terminal Ferries*

10 Ferry service at the North Terminal is provided by both Bay Link and the Blue & Gold Fleet.
11 Three routes are operated on a daily basis, as described below.

12 Tiburon-San Francisco. This ferry route operated by the Blue & Gold Fleet makes eight daily
13 roundtrips between Tiburon and the San Francisco Ferry Building. The ferries operate every hour
14 during the morning and evening commute (Blue & Gold Fleet 2005). Service is typically provided
15 by a high-speed catamaran vessel to and from the northern berth of the North Terminal.

16 Vallejo-San Francisco. Both the Blue & Gold Fleet and Bay Link offer ferry service on this route.
17 Blue & Gold Fleet makes 20 daily roundtrips between Vallejo and the San Francisco Ferry
18 Building. The ferries operate about once an hour during the morning and evening commute
19 (Blue & Gold Fleet 2005). Service is typically provided by a high-speed catamaran vessel to and
20 from the northern berth of the North Terminal.

21 Bay Link makes 15 daily round trips between Vallejo and the San Francisco Ferry Building. The
22 Vallejo Ferry arrives and departs from the Ferry Building every 30 to 90 minutes in the
23 morning, and about every hour in the afternoon and during the evening rush period (Bay Link
24 2005). This service is provided by a high-speed catamaran at the southern berth of the North
25 Terminal (Bay Link 2005).

26 Based on the revised project description, no impacts are expected on North Terminal ferries.

27 *Ferry Plaza Platform Ferries*

28 Ferry service at the Platform is provided by the Golden Gate Bridge, Highway, and
29 Transportation District (Golden Gate District). Two routes are operated on a daily basis from
30 the Golden Gate Ferry Terminal, as described below. In 2003-2004, total annual ferry ridership
31 for both routes was 1,660,369 passengers; daily ridership was approximately 5,500 (Golden Gate
32 District 2005). Existing Golden Gate Ferry Terminal infrastructure and operations on the
33 Platform include:

- 34 1. Two operational berths, coupled with staging areas and wide ramps and walkways that
35 allow for simultaneous loading and unloading of two ferries with a five-minute
36 turnaround time at the dock. There are currently two ramps in use for each vessel, to
37 enable upper deck loading.
- 38 2. An integrated security system that includes, among other things, perimeter access
39 control and surveillance, thereby allowing Golden Gate District to fully respond to a

1 heightened level of security. Additionally, Golden Gate District is currently
2 participating in a pilot project with the Department of Homeland Security.

3 3. Passenger amenities for ferry customers include a heated, covered passenger waiting
4 area, restrooms, a staffed ticketing office, and decorative planters and benches. A
5 publicly accessible, covered viewing area is also available on the second level of the
6 Ferry Building.

7 4. Ferry service support facilities include restrooms and space for employee breaks, as well
8 as fare collection equipment, communications, storage, and maintenance areas. An
9 industrial ice machine replenishes supplies on the ferries. Golden Gate District's
10 facilities also include an emergency power generator.

11 Larkspur-San Francisco. The Larkspur-San Francisco service provides 20 roundtrips from
12 Larkspur to the Platform. During the morning and evening rush hours, this route serves the
13 Ferry Building approximately every 15 to 60 minutes. In the afternoon, ferries arrive and depart
14 on this route at least once an hour (Golden Gate District 2005). Two high-speed catamarans
15 serve this route (Golden Gate District 2005). In addition, there is one afternoon trip from San
16 Francisco to Larkspur in a mono-hull ferry.

17 Sausalito-San Francisco. The Sausalito-San Francisco service makes nine daily round trips (10
18 daily trips in the summer). Ferries between San Francisco run every 70-120 minutes, depending
19 on time of day (Golden Gate District 2005). This ferry route operates from the Ferry Plaza
20 Platform using a mono-hull (Golden Gate District 2005). The Golden Gate ferry berths at the
21 Ferry Plaza are specially designed to handle these different types of vessels.

22 *South Terminal Ferries*

23 The City of Alameda currently operates two ferry services at the South Terminal Gate E,
24 including the Alameda-Harbor Bay Ferry, and Alameda/Oakland Ferry. All ferry service at the
25 South Terminal is provided by catamaran vessels, but in the event a catamaran is under repair,
26 mono-hull vessels operating from the Plaza Platform can be used (personal communication, A.
27 Anderson, City of Alameda 2003; Metropolitan Transportation Commission 2004).

28 Alameda-Harbor Bay. The Alameda-Harbor Bay Ferry makes six round trips daily from the
29 northern berth of the Ferry Building North Terminal, serving approximately 450 daily
30 passengers and 130,145 annual passengers (WTA 2002).

31 Alameda/Oakland-San Francisco. The Alameda/Oakland Ferry makes 13 round trips daily
32 from the southern berth of the Ferry Building South Terminal. Annual ridership in 2000-2001
33 was 540,695; daily ridership is on the order of 1,600 (WTA 2002).

34 In response to comments received regarding the effectiveness of mitigation measures proposed to
35 reduce or avoid impacts to these vessel operations, the EA Table 3.4-7 ferry mitigation measures
36 are revised as follows, to more specifically address and minimize the vessel transportation
37 impacts anticipated under the plaza-based construction method. EA Table 3.4-7 is, therefore,
38 deleted and superseded by the mitigation measures identified in this revised EA.

1 *Mitigation Measures.* Implementation of the following measures would reduce impacts
2 associated with precluding access to the Golden Gate District's Berths 1 and 2 located on the
3 northern side of the Platform, and removal and replacement of Golden Gate District's vessel
4 infrastructure at the Ferry Terminal.

- 5 • BART shall relocate and construct a temporary Golden Gate Ferry Terminal, including
6 deck and floating dock, at future Gate C in accordance with the Uniform Relocation
7 Assistance and Real Property Acquisition Policies Act of 1970, as amended (42 U.S.C.
8 §4601 et seq.), as applicable. BART shall continue to work with the Golden Gate District
9 and the Port regarding the design and construction of the temporary ferry facilities. The
10 temporary terminal shall be designed with dual slips in order to accommodate
11 simultaneous loading and offloading of two ferries. BART shall also provide functionally
12 equivalent temporary passenger amenities and ferry service support facilities at the
13 terminal, including a secured, covered passenger waiting area and walkway, restrooms,
14 and ticket booth, as well as within the general vicinity of the terminal, including a terminal
15 supervisor's office, employee lunch/break room with janitor room, and a mechanics shop
16 housed within temporary trailers. Additional details describing the temporary Golden
17 Gate Ferry Terminal are provided below, and depicted on Figure 8.² The above
18 description is conceptual and both location and exact features of the temporary terminal
19 may be changed during final design, so long as the changes do not create additional
20 impacts, taking into account the applicable mitigation described in the EA.
- 21 • BART shall reconstruct functionally equivalent facilities for the Golden Gate Ferry
22 Terminal in its original location at the Ferry Plaza Platform at the conclusion of proposed
23 project work. BART shall continue to work with the Golden Gate District regarding the
24 redesign and in-place, reconstruction of Golden Gate District facilities at the Ferry Plaza
25 Platform. The Ferry Terminal at the San Francisco Ferry Plaza Platform shall be rebuilt
26 based on further consultation between BART, Caltrans, FHWA, the Golden Gate District,
27 and other responsible agencies (e.g., Port of San Francisco, BCDC). Subsequent to
28 reconstruction of the Golden Gate District's Ferry Plaza Platform Terminal, BART shall be
29 responsible for the removal and disposal of all temporary facilities.

30 Implementation of the following measures will ensure continued ferry operations during the
31 duration of retrofit activities, in the event of unscheduled construction supply barge
32 movements, unscheduled ferry maintenance, or emergency situations that may affect any of the
33 six berths at the Ferry Building.

- 34 • BART shall tie off construction supply barges to the northern and eastern ends of the
35 Platform to avoid precluding access to the northern berth of the South Terminal, or
36 interfering with ferry operations at the proposed temporary Golden Gate Terminal at
37 future Gate C. In the occasional event that BART needs to move a construction supply
38 barge during ferry hours of operation, which may temporarily preclude access to the
39 northern berth of the South Terminal, BART shall provide 48 hours advanced notification
40 to the City of Alameda prior to any movement of the supply barge.

² The configuration of the temporary Golden Gate Ferry Terminal facilities shown in Figure 8 is intended to illustrate a reasonable worst-case scenario for the extent of the temporary deck for purposes of impact analysis. The specific configuration of the temporary facilities may be revised based on subsequent discussions with the District and the Port, so long as impacts are not materially increased.

- 1 • In case of unscheduled maintenance or emergency situations, BART shall make
2 arrangements with the Port of San Francisco for access to the SBC Park ferry berth or the
3 Pier 27 ferry berth. Either ferry berth location would be expected to be available during
4 construction at the Ferry Plaza Platform.

5 In conclusion, retrofit techniques at the San Francisco Ferry Plaza Platform have been
6 redesigned to ensure continued ferry terminal operations throughout the duration of
7 construction. Consequently, mitigation requiring adjustment of ferry schedules is not expected
8 to be required except on an occasional basis and with the concurrence of the ferry operator.

9 BART has integrated new details into the conceptual design of the temporary ferry terminal to
10 ensure that functionally equivalent infrastructure and operations are provided at the proposed
11 relocated site to avoid impacts associated with loss of ridership. Figure 8 depicts the proposed
12 layout of the temporary terminal and relocated facilities. Design and construction of the
13 temporary Golden Gate Ferry Terminal consisting of a temporary wood deck and a floating
14 dock would take a total of about 1 to 2 years (actual construction would occur for 8 to 9
15 months), and would be completed during construction Phase 0 (see Figure 2) prior to the
16 beginning of construction on the Platform. The floating dock shall be designed with dual slips
17 to accommodate simultaneous loading and offloading of two ferries; both high-speed
18 catamarans and mono-hull vessels presently in use would be accommodated. The size and
19 arrangement of access ramps shall be similar to the existing North and South Terminals,
20 although the access ramp from the deck to the berths would be widened to facilitate the same
21 five-minute turnaround time at the dock.

22 The proposed layout shall provide sufficient clearance between the proposed future Gate C
23 float and the North Terminal to ensure that a Golden Gate catamaran could dock at the same
24 time as a Bay Link vessel.

25 BART shall also provide functionally equivalent temporary passenger amenities and ferry
26 service support facilities consistent with the Uniform Relocation Assistance and Real Property
27 Acquisition Policies Act of 1970, as amended (42 U.S.C. §4601 *et seq.*), as applicable. A new,
28 secured temporary deck consisting of wood plank (with a continuous smooth surface to
29 minimize trip and fall hazards) supported by steel I-beams spanning new temporary piles shall
30 be constructed to accommodate the proposed, approximately 12,400 sf covered passenger area.
31 The temporary deck shall also accommodate a ticket office trailer adjacent to the entrance gate
32 and toilet facilities. The temporary toilet facilities shall be connected to existing sewer lines
33 under the Promenade. A comparable security system shall be provided at these facilities. The
34 deck is intended to accommodate all appropriate passenger amenities, while minimizing
35 encroachment on existing nearby Ferry Building uses. Therefore, other Golden Gate District
36 support facilities, including the terminal supervisor's office, employee lunch/break room with
37 janitor room, and a mechanics shop shall be provided in temporary trailers in the vicinity of the
38 covered passenger area.

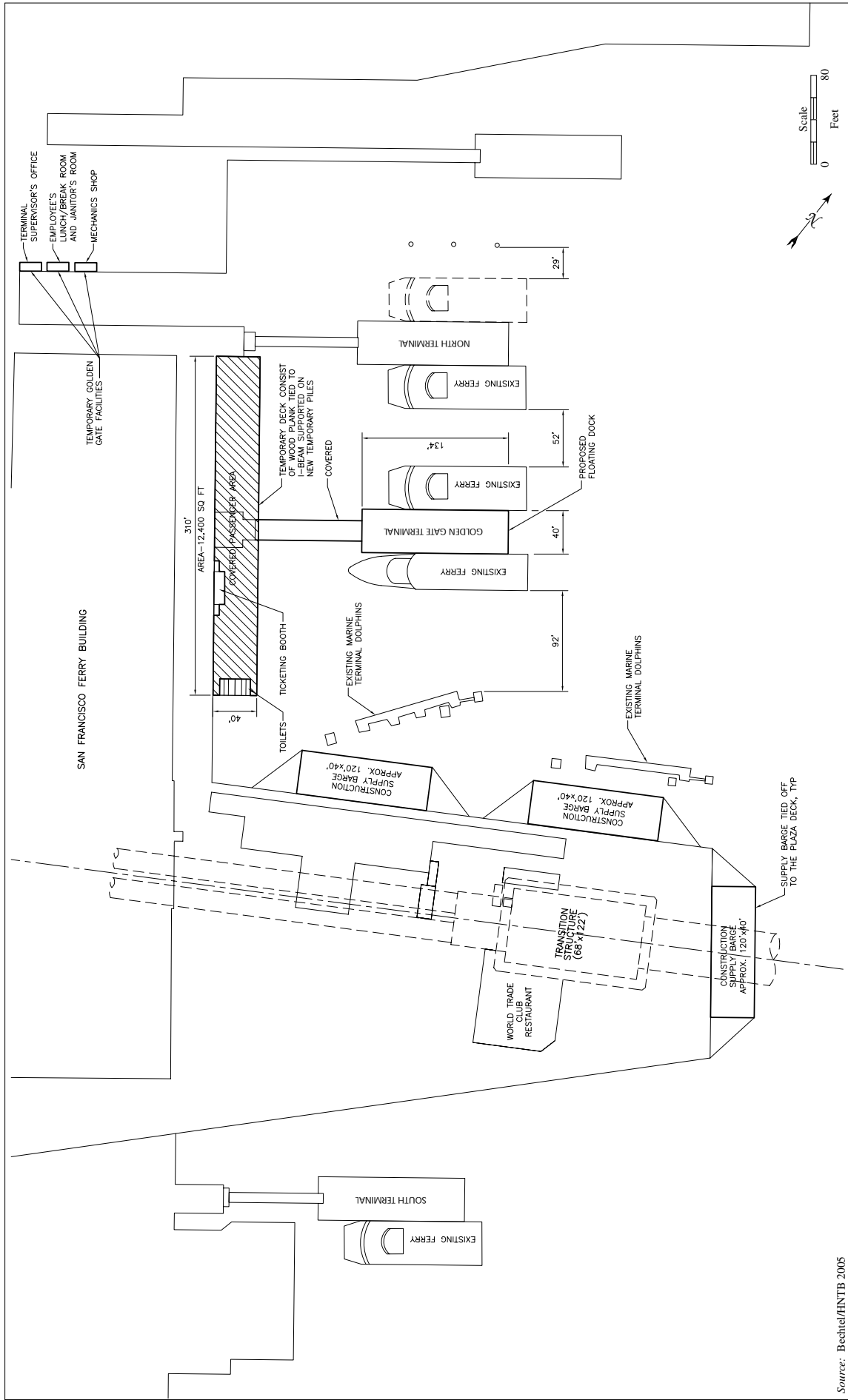


Figure 8. Conceptual Temporary Golden Gate Ferry Terminal

1

2 Page 2

1 BART shall reconstruct functionally equivalent facilities for the Golden Gate Ferry Terminal in
2 its original location at the Ferry Plaza Platform at the conclusion of proposed project work.
3 BART shall continue to consult with the Golden Gate District regarding the specifications of the
4 Ferry Plaza Platform redesign and in-place, reconstruction of Golden Gate District facilities.
5 The Ferry Terminal at the San Francisco Ferry Plaza Platform shall be rebuilt based on plans
6 developed during further consultation between BART, Caltrans, FHWA, the Golden Gate
7 District, and other responsible agencies (e.g., Port of San Francisco, BCDC). Subsequent to
8 reconstruction of the Golden Gate District's Ferry Plaza Platform Terminal, BART shall be
9 responsible for the removal and disposal of all temporary facilities at future Gate C (temporary
10 deck and floating dock) and the nearby temporary employee and maintenance trailers.

11 Implementation of this mitigation measure would result in other impacts not previously
12 described in the EA associated with the construction and operation of the relocated, temporary
13 terminal during the approximately 2 to 3 year construction period at the Platform. Temporary
14 impacts are expected on the following resources: water quality (from turbidity and fill); noise
15 (from installation of piles associated with the temporary deck and float); ground transportation
16 (from displacement of parking, and removal or interference with current pedestrian pathways
17 and ferry passenger queuing areas); and visual resources (from blocking views in front of
18 existing Ferry Building uses and outdoor seating areas). A more detailed assessment of impacts
19 and identification of mitigation measures are provided in section 2.2.7 of this revised EA.

20 Because the total dredged volume would be reduced, the total number of barges required in the
21 vicinity of the Platform would also be reduced. Therefore, previously identified mitigation
22 measures on EA page 3.4-33, lines 7-25, are no longer applicable. However, the following
23 mitigation measures will be implemented for the proper handling of the 5,000 cy of dredged
24 material, as well as for placement and movement of barges to prevent impacts to ferry operations.

25 *Mitigation Measures.* Implementation of these measures will ensure that barges associated with
26 dredged material storage would not interfere with ferry operations, or the movement of
27 construction supply barges.

- 28 • No more than one barge accepting/storing dredged material shall be present at or in the
29 vicinity of the Ferry Plaza Platform at any given time.
- 30 • Barges moving dredged material shall operate only during those hours when ferries are
31 not in service (before 6:00 A.M. and after 9:30 P.M.). Dredged material storage barges shall
32 remain stationary during hours when ferries are in service.

33 The project description and mitigation measures described above provide for resumption of
34 Golden Gate ferry service at its current location at the conclusion of the proposed project.
35 Subsequent to completion of this revised EA, it is possible that Golden Gate District and the
36 Port of San Francisco may decide to redesign and permanently relocate the Golden Gate Ferry
37 Terminal to an as-yet undetermined location. At the present time, that possibility is too
38 speculative for analysis in this document. Environmental review of any permanent relocation
39 plans subsequently developed by Golden Gate District and the Port would be the responsibility
40 of those agencies. In the event that the Golden Gate District and Port complete the necessary
41 environmental review and receive funding for such relocation, BART will coordinate with them
42 to avoid duplication of efforts to restore full access to permanent Golden Gate ferry berths.

1 **2.2.4 Hazardous Materials**

2 In response to comments received, EA section 3.6.2.2 is revised to incorporate the following
3 mitigation measures to ensure the proper handling, disposal, and use of hazardous materials
4 during construction activities at the San Francisco Ferry Plaza Platform and vicinity.

5 *Mitigation Measures.* Implementation of the following measures will ensure proper handling,
6 disposal, and use of hazardous materials in the vicinity of active pedestrian and public use
7 areas at the San Francisco Ferry Building.

- 8 • All hazardous materials shall be labeled, stored, and located at a safe distance (based on
9 material specifications) from outdoor public use areas, including but not limited to
10 restaurant seating, ferry passenger waiting, Farmers Market, and entrances to the World
11 Trade Club.
- 12 • BART shall contact the San Francisco Ferry Building Management within 72 hours prior to
13 the start of construction activities that could release fumes that may affect Ferry Building
14 tenants or patrons.

15 **2.2.5 Biological Resources**

16 Pursuant to the federal Endangered Species Act (ESA) Section 7 (for impacts to marine
17 mammals and fish) and the Magnuson-Stevens Act (for impacts to Essential Fish Habitat
18 [EFH]), BART, in cooperation with Caltrans and FHWA, initiated consultation with NOAA
19 Fisheries/NMFS. Consultation was concluded in December 2005, following BART and
20 FHWA's approval to implement restrictions for dredging and impact pile driving to avoid
21 impacts to listed salmonid species during seasonal migrations.

22 *Mitigation Measure.* Implementation of the following measure will avoid impacts to listed
23 salmonid species during seasonal migrations.

- 24 • BART shall not conduct any impact pile driving or dredging activities between December 1
25 and May 30.

26 As a result of implementing seasonal restrictions, and reducing the number of piles driven with
27 an impact hammer from 116 to an estimated 6 piles, substantial underwater noise and vibration
28 impacts from pile driving on common and sensitive fish and mammal species are not expected.
29 Therefore, the EA section 3.9.2.2 mitigation requiring BART to install an Air Bubble Curtain
30 (ABC) system to attenuate underwater noise during pile driving activities (EA page 3.9-17, lines
31 7-16) is no longer needed, and will not be implemented.

32 Due to construction schedule restrictions that will be placed on noise-generating activities to
33 avoid substantial impacts on fish, EA mitigation measures requiring BART to conduct a pilot
34 study, noise monitoring, (EA page 3.9-16, lines 28-34) and to obtain an Incidental Harassment
35 Authorization (EA page 3.9-17, lines 17-21) are now required only to address potential impacts
36 on marine mammals.

1 2.2.6 Air Quality

2 The EA on page 3.10-5, lines 15-25 identifies project measures that would be implemented to
3 minimize off-site construction impacts related to air quality emissions, and references the BART
4 Seismic Retrofit Project Construction Standards Manual for further details. This manual
5 includes the following detailed information that would be included in all construction
6 contractor specifications, to ensure that nearby outdoor dining and public access areas are not
7 adversely affected.

8 The BAAQMD has identified a set of feasible “Basic,” “Enhanced,” and “Optional” control
9 measures to reduce fugitive PM10 emissions from construction activities. The Enhanced control
10 measures include all of the Basic measures and apply to sites larger than 4 acres. The Enhanced
11 measures are applicable to this project, and are listed below.

12 *Enhanced Control Measures.* The following controls shall be implemented at all land-based
13 construction sites during dry conditions:

- 14 • Water all active construction areas at least twice daily.
- 15 • Cover all trucks hauling soil, sand, and other loose material or require all trucks to
16 maintain at least 2 feet of freeboard (i.e., the space between the top of the load and the top
17 edge of the truck bed).
- 18 • Pave, apply water three times daily, or apply (non-toxic) soil stabilizers on all unpaved
19 access roads, parking areas, and staging areas at construction sites.
- 20 • Sweep daily (with water sweepers) all paved access roads, parking areas, and staging
21 areas at construction sites.
- 22 • Sweep streets daily (with water sweepers) if visible soil material is carried onto adjacent
23 public streets.
- 24 • Hydroseed or apply (non-toxic) soil stabilizers to inactive construction areas (previously
25 graded areas inactive for 10 days or more).
- 26 • Enclose, cover, water twice daily or apply (non-toxic) soil binders to exposed stockpiles
27 (dirt, sand, etc.).
- 28 • Limit traffic speeds on unpaved roads to 15 miles per hour (mph).
- 29 • Install sandbags or other erosion control measures to prevent silt runoff to public
30 roadways.
- 31 • Replant vegetation in disturbed areas as quickly as possible.

32 *BART Standard Specifications - Section 01 57 00 - Part 1.08.* The BART District also has
33 established Standard Specifications - Section 01 57 00, Part 1.08 requirements for dust control.
34 These requirements (shown below) are included in BART contract specifications and will
35 supplement the BAAQMD’s control measures:

- 36 A. The Contractor shall provide dust control at all times, including holidays and weekends,
37 as required to abate dust nuisance on and about the site that is the result of construction
38 activities. Dust control shall be by means of sprinkled water or by other approved
39 methods, except that chemicals, oil, or similar palliative shall not be used.

- 1 B. Quantities and equipment for dust control shall be sufficient to effectively prevent dust
2 nuisance on and about the jobsite; and when weather conditions warrant. Sprinkler
3 equipment shall be on hand at all times for immediate availability.
- 4 C. The Engineer shall have the authority to order dust control work whenever conditions
5 warrant, and there shall be no additional cost to the BART District therefore. Dust control
6 shall be effectively maintained whether or not the Engineer orders such work.
- 7 D. Complaints from the public shall be reported to the Engineer and shall be acted on
8 immediately.
- 9 E. Where earthwork operations are in progress, keep exposed earth surfaces dampened
10 continuously. Also, keep dirt accessways and roads dampened continuously.
- 11 F. If portions of the site are temporarily inactive or abandoned for whatever reason, provide
12 dust control and abatement continuously during such periods of inactivity.
- 13 G. Where dust resulting from construction activities has collected on public sidewalks and
14 streets, hose down such sidewalks and streets to abate flying dust particles. Clean all
15 sidewalks and streets from accumulated dirt and dust.

16 **2.2.7 Social Impacts**

17 The EA on page 3.11-3, lines 37-40 and page 3.11-4, lines 1-5 briefly describes the public access
18 improvements and uses on the Ferry Plaza Platform and vicinity. The following additional
19 information is provided to supplement that description.

20 Much of the outdoor area on the Platform and around the Ferry Building is dedicated public
21 access pursuant to several permits issued by BCDC to Port of San Francisco tenants. Public
22 access improvements on the Platform include hardscape and landscape materials, railing,
23 benches, signage, striping, vehicle demarcation-bollards, bull-rail, lighting, and utilities. The
24 Port is co-applicant on the BCDC permits covering this area, and in certain cases is responsible
25 for installing and maintaining public access improvements within the project area.

26 Several Port tenants at the Platform utilize this same outdoor area to serve other functions
27 besides public access, including but not limited to: vehicular access for patrons of the World
28 Trade Club, vehicular freight deliveries, trash collection and maintenance at the World Trade
29 Club; the Golden Gate Ferry Terminal; Farmers Markets, including operational, staging, and
30 parking areas; and for special events, entertainment, and public art displays (i.e., the Gandhi
31 statue). These tenants are described in greater detail below.

32 The Ferry Plaza Limited Partnership (FPLP) operates a long-term lease on the Platform directly
33 above and surrounding the San Francisco Transition Structure. The World Trade Club is a
34 subtenant of FPLP and manages indoor and outdoor dining and conference/entertainment
35 facilities in this location. Vehicular and pedestrian access, as well as commercial delivery
36 access, is provided to the World Trade Club at the Platform. Landscape and hardscape areas
37 are maintained by the World Trade Club around the facility perimeter.

38 The Center for Urban Education about Sustainable Agriculture (CUESA) operates Farmers
39 Markets and educational programs four days per week, including the largest on Saturday, and
40 includes approximately 45,000 sf of Platform area for operation and staging, as well as about
41 5,000 sf of parking area on the eastern end of the Platform.

1 Port tenants and uses at the Ferry Building include the Marketplace, which provides about
2 65,000 sf of public food market and outdoor dining area facing the Bay and Platform, as well as
3 175,000 sf of office space on the second and third floors.

4 In response to comments identifying an inconsistency between analysis provided in the Risk of
5 Upset/Safety and Social Impacts sections, EA page 3.11-4, lines 36-39 are revised as follows. At
6 the San Francisco Ferry Building, large construction equipment would be close to the Transbay
7 Tube and transition structure, and it would be necessary to remove large portions (up to 39,000
8 sf) of the Ferry Plaza Platform. Construction would require the temporary removal and
9 relocation of the Golden Gate Ferry Terminal and two ferry berths to a new proposed
10 temporary terminal at future Gate C that is outside the active construction area.

11 Based on additional design review and in response to comments, the discussion of impacts at
12 the San Francisco Ferry Plaza Platform on EA page 3.11-7, lines 22-28 is also revised as follows.
13 The project would result in the temporary removal of up to 39,000 sf (nearly half) of the San
14 Francisco Ferry Plaza. However, even with the addition of recent public access improvements
15 and uses intended to stimulate public access activity (Port of San Francisco BCDC Permit 10-73,
16 Amendment 15, June 17, 2005), much of the Platform area remains underutilized except during
17 Farmers Markets. The Port of San Francisco's Phased Public Access Plan submitted to BCDC on
18 August 4, 2005 further supports this observation by stating that people generally traverse the
19 Platform area; however, it is not a destination site and is generally hidden from public view
20 behind the Ferry Building. Furthermore, the Phased Public Access Plan states that given the
21 obscure location of the Ferry Plaza and the lack of attractor-type uses on its immediate
22 periphery, there is a general consensus that it may be difficult to truly enliven the Plaza.
23 Moreover, this portion of the waterfront is not the only publicly-accessible scenic destination on
24 San Francisco's Northeastern Waterfront; there are numerous other opportunities for
25 sightseeing in the immediate vicinity.

26 Although portions of the Platform proposed for temporary removal during construction are
27 currently underutilized, the temporary loss of public access viewing space and improvements
28 (e.g., benches, ornamental landscaping, planters, etc.), as well as the Farmers Market areas, would
29 be considered substantial. As part of project implementation, the Platform would be restored to
30 its in-kind condition, including all hardscape and landscape improvements. In addition, the
31 following mitigations are identified to offset the temporary loss of public access area.

32 *Mitigation Measures.* Implementation of the following measures will reduce the temporary loss
33 of public access viewing space and improvements currently available at the Platform.

- 34 • BART, in coordination with the Port of San Francisco, CUESA, and other affected
35 agencies or tenants, shall relocate the Farmers Market to a nearby, publicly-accessible
36 location prior to commencement of construction at the Platform to allow continued
37 operations throughout the duration of construction. A functionally equivalent area for
38 operations, staging, and parking will be provided in this temporary location consistent
39 with the Uniform Relocation Assistance and Real Property Acquisition Policies Act of
40 1970, as amended (42 U.S.C. §4601 et seq.), as applicable. Following completion of
41 project construction, the Farmers Market area will be restored at the Platform to its pre-
42 project condition.

- 1 • BART shall develop and install an interpretive display/kiosk explaining the project's
2 history in the context of recent seismic upgrades completed in the downtown Waterfront
3 District, as well as the engineering and local significance of the BART transit system, in a
4 publicly-accessible location near the construction site. The location of the kiosk would
5 encourage patron use of currently underutilized public access area of the waterfront.
- 6 • Information signs leading visitors to other nearby publicly-accessible scenic destinations
7 along the waterfront shall be provided.

8 In addition, to avoid pedestrian and ferry passenger circulation impacts behind the Ferry
9 Building, the project includes additional ground transportation mitigation measures as described
10 in section 2.2.3 of this document. Revised vessel transportation mitigation measures, including
11 for temporary removal and relocation of the Golden Gate Ferry Terminal, are also described in
12 section 2.2.3.

13 Implementation of the proposed mitigation measures is expected to ensure that impacts from
14 loss of public access viewing space will remain less than substantial. Nevertheless, BART will
15 continue to consult with the Port and other affected entities to refine the implementation of
16 these measures, in order to further minimize any unanticipated impacts.

17 **2.2.8 Assessment of Vessel Transportation Mitigation Measure: Temporary Golden Gate**
18 **Ferry Terminal**

19 The proposed seismic retrofits at the San Francisco Transition Structure would require removal
20 of portions of the Ferry Plaza Platform that if unmitigated would preclude access to two berths
21 currently operated by the Golden Gate District's Larkspur and Sausalito services at the north
22 end of the Platform. To avoid this impact, BART proposes to construct a temporary Golden
23 Gate Ferry Terminal at future Gate C to maintain continual operations in accordance with the
24 Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, as amended
25 (42 U.S.C. §4601 *et seq.*), as applicable. Design and construction of the temporary terminal
26 consisting of a deck and floating dock would take about 1 to 2 years total (actual construction
27 would occur for 8 to 9 months), and shall be completed prior to the start of construction at the
28 Ferry Plaza Platform. It is expected that Golden Gate District ferry operations would
29 temporarily occur at this terminal for about 2 years, at which time BART shall reconstruct and
30 replace the permanent Golden Gate Ferry Terminal at the Platform. BART will continue to
31 coordinate with the Golden Gate District and Port of San Francisco to develop a functionally
32 equivalent temporary ferry terminal and infrastructure, and to ensure that comparable
33 permanent ferry facilities are reconstructed subsequent to project completion. The mitigation
34 measure is described in greater detail under section 2.2.3.

35 The EA analysis for the following environmental resource areas did not change as a result of
36 BART-initiated project revisions to the proposed vessel transportation mitigation measure:
37 Cultural Resources; Geology/Seismicity; Hazardous Materials; Risk of Upset/Safety; Biological
38 Resources; Air Quality; and Social Impacts. Additional temporary impacts to environmental
39 resources associated with construction and operation of the temporary ferry terminal are
40 discussed below.

1 *Water Resources*

2 *Existing Setting*

3 The environmental setting for the temporary terminal at future Gate C would be the same as
4 described for the proposed project (see EA section 3.1.1.1). No upland (landside) or groundwater
5 resources would be affected by construction of this terminal since proposed temporary support
6 facilities located on land would be housed in trailers, and would not require any ground
7 disturbance or construction. In addition, a Stormwater Pollution Prevention Plan (SWPPP) will
8 be prepared and implemented for all landside project activities in accordance with the Clean
9 Water Act (CWA) Section 402 permits, as discussed in EA Appendix C, section C.1.

10 *Impacts and Mitigation*

11 Water quality impacts will result primarily from installation of piles required to support the
12 new wood plank deck and to hold the float in place, as well as from placement of additional fill
13 (up to 1,884 cy) in Bay waters. Construction activities would be performed from barges, and
14 would not require dredging.

15 Elevated suspended sediment concentrations associated with pile installation would create a
16 short-term surface turbidity plume near the equipment that would decrease the amount of light
17 transmittance, and degrade water clarity. Following completion of pile installation, the
18 suspended sediment/turbidity plume would disperse within hours due to mixing, dilution, and
19 settling of solids in the water column (USACE et al. 1998). Dispersion of suspended sediments
20 and surface turbidity plumes would also be restricted by placing a silt curtain around the pile
21 equipment. Therefore, as installation of the temporary terminal would be confined to the
22 immediate construction area at future Gate C, and changes to water quality would only occur
23 during the duration of construction (8 to 9 months), impacts to water quality would be negligible.

24 Impacts resulting from the placement of additional fill in Bay waters associated with installation
25 of support piles and the wood plank deck would be temporary, and due to the small quantity of
26 overall fill (1,884 cy) required for construction, impacts to water quality would be negligible.

27 As designs are preliminary at this time, BART will continue to coordinate and consult with
28 applicable regulatory agencies regarding appropriate engineering design and the placement of
29 fill associated with the temporary terminal.

30 *Noise*

31 *Existing Setting*

32 Noise sensitive “commercial use” receptors in the project vicinity include the World Trade Club,
33 Ferry Building Marketplace tenants, outdoor seating areas behind the Ferry Building, Pier 1 offices
34 and restaurants, ferry passenger queuing areas for the North and South Terminals, and other
35 outside public access areas. Noise levels in this area are expected to range from 59 to 60 dBA L_{eq}
36 with maximum noise levels reaching 68 dBA. Certain uses would be located a minimum of 40 feet
37 away (e.g., outdoor seating areas behind the Ferry Building, North Terminal), while the majority
38 would be 200 feet or more away (e.g., Pier 1, Agricultural Building, South Terminal, Sinbad’s

1 Restaurant, Farmer's Market). Other nearby sensitive noise receptors including residential areas
2 and hotels along the Embarcadero would be well over 200 feet away, and would experience only
3 minimal short term increases in noise levels.

4 *Impacts and Mitigation*

5 The primary source of noise associated with construction of the temporary ferry terminal is
6 installation of support piles for the temporary wood plank deck. There would also be noise
7 generated from construction of the covered passenger area. The nearby temporary terminal
8 support facilities, including the terminal supervisor's office, employee lunch/break and janitor
9 room(s), and the mechanics shop would be housed in trailers, and would not generate excessive
10 noise levels as no ground disturbance or construction would be required.

11 Installation of the piles would be completed with rotating or oscillating equipment, except
12 where difficult soil conditions are experienced. Hourly noise levels generated by rotating or
13 oscillating pile installation equipment are expected to be a maximum of 85 to 90 dBA L_{eq} at a
14 reference of 50 feet; this noise level exceeds BART guideline limits for exposure at the nearest
15 sensitive receptor to the construction activity. Although unlikely, if conventional impact pile
16 driving equipment is required, noise levels would cause a substantial disturbance to persons
17 within exterior public areas, and inside restaurants and offices. Maximum noise levels would
18 exceed BART limits.

19 Project noise reduction measures described in section 2.2.1 will be implemented during
20 construction of the temporary ferry terminal at future Gate C. As was successfully
21 implemented for the Ferry Building renovation, these measures would ensure noise levels
22 would be maintained within BART limits, and impacts to nearby sensitive receptors would be
23 avoided or reduced.

24 *Ground Transportation*

25 *Existing Setting*

26 The proposed temporary terminal would not affect existing roads, traffic operations, parking in
27 the vicinity of the Ferry Building and Ferry Plaza Platform, or other transit and bicycle facilities
28 available behind the Ferry Building. This analysis focuses on pedestrian circulation only.

29 Construction activity would occur at future Gate C, behind the Ferry Building. The primary
30 pedestrian portion of this area includes dedicated queuing areas for ferry passengers at Gate B
31 (Bay Link and Blue & Gold Fleet ferry services), publicly accessible benches and viewing areas,
32 and outdoor restaurant seating areas associated with the Ferry Building Marketplace.

33 *Impacts and Mitigation*

34 Temporary pedestrian circulation impacts at the Ferry Building and Ferry Plaza Platform may
35 occur as a result of Platform closures and from relocation of Golden Gate Ferry Terminal's
36 covered waiting area to a more central location at the Ferry Building. The proposed temporary
37 Terminal location would be closer to outdoor restaurant seating areas, and to the North
38 Terminal (Bay Link, Blue & Gold Fleet) ferry passenger queuing areas.

1 *Mitigation Measures.* The following measures will be implemented to avoid substantial increases
2 in delay for pedestrian movements resulting from temporary blocked access at or near the Ferry
3 Building and ferry terminals.

- 4 • A designated queuing area for Golden Gate ferry passengers shall be provided inside of
5 the covered, temporary Golden Gate Ferry Terminal waiting area at future Gate C.
- 6 • BART shall maintain a 40-foot wide pedestrian corridor behind the Ferry Building
7 throughout construction of the temporary terminal and floating dock at future Gate C.
- 8 • BART will not redirect, block, or otherwise interfere, with current ferry passenger queuing
9 areas associated with Bay Link, Blue & Gold Fleet, and City of Alameda ferry services at
10 the North and South Terminals.

11 *Visual Resources*

12 *Existing Setting*

13 Visual Character. The Northeastern Waterfront, which includes the proposed temporary
14 terminal site, is centrally located on San Francisco's downtown waterfront area, and is a
15 popular scenic and recreational destination. The centerpiece of the Embarcadero waterfront is
16 the Ferry Building at the terminus of Market Street. The Building establishes a strong visual
17 link with that corridor and anchors the western edge of the Ferry Plaza Platform. The proposed
18 future Gate C location is directly behind (on the eastern edge) of the Ferry Building, adjacent to
19 outdoor restaurant seating areas, benches, and other public access corridors.

20 There are panoramic views eastward from the Ferry Building Marketplace and adjacent
21 waterfront, including at the proposed deck site on future Gate C. These views encompass the
22 following scenic resources: San Francisco Bay and associated ferry, barge, and boat traffic; open
23 sky against Bay waters; Yerba Buena Island and Treasure Island; the western span of the Bay
24 Bridge connecting San Francisco and Yerba Buena Island; and the distant Oakland-Berkeley
25 Hills. In contrast, views toward San Francisco's waterfront and the Ferry Plaza Platform from
26 the Bay as viewed by Bay Bridge motorists, ferry passengers, and boaters are dominated by the
27 City of San Francisco skyline in the background. As viewed from the Bay, the waterfront is set
28 against a backdrop of mid-rise and high-rise hotels and office buildings of the Financial District
29 and the city's downtown.

30 Visual Quality. The juxtaposition of dramatic, natural landscape features (the panoramic Bay,
31 wooded Yerba Buena Island, and Marin Headlands) and built features (Bay Bridge, Ferry
32 Building Marketplace, San Francisco waterfront, and a portion of Treasure Island) contribute to
33 a highly vivid setting viewed from waterfront, Bay Bridge, and waterborne vantage points. The
34 Ferry Plaza and surrounding waterfront are moderately visually intact as they are visually
35 distinct from their surroundings (e.g., the adjacent waterfront). The Ferry Plaza Platform
36 houses a number of unrelated and visually distinct uses including the Ferry Building
37 Marketplace, the ferry terminals, the World Trade Club and San Francisco Transition Structure,
38 surface parking, pedestrian access, sightseeing, and fishing. Similarly, the project setting
39 exhibits low visual unity that is the result of a visually heterogeneous mix of independent,
40 unrelated development and activities.

1 Viewing Audience. The landside viewing audience for the proposed Temporary Golden Gate
2 Terminal at future Gate C includes patrons of the Ferry Building Marketplace utilizing outdoor
3 spaces and restaurant seating, ferry passengers waiting at Gates B and E, and pedestrians and
4 sightseers in public access areas behind the Ferry Building. Waterside viewers include
5 motorists on the Bay Bridge and ferry and boat passengers in the Bay.

6 Light and Glare. The urban nature of the Ferry Building and Ferry Plaza Platform generates
7 uniformly high nighttime light levels throughout the proposed temporary terminal site.
8 Although the proposed location is currently undeveloped, it is indirectly illuminated by lights
9 from the Ferry Building.

10 *Impacts and Mitigation*

11 Visual Character and Quality. Construction (8 to 9 months) of the temporary Golden Gate Ferry
12 Terminal at future Gate C and the placement of temporary support trailers during staging of
13 construction equipment and supplies nearby would detract from the existing degree of
14 intactness within the vicinity of the Ferry Building and Ferry Plaza Platform. Construction of
15 ferry terminal facilities from this new location would disrupt the visual unity among the
16 already disparate buildings and structures on the Ferry Plaza. However, construction effects
17 would be temporary, and both the future Gate C site and the nearby temporary terminal
18 support area would be restored to pre-project conditions following completion of retrofits
19 proposed at the Platform associated with the San Francisco Transition Structure. Therefore,
20 impacts on visual quality would be negligible.

21 The temporary operation of the terminal (2 to 3 years) would introduce new active ferry uses
22 and facilities at the future Gate C site. However, the proposed ferry terminal would be
23 consistent with the existing active ferry terminal setting, and would not detract or disrupt the
24 visual unity of the area. Implementation of the temporary terminal would not affect the
25 broader scenic setting.

26 Viewing Audience. With respect to the viewing audience, the future Gate C site serves as only
27 one of numerous locations along the waterfront that offers viewing opportunities to area
28 visitors. The temporary use of this site for relocated Golden Gate ferry operations is offset by
29 the viewing opportunities available along the length of the Embarcadero and on other nearby
30 piers. In addition, new mitigation proposed to reduce impacts associated with the temporary
31 loss of public access area (see Social Impacts, above) will provide information signs leading
32 visitors to these other nearby publicly-accessible scenic destinations, thereby providing a link
33 between important waterfront visual resources.

34 Construction and operation of the temporary terminal would not permanently block views
35 from the Ferry Building Marketplace or from other vantage points available along the length of
36 the Embarcadero or inland of the waterfront (e.g., high rise buildings), where views of the Bay
37 would remain available to visitors. However, during the approximately 2- to 3-year period
38 during which the temporary terminal and uses would be introduced to the future Gate C area,
39 nearby visitors and patrons would experience restricted views towards the water due to the
40 presence of the new deck and facilities. BART will continue to coordinate with the Golden Gate
41 District and other affected agencies to ensure final designs of the temporary terminal minimize

1 overall blockage of views through the use of appropriate construction materials (e.g., clear
2 windows and coverings) and other design measures (e.g., reduced height).

3 For these reasons, new development and the presence of construction equipment and ferry
4 activities would result in minor impacts on views from the Ferry Building Marketplace. No
5 impacts are expected on other landside and waterside viewers in the project area because of
6 their distance from the project site.

7 Light and Glare. Project construction could result in the temporary use of high-intensity light
8 sources to illuminate construction activities in low light conditions (e.g., overcast days or
9 nighttime shifts, if applicable). In addition, for security and nighttime operations, it is expected
10 that the temporary terminal would include new light sources. The following mitigation
11 measure is intended to confine light spillover and prevent increases in focused, intense off-site
12 glare.

13 *Mitigation Measure.* The following measure will be implemented during construction and
14 operation of the temporary terminal at future Gate C to avoid impacts from offsite light and
15 glare.

- 16 • Construction and operations light sources that could result in glare generation shall be
17 directed away and downward from nearby uses, focused on the work areas, and shielded,
18 as needed, so as not to cause light spillover or focused, intense off-site glare.

19 Consequently, the temporary terminal would have negligible impacts on ambient nighttime
20 light levels or glare generation.

21 Implementation of the proposed project design and mitigation is expected to ensure that visual
22 impacts remain less than substantial. Nevertheless, BART will continue to consult with the Port
23 and other affected entities during the final design to refine the implementation of these
24 measures, in order to further minimize any unanticipated impacts.

25 **2.3 OTHER REVISIONS**

26 As a result of BART-initiated project changes removing or refining several retrofit techniques
27 analyzed in the EA, or in response to comments received, the following revisions are made to
28 other sections of the EA, as described below.

29 **2.3.1 Consultation and Coordination**

30 On EA page 5-2, the California Endangered Species Act (CESA) regulatory authority is revised
31 as follows.

32 California Endangered Species Act (CESA) permit authority is pursuant to Fish and Game Code
33 Section 2081(b) (Incidental Take Permit) and/or Section 2080.1 (Consistency Determination), if a
34 state-listed species would be adversely affected. There are several state-listed species that may
35 occur in, or migrate through, the project area. These state-listed species are also federally-listed
36 species.

1 Under the Consistency Determination process prescribed in Section 2080.1, an applicant that
2 has obtained a Federal Incidental Take Statement pursuant to federal Endangered Species Act
3 (ESA) Section 7 consultation or a Section 10(a) Incidental Take Permit, may notify the CDFG
4 Director in writing that an Incidental Take Statement or Incidental Take Permit has been
5 received pursuant to the federal ESA. The applicant must also submit the federal Incidental
6 Take Statement or Permit to the CDFG Director for a determination whether the federal
7 document is consistent with CESA. Receipt of the application by the Director starts a 30-day
8 clock for processing the Consistency Determination. In order for CDFG to issue a Consistency
9 Determination, CDFG must determine that the conditions specified in the federal document are
10 consistent with CESA. If they are not consistent, the applicant must apply for a State Incidental
11 Take Permit pursuant to Fish and Game Code Section 2081(b).

12 BART will consult with CDFG to determine the appropriate regulatory action required for the
13 proposed project.

14 **2.3.2 Appendix A, Dredged Material Disposal Scenario**

15 Due to project changes eliminating certain retrofit techniques requiring dredging, including
16 stitching the Tube, piles and collar anchorage, and the Isolation Walls Retrofit Concept, the total
17 volume of dredged material has been reduced considerably compared to the maximum amount
18 analyzed in the EA. Removal of the stitching technique also negates the applicability of
19 dredged material reuse within the project described in EA section A.1, and section A.2.3.

20 Based on the revised project dredged material volume (5,000 cy), as well as the proposed use of
21 a smaller dump scow barge to accommodate commercial vessel traffic in the area and to limit
22 barge work areas, four barge trips (each with 1,500 cy of capacity) would be required for offsite
23 transport to any of the eight offsite reuse/disposal sites analyzed in the EA. Since most of the
24 reuse/disposal sites would require 2 days for a complete round-trip, the duration of the barge
25 trips could last for about 8 days if they were to consecutively occur.

26 **2.3.3 Appendix C, Regulatory Environment**

27 The EA on page C-3 discusses the McAteer-Petris Act administered by the San Francisco Bay
28 Conservation and Development Commission (BCDC). To further clarify the regulatory
29 environment, line 12 is revised as follows: In addition, BCDC has jurisdiction over all areas
30 formerly subject to tidal action that have been filled since September 17, 1965, and the 30.5-meter
31 (100-foot) wide shoreline band surrounding the Bay from the mean high tide line (MHTL).

32 The EA on page C-12 discusses the Marine Mammal Protection Act. To further clarify the
33 regulatory environment, the Act's legal definition of "take" and "harassment" has been added.
34 Take is defined under this Act as harassing, hunting, capturing, or killing, or attempting to
35 harass, hunt, capture, or kill any marine mammal. Harassment is defined under this Act as any
36 act of pursuit, torment, or annoyance that has the potential to injure a marine mammal in the
37 wild, or has the potential to disturb a marine mammal in the wild by causing disruption of
38 behavioral patterns, including, but not limited to, migration, breathing, nursing, breeding,
39 feeding, or sheltering.