

Islais Creek Bridge Replacement Project Federal Aid Project No. BHLO-5934(168)

SAN FRANCISCO COUNTY, CALIFORNIA
DISTRICT 4 – SF-0-CR
Bridge No. 34C0024

Draft Environmental Assessment and Draft Section 4(f) Evaluation



Prepared by the
**State of California, Department of Transportation
and San Francisco Public Works**

The environmental review, consultation, and any other actions required by applicable Federal environmental laws for this project are being, or have been, carried out by Caltrans pursuant to 23 USC 327 and the Memorandum of Understanding dated May 27, 2022, and executed by FHWA and Caltrans.



March 2025

General Information about this Document

What's in this document:

The California Department of Transportation (Caltrans), as assigned by the Federal Highway Administration (FHWA), has prepared this Environmental Assessment (EA), which examines the potential environmental impacts of the alternatives being considered for the Islais Creek Bridge Replacement Project located in the City and County of San Francisco. Caltrans is the lead agency under the National Environmental Policy Act (NEPA). The project proponent, San Francisco Public Works, is proposing to use funds from FHWA for this local roadway project. The document tells you why the project is being proposed, what alternatives have been considered for the project, how the existing environment could be affected by the project, the potential impacts of each of the alternatives, and the proposed avoidance, minimization, and/or mitigation measures.

What you should do:

- Please read this document.
- Additional copies of this document and the related technical studies are available for review at:
 - Caltrans District 4, Office of Local Assistance, 111 Grand Avenue, 12th Floor, Oakland, CA
 - San Francisco Public Works, 49 South Van Ness Avenue, Second Floor, Permit Center Public Review Room, San Francisco, California 94103
 - This document may be downloaded at the following website:
<https://sfpublicworks.org/Islais-Creek-Bridge>.
- Attend the public hearing. Attend an in-person public meeting on March 18, 2025 at 6:00 PM at the Southeast Community Center at 1550 Evans Avenue, San Francisco, CA 94124
- We'd like to hear what you think. If you have any comments about the proposed project, please attend the public hearing and/or send your written comments via postal mail or email to San Francisco Public Works by the deadline.
 - Send comments via postal mail to:
Thomas Roitman, Project Manager
49 South Van Ness Avenue, Suite 700
San Francisco, CA 94103
 - Send comments via email to: thomas.roitman@sfdpw.org .
- Be sure to send comments by the deadline: April 17, 2025.

What happens next:

After comments are received from the public and reviewing agencies, Caltrans, as assigned by the FHWA may: (1) give environmental approval to the proposed project, (2) do additional environmental studies, or (3) abandon the project. San Francisco Public Works is proposing to use funds from FHWA for this local roadway project. If the project is given environmental approval and funding is obtained, San Francisco Public Works could design and construct all or part of the project.

Alternative Formats:

For individuals with sensory disabilities, this document upon request can be made available in alternate formats. To obtain a copy in an alternate format, please call or write to Caltrans, Attn: Dan Rivas, Office of Local Assistance, 111 Grand Avenue, Mail Station 10B, Oakland, CA 94612; (510) 496-9416 (Voice), or use the California Relay Service 1 (800) 735-2929 (TTY to Voice), 1 (800) 735-2922 (Voice to TTY), 1 (800) 855-3000 (Spanish TTY to Voice and Voice to TTY), 1-800-854-7784 (Spanish and English Speech-to-Speech) or 711.

San Francisco Public Works (SFPW) proposes to replace the existing bridge superstructure of the Islais Creek Bridge (Bridge No. 34C0024) (officially named the Levon Hagop Nishkian Bridge) along Third Street in the City and County of San Francisco (CCSF).

Draft Environmental Assessment and Draft Section 4(f) Evaluation

Submitted Pursuant to:
(Federal) 42 USC 4332(2)(C) and 49 USC 303, and/or 23 USC 138

THE STATE OF CALIFORNIA
Department of Transportation
and
San Francisco Public Works

Cooperating Agency: United States Coast Guard

David Ambuehl

David Ambuehl (Feb 21, 2025 11:02 PST)

02/21/2025

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Chapter 1 Introduction

Since 2007, the California Department of Transportation (Caltrans) has been the National Environmental Policy Act (NEPA) lead agency for highway transportation projects in California. The Federal Highway Administration assigns this responsibility to Caltrans through Memoranda of Understanding, the latest of which was renewed on May 27, 2022, for a term of 10 years.

The Islais Creek Bridge Replacement project is subject to federal, as well as state environmental review requirements because San Francisco Public Works (SFPW) proposes the use of federal funds from the Federal Highway Administration (FHWA). Project documentation, therefore, has been prepared in compliance with NEPA. SFPW is the project proponent and the lead agency under the California Environmental Quality Act. FHWA's responsibility for environmental review, consultation, and any other actions required by applicable Federal environmental laws for this project are being carried out by Caltrans pursuant to 23 United States Code Section 327 (23 USC 327) and the Memorandum of Understanding dated May 27, 2022, and executed by FHWA and Caltrans.

While this project is subject to the requirements of both NEPA and CEQA, separate environmental documents have been prepared, one that complies with NEPA and another that complies with CEQA. This Environmental Assessment (EA) complies with the requirements of NEPA and other federal environmental laws. Compliance with CEQA and state environmental laws is proposed through the Islais Creek Draft Environmental Impact Report which was publicly circulated between 11/29/2023 and 1/22/2024. As of January 2025, a Final Environmental Impact Report has not been produced.

The General Bridge Act of 1946 requires the location and plans of bridges and causeways across the navigable waters of the United States be submitted to and approved by the U.S. Coast Guard (USCG). Islais Creek is considered to be a navigable waterway of the United States for bridge administration purposes at the proposed bridge modification site, and a Coast Guard Bridge Permit will be required. As such, the USCG is a cooperating agency for the proposed project under NEPA.

A NEPA EA is produced when a proposed action is not likely to have significant effects or the significance of the effects is unknown.

After receiving comments from the public and reviewing agencies on this Draft EA, additional environmental and/or engineering studies may be prepared to address comments. Caltrans will then produce a Final EA together with a Finding of No Significant Impact (FONSI) or, if it is considered that significant effects are likely, start the Environmental Impact Statement (EIS) process. Comments and responses will be published in the Final EA. If a FONSI is produced, a Notice of Availability (NOA) of the FONSI will be sent to the affected units of federal, state, and local government, and to the State Clearinghouse in compliance with Executive Order 12372.

Chapter 2 Proposed Project

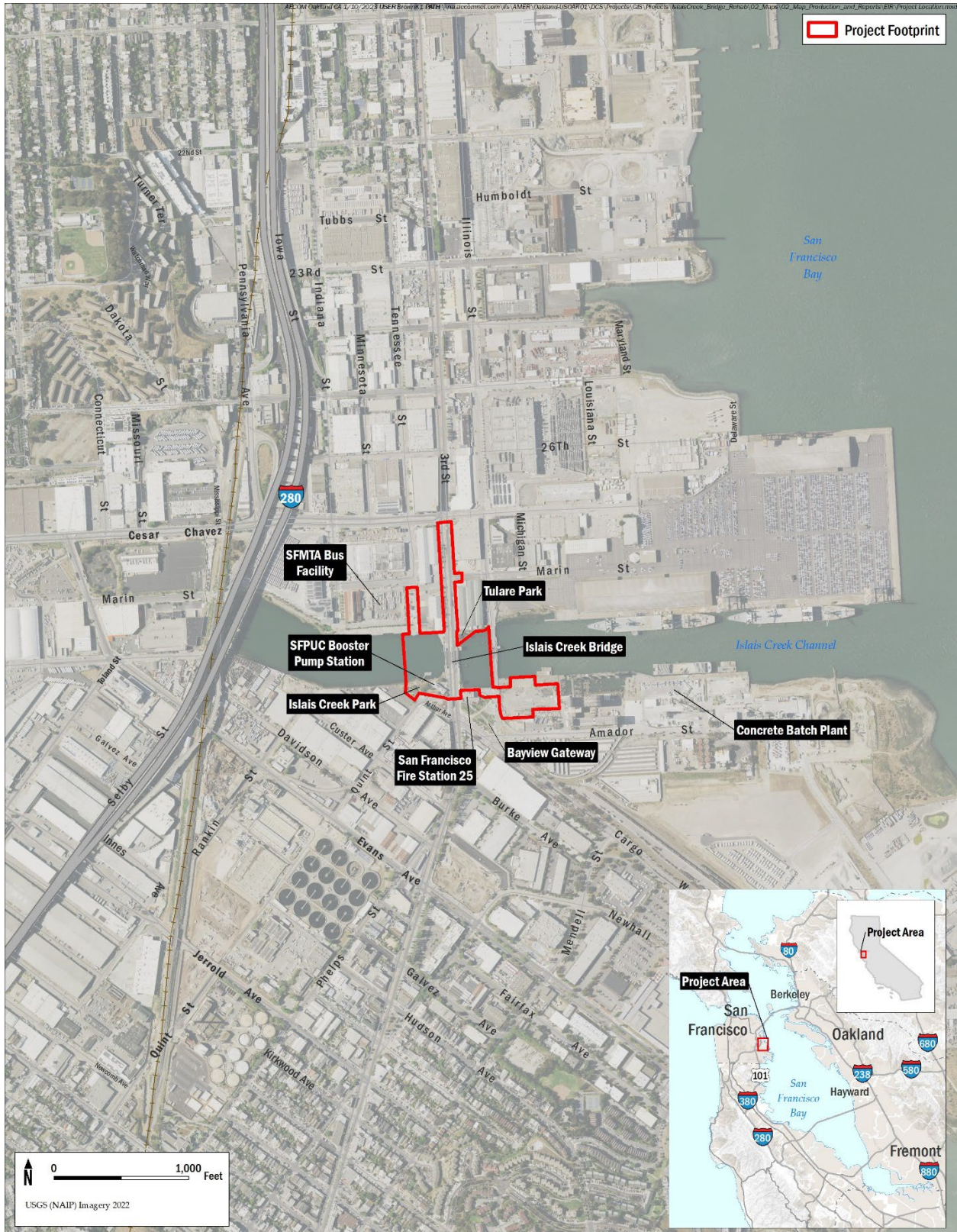
2.1 Project Setting

San Francisco Public Works (SFPW) proposes to replace the existing bridge superstructure of the Islais Creek Bridge (Bridge No. 34C0024) (officially named the Levon Hagop Nishkian Bridge) along Third Street in the City and County of San Francisco (CCSF).

The Islais Creek Bridge is on Third Street over the Islais Creek Channel in the Bayview neighborhood of San Francisco (Figure 1). The bridge is approximately 1,700 feet east of Interstate 280 (I-280), and approximately 3,300 feet west of San Francisco Bay (the Bay). Third Street is a major arterial¹ connecting the downtown area to the industrial area of the southern San Francisco waterfront.

¹ The San Francisco General Plan designates Third Street as a Major Arterial in the Congestion Management Program Network, and as part of the Metropolitan Transportation System Network. Third Street is also designated as a Transit Preferential Street (Transit Important) Street, a Citywide Pedestrian Network Street, a Neighborhood Commercial Pedestrian Street, and a designated Freight Traffic Route.

Figure 1 Project Area



The channel is a dredged, channelized, tidal embayment with predominantly armored shorelines. It extends from the Bay to the site of the former outfall of the culverted and buried Islais Creek. The channel is regulated by the United States Coast Guard (USCG) as a navigable waterway. Almost the entirety of the watershed is now diverted to the nearby water treatment plant, so the channel no longer functions as a creek due to limited freshwater discharges into the channel. The channel receives relatively little freshwater input and is essentially an extension of the Bay.²

Land uses in the project area are a mix of commercial and light industrial. There is a San Francisco Municipal Transportation Agency (SFMTA or Muni) bus facility northwest of the bridge, a fire station (San Francisco Fire Station 25) in the southeastern quadrant, and a concrete batch plant and Port of San Francisco uses east of the bridge. Several wastewater treatment system assets are situated along the channel. The San Francisco Public Utilities Commission (SFPUC) outfall from the Southeast Treatment Plant, and the Booster Pump Station are southwest of the bridge. The outfall pipes run across the creek adjacent to the bridge (below the channel) and along the northern side of the channel to the Bay.

Bayview Gateway (which includes Rosa Parks Skate Plaza) on Illinois Street north of Cargo Way is a Port of San Francisco facility that is actively in use as a recreation area, Tulare Park is a Port of San Francisco open-space area on the north side of the channel between Third Street and Illinois Street constructed in the early 1970s that has not been maintained and is without any currently funded projects to address its current state of disrepair. Islais Creek Park at the corner of Third Street and Arthur Avenue is a Port of San Francisco open space and recreational area maintained by a non-profit paddling club who act as park stewards in exchange for space for a boat-storage area. Islais Creek Park also includes a high-freeboard dock and adjoining gravel beach which constitute “Water Trail Backbone Site” of the San Francisco Bay Area Water Trail Plan administered principally by the State Coastal Conservancy.

2.2 Bridge Background

The existing bridge is a double-leaf bascule structure (drawbridge) with concrete abutments, constructed in 1949 (Figure 2). Each of the two bascule draw-spans consists of three riveted-steel girders that protrude above and below the open-grid decking (“through girders”) while supporting the roadway on a lattice of steel cross-beams and stringers. The draw-spans open to allow boats access to the upper approximately 1,500 feet of the channel to the west of the bridge. The bascule arms are supported by abutments on either side of the channel. The existing bridge span is approximately 114 feet between trunnion bearings, 101 feet 9 inches between the faces of the abutment footings, and approximately 100 feet wide.

² Location Hydraulic Study and Sea Level Rise Report, Islais Creek Bridge Rehabilitation Project, San Francisco, California. WRECO July 2016.

Figure 2 Islais Creek Bridge East Elevation



As originally designed, the bridge carried only vehicular traffic. In 2007, the bridge was retrofitted by SFMTA to carry two light-rail transit (LRT) tracks with overhead catenary system (OCS) lines and poles to provide power to LRT vehicles. The retrofit added five 48-inch cast-in-steel-shell (CISS) piles at each abutment. The draw span was operated regularly for large ships to pass through the channel to access the unloading cranes upstream of Third Street. The copra industry that required the cranes ceased operations in the mid-1970s after which there was no longer any maritime functions necessitating drawbridge access. Review of the past 10 years of logs from the Bridge Stationary Engineer indicate no requests for drawbridge lifts other than used for routine inspection of the drawbridge function itself.

The existing bridge now carries four lanes of traffic, two Muni LRT tracks, and two sidewalks. Light-rail vehicles must slow to pass safely through the horizontal alignment reverse curve at the bridge approaches, and as they cross the three rail-joints where the bascule leaves separate. The deteriorated condition of the bridge makes the bridge deck susceptible to vibration induced by heavy vehicles, trucks, and light-rail vehicles crossing the span. The sidewalks and roadways are open-steel grates that discharge roadway stormwater directly to the channel. Because it is a drawbridge, the bridge carries no utility connections across the channel.

The control tower is a structure housing the bridge operator's controls, consisting of two elevated concrete floors, a basement level, and a steel-and-wood roof supported by steel pipe columns. The tower is on the northeastern side of and immediately adjacent to the bridge.

A Caltrans evaluation for historic significance in 2004 determined that the bridge was significant as an example of Art Moderne style applied to a bridge.³ The detailing on the approaches (including the quarter-circle gear housing), sidewalk railings, and control tower all contribute to the bridge's Art Moderne appearance (Figure 3 and Figure 4). These features make it eligible for the National Register of Historic Places under National Register Criterion C at the local level of significance for its distinctive design qualities.

Figure 3 Quarter-Circle Gear Housing showing Art Moderne Style Applied to Bridge



Figure 4 Control Tower and Sidewalk Railing showing Art Moderne Style Applied to Bridge



³ Caltrans. Department of Parks and Recreation Primary Record. Third Street Bridge over Islais Creek. June 2004.

2.3 Purpose and Need

2.3.1 Project Purpose

The purposes of the project are to:

- Maintain current geometric, construction, and structural standards required for the types and volume of projected traffic on the bridge over its design life.
- Increase the serviceability of the bridge to improve safety and increase operational utility to Muni light-rail operations.
- Address the existing bridge's seismic deficiencies.
- Increase bridge freeboard to the maximum extent practicable to extend the useful life of the bridge by improving the bridge's resilience to the impacts of sea-level rise and avoid the current recurring submersion of the bridge underdeck and flooding of the machine rooms. Additionally, reduce impacts to the bridge from exposure to seawater and sustained moisture.

2.3.2 Project Need

2.3.2.1 Seismic Risk

The need for the project results from the existing bridge's structural and seismic deficiencies. The existing bridge is 76 years old, in poor condition, and is increasingly structurally deficient and functionally obsolete. As noted in the latest Caltrans Structure Inventory and Appraisal Report,⁴ the bridge is currently considered Structurally Deficient, with a Sufficiency Rating of 20.⁵ The low bridge ratings are due largely to significant load carrying elements having been found to be in poor, deteriorated, and/or damaged condition.

The project area is underlain by artificial fill over Young Bay Mud deposits at a depth of 60 feet. Because Bay fill was used to create land from Islais Creek's former floodplain and marsh areas, the vulnerability to seismic liquefaction in this area is very high. The Islais Creek Bridge had at least three previous seismic assessments in 1984, 2002, and 2008.

The most recent analysis identified many items as being vulnerable in a seismic event. Structural seismic vulnerabilities are associated with all components in the bascule leaf lateral bracing system, the trunnion mounting bolts, and the lateral bracing members in the leaves. As noted above, the increase in live loads may add fatigue issues to the

⁴ California Department of Transportation Division of Maintenance. Bridge Inspection Records Information System. December 19, 2011.

⁵ *Structurally Deficient* is numerically defined as the bridge component having a National Bridge Inventory general condition rating of 4 or less (poor condition), or structural evaluation rating of 2 or less (with a very low load rating capacity). Sufficiency Rating is a method of evaluating the bridge data by calculating four separate factors to obtain a numeric value that is indicative of bridge sufficiency to remain in service. The result of this method is a percentage in which 100 percent would represent an entirely sufficient bridge, and 0 percent would represent an entirely insufficient or deficient bridge. The formula considers the structural adequacy, functional obsolescence, level of service, and essentiality for public use.

fatigue-prone members and connections. There is impact damage to Girder No. 3 near the mid-span, and rivets are missing. The interior of the counterweight vault structure has a leak in the northeastern corner of the abutment. This leak is causing corrosion and loss of section at some of the structural steel elements. Without preventative replacement, repair, and seismic retrofit, existing bridge wear and damage will worsen, and ultimately compromise the structural integrity of the bridge.

2.3.2.2 Flood Risk

The areas surrounding Islais Creek are at risk of flooding from heavy rainfall events, coastal storm surge, and wave hazards, which will be exacerbated by sea-level rise and rising groundwater. A primary flooding pathway is created by shoreline overtopping of Islais Creek near the Islais Creek and Illinois Street Bridges.

The bottom of the existing bridge's access hatches is at an elevation of 7.93 feet North American Vertical Datum of 1988 (NAVD88). The thresholds at the wall slots below the girders at the bascule pier sit at 9.68 feet NAVD88. Both elevations are below an anticipated 100-year storm surge (1 percent coastal flood event) for existing conditions (9.86 feet NAVD88).

The steel sections of the bridge are increasingly subject to the deleterious effects of corrosion and saltwater intrusion. (During storm events at king tides,⁶ the machinery rooms have been submerged.) The access hatches can only be accessed during low tide, and the metal doors of the access hatches exhibit long-term corrosion due to exposure to saltwater. Paint on many steel elements is peeling. Corrosion must be removed, and the steel elements re-painted. Visible high-water marks, photos from recent king tides, and operator experience all indicate water levels have already reached an elevation higher than the wall slot thresholds and access hatches. In addition to direct impairment of electrical and mechanical systems by exposure to salt water, which will reduce their useful life and increase maintenance costs, repeated flooding with saltwater damages equipment and accelerates corrosion.

With 12 inches of sea-level rise (relative to the year 2000), a 10-year storm event would flood the girder slots. With 24 inches of sea-level rise, a 1-year tide would flood the gap.⁷ The top of road at center stands at 15.48 feet NAVD88, indicating that the bridge deck itself is likely not at risk of flooding before the end of the century. With rising sea levels, tidal surge will increasingly inundate the Islais Creek area if no projects are implemented to reduce flood risks. For the bridge, this includes overtopping of the bridge and adjacent roads, which will result in transportation and transit disruptions.

2.3.3 Independent Utility and Logical Termini

Logical termini are defined as (1) rational end points for a transportation improvement, and (2) rational end points for a review of the environmental impacts. Independent

⁶ A king tide is a non-scientific term used to describe exceptionally high tides that typically occur when the earth is at its closest to the sun in early January.

⁷ California Ocean Protection Council and the California National Resources Agency (OPC and CNRA). 2018. State of California Sea Level Rise Guidance. http://www.opc.ca.gov/webmaster/ftp/pdf/agenda_items/20180314/Item3_Exhibit-A_OPC_SLR_Guidancerd3.pdf.

utility, or independent significance, is defined as being a usable and reasonable expenditure even if no additional transportation improvements in the area are made.⁸

The logical termini of a project proposed to address the structural deficiencies, exacerbated by seismic concerns and corrosion, of this transportation facility would be those that encompass the elements of the facility that are compromised and require repair or replacement, and any concomitant work that is a necessary consequence of the work to address these elements. In this case, the compromised element is the existing bridge deck. The retrofit of the existing abutments, and construction of improvements to the abutments and on the approaches to the bridge along Third Street are necessitated by the deck replacement. For this improvement to be realized, no other operational improvements in the vicinity are required. The project will therefore not be a segment of a larger project or a commitment to a larger project with significant environmental effects, and so be a single and complete project in-and-of itself.

Because the project conforms to these termini, the project limits are rational end points for both the transportation improvement, and for the review of the environmental impacts. The project will also not restrict consideration of alternatives for other reasonably foreseeable future transportation improvements. Therefore, the project will have independent need and utility.

2.4 Project Description

2.4.1 Bridge

The Standard Project Alternative⁹ proposes to demolish and remove the existing bascule leaves, trunnions, counterweights, all electrical equipment, and drive machinery associated with the bascule-drawbridge operability. These features will be replaced with a new 115-foot-long, 105-foot-wide, single-span precast/prestressed (PC/PS) concrete adjacent box beams bridge at a higher elevation than the existing bridge structure (Figure 5). The structure will consist of 3-foot-wide and 4-foot-wide box beams. The beams would be 3-foot-6-inches tall with a 6-inch-thick concrete deck above, for a total structure depth of four feet. The new bridge will accommodate a center 24-foot-wide dedicated LRT trackway, two 11-foot travel lanes in each direction, a 12-foot-wide pedestrian path on the eastern side of the bridge, and a 17-foot-wide Class I shared pedestrian/bicycle path on the western side of the bridge (Figure 6 and Figure 7).

⁸ Federal Highway Administration regulations (23 Code of Federal Regulations [CFR] 771.111 [f]).

⁹ In addition to the Standard Project Alternative, this Draft EA also considers the No-Build (No-Action) Alternative and the City and County of San Francisco Historic Preservation Commission Resolution No. 0746 Alternative (“Partial Preservation Alternative”), as further described in Section 2.6 (Project Alternatives).

Figure 5 Proposed Bridge Longitudinal Section

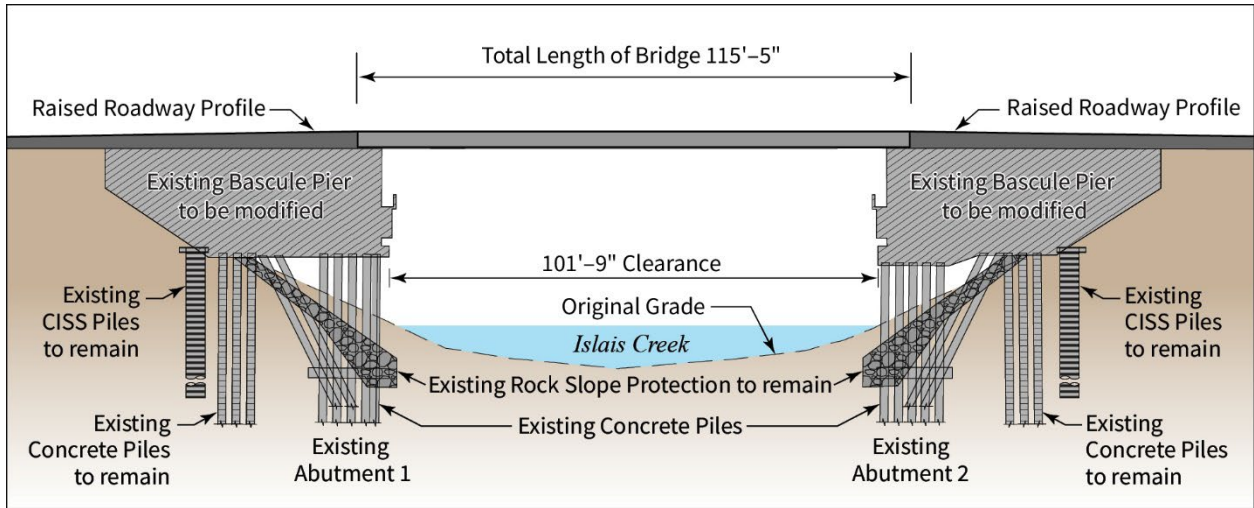


Figure 6 Proposed Bridge Cross Section

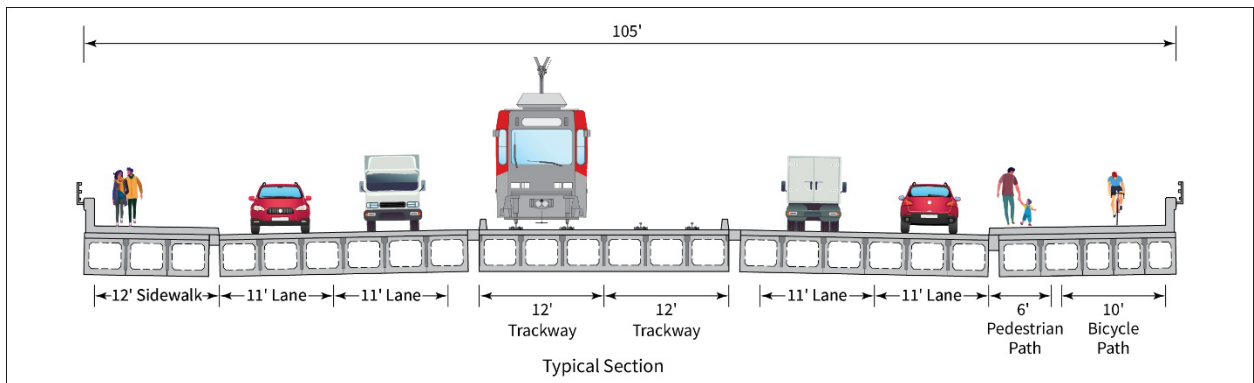
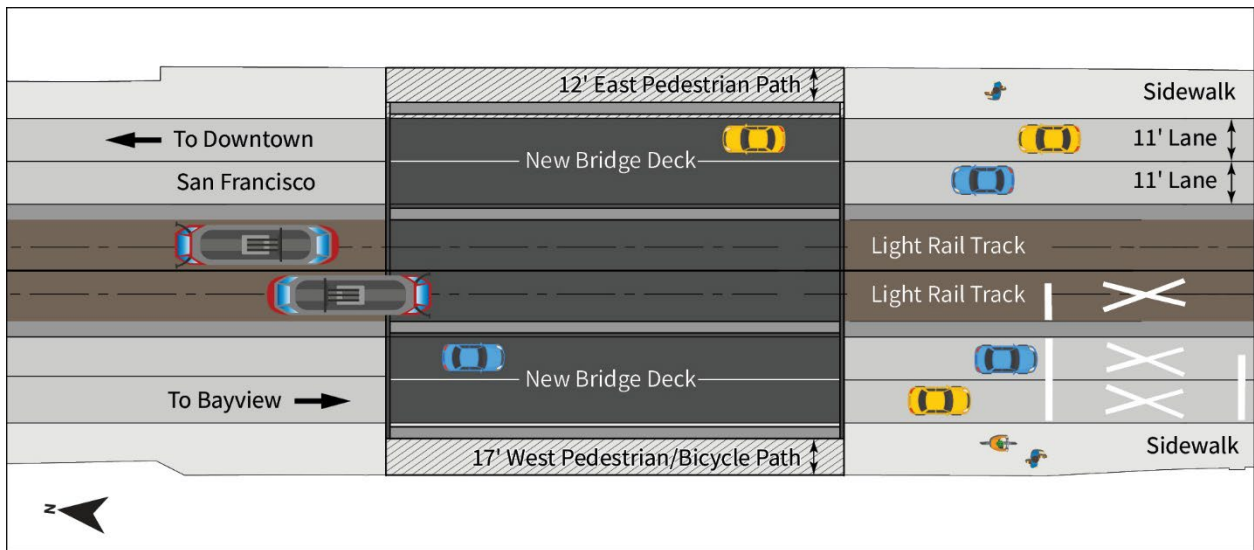


Figure 7 Proposed Bridge Plan View



The horizontal geometry of the existing bridge, roadway, and sidewalk will be maintained; however, the light-rail alignment will be modified to eliminate the reversing curves required to accommodate the center girder of the existing bascule span. The vertical profile of the roadway and LRT trackway will be modified to improve freeboard for flood flows and accommodate sea-level rise while minimizing impacts to adjacent properties. The roadway and pedestrian/bicycle paths will be raised to match the profile of the reconstructed LRT tracks. The reconstruction will extend approximately 210 feet to the north of the existing bridge superstructure, and 250 feet to the south of the existing bridge superstructure. Sidewalks will be constructed 8 inches above the adjacent roadway. Minor adjustments will be made to the elevation of existing driveways and drainage catch basins within the changed approach grades along Third Street. The existing fire department driveway south of the bridge will not be affected.

2.4.2 Trackway

The LRT trackway will be constructed in the median of Third Street between the existing LRT station (Marin Street) north of the bridge and the freight rail crossing near Cargo Way south of the bridge. The trackway rails will be affixed to a reinforced-concrete slab placed on a layer of aggregate base. Once the rails have been installed, they will be embedded in concrete up to the top of the rails. The track centerline spacing will vary from 12 feet at the northern end, to 12.5 feet at the southern end.

The top-of-rail elevations will match adjacent roadway surface elevations. A 6-inch-high concrete curb will be placed along the edges of the trackway to prevent motor vehicles from entering the trackway. The curb will be discontinued near the existing fire station to allow emergency vehicles to cross the tracks.

2.4.3 Abutments

The movable components of the existing structure will be removed and disposed of in a manner consistent with management of the various types of material, such as concrete, steel, and wiring. Once the demolition of the bascule span and supporting mechanical components is complete, the existing abutments will be modified to create the abutment seats necessary to support the new PC/PS concrete adjacent box beams deck elements. Additional reinforced-concrete structure will be added to existing abutments to provide bearing seats for the new span.

Modification of the existing bascule piers/abutments to receive the planned fixed-span box beams may include the addition of pilings to support any increase in vertical loads. The pilings will be installed through the floor of the existing bascule piers/abutments. It is anticipated that permanent casing will be used extending from the soffit of the existing substructure and terminating below the mudline to isolate the proposed piling installation from the active water column. Abutment pilings will be either cast-in-drilled-hole reinforced concrete or pipe piling that will be drilled to the appropriate foundation depth.

2.4.4 Lighting and Electrical

The existing streetlights will be removed and reinstalled on new foundations placed in the new sidewalks. The streetlight poles will also support the new OCS, which will supply electrical power to the LRT vehicles. On the bridge structure, new streetlight/

OCS support poles may be affixed to the sidewalk. The need for new streetlight poles on the bridge and the spacing of the streetlight poles will be determined pending a lighting study.

The project will construct two 1-foot-tall by 2-foot-wide reinforced-concrete duct banks, each containing two ranks of four 4-inch-diameter conduit, for continuation of the light-rail traction-power duct-bank system across the bridge. These conduits will be embedded in the sidewalk running the length of the bridge. The duct banks will be consolidated and continued underground beginning at pull boxes in the bridge abutments at each end of the bridge. The pull boxes will connect to standard 3-foot by 4-foot concrete boxes with sixteen 4-inch-diameter conduit sleeves. Lateral conduit connections will be added to new pole-mounted risers, providing power to overhead contact system lines over the trackway; locations will be determined during final design. The limits of installation of new in-ground duct bank will be the limits of the project to the north (coextant with the limits of sewer work at the intersection with Marin Street) and to the south (250 feet to south of the existing bridge superstructure).

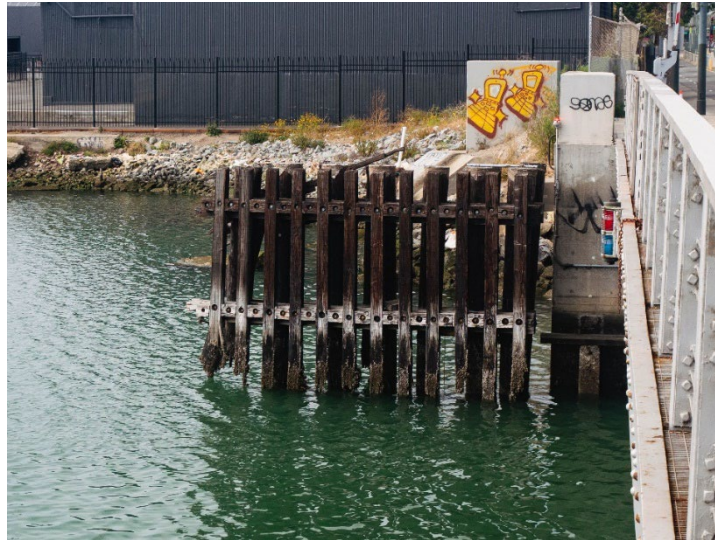
2.4.5 Drainage

The construction of a closed concrete bridge deck (compared to the existing open-grid decking) will increase the amount of area draining to the combined sewer-and-storm-drain system within the project limits by approximately 0.25 acre. The project will not convert any existing open land area to impermeable surface. The reconstructed trackway and roadway will be designed to convey surface runoff to the curb and gutters along the edge of the roadway to new drop inlets at the bridge approaches. These will be constructed to accommodate the raised roadway profile. These drop inlets will be connected to the existing combined sewer/stormwater system by new lines to the nearest manholes connecting to lines of adequate capacity to the north and south of the bridge. The closest manhole to the south is within the footprint of project construction. To the north, the nearest appropriate manhole is in the intersection with Marin Street. The project will either replace the existing 415 feet of 15-inch-diameter vitrified clay pipe sewer line constructed in 1940, which is present under the Third Street roadway from Arthur Avenue to Marin Street with new larger-diameter line or provide a second supplemental line. Work will also extend to existing laterals connecting to the existing line. Final design will be dependent on detailed hydraulic analysis.

2.4.6 Fender Pile System

The existing bridge fender system on both sides of the navigable waterway beneath the bridge is in very poor condition; and in some areas, has extensive deterioration with extensive loss of material in the tidal zone (Figure 8). Most of the timber is highly degraded to such an extent that the existing fendering system is considered nonfunctioning. The remaining existing fender piles will be cut just below the mudline. No new fenders are proposed for the permanent work, because they are not required for the reduced navigability of the new bridge.

Figure 8 Damaged Fender Piles



2.4.7 Control Tower

The upper portion of the control tower will be demolished down to the sidewalk level. The remaining portion will then be rehabilitated to create a public observation platform with a connection from the reconstructed sidewalk adjacent to the bridge abutment. The existing concrete piling supporting the remaining tower will be rehabilitated in place using one of the composite jacketing systems available to restore the structural integrity of the piles, as necessary, and to provide added corrosion protection to extend their useful life to be compatible with that of the new superstructure. The pile rehabilitation work will be completed using divers and does not anticipate the addition of new piling.

2.4.8 Shared Path/Promenade and Connectors (to be constructed by others in separate future projects)

The proposed bridge will support a 17-foot-wide path for shared pedestrian/bicycle access along a Class I promenade, or a two-way separated (Class IV) bikeway with adjacent sidewalk and viewing area. At either end of the project limits, this facility will tie back into the existing 10-foot sidewalks along Third Street. Future projects planned by others will connect the bicycle/pedestrian access along the Islais Creek shoreline, and more directly to the citywide bicycle network:

- At the northern end of the project, a future private development planned by the Port of San Francisco will extend this facility from the bridge along the creek shoreline to Tennessee Street and/or the Islais Creek (“Tulare Street”) shared promenade, both of which link to Class II and Class IV bikeways on Indiana Street and Cesar Chavez Street.
- At the southern end of the project, the bicycle/pedestrian path will connect to Islais Creek Park, and later extend along Third Street to the intersection of Cargo Way by a separate capital project from an SFMTA project, and/or as part of the SFPUC pump station rehabilitation project. Cargo Way includes Class II and

Class IV bikeways that connect to the Bayview community and are a designated part of the Port of San Francisco's Blue Greenway.

These future connections beyond the bridge are expected to be completed within the next 10 years. As an interim measure, CCSF will not designate or sign the western pathway for bicycle access; nor will it allow bicycle riding on the sidewalk to the nearest signalized intersection.

The project's accommodation of a shared bicycle/pedestrian facility (Class I or Class IV) is based on advanced planning between SFPUC, Port of San Francisco, and SFMTA in response to unique opportunities presented by the removal of the bridge's bascule function (per the Islais Creek Southeast Mobility Adaptation Strategy recommendation 2B https://default.sfplanning.org/Citywide/Islais/IslaisCreek_FinalReport_August2021.pdf). Although not yet officially designated a bicycle facility, the Islais Creek Bridge and portion of Third Street connecting to Cargo Way will be adopted as part of the updated San Francisco Bicycle Network and citywide active transportation plan that is currently under way and expected to be completed in 2024. See Figure 9 for the advanced bicycle planning framework developed by SFMTA and the Port of San Francisco for this project.

All planned bicycle/pedestrian facilities described in this section will be subject to separate environmental documentation as applicable and are not included as a part of the Islais Creek Bridge Replacement Project.

2.5 Project Construction

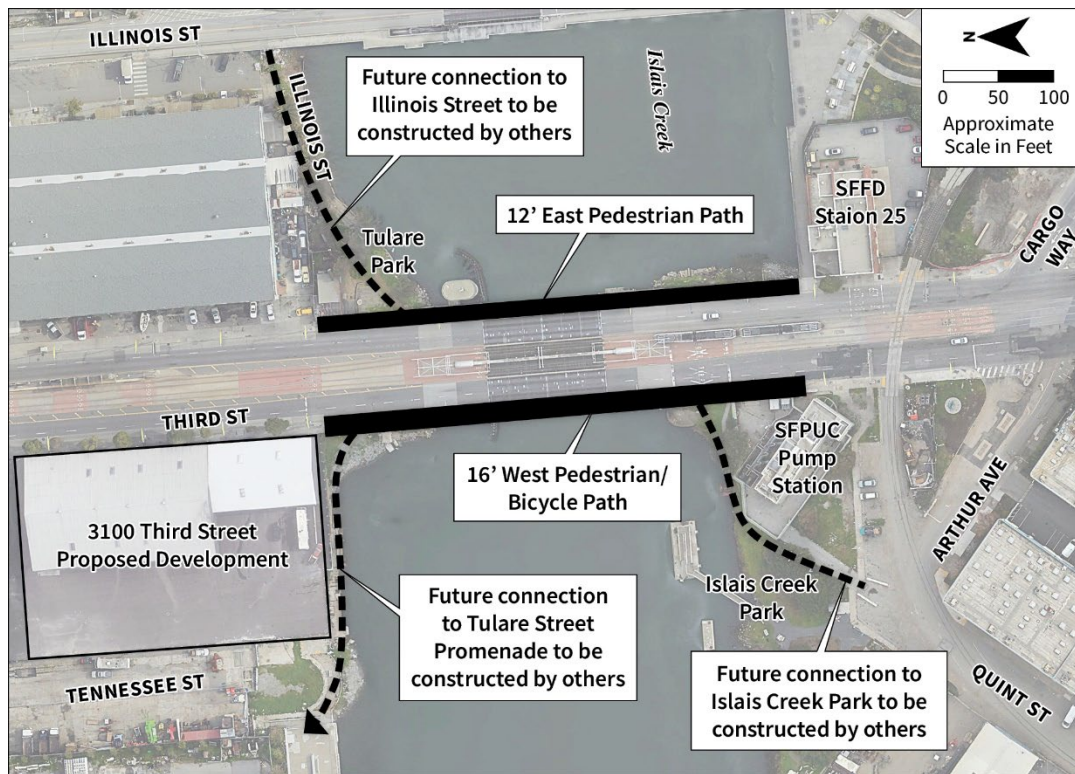
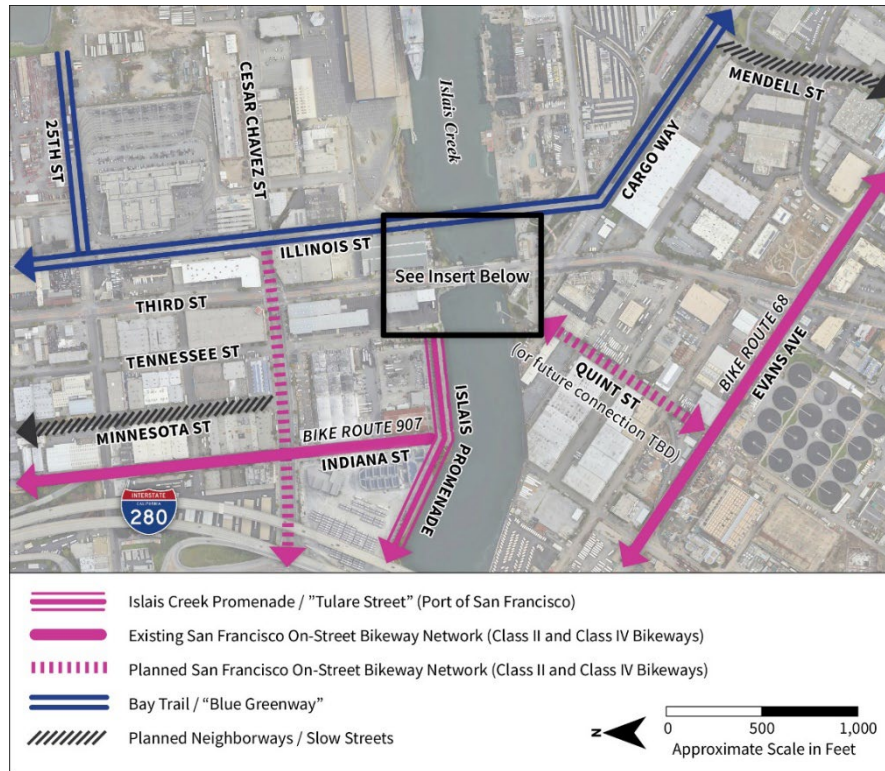
Construction duration is estimated to be approximately 24 months and is projected to start in January 2027. Construction is anticipated to use typical 8-hour work shifts during daylight hours; nighttime and weekend construction is not anticipated. The project includes the demolition and removal of the existing bascule leaves, trunnions, and counterweights, along with all electrical equipment and drive machinery associated with the bascule-drawbridge operability. Because the roadway, sidewalk, and track profiles are being raised, project-related soil excavation will be limited to the ends of the bridge approaches near the conforms, as well as localized trenching for new catch basin connections to the existing combined sewer/stormwater system and trenching for electrical conduits. Excavation depths will range from 15 feet to tie into the combined sewer/stormwater system; 5 feet behind the existing abutments; and up to 80 feet below the floor of the existing abutment if cast-in-drilled-hole or CISS piles are necessary.

2.5.1 Construction Access and Staging

Bridge closure is expected to last the full 24-month duration of construction activity. Detours will be established to re-route traffic around the construction site and consideration will be given to a temporary bus service. Detour routes will be developed during final design that will route traffic to arterials that have capacity for the additional vehicles in accordance with San Francisco Public Works standard construction measures for all projects.¹⁰

¹⁰ Public Works maintains a suite of avoidance and minimization measures to reduce environmental impacts during construction for all projects regardless of the level of environmental review; these are referred to as "Standard Construction Measures."

Figure 9 Islais Creek Area Planned Bikeway Connections (Courtesy SFMTA)



During construction, access to the parks and recreational resources described in Section 1.1.1 will be temporarily constrained from Third Street. However, access to these resources will be available from other existing access points along Illinois Street, Cargo Way, and Quint Street throughout the construction period. Signs directing park users to these additional access points will be posted. At the end of construction, the existing access points from Third Street will be fully restored.

The new bridge box beams will be constructed off site, barged to the project site, and placed into position with the use of both barge-mounted cranes and cranes on the approach roadway adjacent to the modified abutments. No falsework over or in the channel will be required. The new bridge deck will be made up of cast-in-place, reinforced-concrete. Additional prestressing strands will be installed and post-tensioned transversely to ensure the entire assembly behaves as a unit.

Construction access to the project site will be via Third Street and Islais Creek Channel. The limits of disturbance will extend to the conform points of the LRT track replacement, and the connections to the combined sewer/stormwater system north of and south of the bridge. It is anticipated that the contractor will use the project footprint delineated in Figure 10 for staging equipment and materials during the demolition of the existing structure components and the construction of the replacement bridge. Although temporary construction easements may be required immediately adjacent to the bridge, no new permanent right-of-way will be required for the project, and no vegetation will be removed during or after construction.

In addition to staging areas on the bridge approaches and anchored barges, three potential off-site construction staging area options have been identified (see Figure 10). Site 1 is approximately 2.5 acres and is east of the project site along Illinois Street on the southern side of the Islais Creek Channel (500 feet east of the project site). The other two sites (Site 2, approximately 20 acres; and Site 3, approximately 22 acres) are 0.75 mile southeast of the project site to the east in the Hunters Point area along Amador Street near Pier 94 and 96. These three sites are owned by the Port of San Francisco, and are currently used for Port-related storage, transport, and other industrial purposes. One of these staging areas may be selected by the construction contractor and could be used to stage and store materials and equipment, as well as construction vehicles. The selected staging area will be fenced to delineate the boundaries. All construction staging areas will conform to CCSF's existing specifications, including the minimum requirements that staging areas be located on existing asphalt or concrete surfaces, and do not affect access to existing properties or roadways.

Figure 10 Potential Staging Area Options



2.5.2 Construction Work Crew

A variety of trades will be active at the construction site during the different phases of the work, including forepersons, carpenters, iron workers, laborers, and equipment operators. It is anticipated that the total number of workers active on the site at a given time will vary from 10 to 40 individuals, with an average of 20 workers over the 24-month duration.

2.5.3 Construction Equipment

The following types of construction equipment will be used during demolition of the existing bridge and construction of the new bridge:

- barges
- concrete trucks
- asphalt rollers
- Prestressing Jacks
- Impact wrenches
- air compressor
- air tools
- asphalt pavers
- bituminous distributors
- brooms and sweeping equipment
- hand-guided compactors
- concrete pumps
- concrete vibrators
- curb-extrusion machines
- electric generators and light plants
- electric-powered hand tools
- graders
- demolition hammers
- crawler-mounted hydraulic cranes and excavators
- truck-mounted hydraulic cranes and excavators
- hydraulic personnel lifts and aerial-work platforms
- pile-driving template
- rubber-tire loaders
- diamond-blade pavement grinders
- tungsten-carbide-bit pavement grinders
- water hose pumps
- rubber-tire rollers
- vibratory rollers
- concrete and masonry saws
- crawler cranes
- truck-mounted cranes
- rubber-tire tractors
- equipment trailers
- trenching machines
- truck trailers
- dump trucks
- welding equipment
- vibratory pile hammer
- CIDH and pipe pile drilling equipment

2.5.4 Anticipated Construction Work in the Islais Creek Channel

No additional abutment elements will be constructed in the channel. The existing abutments will be modified to accept the new superstructure and accommodate all modes of traffic without constructing in the channel.

Removal of the existing bascule leaves and mechanical and electrical equipment will be performed from behind the abutments and from barges in the channel. Demolition and removal are anticipated to take up to 2 months.

Once the existing bridge is removed, the old fenders and piling will be cut off just below the mud-line, removed from the site, and disposed of in a manner consistent with the governing regulations.

Barges will also be used during the construction of the new bridge. However, the construction will not result in the placement of permanent fill in the channel, except for minor navigational aids that will be less area than the amount of existing navigational aids being removed.¹¹

2.5.5 Project Site Restoration and Cleanup

All construction-related materials will be removed after completion of construction activities. Temporary staging areas will be cleaned up, and any remaining concrete or asphalt will be removed and hauled to an appropriate waste disposal facility. Erosion control measures (such as coir rolls to be installed along or at the base of slopes during construction to capture sediment and temporary organic hydro-mulching) will be applied to any unfinished disturbed and graded areas in the construction and staging areas.

2.6 Project Alternatives

The project as described above in Section 1.3 is identified as the Standard Project Alternative. This section describes the other two alternatives under consideration including the No-Build Alternative (Section 1.5.1) and the Partial Preservation Alternative (Section 1.5.2); as well as alternatives considered but eliminated (Section 1.5.3).

2.6.1 No-Build (No-Action) Alternative

Under the No Build Alternative, no modifications will be made to the Islais Creek Bridge; only routine maintenance will be performed. Although deterioration will continue to be addressed through short-term remedies, existing bridge structural and seismic deficiencies will remain and worsen. Light-rail vehicles will continue to be required to slow down to safely pass through the horizontal alignment reverse curve at the approaches and across the three rail-joints where the bascule leaves separate during

¹¹ The Bay Conservation and Development Commission (BCDC), a California state entity within whose jurisdictional area the project area is situated, defines Bay fill to include pile-supported and cantilevered structures. For BCDC purposes, the project would introduce 1,710 square feet of fill due to the increase in shadow caused by the widening to accommodate the 17-foot-wide Class I shared pedestrian/bicycle path on the western side of the bridge.

bridge operations. There will be no increase in bridge freeboard; therefore, flood risks to the bridge and light-rail operations will remain and will increase with sea-level rise.

2.6.2 City and County of San Francisco Historic Preservation Commission Resolution No. 0746 Alternative (“Partial Preservation Alternative”)

The City Charter of the CCSF states at Sec. 4.135 that "for proposed projects that may have an impact on historic or cultural resources, the Historic Preservation Commission shall have the authority to review and comment upon environmental documents under the California Environmental Quality Act [CEQA] and the National Environmental Policy Act." The San Francisco Historic Preservation Commission has used this authority to mandate (Resolution No. 0746, March 18, 2015) that its expectations for the evaluation of significant impacts to historical resources under CEQA in Environmental Impact Reports (EIRs) under its purview are that "if a proposed project would result in a significant impact on historical resources due to demolition or alteration of an historical resource, the EIR should consider an alternative to the proposed project", and where "preservation options... may be limited... it may be appropriate for the EIR to include analysis of a Partial Preservation Alternative that would preserve as many features of the resource that convey its historic significance as possible while taking into account the potential feasibility of the proposed alternative and the project objectives." This City and County of San Francisco Historic Preservation Commission Resolution No. 0746 Alternative (Partial Preservation Alternative) was crafted by the Preservation Planning section of the San Francisco Planning Department for inclusion in this project's CEQA EIR in advance of environmental analysis in order to meet this expectation, and is included in this federal environmental assessment (EA) to maintain consistency between NEPA and the State of California's CEQA process.

The Partial Preservation Alternative includes similar project features described for the Standard Project Alternative described in Section 1.3. However, as described below the Partial Preservation Alternative will include salvage, rehabilitation, and reinstallation of as many of the historic character-defining features of the original bridge as feasible.

The existing Art Moderne-style quarter-round and teardrop bascule girder housing units will be removed from the existing bridge for reinstallation on the new bridge. Upon removal, inspection, and evaluation regarding the deterioration of materials and/or lead paint contamination, these elements will be assessed for reuse. Only if it is determined the elements are not salvageable for reinstallation, the elements will be replicated with substitute materials to recreate the historic appearance and reproduce historic paint colors and finishes based on physical evidence.

The doorway void behind the steel hatch door on the east side of the south machinery pit of the bridge abutment will be infilled with concrete to prevent water intrusion and the steel hatch door will be re-installed.

The riveted steel side box girders will be removed and replaced with concrete through-girders. Form liners will be used such that the new concrete girders will recreate the historic appearance of the riveted steel girders. Historic paint colors and finishes will be

used based on physical evidence, per the Secretary of the Interior's Standards for the Treatment of Historic Properties.

The existing Art Moderne-style sidewalk guardrails on the existing bridge include horizontal gaps larger than allowed by current safety requirements and must be replaced with railings meeting current gap opening requirements. Under the Partial Preservation Alternative, the replacement railings will replicate the existing railings and will be fabricated out of painted aluminum to reproduce the finish of the existing railings based on physical evidence.

If it is determined that for reasons of safety, construction standards, or sound engineering practice any of the character-defining features are not salvageable for reinstallation, these elements will be replicated with substitute materials to recreate the historic appearance and reproduce historic paint colors and finishes based on physical evidence, per the Secretary of the Interior's Standards for the Treatment of Historic Properties.

Under the Partial Preservation Alternative, the Control Tower will be retained and will include a retrofit of the foundation, window system, and repair of spalled and damaged concrete. Foundation work will consist of adding four, 5-foot-diameter Cast-in-Drilled-Hole (CIDH) piles to the four corners of the existing control tower foundation and the existing grade beams will be increased in size to seismically retrofit the foundation. Installation of the new piles would require the construction of a temporary cofferdam made up of sheet piles and the dewatering of the creek channel.

Additionally, the control tower room with canted window configuration, copper roofing with overhang, walkway and handrails surrounding the top floor, door locations and configurations, and the electrical and mechanical equipment inside the control tower room will be retained. This will maintain the spatial relationship of the bridge and the control tower by retaining its location, design, and materials as a character-defining feature; however, the bridge will be at a higher elevation.

Construction activities and duration for the Partial Preservation Alternative will be similar to that described for the Standard Project Alternative in Section 1.4, including construction access and staging, work crew and equipment, length of bridge closure, and the need for a temporary bus bridge.

2.6.3 Alternatives Considered but Eliminated from Further Discussion

The following sections discuss the alternatives that were considered during earlier stages of project planning and the reasons for which these alternatives were ultimately rejected and are not being taken forward in this NEPA analysis.

2.6.3.1 Bridge Rehabilitation Alternative

The Bridge Rehabilitation Alternative will include repair and replacement of components of the existing bascule bridge to bring the structure up to current seismic standards, as well as replacing and upgrading bridge safety features, with the objective of increasing the bridge's service life by an additional 50 years. Under this Alternative, the existing bascule leaves, bridge counterweights, span drive brakes, and bridge span locks will be

replaced. The machinery systems, including the bridge trunnions (the pivot axles for the bridge leaves), trunnion bearings, pinion support columns, drive motors, drive machinery, and the electrical systems in the machine rooms (inside the abutment structures at both ends of the bridge) will be removed and replaced. The bridge sidewalks and railings will be modified to comply with applicable requirements to meet the Americans with Disabilities Act; and CCSF required standard control devices will be installed (including flashers, gates, and warning signs) to prevent pedestrians, bicyclists, and vehicles from entering the bridge during a bridge lift operation. The control tower, including the foundation and window framing system, will be repaired and upgraded to meet current seismic standards. The electrical, mechanical, and security equipment inside all levels of the control tower (including the basement) will be replaced. The existing submarine cable that supplies power to the south abutment machine room is damaged and will be replaced. After repair/placement of the steel bridge members and deck, rust removal, and corrosion mitigation, the bridge structure will be repainted/recoated with a multi-part coating system designed for use in marine environments.

A NEPA Categorical Exclusion for the Bridge Rehabilitation Alternative was approved by Caltrans on February 13, 2018. However, the Bridge Rehabilitation Alternative was eliminated from future consideration because it does not meet the updated purpose and need, in particular the purpose of increasing the bridge's freeboard to the maximum extent practicable. In addition, maintaining an operable drawbridge has high capital and maintenance costs that are hard to justify. The Bridge Rehabilitation Alternative also has a higher risk of bridge closure after an earthquake, which will impede disaster response functions that require bridge throughput.

2.6.3.2 New Bascule Bridge

Under this alternative, a new bascule bridge (with either operable or non-operable draw bridge functions) will be constructed to replace the existing bridge. The new bascule bridge will be constructed at the same elevation of the existing bridge and will include a center dedicated LRT trackway, two travel lanes in each direction, and a shared pedestrian/bicycle path on both sides of the bridge. The street work included in this alternative will be minimal, and will include the abutments or approaches and street deck over the bascule pier on both sides of the bridge.

While replacing the bridge as-is has potential schedule and budget benefits, it was eliminated from future consideration for reasons similar to the Bridge Rehabilitation Alternative. Because this alternative will be constructed at the same elevation as the existing bridge, it will not increase freeboard or the lifespan of the bridge relative to sea level rise. It will retain the same flood risk as the existing bridge despite being a new replacement bridge. The operable bridge option will be more vulnerable to flood risk due to the low elevation of the mechanical equipment. The seismic performance of this alternative is likely inferior to the fixed-bridge alternative. Therefore, this option has a higher risk of bridge closure after an earthquake, which will impede disaster response functions that require bridge throughput. This alternative will also have a higher construction cost due to the type and material of the bridge, as well as higher operations and maintenance cost under the operable bridge option. This increase in cost will be hard to justify when considering the alternative's inherent flood risk. The Standard

Project Alternative will better address additional City needs, including sea-level rise resilience.

2.6.3.3 New-Through Girder Bridge, Same Elevation

This alternative will include the construction of a new through-girder bridge similar to the Standard Project Alternative, but with the same length and elevation as the existing bridge. Similar to the Standard Project Alternative, the new bridge will include a center dedicated LRT trackway, two travel lanes in each direction, and a shared pedestrian/bicycle path on both sides of the bridge. However, the new cross section of the bridge will allow for a wider roadway than the existing bridge. The street work for this alternative will include the abutment modifications to support the new girders at both sides of the bridge, as well as a haunch to support the additional width of the new cross section. While the bridge under this alternative will be constructed at the same elevation as the existing bridge, it will have a higher clearance due to the use of through girders.

While this alternative will increase freeboard and the lifespan of the bridge relative to sea level rise and increase the structural seismic resiliency and serviceability of the bridge, it was eliminated from future consideration because it will not increase bridge freeboard to the maximum extent practicable when compared to the Standard Project Alternative.

2.6.3.4 New Standard Girder Bridge, Raised

This alternative will include the construction of a new standard-girder bridge at a higher elevation than the existing bridge. Similar to the Standard Project Alternative, the new bridge will include a center dedicated LRT trackway, two travel lanes in each direction, and a shared pedestrian/bicycle path on both sides of the bridge. However, the cross section of the proposed bridge will be wider than the existing bridge. The street work included in this alternative will include abutment modifications to support the new girders, and to strengthen the deck over the existing bascule pier to support the fill at both sides of the bridge. Because the bridge will be raised, the approaches will also need to be regraded.

While this alternative will increase freeboard and the lifespan of the bridge relative to sea level rise and increase the structural seismic resiliency and serviceability of the bridge, it was eliminated from future consideration because it will not increase bridge freeboard to the maximum extent practicable when compared to the Standard Project Alternative.

2.6.3.5 New-Through Girder Bridge, Raised

This alternative will include a new 115 foot-long, 115 foot-wide, single-span PC/PS concrete through-girder bridge with a PC/PS concrete deck with a cast-in-place reinforced-concrete topping at a higher elevation than the existing bridge structure. The new bridge will accommodate a center 26-foot-wide dedicated LRT trackway, two 11-foot travel lanes in each direction, a 12-foot-wide pedestrian path on the eastern side of the bridge, and a 17-foot-wide Class I shared pedestrian/bicycle path on the western side of the bridge. The pedestrian/bicycle paths will be cantilevered off the exterior girders and would include a steel pedestrian/bicycle railing. The structure will consist of

four through-girders. The two exterior girders will support the combined pedestrian/bicycle path and half of the vehicle lanes, while the interior girders will support the other half of the vehicle lanes and the LRT trackway. Approximately 3 feet 9 inches of the overall girder depth will be below the deck surface, with 4 feet 9 inches (exterior) and 5 feet 9 inches (interior) above the deck surface. The portions of the girders above the deck surface will serve as barriers between the trackway, roadway, and pedestrian/bicycle path.

While this alternative would increase freeboard and the lifespan of the bridge relative to sea level rise, and increase the structural seismic resiliency and serviceability of the bridge, it offers no benefits over the Standard Project Alternative yet would result in increased costs. It was therefore eliminated from future consideration.

2.7 Permits and Approvals Needed

The permits, licenses, agreements, and certifications (PLACs) required for project construction are listed in Table 1.

Table 1 Permits and Approvals Needed

Agency	PLAC	Status
State Historic Preservation Officer (SHPO)	Finding of Effect (FOE), and Memorandum of Agreement (MOA)	FOE concurrence and MOA signatory.
National Marine Fisheries Service	Informal Consultation pursuant to Section 7 of the Endangered Species Act and Section 305(b) of the Magnuson–Stevens Fishery Conservation and Management Act	July 31, 2017
National Marine Fisheries Service	Authorization to incidentally harass marine mammals pursuant to the Marine Mammal Protection Act	If needed, the authorization will be obtained before the project is approved for construction.
United States Coast Guard	General Bridge Act of 1946, as amended.	The approval will be obtained before the project is approved for construction.
United States Army Corps of Engineers	Clean Water Act Section 404 permit for filling or dredging of waters of the United States	The permit will be obtained before the project is approved for construction.
San Francisco Bay Conservation and Development Commission (BCDC)	BCDC Permit for work within San Francisco Bay waters and along the 100-foot shoreline band	The permit will be obtained before the project is approved for construction.
San Francisco Bay Regional Water Quality Control Board	Clean Water Act Section 401 water quality certification	The certification will be obtained before the project is approved for construction.
SFMTA	Encroachment Permit or Memorandum of Understanding	The permit will be obtained before the project is approved for construction.
Port of San Francisco	Encroachment Permit or Memorandum of Understanding Concurrence with Section 4(f) determinations of Port Recreational Resource	The permit will be obtained before the project is approved for construction. Section 4(f) concurrence is expected after circulation of the EA/FONSI
San Francisco Planning Commission	Certification of EIR	This will take place prior to conclusion of CEQA
San Francisco Public Works Commission	Approval of Contract Agreement	This will take place prior to awarding a construction contract

Chapter 3 Project Impacts

3.1 Resource Topics Dismissed from Analysis in Environmental Assessment

Information included in this section is based on the technical studies completed for the proposed project, which are incorporated by reference into this EA (Appendix D). Consideration and analysis were given to the resources listed in Table 2 below. These resources either do not occur in the project area, or would experience negligible or no effects as a result of the project. Therefore, they are not discussed further in this EA.

The proposed project would involve replacing the Islais Creek Bridge. The proposed project is not a capacity-increasing project and would not result in increased traffic volumes or vehicle miles traveled (VMT). Following construction activities, there would be no long-term operation impacts as a result of the proposed project and this section is limited to a discussion of potential construction impacts. In addition, both the Standard Project Alternative and the Partial Preservation Alternative have similar project features—with the exception of the salvage, rehabilitation, and reinstallation of as many of the historic character-defining features of the original bridge for the Partial Preservation Alternative. Therefore, potential impacts of the two build alternatives would be similar and are only discussed separately where applicable.

Table 2 Resource Topics Dismissed from Analysis

Resource	Rationale for Dismissal
Consistency with State, Regional, and Local Plans and Programs	The proposed project would not change existing land uses in the project area, nor would the proposed project conflict with existing or future designated land uses. The proposed project would be consistent with applicable state, regional, and local plans because it would maintain a transportation link (the bridge) that would continue to serve existing land uses, and avoid disruption of access to businesses and land uses that rely on the access this bridge currently provides. It would maintain this land use consistency by replacing a structurally deficient bridge with a bridge that meets the City's climate resiliency goals. It would also improve and increase the lifespan of the overall transportation network of the study area, thereby improving the dependability of this access for local land uses. No long-term changes in land use are anticipated because the bridge would be restored at its same capacity (same number of travel lanes) and would be fully reopened to all users, (including vehicles, transit, pedestrians, and bicyclists) once construction is complete. (reference Islais Creek Bridge Community Impact Assessment, Section 3.2, from the "NEPA Environmental Documents" section on the project website: https://sfpublicworks.org/Islais-Creek-Bridge)
Coastal Zone	The proposed project is not in the California Coastal Zone (California Coastal Commission 1977 https://www.coastal.ca.gov/maps/czb/).
Wild and Scenic Rivers	There are no designated wild and scenic rivers in or adjacent to the project area (National Park Service 2018 https://www.rivers.gov/sites/rivers/files/2023-07/national-map.pdf).

Resource	Rationale for Dismissal
Parks and Recreational Facilities	There are three recreational facilities in the project area, including Bayview Gateway on Illinois Street north of Cargo Way southeast of the channel; Tulare Park on the northern side of the channel between Third Street and Illinois Street; and Islais Creek Park at the corner of Third Street and Arthur Avenue southwest of the channel. During project construction, access to and from Third Street would be restricted. Access to these recreational resources would be maintained and be available from other existing access points along Illinois Street, Arthur Avenue, Cargo Way, and Quint Street throughout the construction period. Signs directing park users to these additional access points would be posted. At the end of construction, the existing access points from Third Street would be fully restored, and no long-term effects would result.
Farmlands/Timberlands	The project site is in an urbanized area of San Francisco; there are no farmlands or timberlands in the project area. No land in the city has been designated by the California Department of Conservation’s Farmland Mapping and Monitoring Program as active or important agricultural land (California Department of Conservation 2023 https://maps.conservation.ca.gov/dlrp/ciff/).
Growth	The proposed project would replace the existing bridge with a new bridge that would not add additional travel lanes or change the capacity of the bridge in comparison to existing conditions. The proposed project would not remove any barriers to population growth, such as providing housing, jobs, constructing transportation modes, increasing capacity of roadways, or developing new roadways. The proposed project would not result in unplanned population growth or induce substantial growth in San Francisco.
Community Character and Cohesion	The proposed project would not permanently change existing community boundaries or physically divide an established community. During the 24-month construction phase (or 28 months with the Partial Preservation Alternative), closure of the bridge would be necessary and access to the bridge would be restricted for all traffic, including vehicles, transit users, pedestrians, and bicyclists. However, detour routes and a temporary bus service would be in place during construction to ensure that all modes of transportation would have continued access through the study area.
Relocations and Real Property Acquisitions	Construction of the proposed project could require temporary construction easements in the areas immediately adjacent to the Islais Creek Bridge. However, neither the permanent acquisition of property, nor relocations, would be required.
Equity	To avoid impacts to equity, the transportation and public outreach measures described above Chapter 1 and Appendix C will be employed (e.g., detour routes, the proposed temporary bus bridge, and robust notification measures). These features would suffice to prevent adverse environmental effects on community facilities and services.

Resource	Rationale for Dismissal
Utilities and Emergency Services	<p>Existing utilities in the study area include PG&E gas and electrical utilities, SFPUC outfall pipes, and a sewer line. Impacts to utilities are not anticipated during construction. However, if a temporary interruption in utility service is necessary, it would be scheduled during non-use or off-peak service periods, and notifications to any affected parties would be made in advance by the utility provider and/or project Public Information Officer. The potential service disruptions are typical of any construction project adjacent to existing utilities, and would be minimized to the extent feasible. Therefore, no permanent effects on utilities are anticipated.</p> <p>There are several emergency service providers local to the study area. The closest to the Islais Creek Bridge is San Francisco Fire Station 25 on Third Street south of the bridge. During project construction, emergency vehicles would access the Mission Bay and Bayview/Hunters Point neighborhoods using the adjacent Illinois Street Bridge in lieu of the Islais Creek Bridge. Although the proposed project would divert more traffic to the Illinois Street Bridge and nearby streets, such an increase in vehicles would not be substantial enough to impede or hinder the movement of emergency vehicles in the project area. The construction logistics would include providing advance notices—by construction phase—to San Francisco Fire Department (SFFD) Administration, Fire Station 25, and SFFD Fireboat concerning the schedule of bridge closures and accessibility to Islais Creek. There would be no long-term disruption to emergency services.</p>
Visual/Aesthetics	<p>During construction of the proposed project, staging would occur on the bridge approaches along Third Street, on barges anchored in the channel, and on one of three potential off-site construction staging areas. These construction staging areas could result in short-term visual impacts within the project corridor. Implementation of minimization measures would ensure that all construction staging areas will be sited and/or screened with temporary fencing to minimize public views to the maximum extent feasible (reference Islais Creek Bridge Visual Impact Assessment from the “NEPA Environmental Documents” section on the project website: https://sfpublicworks.org/Islais-Creek-Bridge). All short-term visual impacts would cease at the end of project construction.</p> <p>Both build alternatives would result in a replacement bridge structure along the existing roadway network within the project corridor. Under the Standard Project Alternative, motorists, bicyclists, pedestrians, and residents would observe visual changes resulting from the new bridge structure and loss of the quarter-circle gear housings on the bridge deck and the control tower. These features would be retained under the Partial Preservation Alternative. Both the Standard Project Alternative and the Partial Preservation Alternative would include bridge lighting for pedestrian safety. The new lighting would be consistent with the City’s design guidelines and Municipal Code and would be similar to existing conditions. After construction completion, the project area’s appearance would remain similar to the existing visual character of the site and none of the project features would be incompatible with the existing roadway and urban visual environment.</p>

Resource	Rationale for Dismissal
Archaeological Resources	<p>The background research, literature review, and field survey completed for the Archaeological Survey Report (ASR) did not identify archaeological resources in the Area of Potential Effect (APE) for the proposed project. Historically, the APE, including the three potential staging areas, was in the Bay. Islais Creek appears to have been channelized ca. 1930, with the surrounding lands reclaimed from the Bay by the mid-1970s. Geologically, the APE is mapped as artificial fill over Young Bay Mud. The APE and immediate vicinity of the Islais Creek Channel have a very low probability of encountering submerged prehistoric sites. Therefore, the APE is not considered sensitive for containing buried archaeological resources.</p>
Hydrology and Floodplain	<p>The proposed project area is within the 100-year floodplain designated on the effective Federal Emergency Management Agency (FEMA) flood insurance rate maps. The proposed project would not change existing land uses in the project area, nor would it substantially change the amount of existing impervious surfaces. The proposed project would not cause increase in fill inside the floodplain, or substantial encroachments or longitudinal encroachments.</p> <p>The proposed design would raise the profile of the bridge which would accommodate sea level rise while minimizing flooding impacts to adjacent properties. Because the primary cause of flooding is tidal flooding, the proposed project is not expected to impact the existing FEMA 100-year (Base Flood Elevation (BFE) (reference Islais Creek Bridge Location Hydraulic Study, Section 4, from the “NEPA Environmental Documents” section on the project website: https://sfpublicworks.org/Islais-Creek-Bridge). There would be no significant floodplain encroachment as defined by 23 CFR, Section 650.105(q).</p> <p>During the planning process for the proposed project, SFPW selected year 2075 as the year for the Islais Creek Bridge Structure’s evaluation, assuming a 50-year functional lifespan of the bridge. Using the current City guidance for a planning horizon of 2075, a sea-level rise between 1.9 feet and 4.3 feet is anticipated due to climate change. The proposed bridge design would provide a minimum of 0.9 foot of freeboard above a future base floodplain elevation of 14.3 feet, assuming sea-level rise of 4.3 feet, which is the upper-bound estimate. The proposed project would reduce the likelihood of flooding on the bridge due to sea level rise for the 50-year design life of the new bridge.</p>
Water Quality and Storm Water Runoff	<p>During construction of the proposed project, temporary disturbance of sediments in the channel bed would result due to the removal of existing fender piles (or the installation of cofferdams and new CIDH concrete piles under the Partial Preservation Alternative). This would cause a localized increase in turbidity in the channel. The increase in turbidity is unavoidable, but would be short-term, occurring only during installation and removal of the structures. Standard Caltrans BMPs would be implemented during project construction to avoid and/or minimize potential impacts to special-status species and habitats to the greatest extent practicable.</p> <p>During construction, temporary encapsulation systems (i.e., turbidity curtains) would be used as needed to contain disturbed, potentially contaminated sediments from moving outside of the work area. Further, removal of the existing creosote-treated wood fendering, which is known to leach contaminants into the surrounding water and substrate, would help improve overall water quality in the channel. During in-water activities, measures will be taken to protect water quality according to standard Caltrans best management practices (BMPs) and to maintain water quality standards as required by the permitting agencies.</p>

Resource	Rationale for Dismissal
Geology/Soils/Seismic/ Topography	Caltrans' design and construction guidelines incorporate engineering standards that address seismic risks. Project elements would be designed and constructed to meet Caltrans Seismic Design Criteria, which specify the minimum seismic design requirements for newly designed "Standard" concrete bridges, and other seismic design requirements for ground shaking and ground motions, as determined for the project vicinity and site conditions. Caltrans also requires additional geotechnical subsurface and design investigations to be performed during the final project design and engineering phase. Compliance with these standards and requirements would avoid adverse impacts.
Paleontology	The local geology of the project site consists of a series of Holocene epoch Quaternary alluvium, which are not thought to harbor fossils or other resources. The project area is entirely underlain by artificial fill and Holocene-age deposits, and the soils that would be disturbed were previously disturbed down to deep levels when the existing bridge was constructed in 1950. Therefore, the potential for adverse effects to paleontological resources is low.
Hazardous Waste and Materials	<p>There is no evidence of recognized environment conditions identified in connection with the project site and all soil excavated within the project site limits may be reused with no cover restrictions (reference Islais Creek Bridge Updated Phase I Initial Site Assessment, Section 6, from the "NEPA Environmental Documents" section on the project website: https://sfpublicworks.org/Islais-Creek-Bridge). To minimize hazardous waste impacts, any soil designated for removal from the project site will be sampled and analyzed; and if the resulting lead concentrations exceed 320 milligrams per kilogram (mg/kg), and/or extractable lead is greater than 5 milligrams per liter (mg/L) as determined by the standard California Waste Extraction Test, then such soils are to be handled pursuant to the hazardous waste management standards of Health and Safety Code, Chapter 6.5.</p> <p>All grading operations will be conducted in accordance with applicable California Occupational Safety and Health Administration requirements, including a project-specific worker Health and Safety Plan developed using the following guidance to minimize worker exposure to volatile organic compounds, semi-volatile organic compounds, and lead-impacted air, dust, or soil.</p> <p>Compliance with all applicable regulations would avoid and minimize potential effects related to hazardous waste and materials.</p>
Air Quality	Because the proposed project would not add capacity to Third Street, and the bridge construction would be consistent with a safety project, it is exempt from conformity per the Transportation Conformity Rule (40 CFR 93.126 and 40 CFR 93.127). Therefore, the project is not required to conform to an applicable State Implementation Plan. Control measures from the 2017 Bay Area Clean Air Plan that are applicable to the proposed project would be implemented. Further, construction activities would comply with key San Francisco policies and ordinances that address emissions, such as the San Francisco Clean Construction Ordinance, which requires the proposed project to use low-emitting construction equipment; and the Construction and Demolition Debris Recovery Ordinance, which requires a minimum of 75 percent of construction and demolition debris to be diverted from landfill to maximize reuse of these materials.

Resource	Rationale for Dismissal
Climate Change	<p>Replacing a bridge with another bridge with the same traffic carrying capacity will not result in adverse climate change effects. Construction work does consume energy and produce greenhouse gas emissions in the short term. Nevertheless, measures identified in the Air Quality section above will be used to minimize effects. The effects of sea level rise on the project have been considered in project design as identified in the Hydrology and Floodplain section above.</p>
Noise	<p>During construction of the proposed project, noise levels would fluctuate depending on the type, number, and duration of use for the various pieces of construction equipment. The effects of construction noise would largely depend on the type of construction activities occurring on any given day, noise levels generated by those activities, distances to noise-sensitive receptors, and the existing ambient noise environment in the receptor's vicinity. Project-related construction activities could expose existing off-site sensitive receptors to equipment noise levels that result in a substantial temporary increase over ambient noise levels, causing annoyance to occupants of the nearby existing noise-sensitive land uses (reference Islais Creek Bridge Construction Noise/Vibration Technical Memorandum, Section 4, from the "NEPA Environmental Documents" section on the project website: https://sfpublicworks.org/Islais-Creek-Bridge). However, SFPW would minimize temporary noise caused by construction operations and employ abatement measures as necessary for protection of employees and the public.</p> <p>Long-term project operation would not include any major new sources of groundborne noise that would be different from the existing condition. Given the proposed lane configurations are the same as existing, no changes in operational noise are predicted. The project is not a Type 1 project under 23 CFR 772.5.</p>
Natural Communities	<p>Construction activities associated with the proposed project would take place in the existing footprint of the bridge and roadway and are not expected to impact natural or landscaped vegetation communities in the Biological Study Area (BSA) (reference Islais Creek Bridge Natural Environment Study, Section 4.1.1, from the "NEPA Environmental Documents" section on the project website: https://sfpublicworks.org/Islais-Creek-Bridge). No special-status species of plants were observed or are considered to have potential to occur in the BSA. Vegetation removal is not anticipated as a part of the proposed project activities, and there would be no effects on natural vegetation communities.</p>

Resource	Rationale for Dismissal
Wetlands and Other Waters	<p>A wetland delineation was conducted by AECOM in accordance with the guidelines defined in the United States Army Corps of Engineers (USACE) Wetlands Delineation Manual, the USACE Arid West Manual, relevant regulatory guidance letters, and USACE district-specific minimum reporting requirements (reference Islais Creek Bridge Natural Environment Study, Section 4.1.2, from the “NEPA Environmental Documents” section on the project website: https://sfpublicworks.org/Islais-Creek-Bridge). A total of 14.55 acres of potential waters of the U.S. was identified in the project area, of which 0.28 acre is potentially jurisdictional wetlands, and 14.27 acres are potentially jurisdictional other waters of the U.S. There is no submerged aquatic vegetation in the project area. The proposed project would not result in fills of jurisdictional wetlands of the U.S.</p> <p>During construction, up to 2.3 acres of estuarine habitat would be temporarily impacted due to the presence of work barges present (reference Islais Creek Bridge Natural Environment Study, Section 4.1.2, from the “NEPA Environmental Documents” section on the project website: https://sfpublicworks.org/Islais-Creek-Bridge). However, there would be no anticipated loss of habitat due to this temporary condition (during project construction), and there is no submerged vegetation in the project footprint that could be impacted. On completion of the proposed project’s construction, all temporarily affected areas would be restored to approximately the original site conditions. Due to the removal of the bridge’s existing fender system, the proposed project would result in a net decrease with respect to fill of estuarine habitat.</p> <p>Construction of the Partial Preservation Alternative would result in small areas of permanent impacts that fall outside of the existing footprint of the control tower due to the addition of four, 5-foot-diameter CIDH piles to the four corners of the existing control tower foundation (reference Islais Creek Bridge Natural Environment Study, Section 4.1.2, from the “NEPA Environmental Documents” section on the project website: https://sfpublicworks.org/Islais-Creek-Bridge).</p> <p>Temporary encapsulation systems (i.e., isolation casings or turbidity curtains) will be used to contain harmful materials during construction of the proposed project. The implementation of standard avoidance and minimization efforts will further decrease the magnitude of impacts to non-wetland waters of the U.S. and no adverse effects would result (reference Islais Creek Bridge Natural Environment Study, Section 4.1.2, from the “NEPA Environmental Documents” section on the project website: https://sfpublicworks.org/Islais-Creek-Bridge).</p>
Plant Species	<p>There are no special-status plant species with potential to occur in the BSA ((reference Islais Creek Bridge Natural Environment Study, Section 3.1.3, from the “NEPA Environmental Documents” section on the project website: https://sfpublicworks.org/Islais-Creek-Bridge). Therefore, the proposed project would have no effects on these resources.</p>

Resource	Rationale for Dismissal
Animal Species (Migratory Birds)	Construction of the proposed project could disturb or destroy nesting birds that are protected under the Migratory Bird Treaty Act (MBTA). Nesting birds could be temporarily displaced because of habitat alteration or noise disturbance from construction equipment. If any migratory birds are nesting in the remaining trees in the BSA or under the existing overcrossing structure during project construction, direct mortality of eggs or chicks could occur, resulting in an impact to species protected under the MBTA. However, with the implementation of preconstruction surveys and the establishment of buffer zones in compliance with standard Caltrans avoidance and minimization measures, mortality of birds protected under the MBTA would be avoided ((reference Islais Creek Bridge Natural Environment Study, Section 4.4.5.4, from the “NEPA Environmental Documents” section on the project website: https://sfpublicworks.org/Islais-Creek-Bridge).
Invasive Species	The proposed project would comply with Executive Order 13112, Invasive Species. To reduce the likelihood of the introduction of invasive species, soil and plant material from areas that support invasive species will not be disposed of in areas that support native vegetation.
Cumulative Effects	<p>Potential effects associated with the proposed project would be limited to the construction phase. Construction-related impacts (such as to air quality, biological resources, cultural resources, hazardous materials, noise/vibration, and traffic and transportation disruptions) would be temporary and minor in nature. Avoidance and minimization measures have been proposed that would minimize these temporary impacts. Therefore, construction impacts, in combination with known past, present, or future projects, would not contribute in a cumulative manner to adverse effects on the environment.</p> <p>As described above, the proposed project is not a capacity-increasing project. The new bridge would replace the existing bridge at its current location. Implementation of the proposed project would not result in increased traffic volumes or a change in VMT. Following construction activities, there would be no long-term operational impacts and no adverse cumulative operational effects would result from the proposed project.</p>

3.2 Resource Topics Warranting Further Analysis

There are four resource topics warranting further analysis in this EA (Cultural Resources, Biological Resources, Traffic and Transportation/Pedestrian and Bicycle Facilities and Construction Vibration). These resource topics are discussed in the following sections. In addition, a Section 4(f) analysis is provided in Appendix A, in accordance with standard Caltrans format.¹²

3.2.1 Cultural Resources

Information in this section is based on the following cultural resource reports completed for the proposed project: Supplemental Archaeological Survey, Supplemental Historic Properties Survey Report (reference Islais Creek Bridge Supplemental Historic Properties Survey Report from the “NEPA Environmental Documents” section on the

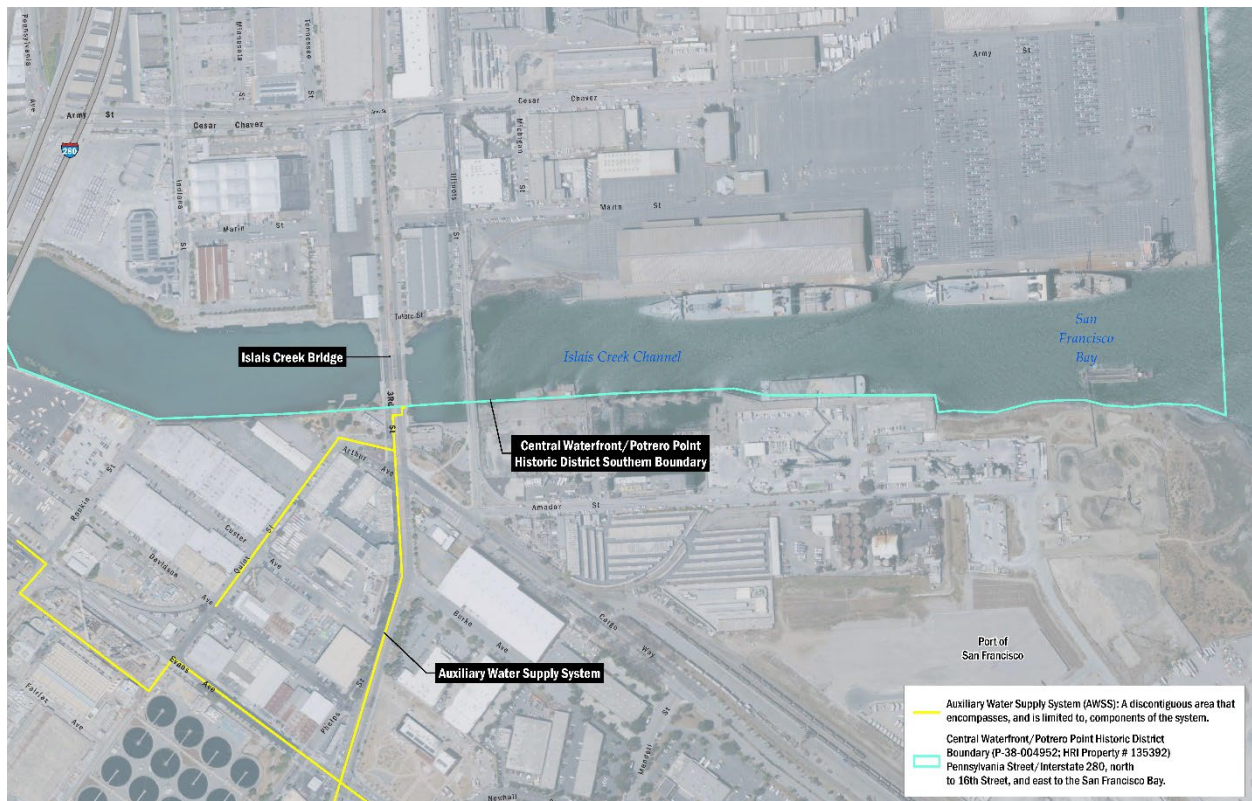
¹² Section 4(f) refers to the original section within the U.S. Department of Transportation Act of 1966, which established the requirement for consideration of park and recreational lands, wildlife and waterfowl refuges, and historic sites in transportation project development.

project website: <https://sfpublicworks.org/Islais-Creek-Bridge>) and Finding of Adverse Effect (reference Islais Creek Bridge Finding of Adverse Effect from the “NEPA Environmental Documents” section on the project website: <https://sfpublicworks.org/Islais-Creek-Bridge>). Avoidance and minimization measures applicable to cultural resources are listed in Appendix C.

3.2.1.1 Affected Environment

The study area for cultural resources is the APE, which encompasses all areas in the physical footprint of the proposed improvements, and areas that may directly or indirectly be affected by project construction activities. There are three historic properties in the APE that were previously determined eligible for listing on the National Register of Historic Places (NRHP). These three historic properties, and potential project effects, are shown in Figure 11 and described below.

Figure 11 Historic Properties in the Area of Potential Effects



Islais Creek Bridge

The Islais Creek Bridge (Bridge No. 34C0024) was determined eligible for listing on the NRHP on December 7, 2005, and is a Caltrans Category 2 bridge. The period of significance has been identified as 1950—the original date of construction. The boundaries of this historic property include the bridge from its approach at the northern end to its approach at the southern end. The character-defining features of the bridge are as follows:

- bridge type (i.e., bascule-type bridge with two spans and concrete abutments)

- above-deck elements of the bascule leaves, including:
 - visible elements of riveted steel side and center box girders
 - quarter-round and teardrop bascule girder housing units with Art Moderne styling
 - steel sidewalk guardrails with Art Moderne styling, including the guardrails for the staircase leading to the abutment machinery pit entrance on southeast corner
- steel hatch door on the eastern side of the south machinery pit
- control tower location, design, and materials, including:
 - the oblong plan
 - two-story (with basement) design
 - concrete walls
 - canted window configuration, size, and materials
 - copper roofing with overhang
 - walkway and handrails surrounding the top floor
 - door locations and configurations

San Francisco Fire Department Auxiliary Water Supply System

The San Francisco Fire Department (SFFD) Auxiliary Water Supply System (AWSS) was determined eligible for listing on the NRHP in 2020. The period of significance is 1908–1913. The AWSS is directly associated with the historically significant period of reconstruction in San Francisco following the 1906 earthquake and fires that destroyed 28,188 buildings. The AWSS was a crucial component of San Francisco’s recovery effort, as a highly important infrastructural system that provided fire protection to the city’s most densely populated neighborhoods. Two components of the AWSS are in close proximity to the Islais Creek Bridge: a 1988-date-stamped high-pressure hydrant, and a below-grade distribution pipe. Based on mapping of the system, it appears an underground pipe runs along Third Street south of the Islais Creek Bridge and terminates at the hydrant on the eastern sidewalk of Third Street, approximately 50 feet south of the Islais Creek Bridge southern abutment. All other features of the AWSS are located well away from the Islais Creek Bridge.

Central Waterfront/Potrero Point Historic District

The Central Waterfront/Potrero Point Historic District (District) was determined eligible for listing on the NRHP in 2017. The period of significance spans the years 1872 to 1958. The southern boundary of the District is the southern side of Islais Creek. The northern boundary extends east along Sixteenth Street into San Francisco Bay, where the boundary turns south through the Bay, encompassing the entirety of Piers 70 and 80, and marking the eastern boundary. The western boundary is along Pennsylvania Street from Islais Creek to Sixteenth Street. All of the contributing elements in the District are several blocks north of the Islais Creek Bridge. There are

three historic districts within the larger Central Waterfront/Potrero Point District: Pier 70, the Third Street Industrial District, and Dogpatch Historic District.

3.2.1.2 Environmental Consequences

Islais Creek Bridge

The proposed project would cause the physical destruction of, or damage to, all or part of the Islais Creek Bridge, including removal of the bridge deck; elements associated with bascule operability with two spans and concrete abutments; quarter-round and teardrop bascule girder housing units with Art Moderne styling; steel sidewalk guardrails with Art Moderne styling, including the guardrails for the staircase leading to the abutment machinery pit entrance on southeastern corner; steel hatch door on the eastern side of the south machinery pit; and the control tower location, design, and materials that are character-defining features. Overall, the proposed project would adversely affect the integrity of the design, setting, materials, workmanship, feeling, and association of the Islais Creek Bridge. Under Section 106 of the National Historic Preservation Act, the proposed project would result in an adverse effect, as described in the Finding of Adverse Effect (reference Islais Creek Bridge Finding of Adverse Effect from the “NEPA Environmental Documents” section on the project website: <https://sfpublicworks.org/Islais-Creek-Bridge>).

San Francisco Fire Department Auxiliary Water Supply System

The project proposes to replace the Islais Creek Bridge’s existing bascule bridge with a fixed-bridge design adjacent to the AWSS. Neither the circa 1988-1989 constructed hydrant, nor the circa 1988-1989 below-grade distribution pipeline in the APE are contributing elements to the AWSS historic district because they post-date the period of significance. No indirect effects related to the replacement of the Islais Creek Bridge are anticipated on the contributing elements or character-defining features of the discontinuous AWSS historic district that are outside the project area. The proposed project would not affect any aspect of integrity of location, design, materials, workmanship, feeling, or association of the AWSS. Therefore, the proposed project would not cause an adverse effect on the AWSS.

Central Waterfront/Potrero Point Historic District

The proposed project would not result in direct physical effects on the Central Waterfront/Potrero Point Historic District or its contributors. The nearest contributor in the District is approximately 0.44 mile north of the Islais Creek Bridge at the northeastern intersection of Third and 24th Streets. Although the proposed project would alter the setting of the southernmost area of the District, indirect visual, audible, or atmospheric adverse effects on the District are not anticipated because the majority of the District contributors are not in close enough proximity to the bridge for the proposed project to cause a significant change in their setting. The proposed project would not affect any aspect of integrity, design, materials, workmanship, feeling or association of any of the character-defining features of the identified historic districts and sub-regions, nor to any contributors to the districts or sub-regions. Therefore, the proposed project would not cause an adverse effect on the Central Waterfront/Potrero Point Historic District.

3.2.1.3 Avoidance, Minimization, and/or Mitigation Measures

The Avoidance, Minimization, and Mitigation Measures listed in Appendix C will be in place prior to and during construction of the proposed project. Although these measures would reduce project impacts to the Islais Creek Bridge, the proposed project would result in an overall Section 106 Finding of Adverse Effect to the Islais Creek Bridge.

Final mitigation measures will be discussed during a separate consultation with SHPO accompanying a Memorandum of Agreement (MOA), with the results reported in the Final Environmental Document.

3.2.2 Biological Resources

Information in this section is based on the 2023 Revised Natural Environment Study (NES) prepared for the proposed project. The NES provides technical information that was used to determine the extent that the proposed project would affect plants, wildlife, and natural communities, as well as special-status species, potentially jurisdictional wetlands and waters, and protected natural plant communities (reference Islais Creek Bridge Natural Environment Study, from the “NEPA Environmental Documents” section on the project website: <https://sfpublicworks.org/Islais-Creek-Bridge>). The NES also includes a summary of federal, state, and local laws and regulations applicable to the proposed project (reference Islais Creek Bridge Natural Environment Study, Appendix B, from the “NEPA Environmental Documents” section on the project website: <https://sfpublicworks.org/Islais-Creek-Bridge>); the U.S. Fish and Wildlife Service (USFWS) (reference Islais Creek Bridge Natural Environment Study, Appendix D-1, from the “NEPA Environmental Documents” section on the project website: <https://sfpublicworks.org/Islais-Creek-Bridge>) and National Marine Fisheries Service (NMFS) (reference Islais Creek Bridge Natural Environment Study, Appendix D-2, from the “NEPA Environmental Documents” section on the project website: <https://sfpublicworks.org/Islais-Creek-Bridge>) species lists; and California Natural Diversity Database (CNDDDB) (reference Islais Creek Bridge Natural Environment Study, Appendix C, from the “NEPA Environmental Documents” section on the project website: <https://sfpublicworks.org/Islais-Creek-Bridge>) documented occurrences of wildlife species within 5 miles of the project area. The updated USFWS and NMFS species lists are included in Appendix F. Avoidance and minimization measures applicable to biological resources are listed in Appendix C.

Potential impacts to special-status species are described below. Refer to Section 3.1 (Resource Topics Dismissed from Analysis in Environmental Assessment) for a discussion of potential project impacts to natural communities, wetlands and other resources, plant species, migratory birds, and invasive species.

Apart from federally listed special-status fish species described below, a No Effect finding under Section 7 of the Federal Endangered Species Act (FESA) was found for all other federally listed species. A table containing this information can be found in Appendix F of the NES (reference Islais Creek Bridge Natural Environment Study, Appendix F, from the “NEPA Environmental Documents” section on the project website: <https://sfpublicworks.org/Islais-Creek-Bridge>).

3.2.2.1 Environmental Consequences

Special-Status Fish Species: Potential impacts to green sturgeon, steelhead, white sturgeon, longfin smelt, and Chinook salmon are limited to temporary habitat disturbance from construction. In-water construction activities have the greatest potential to impact these species due to the use of construction barges to serve as work platforms during removal of the existing bridge and the installation of the new bridge span. The removal of existing fender piles may temporarily increase turbidity but would have the long-term benefit of removing a potential source of contaminants from bay waters. In-water work could result in adverse effects to special-status fish species habitat during project construction.

As described in Section 4.1 (Consultation and Coordination with Public Agencies) below, through consultation with the NMFS), a Section 7 determination under FESA agreed that the project may affect but is unlikely to adversely affect green sturgeon and steelhead (the federally listed special-status fish species).

Construction of the cofferdam required for the retrofit of the control tower foundation under the Partial Preservation Alternative would result in areas of temporary impact to the channel bottom that fall outside of the existing footprint of the control tower. Construction would also result in temporary increases in turbidity in the project area. During construction, the cofferdam has the potential to entrap fish, resulting in injury or mortality of threatened or endangered fish species, if they are present. As a result, implementation of the Partial Preservation Alternative would require additional consultation with NMFS to obtain an incidental take permit for potential injury or mortality of FESA-listed fish.

Marine Mammals: There is low potential for marine mammal species to occur in the project area during project construction activities. However, these species are sensitive to water quality impacts, habitat loss, and hydroacoustic impacts. In-water construction activities have the potential to cause short-term, temporary behavioral disruptions to marine mammals that may be foraging or hauled out in nearby waters; this would be an adverse impact to marine mammals.

Pacific Herring: Spawning adult herring are vulnerable to water quality impacts and habitat loss. Herring spawn are also especially vulnerable to impacts from turbidity that may result from in-water construction activities. Although no permanent habitat loss is anticipated from the replacement of bridge components and in-water structures, construction-related increases in turbidity would be an adverse impact to Pacific herring.

Special-Status Bird Species: California brown pelican and double-crested cormorant are vulnerable to temporary disturbance from the presence of project-related construction activity and potential impacts to air and water quality. However, foraging, loafing, and roosting birds can easily avoid construction activities, and sufficient habitat is available upstream and downstream of the project site and in the waters of the Bay for them to relocate. Construction activities could result in adverse effects to California brown pelican and double-crested cormorant habitat from temporary construction disturbances. Although there is foraging potential for the American peregrine falcon in the project area, tall structures that would be suitable nest sites are not present. In

addition, there are no CNDDDB records for the American peregrine falcon in the project area. Therefore, the project would have no effects on peregrine falcon.

Additionally, protection is afforded to bald and golden eagles by the Bald and Golden Eagle Protection Act. Because there are no records or suitable nesting habitat (tall mature trees, high rock outcroppings, or isolated man-made towers) for these species within the biological study area, the project would have no effects on bald or golden eagles.

Bats: Implementation of the proposed project could result in the disturbance of suitable roosting and nesting sites for special-status and high-priority bat species, specifically on the underside of bridge. Disruption of suitable roosting and nesting sites during construction of the proposed project would have adverse effects on bats.

3.2.2.2 Avoidance, Minimization, and/or Mitigation Measures

The Avoidance, Minimization, and Mitigation Measures listed in Appendix C will be in place during construction of the proposed project. Compliance with these measures will avoid or reduce the temporary adverse effects to biological resources described above.

3.2.3 Traffic and Transportation/Pedestrian and Bicycle Facilities

Information in this section is based on the 2023 Transportation Impact Study (TIS) prepared for the proposed project (reference Islais Creek Bridge Transportation Impact Study, from the “NEPA Environmental Documents” section on the project website: <https://sfpublicworks.org/Islais-Creek-Bridge>). The TIS contains details regarding the existing roadway network, traffic volumes, transit network, and bicycle and pedestrian facilities in the vicinity of the project site. The TIS also assesses temporary transportation impacts during project construction and permanent operational impacts in terms of vehicle miles traveled, driving hazards, transit, bicycle, pedestrian, loading, and emergency vehicle access. Avoidance and minimization measures applicable to transportation, pedestrian, and bicycle facilities are listed in Appendix C.

3.2.3.1 Environmental Consequences

The Islais Creek Bridge serves as a major link between the Dogpatch/Central Waterfront neighborhoods and the Bayview/Hunter’s Point neighborhoods. Muni operates the T Third LRT line and two bus routes (15 Bayview Hunters Point Express and 91 Third Street/19th Avenue Owl) across the bridge. The Islais Creek Bridge includes sidewalks on both sides of the bridge that connect to the existing sidewalks along Third Street both north and south of the bridge. There are existing bicycle facilities along Third Street Illinois Street, Cesar Chavez Street, Cargo Way, and Evans Avenue, all of which are part of the San Francisco Bicycle Network or the San Francisco Bay Trail system.

The proposed project would require a full closure of the Islais Creek Bridge for up to 24 months (or 28 months with the Partial Preservation Alternative). The majority of existing traffic on Islais Creek Bridge is expected to be diverted to nearby local streets, including Illinois Street Bridge and Evans Avenue to Third Street. The rest would be diverted to U.S. 101 via ramps south of Cesar Chavez Avenue and I-280 via ramps at Cesar Chavez Avenue. In addition to temporary increases in VMT due to diverted traffic,

construction-related worker commute trips and truck trips would also generate VMT. However, the VMT increases due to construction-related trips and diverted trips would be temporary in nature, lasting for a maximum of 28 months. These diverted trips are not expected to cause substantial delays or queues because the volume-to-capacity ratio along the detour routes would remain under 0.85 with the diverted traffic during the PM peak hour.

The proposed project would also generate approximately 16 daily truck trips and up to 40 construction worker vehicle trips during the PM peak hour. These construction-related trips would occur along Illinois Street and Evans Avenue. These local roadways are wide enough to accommodate truck turning movements.

An approximately 2-year closure of the Islais Creek Bridge would affect the operation of Muni's T Third LRT rail, 15 Bayview Hunters Point Express, and 91 Third Street/19th Avenue Owl bus routes that currently operate across the bridge. As part of the proposed project, SFPW would work with the SFMTA to provide a temporary bus bridge service in place of the existing T Third LRT rail between Marin Street Station and Sunnydale Station during the project construction. The buses would run along Illinois Street and Cesar Chavez Avenue instead of Third Street, and passengers would transfer between the T Third rail vehicle and a bus near the 23rd Street station or Marin Street station. Full details of the temporary bus service—including the last light rail station, passenger pick-up/drop-off locations, bus frequency, and passenger transfer route—would be developed by SFPW and SFMTA as the project's design progresses.

SFPW would also work with SFMTA to develop a detailed detour plan for the 15 Bayview Hunters Point Express and 91 Third Street/19th Avenue Owl bus routes to minimize transit delays during construction. It is anticipated that these routes would be rerouted along Cesar Chavez Street, Illinois Street, and Cargo Way. Rerouting along Illinois Street would increase the travel distance for these routes by approximately 0.5 mile per trip, and increase travel time by up to 2 minutes per trip. The diverted trips and construction-related trips are not expected to cause extensive vehicle queues or delays along these roadways, because the increased traffic volumes would be within their carrying capacity. Muni routes 19 Polk and 44 O'Shaughnessy operate along Evans Avenue and a section of Cesar Chavez Street, which are part of detour routes. Minimal delays are expected for the 44 O'Shaughnessy and 19 Polk Muni bus routes because there would be no extensive vehicle queues or delays along these roadways.

During project construction, the closure would prevent pedestrians and bicyclist from crossing the Islais Creek Bridge. Pedestrians approaching from either side of the bridge would be directed to use the Illinois Street Bridge via continuous sidewalks along Cargo Way, Rosa Parks Plaza, and Illinois Street. Bicyclists would be directed to detour to the Illinois Street Bridge via Cargo Way (Class 2 bike facility) or Cesar Chavez Street (with a Class 3 bike facility). This temporary detour would temporarily increase the travel distance for pedestrians and bicyclists, but would not interfere with accessibility or create potentially hazardous conditions. Detour routes would direct pedestrians and bicyclists to existing facilities with safety features. Moreover, the construction logistics would include advance warning signs, detour signs, and variable message signs along Third Street and other detour routes.

During project construction, emergency vehicles would access the Mission Bay and Bayview/Hunters Point neighborhoods using the adjacent Illinois Street Bridge in lieu of the Islais Creek Bridge. Although the proposed project would divert more traffic to the Illinois Street Bridge and nearby streets, the increase in vehicles would not be substantial enough to impede or hinder the movement of emergency vehicles in the project area. The construction logistics would include providing advance notices—by construction phase—to SFFD Administration, Station No. 25, and SFFD Fireboat concerning the schedule of bridge closures and accessibility to Islais Creek.

Following construction, the proposed project would not change the configuration or capacity of the existing bridge. The new bridge would not induce any new vehicle trips or increase VMT.

The width of outer travel lanes on the new bridge would be reduced from 14 feet to 11 feet. This change would reduce the chance of vehicles speeding in outer lanes. The width of inner travel lanes on the new bridge would increase from 10 feet to 11 feet, with wider barriers between the LRT tracks and travel lanes. This would reduce potential conflicts between vehicles and transit, and improve safety.

The current speed limit for LRT vehicles across the bridge is 10 miles per hour (mph). The proposed project would support an increased speed limit for LRT vehicles up to 25 mph. This would increase travel speed and reduce overall T Third LRT line running time.

The proposed project includes wider pedestrian and bicycle paths (a 17-foot-wide shared pedestrian/bicycle path on the western side and 12-foot-wide sidewalks on the eastern side) compared to the 7-foot-wide sidewalks on each side. The widened paths for pedestrians and bicyclists would improve pedestrian and bicycle accessibility, and reduce potential conflict between bicycles and vehicles.

Emergency vehicles from and to Fire Station 25 would continue to use the Islais Creek Bridge to travel to and from the north. The new lanes on the bridge would be 11 feet wide in both directions and would be adequate for emergency vehicles.

3.2.3.2 Avoidance, Minimization, and/or Mitigation Measures

The Avoidance, Minimization, and Mitigation Measures listed in Appendix C will be in place during construction of the proposed project. Compliance with these measures will avoid or reduce the temporary adverse effects to the transportation, pedestrian, and bicycle facilities described above.

3.2.4 Construction Vibration

Information in this section is based on the 2023 Islais Creek Bridge Replacement Project Construction Noise/Vibration Technical Memorandum prepared for the proposed project (reference Islais Creek Bridge Construction Noise/Vibration Technical Memorandum, Section 5, from the “NEPA Environmental Documents” section on the project website: <https://sfpublicworks.org/Islais-Creek-Bridge>).

3.2.4.1 Environmental Consequences

During construction of the proposed project, the movement and operation of construction equipment may generate temporary groundborne vibration. Caltrans has developed criteria that are commonly applied as an industry standard to determine the impacts of project vibration relative to human annoyance and structural damage. Caltrans recommends staying below 0.3 in/sec PPV at older residential structures, and below 0.5 for new residential structures, to avoid structural damage. Short-term construction activity of the project would not exceed this threshold for structural damage but could result in the exposure of persons to excessive groundborne vibration.

Implementation of the Partial Preservation Alternative would require the installation of a cofferdam and foundation piles for the seismic retrofit of the control tower. These features would be installed using a crane-mounted vibratory driver which would generate additional temporary groundborne vibration. The SFPUC Southeast Treatment Plant and Booster Pump Station outfall pipes that run adjacent to the bridge below Islais Creek Channel are temporary and are highly susceptible to damage due to vibration impacts. As a result, SFPUC has a very low vibration threshold of 0.2 inch/second peak particle velocity. Due to in-water work around the control tower, greater vibration impacts are predicted with the Partial Preservation Alternative. Based on preliminary design information, meeting identified SFPUC vibration thresholds may not be feasible.

3.2.4.2 Avoidance, Minimization, and/or Mitigation Measures

During construction, Caltrans would implement the vibration control measures listed in Appendix C to minimize vibration levels on adjacent land uses and utilities.

Should the Partial Preservation Alternative be chosen, during final design further consideration and discussion will need to be held with SFPUC to determine the best way to conduct required foundation work for the control tower. This may also create additional water quality and biological impacts which may in turn need to be included in further consultation with NMFS.

The Avoidance, Minimization, and Mitigation Measures listed in Appendix C will be in place during construction of the proposed project. Compliance with these measures will avoid or reduce the temporary adverse effects related to construction vibration.

Early and continuing coordination with the general public and public agencies is an essential part of the environmental process. It helps planners to determine the necessary scope of environmental documentation and the level of analysis required; and to identify potential impacts and avoidance, minimization, and/or mitigation measures and related environmental requirements. Consultation and public participation for this project will be accomplished through a variety of formal and informal methods. This chapter summarizes the results of Caltrans' preliminary efforts to fully identify, address, and resolve project-related issues through early and continuing coordination.

4.1 Consultation and Coordination with Public Agencies

4.1.1 National Marine Fisheries Service Consultation Summary

In July of 2017, Caltrans completed Section 7 consultation for the Bridge Rehabilitation Project (2018) with receipt of a letter of concurrence from NMFS (reference Islais Creek Bridge Natural Environment Study, Appendix H, from the "NEPA Environmental Documents" section on the project website: <https://sfpublicworks.org/Islais-Creek-Bridge>). This letter of concurrence affirmed that the Bridge Rehabilitation Project is not likely to adversely affect the steelhead – Central California Coast (CCC) distinct population segment (DPS) or green sturgeon Southern DPS. NMFS also found that the Bridge Rehabilitation Project would adversely affect essential fish habitat (EFH) for species managed under the Pacific Groundfish and Coastal Pelagic Fisheries Management Plans, but the Bridge Rehabilitation Project contains sufficient measures to avoid, minimize, mitigate, or otherwise offset those adverse effects.

Following the issuance of the July 2017 concurrence letter, the Bridge Rehabilitation Project was abandoned (for reasoning please see Section 2.6.3 [Alternatives Considered but Eliminated from Further Discussion]). The current proposed project would require far less in-water work compared to the Bridge Rehabilitation Project, and the impact to subtidal and intertidal areas in the BSA would be much less than under the Bridge Rehabilitation Project.

Because the Standard Project Alternative would have impacts to FESA-listed species or EFH that would be the same as or less than those of the 2018 Bridge Rehabilitation project, Caltrans determined that it will not be necessary to reinitiate consultation with NMFS for potential effects to FESA-listed species or EFH. However, implementation of the Partial Preservation Alternative would require additional consultation with NMFS to obtain an incidental take permit for potential injury or mortality of CESA-listed fish related to the construction of the cofferdam required under this alternative.

4.1.2 State Historic Preservation Office Summary

Determinations that the Islais Creek Bridge and the AWSS were eligible for the National Register of Historic Places were made prior to the current project. The Central Waterfront/Potrero Point Historic District (District) was determined eligible for listing on the NRHP in 2017 through an Assumption of Eligibility by Caltrans Cultural Studies Office pursuant to Stipulation VIII.C.4 of the 2014 Programmatic Agreement between Caltrans, SHPO and FHWA.

On October 18, 2024, Caltrans consulted with SHPO on a Section 106 Finding of Adverse Effect for this project. On November 7, 2024, SHPO replied to Caltrans stating that SHPO has no objections to Caltrans' finding of adverse effect for this undertaking (Appendix E).

Further coordination with SHPO will be required prior to the Final Environmental Document to agree and execute a Memorandum of Agreement.

4.1.3 U.S. Coast Guard Consultation Summary

On November 23, 2021, the USCG submitted a letter to Caltrans agreeing to act as a Cooperating Agency for the proposed project.

On May 9, 2023, the USCG published Coast Guard Preliminary Public Notice No. 11-161 for the proposed modification of the Islais Creek Bridge that would convert the existing double leaf bascule drawbridge to a fixed bridge. The comment period closed on June 8, 2023, and no comments were submitted.

On June 12, 2023, the USCG submitted a letter to Public Works providing preliminary support for the conversion of the bridge. The Coast Guard bridge permit decision will be rendered after a completed bridge permit application has been submitted and deemed complete.

On July 29, 2024 the USCG provided comments to Caltrans on an Administrative Draft of this Draft Environmental Assessment.

Appendix A Section 4(f)

INDIVIDUAL SECTION 4(F) EVALUATION

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Attachments

- Attachment 1 Department of Parks and Recreation Form 523: Islais Creek Bridge, June 2004
Department of Parks and Recreation Form 523: Potrero Point Historic District, March 2008
Department of Parks and Recreation Form 523: Central Waterfront, July 20, 2001
- Attachment 2 Letter from Port of San Francisco November 8, 2022
- Attachment 3 Section 106 Area of Potential Effect
- Attachment 4 Central Waterfront/Potrero Point Historic District Eligibility Assumption
- Attachment 5 SHPO Concurrence on Finding of Adverse Effect

Appendix A **Section 4(f)**

INDIVIDUAL SECTION 4(F) EVALUATION

1 Introduction

Section 4(f) of the Department of Transportation Act of 1966, codified in federal law at 49 United States Code (USC) 303, declares that “it is the policy of the United States Government that special effort should be made to preserve the natural beauty of the countryside, and public park and recreation lands, wildlife and waterfowl refuges, and historic sites.”

Section 4(f) specifies that the Secretary of Transportation may approve a transportation program or project . . . “requiring the use of publicly owned land of a public park, recreation area, or wildlife and waterfowl refuge of national, state, or local significance, or land of an historic site of national, state, or local significance (as determined by the federal, state, or local officials having jurisdiction over the park, area, refuge, or site) only if:

- There is no prudent and feasible alternative to using that land; and
- The program or project includes all possible planning to minimize harm to the park, recreation area, wildlife and waterfowl refuge, or historic site resulting from the use.”

Section 4(f) further requires coordination with the Department of the Interior, and as appropriate, the involved offices of the Department of Agriculture and the Department of Housing and Urban Development in developing transportation projects and programs that use lands protected by Section 4(f). If historic sites are involved, then coordination with the State Historic Preservation Officer (SHPO) is also needed.

Responsibility for compliance with Section 4(f) has been assigned to Caltrans pursuant to 23 USC 326 and 327, including determinations and approval of Section 4(f) evaluations, as well as coordination with those agencies that have jurisdiction over a Section 4(f) resource that may be affected by a project action.

1.1 Use of a Section 4(f) Property

In general, a Section 4(f) "use" occurs when:

- Section 4(f) land is permanently incorporated into a transportation facility (permanent acquisition or permanent easement);

- there is a temporary occupancy of Section 4(f) land that is adverse in terms of the Section 4(f) preservationist purposes as determined by specified criteria (23 Code of Federal Regulations [CFR] 774.13[d]); or
- Section 4(f) land is not incorporated into the transportation project, but the project's proximity impacts are so severe that the protected activities, features, or attributes that qualify a resource for protection under Section 4(f) are substantially impaired (constructive use) (23 CFR 774.15[a]).

1.2 Section 4(f) and Section 106

The consideration of historic sites under Section 4(f) differs from their consideration under Section 106 of the National Historic Preservation Act (NHPA). The results of the Section 106 process produces a list of historic properties determined to be eligible or listed for inclusion in the National Register of Historic Places [NRHP], and the potential impacts that the proposed project would have on those properties. The historic properties identified through the Section 106 process are then considered in the Section 4(f) evaluation as historic sites. One key difference between the two regulations and processes is that Section 106 requires a consultation process between the federal agency and the SHPO to identify historic properties, evaluate effects, and then consult on ways to avoid, minimize, or mitigate those effects. The Section 4(f) process requires federal agencies to avoid the use of historic sites (which corresponds to the term "historic properties" under Section 106) unless there is no prudent or feasible alternative, and if no prudent and feasible alternative exists, then include all possible planning in the project to minimize harm.

Section 4(f) applies only to programs and projects undertaken by the United States (U.S.) Department of Transportation (DOT), and only to publicly owned parks, recreation areas, and wildlife refuges, and to historic sites, whether publicly or privately owned. Historic sites are generally those listed on or eligible for the NRHP. For protected historic sites, Section 4(f) is triggered when:

- land from a historic site is permanently incorporated into a transportation facility;
- the project temporarily occupies land from the historic site in a manner that results in adverse impacts to the qualities that made the historic site eligible for the NRHP; or
- no land from a historic site is permanently incorporated into the project, but "proximity impacts" to the historic site are so severe that the qualities that made the historic site eligible for the NRHP are substantially impaired. This is referred to as a "constructive use."

Section 106 is an element of a separate federal statute, the NHPA, that requires any federal agency undertaking a federal project (either by funding or approval) to consider the effects of their project on cultural resources on or eligible for the NRHP, thereby making them "historic properties." Section 106 addresses direct and indirect "effects" of a project on

historic properties. Section 106 evaluates “effects” on a historic property, while Section 4(f) protects a historic site from “use” by a project. Even though there may be an adverse effect under Section 106 because of the effects on the historic property, the provisions of Section 4(f) are not triggered unless the project results in an “actual use” (permanent or certain temporary occupancies of land) or a “constructive use” (substantial impairment of the features or attributes that qualified the site for the NRHP) on the historic site.

Most importantly, except in the case of *de minimis* uses,¹ Section 4(f) requires avoidance of a historic site unless there is no feasible and prudent alternative, and if avoidance is not feasible and prudent, requires “all possible planning” to minimize harm to the historic site. This means that all reasonable measures identified to minimize harm or mitigate for adverse effects must be included in the project (23 CFR 774.117). Section 106 does not include a specific requirement for avoidance or minimization of harm, but a Section 106 consultation agreement—a Memorandum of Agreement (MOA)—often involves extensive mitigation activities when adverse effects to historic properties cannot be avoided or minimized. The mitigation measures identified in the MOA are typically those used as the Section 4(f) measures to minimize harm.

Finally, Section 4(f) requires that when there are no “prudent and feasible” avoidance alternatives to the “use” of Section 4(f) properties, the lead federal agency must choose the alternative that causes the “least overall harm” based on the criteria listed in 23 CFR 774.3(c), which requires a balancing of seven factors to determine which alternative causes the “least overall harm.” The least overall harm is determined by balancing the following factors:

- Ability to mitigate adverse impacts to each Section 4(f) property (including any measures that result in benefits to the property);
- Relative severity of the remaining harm, after mitigation, to the protected activities, attributes, or features that qualify each Section 4(f) property for protection;
- Relative significance of each Section 4(f) property;
- Views of the official(s) with jurisdiction over each Section 4(f) property;
- Degree to which each alternative meets the Purpose and Need for the proposed project;
- After reasonable mitigation, the magnitude of any adverse impacts to resources not protected by Section 4(f); and
- Substantial differences in costs among the alternatives.

¹ A *de minimis* impact is one that, after taking into account avoidance, minimization, mitigation, and enhancement measures, results in no adverse effect to the activities, features, or attributes qualifying a park, recreation area, or refuge for protection under Section 4(f).

2 Purpose and Need

2.1 Project Purpose

The purposes of the Islais Creek Bridge project are to:

- Maintain current geometric, construction, and structural standards required for the types and volume of projected traffic on the bridge over its design life;
- Increase the serviceability of the bridge to improve safety and increase operational utility to San Francisco Municipal Railway (Muni) light-rail operations;
- Address the existing bridge's seismic deficiencies;
- Increase bridge freeboard to the maximum extent practicable to extend the useful life of the bridge by improving the bridge's resilience to the impacts of sea-level rise and avoid the current recurring submersion of the bridge underdeck and flooding of the machine rooms; and
- Reduce impacts to the bridge from exposure to seawater and sustained moisture.

2.2 Project Need

2.2.1 Seismic Risk

The need for the project arises from the existing bridge's structural and seismic deficiencies. The existing bridge is 76 years old, in poor condition, and is increasingly structurally deficient and functionally obsolete. The latest California Department of Transportation (Caltrans) Structure Inventory and Appraisal Report,² classifies the bridge as Structurally Deficient, with a Sufficiency Rating of 20.³ This low rating primarily reflects the poor, deteriorated, and/or damaged condition of critical load carrying elements.

² California Department of Transportation Division of Maintenance. Bridge Inspection Records Information System. December 19, 2011.

³ *Structurally Deficient* is numerically defined as the bridge component having a National Bridge Inventory general condition rating of 4 or less (poor condition), or structural evaluation rating of 2 or less (with a very low load rating capacity). Sufficiency Rating is a method of evaluating the bridge data by calculating four separate factors to obtain a numeric value that is indicative of a bridge's sufficiency to remain in service. The result of this method is a percentage in which 100 percent would represent an entirely sufficient bridge, and zero percent would represent an entirely insufficient or deficient bridge. The formula considers the structural adequacy, functional obsolescence, level of service, and essentiality for public use.

The project area is underlain by artificial fill over Young Bay Mud deposits approximately 60 feet deep. The use of Bay fill to create land from Islais Creek's former floodplain and marsh areas, makes the area highly vulnerable to seismic liquefaction.

The Islais Creek Bridge had at least three previous seismic assessments in 1984, 2002, and 2008. The most recent analysis identified vulnerabilities in the event of an earthquake. Structural seismic deficiencies affect all components in the bascule leaf lateral bracing system, the trunnion mounting bolts, and the lateral bracing members in the leaves. As noted above, the increase in live loads may lead to fatigue in these elements and connections. Other issues include impact damage to Girder No. 3 near the mid-span, with missing rivets. The interior of the counterweight vault structure has a leak in the northeastern corner of the abutment, causing corrosion and loss of section at some of the structural steel elements. Without preventative replacement, repair, and seismic retrofit, existing bridge wear and damage will worsen, ultimately compromising its structural integrity.

2.2.2 Flood Risk

The areas surrounding Islais Creek are at risk of flooding from heavy rainfall events, coastal storm surge, and wave hazards, which are expected to increase with sea-level rise and rising groundwater. A primary flooding pathway is created by shoreline overtopping of Islais Creek near the Islais Creek and Illinois Street Bridges.

The bottom of the bridge's access hatches is at an elevation of 7.93 feet North American Vertical Datum of 1988 (NAVD88). The thresholds at the wall slots below the girders at the bascule pier sit at 9.68 feet NAVD88. Both elevations are below the anticipated 100-year storm surge of 9.86 feet NAVD88 for existing conditions.

The steel sections of the bridge are increasingly vulnerable to corrosion and saltwater intrusion. During storm events at king tides,⁴ the machinery rooms have been submerged. The access hatches can only be accessed during low tide, and the metal doors exhibit long-term corrosion from saltwater exposure, with peeling paint on several steel elements. Corrosion must be removed, and the steel elements repainted. Visible high-water marks, photographs from recent king tides, and operator experience confirm that water levels have already surpassed the wall slot thresholds and access hatches. In addition to direct impairment of electrical and mechanical systems by exposure to salt water, which will reduce their useful life and increase maintenance costs, repeated flooding with saltwater damages equipment and accelerates corrosion.

With 12 inches of sea-level rise (relative to the year 2000), a 10-year storm event would flood the girder slots, and with 24 inches of sea-level rise, a 1-year tide would flood the

⁴ A king tide is a nonscientific term used to describe exceptionally high tides that typically occur when the earth is at its closest to the sun in early January.

gap.⁵ The road at the center of the bridge sits at 15.48 feet NAVD88, suggesting the bridge deck itself may not be at immediate flood risk. However, rising sea levels and tidal surges will increasingly threaten and inundate the Islais Creek area if no projects are implemented to reduce flood risks. This includes overtopping of the bridge and adjacent roads, causing disruptions to transportation and transit.

3 Description of the Proposed Project

As described in the Purpose and Need section, the proposed project seeks to address critical seismic, structural, and environmental vulnerabilities that threaten the Islais Creek Bridge. These vulnerabilities include the risk of structural failure due to seismic liquefaction, deteriorated components, and ongoing corrosion and flooding impacts. By replacing the existing superstructure, the project aims to ensure public safety, enhance operational efficiency, and extend the bridge's useful life while balancing the need to preserve its historic significance under Section 4(f).

San Francisco Public Works (SFPW) is proposing to replace the superstructure of the Islais Creek Bridge (Bridge No. 34C0024) (officially named the Levon Hagop Nishkian Bridge) along Third Street in the City and County of San Francisco (CCSF). The bridge is approximately 1,700 feet east of Interstate 280 (I-280), and 3,300 feet west of San Francisco Bay (the Bay). The bridge spans the Islais Creek Channel, a dredged and channelized, tidal embayment with predominantly armored shorelines that extends from the Bay to the site of the former outfall of the now culverted and buried Islais Creek.

The existing bridge is a double-leaf bascule drawbridge constructed in 1949, featuring an open steel-grate roadway draining to the Bay, and concrete abutments. The structure is approximately 114 feet long and 100 feet wide. A 2004 Caltrans evaluation determined the bridge to be significant as an example of Art Moderne style applied to a bridge.⁶ Key elements of this style include its streamlined steel detailing and concrete abutments.

The project area is highly susceptible to seismic liquefaction, and the bridge's structural condition is severely deteriorated. Originally designed to carry vehicular traffic, the bridge now supports Muni light-rail tracks, increasing the load and contributing to structural stress. The deteriorated condition of the bridge renders the bridge deck susceptible to vibration-induced damage caused by heavy vehicles, trucks, and light-rail operations.

The areas surrounding Islais Creek are at risk of flooding from heavy rainfall events, coastal storm surge, and wave hazards, which are expected to intensify with sea-level

⁵ California Ocean Protection Council and the California National Resources Agency (OPC and CNRA). 2018. State of California Sea Level Rise Guidance. http://www.opc.ca.gov/webmaster/ftp/pdf/agenda_items/20180314/Item3_Exhibit-A OPC SLR Guidancerd3.pdf.

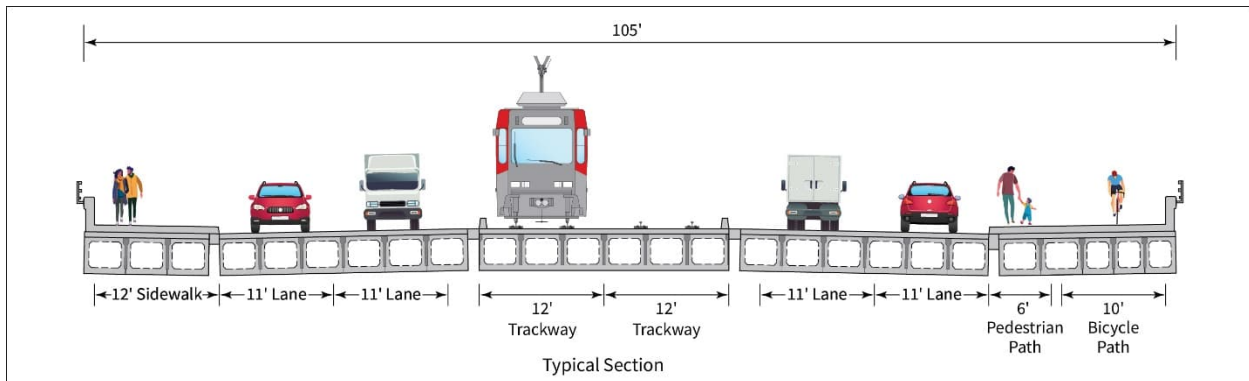
⁶ Caltrans. Department of Parks and Recreation Primary Record. Third Street Bridge over Islais Creek. June 2004.

rise and rising groundwater. The steel sections of the bridge are increasingly subject to the deleterious effects of corrosion and saltwater intrusion, which reduce structural integrity and increase maintenance challenges. Future climate conditions are expected to further exacerbate these risks.

3.1 Standard Project Alternative

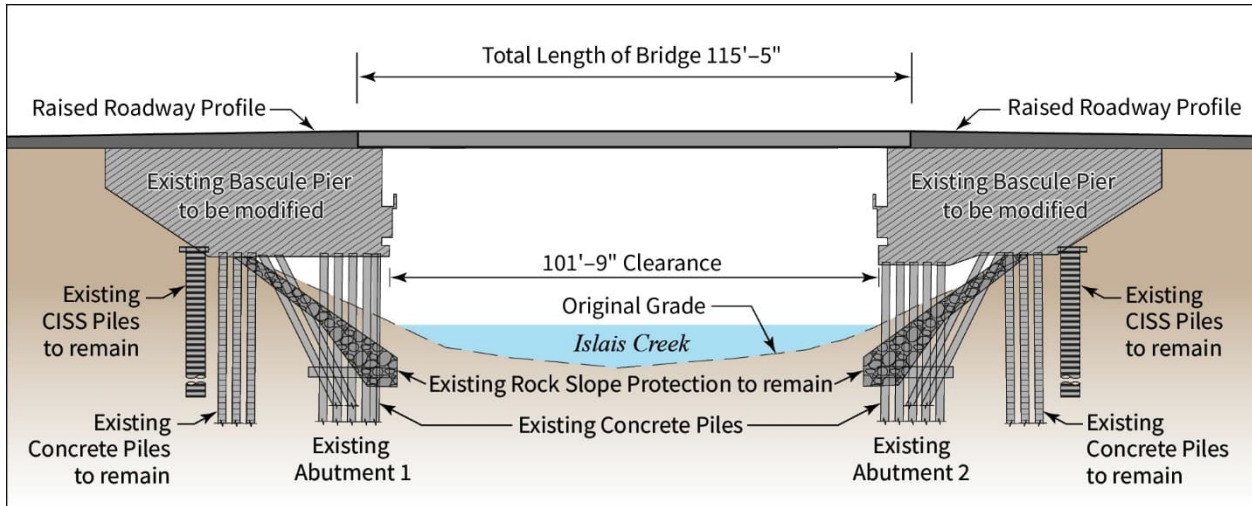
The Standard Project Alternative will remove the existing drawbridge leaves, which for over ten years have only been lifted to conduct routine inspection of the bridge itself due to lack of demand for channel access which have not been opened for navigation for over ten years due to declining navigational demand, and all other drawbridge features. These features will be replaced with a new 115-foot-long and 105-foot-wide, single-span precast/prestressed (PC/PS) concrete adjacent box beams bridge at a higher elevation to improve freeboard for flood flows and to accommodate projected sea-level rise.

Proposed Bridge Cross Section



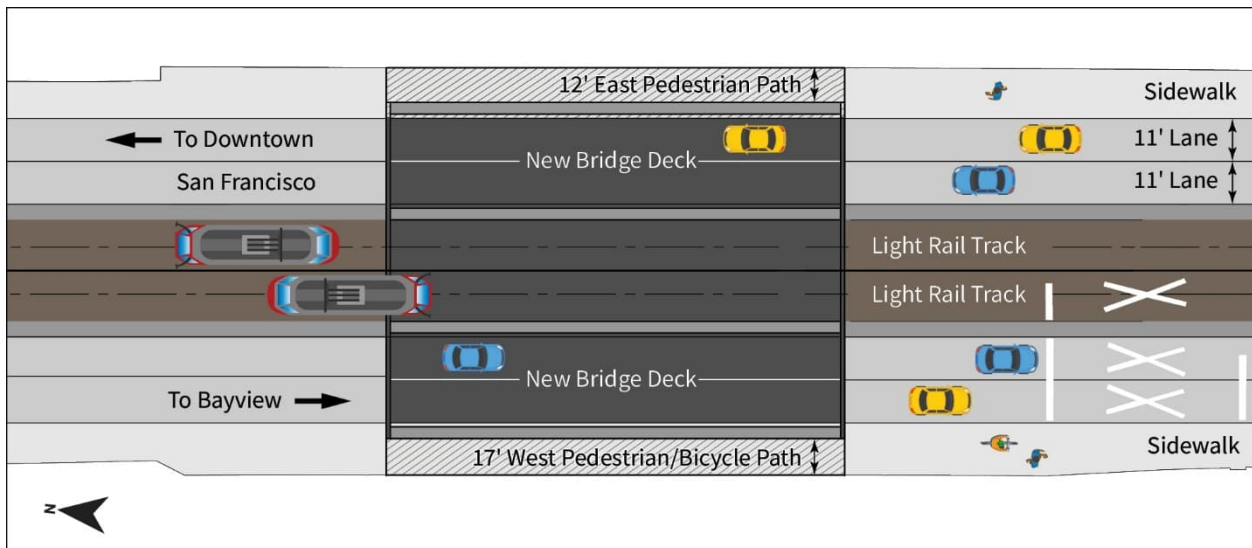
In addition to dedicated light-rail-vehicle trackways and two 11-foot-wide travel lanes in each direction, the bridge will support a 12-foot-wide pedestrian path on its eastern side and a 17-foot-wide Class I shared pedestrian/bicycle path on its western side. The reconstructed trackway and roadway will be designed to convey surface runoff to the existing combined sewer/stormwater system. The control tower will be demolished down to the sidewalk level and the remaining portion will be used to create a public observation platform.

Proposed Bridge Longitudinal Section



The project's accommodation of a shared bicycle/pedestrian facility (Class I or Class IV) is based on advanced planning between the San Francisco Public Utilities Commission, Port of San Francisco (Port), and the San Francisco Municipal Transportation Agency in response to opportunities presented by the removal of the bridge's drawbridge function and increased focus on active transportation connectivity per the City's *Islais Creek Southeast Mobility Adaptation Strategy*. Although not yet officially designated as a bicycle facility, the Islais Creek Bridge and portion of Third Street connecting to Cargo Way will be adopted as part of the updated San Francisco Bicycle Network and citywide active transportation plan that is currently under way and expected to be completed in 2024.

Proposed Bridge Plan View



3.2 Partial Preservation Alternative

The Partial Preservation Alternative includes the project features described above for the Proposed Project, but will include salvage, rehabilitation, and reinstallation of as many of the historic character-defining features of the original bridge as feasible. To balance preservation with operational and structural needs, modernized elements such as light-rail tracks, pedestrian paths, and improved flood resilience will also be incorporated. The Control Tower will be retained, its foundation and window system retrofitted, and its damaged concrete repaired. If it is determined that for reasons of safety, construction standards, or sound engineering practice, any of the character-defining features are not salvageable for reinstallation, these elements will be replicated with substitute materials to recreate the historic appearance. Feasibility will be determined based on factors such as structural integrity, engineering constraints, and compliance with current safety standards.

3.3 Bridge Rehabilitation Alternative

Although this alternative has been withdrawn from consideration under NEPA (see Environmental Assessment Section 1.5.3), in accordance with the FHWA Section 4(f) Policy Paper, it is being analyzed as part of this Section 4(f) Evaluation. The Bridge Rehabilitation Alternative will include repair and replacement of components of the existing bascule bridge to bring the structure up to current seismic standards, as well as replacing and upgrading bridge safety features, with the objective of increasing the bridge's service life by an additional 50 years. Under this alternative, the existing bascule leaves, bridge counterweights, span drive brakes, and bridge span locks will be replaced. The machinery systems, including the bridge trunnions (the pivot axles for the bridge leaves), trunnion bearings, pinion support columns, drive motors, drive machinery, and the electrical systems in the machine rooms (inside the abutment structures at both ends of the bridge) will be removed and replaced. The bridge sidewalks and railings will be modified to comply with applicable requirements to meet the Americans with Disabilities Act (ADA); and CCSF required standard control devices will be installed (including flashers, gates, and warning signs) to prevent pedestrians, bicyclists, and vehicles from entering the bridge during a bridge lift operation. The control tower, including the foundation and window framing system, will be repaired and upgraded to meet current seismic standards. The electrical, mechanical, and security equipment inside all levels of the control tower (including the basement) will be replaced. The existing submarine cable that supplies power to the south abutment machine room is damaged and will be replaced. After repair/replacement of the steel bridge members and deck, rust removal, and corrosion mitigation, the bridge structure will be repainted/recoated with a multi-part coating system designed for use in marine environments. While this alternative incorporates necessary structural repairs to meet seismic standards and address corrosion, it does not address operational limitations identified in the Purpose and Need, such as vibration-induced stress and the inability to increase the bridge's freeboard to mitigate flooding risks. These omissions indicate that the alternative does not fully align with the project's objectives. Additionally, feasibility constraints such as engineering challenges and long-term operational risks suggest that

this alternative may not satisfy the prudence criteria under Section 4(f) (23 C.F.R. § 774.17).

3.4 No Build Alternative

Under the project's No Build Alternative, no modifications will be made to the Islais Creek Bridge; only routine maintenance will be performed. Deterioration of the bridge would continue to be addressed through short-term remedies, but existing bridge structural and seismic deficiencies would remain and worsen. Light-rail vehicles would continue to be required to slow down to safely pass through the horizontal alignment reverse curve at the approaches, and across the three rail-joints where the bascule leaves separate during bridge operations. There would be no increase in bridge freeboard, so flood risks to the bridge and light-rail operations would remain and would increase with sea-level rise.

3.5 Project Construction

Construction would last 24 to 28 months (depending on the alternative) and is assumed to begin no sooner than spring 2025. Bridge closure is expected to last the duration of construction. Detours that will route traffic to arterials that have capacity for the additional vehicles will be established to reroute traffic around the construction site. Detour routes will be developed during final design. The City of San Francisco will develop plans for substitute forms of transit to provide a comparable level of service during construction. The most probable replacement for disrupted light-rail service is a temporary bus service. Construction is anticipated to use typical eight-hour work shifts during daylight hours; nighttime and weekend construction is not anticipated. In addition to staging areas on the bridge approaches and on anchored barges, three potential off-site construction staging area options owned by the Port of San Francisco that are currently used for Port-related industrial purposes have been identified.

4 Section 4(f) Properties

There are three historic resources and two recreational resources in the project area that meet the criteria for consideration under Section 4(f). Historic resources consist of the San Francisco Fire Department Auxiliary Water Supply System (AWSS), Central Waterfront/Potrero Point Historic District, and the Islais Creek Bridge. Recreational resources consist of Bayview Gateway and Islais Creek Landing.

The Central Waterfront/Potrero Point Historic District, AWSS, Bayview Gateway, and Islais Creek Landing, as well as potential use of these resources, are described below under "Resources Evaluated Relative to the Requirements of Section 4(f): No-Use Determination(s)."

The Islais Creek Bridge is described in the following section.

4.1 Islais Creek Bridge (Bridge No. 34C0024)

The Islais Creek Bridge is a built-up steel double-leaf bascule bridge constructed in 1949 and 1950 on Third Street over the Islais Creek Channel in the Bayview neighborhood of San Francisco (**Figure 1**). The bridge is approximately 1,700 feet east of I-280, and approximately 3,300 feet west of San Francisco Bay. The bascule arms, which open to allow boats to pass on the channel, consist of riveted steel box girders supporting an open grid steel grate roadway. There are three joints of the open grid steel deck where the bascule leaves separate during bridge operations. The bridge is approximately 100 feet wide and spans 114 feet over the channel, which is a United States Coast Guard-regulated navigable waterway. Each leaf consists of three built-up steel box girders, with transverse floor beams, longitudinal stringers, and an open grid steel deck. Each leaf carries four lanes of traffic, two light-rail transit tracks, and two cantilevered sidewalks. The leaves are supported by concrete abutments on either side of the channel.



Figure 1. Islais Creek Bridge East Elevation

The bridge control tower, which houses the controls that the operator uses to raise and lower the leaves, is on the northeastern side and immediately adjacent to the bridge. The control tower is a structure consisting of two elevated concrete floors, a basement level, and a steel/wood roof supported by steel pipe columns. The control room on the second floor of the control tower is surrounded by large plate glass windows canted slightly outward. A balcony with metal pipe railings surrounds the second-floor control room. The control tower foundation consists of concrete grade beams that are 3 feet

wide by 1 foot, 6 inches deep. The grade beams are supported by eight precast concrete piles that are 18 inches square.

As originally designed in 1949, the bridge carried only vehicular traffic and pedestrians. In 2007, the San Francisco Municipal Transportation Agency retrofitted the bridge to carry two light-rail tracks with overhead electric wires and poles to provide power to light-rail vehicles. The two light-rail tracks have a double “S” curve over the bridge to go around the existing center bascule crossing the three rail joints of the open grid steel deck where the bascule leaves separate during bridge operations. The retrofit added five 48-inch cast-in-steel-shell piles at each abutment.

Caltrans determined that the Islais Creek Bridge (Bridge No. 34C0024) was eligible for listing in the NRHP and SHPO concurred with Caltrans’ determination (FHWA051028B) on December 7, 2005. Therefore, the Islais Creek Bridge is a Caltrans Category 2 bridge, which means it was determined eligible as a result of the historic bridge inventory and subsequent evaluations and updates. The evaluation determined that the bridge was significant as an example of Art Moderne style applied to a bridge.⁷ The detailing on the approaches (including the quarter-circle gear housing), sidewalk railings, and control tower all contribute to the bridge’s Streamlined Moderne appearance. These features make it eligible for the NRHP under Criterion C at the local level of significance for its distinctive design qualities. The bridge’s period of significance is 1950, its date of completion. The 2004 Department of Parks and Recreation (DPR) 523 form for the Islais Creek Bridge is included in Attachment 1.

As summarized in the 2004 DPR 523 form, the character-defining features that make the bridge eligible for the NRHP under Criterion C for its distinctive design qualities include the following (see **Photographs 1** through **4**):

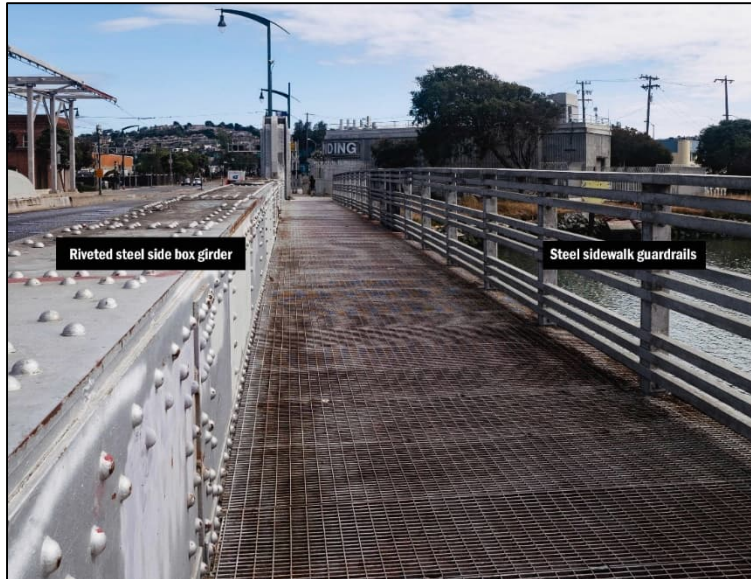
- bridge type (i.e., bascule type bridge with two spans and concrete abutments);
- above-deck detailing elements on top of, or associated with, the bascule leaves, including:
 - above-deck visible elements of riveted steel side and center box girders;
 - quarter-round and teardrop bascule girder housing units with Art Moderne styling;
 - steel sidewalk guardrails with Art Moderne styling, including the guardrails for the staircase leading to the abutment machinery pit entrance on southeast corner;
- steel hatch door on the eastern side of the south machinery pit; and

⁷ Art Moderne architecture, sometimes referred to as Streamlined Moderne, was a design style that emerged during the 1930s. The architectural style emphasized curving forms, long horizontal lines, rounded corners, flat roofs, horizontal bands of windows, and smooth walls with no ornamentation.

- control tower location, design, and materials, including:
 - the oblong plan;
 - two-story (with basement) design;
 - concrete walls;
 - canted window configuration, size, and materials;
 - copper roofing with overhang;
 - walkway and handrails surrounding the top floor; and
 - door locations and configurations.



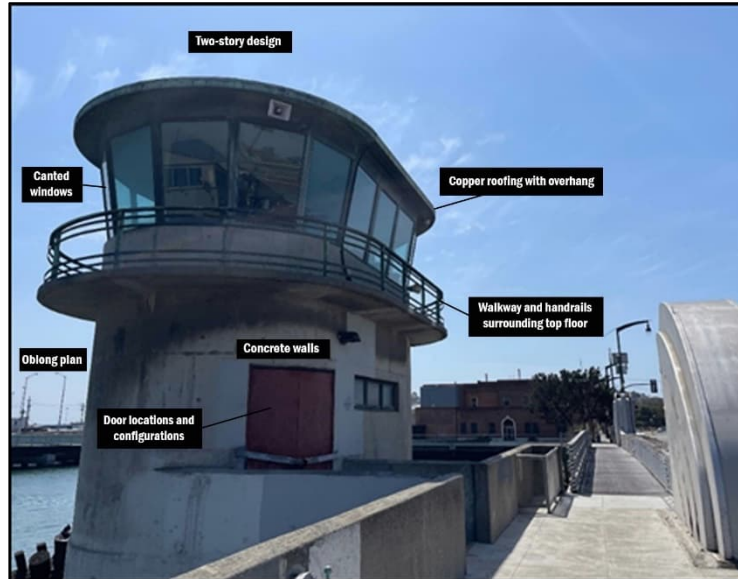
Photograph 1. Above-Deck Character-Defining Features, Including Quarter-Round and Teardrop Girder Housing Units with Art Moderne Styling and Riveted Steel Center Box Girder, Facing Southeast



Photograph 2. Above-Deck Character-Defining Features, Including Riveted Steel Side Box Girder and Steel Sidewalk Guardrails with Art Moderne Styling, Facing South



Photograph 3. Character-Defining Steel Staircase Leading to Abutment Machinery Pit, and Sidewalls of Concrete Abutments at Southeastern Corner Leading to Steel Hatch Door, Facing Northwest



Photograph 4. Control Tower Character-Defining Features, Including the Oblong Plan, Two-Story Design, Concrete Walls, Canted Windows, Copper Roofing with Overhang, Walkway and Handrails Surrounding Top Floor, and Door Locations and Configurations, Facing South

5 Use of the Section 4(f) Properties

5.1 Use of the Section 4(f) Properties Under the Standard Project Alternative

The Standard Project Alternative would remove the existing drawbridge leaves (including the sidewalk guardrails, riveted steel girders, and bascule girder housing units) to be replaced by a single-span concrete through-girder bridge with a concrete deck. In addition, the control tower would be demolished down to the sidewalk level, and the remaining portion of the tower would be used to create a public observation platform.

Implementation of the Standard Project Alternative would result in the demolition and removal of the character-defining features of the Islais Creek Bridge that make it eligible for inclusion on the NRHP. Accordingly, the Standard Project Alternative would result in adverse effects to the Islais Creek Bridge under Section 106. Use of the bridge, as defined by Section 4(f), would occur with implementation of the Standard Project Alternative.

5.2 Use of the Section 4(f) Properties Under the Partial Preservation Alternative

Similar to the Standard Project Alternative, the Partial Preservation Alternative would remove the existing drawbridge leaves (including the sidewalk guardrails, riveted steel

girders, and bascule girder housing units) and replace them with a single-span concrete through-girder bridge with a concrete deck. However, the Partial Preservation Alternative would include salvage, rehabilitation, and reinstallation of as many of the character-defining features of the original bridge as feasible. In addition, the control tower would be retained, its foundation and window system retrofitted, and its damaged concrete repaired.

Even though implementation of the Partial Preservation Alternative would retain a number of the character-defining features of the Islais Creek Bridge that make it eligible for inclusion on the NRHP, the Partial Preservation Alternative would cause material impairment to the bridge; as a result, the bridge would no longer convey its significance as an Art Moderne–style drawbridge. The Partial Preservation Alternative would render the bridge ineligible under NRHP Criterion C by removing the physical features of the bridge that contribute to its significance under that criterion. This alternative would result in adverse effects to the Islais Creek Bridge under Section 106. Use of the bridge, as defined by Section 4(f), would occur with implementation of the Partial Preservation Alternative.

5.3 Use of the Section 4(f) Properties Under the Bridge Rehabilitation Alternative

The Bridge Rehabilitation Alternative would include the repair and replacement of the components of the existing bascule bridge to bring the structure up to current seismic standards, as well as the replacement and upgrading of bridge safety features, with the objective of increasing the bridge’s service life by an additional 50 years.

A Section 106 Finding of No Adverse Effect with Standard Conditions – Secretary of the Interior’s Treatment of Historic Properties/Environmentally Sensitive Area (FNAE-SC-SOIS/ESA) was prepared for the Bridge Rehabilitation Alternative in October 2017. Caltrans District 4 Office of Cultural Resource Studies found that adverse effects on the Islais Creek Bridge would be avoided because the Bridge Rehabilitation Alternative would be consistent with the Secretary of the Interior’s Standards for the Treatment of Historic Properties – Rehabilitation. The Caltrans Headquarters Cultural Studies Office approved of the FNAE-SC-SOIS/ESA on February 2, 2018. Based on this information, the preliminary determination is that the Bridge Rehabilitation Alternative would not result in adverse effects to the Islais Creek Bridge. 23 CFR 774.13(a)(3) identifies an exception to the requirement for Section 4(f) approval when there is no Section 106 adverse effect on a transportation facility such as a bridge, and the officials with jurisdiction (SHPO) raise no objection. Therefore, under the Bridge Rehabilitation Alternative, there would be no Section 4(f) use of the Islais Creek Bridge.

At the time of 2017/2018 Section 106 consultation on the Bridge Rehabilitation Alternative, it was considered that this Alternative would result in a *de minimis* impact on the Central Waterfront/Potrero Point Historic District. This was because there was no Caltrans consultation with SHPO over the contributing elements of the Historic District as per FHWA Section 4(f) Policy Paper Question 2B. However in November 2024,

through Caltrans consultation with SHPO on the current project, it was concluded that the Islais Creek Bridge is not a contributing element to the District and neither the Standard Alternative nor the Partial Preservation Alternative would affect the contributing elements of the Historic District, and therefore there would be no Section 4(f) use of the District. Since the project footprint would be similar, the same determination of no Section 4(f) use of the Historic District can now also be applied to the Bridge Rehabilitation Alternative.

However, while this alternative avoids a Section 4(f) use of either Islais Creek Bridge or the Historic District, it does not fully meet the project's Purpose and Need, which emphasizes addressing operational and safety concerns. This alternative does not resolve key issues such as flooding risks and vibration-induced stress, which are fundamental to the project's objectives.

Additionally, the feasibility of this alternative is constrained by engineering challenges associated with the age of the structure, as well as the potential for increased maintenance and operational disruptions over time. Under Section 4(f) regulations (23 C.F.R. § 774.17), an alternative must be both feasible and prudent to qualify as an avoidance alternative. While this alternative is feasible, its inability to address critical operational and safety issues raises prudence concerns.

5.4 Use of the Section 4(f) Properties Under the No Build Alternative

The No Build Alternative would not include any of the elements of the three build alternatives identified in Sections 5.1 to 5.3 above. The No Build Alternative would not result in adverse impacts to the Islais Creek Bridge, and no Section 4(f) use under 23 CFR 774 would occur. However, this alternative would not address the operational, safety, or structural deficiencies outlined in the project's Purpose and Need statement.

6 Avoidance Alternatives

An analysis was undertaken to identify alternatives with the potential to avoid use of Section 4(f) properties. The alternatives were assessed using the Section 4(f) feasible and prudent criteria (23 CFR 774.17). Feasible and prudent avoidance alternatives are those that would avoid using any Section 4(f) property and would not cause other problems of a magnitude that would substantially outweigh the importance of protecting the Section 4(f) property." An alternative that potentially would use any Section 4(f) property is not an avoidance alternative. The Section 4(f) regulations state that a potential avoidance alternative is not feasible if it cannot be built as a matter of sound engineering judgment. The Section 4(f) regulations also set out standards for determining if a potential avoidance alternative is prudent. An alternative is not prudent if:

- i. **Factor 1.** "it compromises the project to a degree that it is unreasonable to proceed with the project in light of its stated purpose and need;"

- ii. **Factor 2.** “it results in unacceptable safety or operational problems;”
- iii. **Factor 3.** “after reasonable mitigation, it still causes:
 - a. severe social, economic, or environmental impacts;
 - b. severe disruption to established communities;
 - c. severe, disproportionate impacts on low -income or minority populations; or
 - d. severe impacts on environmental resources protected under other federal statutes;”
- iv. **Factor 4.** “it results in additional construction, maintenance, or operational costs of an extraordinary magnitude;”
- v. **Factor 5.** “it causes other unique problems or unusual factors; or”
- vi. **Factor 6.** “it involves multiple factors in one through five above, that while individually minor, cumulatively cause unique problems or impacts of extraordinary magnitude.”

The following subsections evaluate the potential location alternatives, alternative actions, alignment shifts, and design changes using these feasible and prudent factors. In each case, a discussion of the relevant issues for each alternative is provided and the applicable factor(s) are applied. For some alternatives, the issues relate to a single factor; for other alternatives, multiple factors apply. To be considered a feasible and prudent avoidance alternative as defined by Section 4(f), an alternative has to avoid use of all Section 4(f) properties and be assessed as being both feasible from the standpoint of buildability, and prudent in terms of achieving the Islais Creek Bridge project purpose and need, while having no severe or extraordinary impacts related to safety of the natural and built environments and cost. An avoidance alternative that fails one of the feasible and prudent tests is not a viable avoidance alternative in terms of Section 4(f).

6.1 Location Alternatives

A location alternative refers to the rerouting of the entire project along a different alignment. This alternative would involve building a new bridge immediately east or west of the existing bridge to minimize the extent of necessary rerouting for approach roads and Muni light-rail. While this approach reduces impacts to certain areas, it would result in the permanent displacement of existing businesses along Third Street, causing significant economic impacts and substantially increasing project costs (Factor 4).

Additionally, leaving the existing bridge in place would not meet the project objectives (Factor 1), as it would not address the existing bridge’s seismic deficiencies, increase freeboard or extend the bridge’s lifespan relative to sea-level rise, improve operational utility to Muni light rail operations, or increase the serviceability of the bridge. Furthermore, construction of a new bridge at a different location, would still require

rehabilitation of the existing bridge (similar to the Bridge Rehabilitation Alternative) to address its seismic and structural deficiencies, effectively resulting in the construction of two bridges rather than one. This duplication of effort compounds cost and operational impracticalities. As shown in **Figure 2**, this location alternative would also impact several adjacent parks, including Bayview Gateway and Islais Creek Landing, both recreational Section 4(f) properties: Bayview Gateway or Islais Creek Landing. The construction of a new bridge in either location would result in permanent use of one of these properties (Factor 3(d)). For these reasons, this location alternative does not meet the definition of a feasible and prudent Section 4(f) avoidance alternative.

6.2 Alternative Actions

An alternative action involves actions that do not require construction or that consist of a different transit mode.

Alternative Mode – As described in Sections 2.1 and 2.2, the project purpose and need is to maintain serviceability of the existing bridge, to improve safety and increase utility to Muni light-rail operations, address seismic deficiencies in the existing bridge, increase freeboard, and improve bridge resilience to the impacts of sea-level rise, flooding, and exposure to sea water. An alternative transportation mode would not meet the purpose and need and would compromise the project to a degree that would make it unreasonable to proceed with the project in light of its stated purpose and need (Factor 1). For this reason, an alternative mode is not a feasible and prudent alternative under 23 CFR § 774.17.

No Build Alternative –The No Build Alternative involves maintaining the existing Islais Creek Bridge with no construction other than routine maintenance. While this alternative avoids direct use of Section 4(f) properties, it does not meet the project’s purpose and need. Specifically, the No Build Alternative fails to address the bridge’s seismic deficiencies, operational challenges, and vulnerability to sea-level rise and flooding. These deficiencies would worsen over time, compromising safety and serviceability.

By failing to meet key elements of the purpose and need, the No Build Alternative compromises the project to a degree that makes it unreasonable to proceed (Factor 1) and results in unacceptable safety and operational problems (Factor 2). Therefore, the No Build Alternative is not a feasible and prudent avoidance alternative under Section 4(f).

6.3 Alignment Shifts

An alignment shift is the rerouting of a portion of the project to a different alignment to avoid a specific Section 4(f) property. As described in Sections 3.1 and 3.2, the purpose of the project is to address conditions associated with the existing bridge as a unit. Addressing the purpose and need for a portion of the bridge by shifting the bridge to a new location (building a new, adjacent bridge) fails to meet the project’s overall

objectives and is not a Section 4(f) avoidance alternative for the reasons described in Section 6.2.

6.4 Design Changes

A design change is a modification of the proposed design in a manner that would avoid impacts, such as reducing the planned median width, building a retaining wall, or incorporating design exceptions.

The **Bridge Rehabilitation Alternative**, as described in Section 3.3, can be considered a design change as it seeks to re-design the project in a way that does not cause an adverse effect to the historic property. Section 5.3 describes how the Bridge Rehabilitation Alternative avoids a Section 4(f) use as the Section 106 finding is identified as no adverse effect. The Bridge Rehabilitation Alternative is considered feasible as it was developed as a project in 2014-2017. However, while feasible, the Bridge Rehabilitation Alternative is not considered a prudent avoidance alternative under 23 CFR 774.17 since it does not meet key elements of the Purpose and Need; it does not address operational and safety concerns such as flooding risks, vibration induced stress, or disaster response capabilities. While it incorporates necessary structural repairs, it does not meet current geometric, construction, or structural standards required for the types and volume of projected traffic on the bridge over its design life. The alternative also fails to address increased operational demands, such as those related to Muni light-rail operations, which increase vibration-induced stress and structural wear due to added weight. The Alternative's reliance on the existing aged bridge components, results in a higher risk of bridge closure after an earthquake which could impede disaster response functions that require bridge throughput. For these reasons, the Bridge Rehabilitation Alternative does not appear to align with sound engineering judgment or meet the Purpose and Need of the project (Factor 1).

6.5 Avoidance Analysis

With the results of the evaluations in the foregoing subsections, it appears that there is no feasible and prudent alternative to the project that would avoid Section 4(f) properties:

Location Alternatives – Rerouting the entire project along a different alignment (a new bridge east of or west of the existing bridge) would impact other properties protected by Section 4(f), such as Bayview Gateway or Islais Creek Landing parks. Thus, this alternative is not an avoidance alternative.

Alternative Actions – Actions that do not require construction include the No Build Alternative and an alternative mode. However, the No Build Alternative and an alternative mode fail to meet the project purpose and need (Factor 1), as outlined in 23 CFR 774.17. Neither alternative addresses the seismic deficiencies, flooding risks or operational issues of the existing bridge and are therefore not feasible and prudent avoidance alternatives.

Alignment Shifts – Rerouting a portion of the project to a different alignment to avoid a specific Section 4(f) property would involve the construction of a new bridge adjacent to the existing bridge. This would result in impacts to other Section 4(f) properties, and does not address the project as a whole, which is required to meet its purpose and need. Thus, this is not an avoidance alternative.

Design Changes – The Bridge Rehabilitation Alternative would retain the Islais Creek Bridge’s NRHP eligibility under Criterion C. It is feasible to carry out the rehabilitation work in accordance with SOIS standards thus avoiding a Section 4(f) use. However, this alternative does not meet proposed design standards, increase the serviceability of the bridge, address the existing bridge’s seismic deficiencies limitations or freeboard issues. It fails to meet the project purpose and need (Factor 1) and is therefore not an avoidance alternative.

7 Measures to Minimize Harm to the Section 4(f) Property

Section 4(f) requires avoidance of a historic site unless there is no feasible and prudent alternative, and—if avoidance is not feasible and prudent—requires “all possible planning” to minimize harm to the historic site.

The avoidance analysis in Section 6 preliminarily indicates that there is no feasible and prudent alternative that would avoid the use of a Section 4(f) property. The preliminary least harm analysis in Section 8 evaluates the Standard Project Alternative, and the Partial Preservation Alternative after consideration of the preliminary measures to minimize harm described in this section.

Measures to minimize harm to Islais Creek Bridge have been preliminarily identified in this Section 4(f) Evaluation to address project impacts under Section 106 of the NHPA. These measures will be finalized in coordination with the SHPO, following public review of the draft Section 4(f) Evaluation and the National Environmental Policy Act (NEPA) Environmental Assessment (EA) for the project. This section summarizes the harm each alternative would cause to the Section 4(f) property, and describes each proposed measure to minimize harm to the property. For each measure, there is a description as to why it came to be proposed, whether it is specific to an alternative or general in nature, and how it would minimize harm.

Standard Project Alternative and Partial Preservation Alternative – The proposed mitigation for the Standard Project Alternative and the Partial Preservation Alternative would be the same: A Historic American Engineering Record (HAER) in accordance with the Secretary of the Interior’s Standards and Guidelines for Architectural and Engineering Documentation. This measure is proposed because both alternatives would result in a permanent loss of the character defining features of the bridge, permanently impairing its significance under Section 4(f). HAER recordation is intended to create a

permanent visual and narrative record of the bridge's historic and architectural significance.

In addition to HAER recordation, community and stakeholder outreach will inform any further measures which may include electronic recordation, activities to benefit the local historic community, or physical relocation of bridge components, however these measures have not been developed at this time. For instance, it might be possible to repurpose and preserve some of the character-defining elements of the bridge such as the Art Moderne-style quarter-round and teardrop bascule girder housing units. While the intent of the Partial Preservation Alternative is salvage, rehabilitation, and reinstallation of as many of the character-defining features of the original bridge as feasible (specifically focusing on the control tower), repurposing of other bridge components could take place with the Partial Preservation Alternative or the Standard Project Alternative.

7.1 Conclusion for Measures to Minimize Harm

Preliminary measures to minimize harm have been identified for each alternative with the exception of the Bridge Rehabilitation Alternative which has been found not to be a feasible and prudent alternative under 23 CFR § 774.17. The proposed measures are specific to the affected Section 4(f) property. For both the Standard Project Alternative and the Partial Preservation Alternative, recordation of the bridge under HAER Standards prior to the project permanently removing its significance is proposed. While this recordation would create a permanent archival record of the bridge's features, it would not enable it to retain its historical significance and Section 4(f) protection in the future. Other measures including electronic recordation, activities to benefit the local historic community, or physical relocation of bridge components may be developed in partnership with the community and SHPO, but none of these will enable the bridge to retain its historical significance and Section 4(f) protection into the future either.

Marketing of the Islais Creek Bridge to a state, locality, or a responsible private entity was considered as part of the effort to employ all possible planning to minimize harm to the historic property, though it is not required under Section 4(f) for individual evaluations. This measure was deemed infeasible due to high costs associated with removing the bridge (including the character-defining features that contribute to its historic significance), transporting it to an appropriate site, and rehabilitating and maintaining the bridge as a bascule-type bridge at a new location.

The measures described in this section for the bridge will be finalized in coordination with the SHPO, following public review of the draft Section 4(f) Evaluation and NEPA EA for the proposed project.

8 Preliminary Least Harm Analysis and Concluding Statement

Section 4(f) requires that when there are no “prudent and feasible” avoidance alternatives to the “use” of Section 4(f) properties, the lead federal agency must select the alternative that causes the “least overall harm,” based on a balancing of the following seven factors listed in 23 CFR 774.3(c):

- i. ability to mitigate adverse impacts to each Section 4(f) property (including any measures that result in benefits to the property);
- ii. relative severity of the remaining harm, after mitigation, to the protected activities, attributes, or features that qualify each Section 4(f) property for protection;
- iii. relative significance of each Section 4(f) property;
- iv. views of the official(s) with jurisdiction over each Section 4(f) property;
- v. degree to which each alternative meets the purpose and need for the proposed project;
- vi. after reasonable mitigation, the magnitude of any adverse impacts to resources not protected by Section 4(f); and
- vii. substantial differences in costs among the alternatives.

The first four factors relate to the net harm that each project alternative would cause to the Section 4(f) property, and the remaining three factors consider concerns with the project alternatives not specific to Section 4(f).

The Standard Project Alternative and the Partial Preservation Alternative, would all result in the use of Section 4(f) properties. The Bridge Rehabilitation Alternative, would avoid a Section 4(f) use, as concluded in Section 5.3. Nevertheless, as described in Section 6.4, the Bridge Rehabilitation Alternative is not considered a prudent avoidance alternative under 23 CFR 774.17 as it fails to address critical project elements such as operational and safety concerns, including flooding risks, vibration-induced stress, and disaster response capabilities. It has therefore not been carried through into the Least Overall Harm Analysis.

The No Build Alternative, while avoiding Section 4(f) use of any properties, is not prudent because it compromises the project to a degree that makes it unreasonable to proceed in light of its stated Purpose and Need and results in unacceptable safety and operational problems.

This draft Section 4(f) evaluation includes a discussion of the various impacts to the different Section 4(f) properties thereby initiating the balancing process. After public circulation of this draft Section 4(f) evaluation, Caltrans will consider comments received and finalize the comparison of the seven factors listed in 23 CFR 774.3(c) for the alternatives. The analysis and identification of the alternative that has the overall least harm will be documented in the final Section 4(f) evaluation.

Table1 summarizes the relative comparison of the two remaining build alternatives under each of the seven factors considered in the Least Overall Harm assessment. Table 1 is a preliminary least harm analysis; final scoring and analysis will be presented in the final Section 4(f) evaluation.

Table1 Preliminary Least Harm Analysis

Factor	Standard Project Alternative	Partial Preservation Alternative
<p><i>i. Ability to mitigate adverse impacts on each Section 4(f) property (including any measures that result in benefits to the property)</i></p>	<p>The Standard Project Alternative would remove the character-defining features of the Islais Creek Bridge, making it ineligible under NRHP eligibility under Criterion C. Recordation under the Historic American Engineering Record (HAER) standards, as outlined in Appendix C, is proposed to mitigate the adverse effects to the Islais Creek Bridge. This includes professional documentation of the character defining features of the bridge to preserve a permanent archival record of the character-defining features that would be destroyed, in accordance with NPS guidelines of the SOIS. However, this recordation would not fully mitigate impacts to the existing bridge.</p> <p>The Standard Project Alternative would not impact any other Section 4(f) property.</p>	<p>The Partial Preservation Alternative would remove almost all the character defining features [e.g., drawbridge leaves, sidewalk guardrails, riveted girders) that contribute to its historical significance making it ineligible under NRHP Criterion C. While the control tower would remain, this has no meaningful value to the historic property since without the original bridge, the integrity of the property is lost. Recordation under HAER standards, as outlined in Appendix C, is proposed to preserve a permanent archival record of the character defining features that would be destroyed, in accordance with NPS guidelines of the SOIS. However, this recordation would not fully mitigate impacts to the existing bridge.</p> <p>The Partial Preservation Alternative would not impact any other Section 4(f) property.</p>

Factor	Standard Project Alternative	Partial Preservation Alternative
<p>ii. <i>Relative severity of the remaining harm, after mitigation, to the protected activities, attributes, or features that qualify each Section 4(f) property for protection</i></p>	<p>Mitigation measures (including HAER documentation) are proposed to mitigate permanent use of the Islais Creek Bridge. However, as noted in Factor 1, even with implementation of these measures, the removal of its character defining features would result in adverse effects that cannot be fully mitigated, rendering the bridge ineligible for NRHP listing under Criterion C.</p>	<p>Mitigation measures, including HAER documentation and the retention and rehabilitation of select character-defining features (e.g., the control tower and other features where feasible), are proposed to mitigate permanent use of the Islais Creek Bridge. However, as noted in Factor 1, the removal of critical physical features (e.g., drawbridge leaves, sidewalk guardrails, and riveted steel girders) would result in adverse effects that cannot be fully mitigated. While the retention of the control tower may be of local interest, under Section 106 the retention of the control tower does not reduce the severity of remaining harm in comparison to the Standard Project Alternative because the integrity of the historic resource is already lost. The bridge would no longer convey its historical significance as an Art Moderne-style drawbridge, leaving adverse effects that render it ineligible for NRHP listing under Criterion C.</p>
<p>iii. <i>Relative significance of each Section 4(f) property H</i></p>	<p>Both the Islais Creek Bridge and the Central Waterfront/Potrero Point Historic District are locally significant.</p> <p>The Islais Creek Bridge is a notable example of the Art Moderne style applied to bridge design, and its unique architectural features contribute to its eligibility under Criterion C. The Central Waterfront/Potrero Point Historic District is historically important for its role in the industrial development of San Francisco between 1872 and 1958, particularly for its concentration of mixed-use industrial properties and associated civic infrastructure.</p>	<p>Both the Islais Creek Bridge and the Central Waterfront/Potrero Point Historic District are locally significant.</p> <p>The Islais Creek Bridge is a notable example of the Art Moderne style applied to bridge design, and its unique architectural features contribute to its eligibility under Criterion C. The Central Waterfront/Potrero Point Historic District is historically important for its role in the industrial development of San Francisco between 1872 and 1958, particularly for its concentration of mixed-use industrial properties and associated civic infrastructure.</p>

Factor	Standard Project Alternative	Partial Preservation Alternative
iv. <i>Views of the official(s) with jurisdiction over each Section 4(f) property</i>	<p>Concurrence with SHPO, the Official with Jurisdiction over Islais Creek Bridge and the Central Waterfront/Potrero Historic District, is pending.</p> <p>Section 106 coordination is ongoing, with efforts to resolve adverse effects through a potential MOA. As detailed in Section 9, this consultation ensures officials' views are incorporated in compliance with 23 CFR 774.5.</p>	<p>Concurrence with SHPO, the Official with Jurisdiction over Islais Creek Bridge and the Central Waterfront/Potrero Historic District, is pending.</p> <p>Section 106 coordination is ongoing, with efforts to resolve adverse effects through a potential MOA. As detailed in Section 9, this consultation ensures officials' views are incorporated in compliance with 23 CFR 774.5.</p>
v. <i>Degree to which each alternative meets the purpose and need for the project</i>	<p>The Standard Project Alternative meets the purpose and need for the project. It would meet current geometric, construction, and structural standards required for the types and volume of projected traffic on the bridge over its design life. It also increases the serviceability of the bridge to improve safety and increase operational utility to Muni light-rail operations. Furthermore, the alternative addresses the existing bridge's critical seismic deficiencies; and increases the bridge's inadequate freeboard to the maximum extent practicable by replacing the structure with a single-span, concrete through-girder bridge, consistent with the project's goals. This alternative would extend the useful life of the bridge by improving the bridge's resilience to seismic events and the impacts of sea-level rise.</p>	<p>The Partial Preservation Alternative meets the purpose and need for the project. It would meet current geometric, construction, and structural standards required for the types and volume of projected traffic on the bridge over its design life. It also increases the serviceability of the bridge to improve safety and increase operational utility to Muni light-rail operations. Furthermore, the alternative addresses the existing bridge's critical seismic deficiencies and increases the bridge's inadequate freeboard to the maximum extent practicable by replacing the structure with a single-span, concrete through-girder bridge, consistent with the project's goals. This alternative would extend the useful life of the bridge by improving the bridge's resilience to seismic events and the impacts of sea-level rise.</p>

<p>vi. <i>After reasonable mitigation, the magnitude of any adverse impacts on resources not protected by Section 4(f)</i></p>	<p>Full closure of the bridge for 24 months during construction is likely to create community impacts through detours and diverted trips. Impacts will be minimized through community notification, traffic control plans and using buses to bridge the gap in light rail service. Nevertheless, adverse community impacts will still occur.</p> <p>Use of barges and in water removal of fenders is likely to create turbidity and water quality impacts during construction, However, this is likely to be short term and unlikely to adversely affect federally protected fish species or marine mammals.</p> <p>Mitigation and minimization measures for these impacts are outlined in Appendix C along with standard construction impact minimization measures for, biology, air quality, noise and hazardous materials.</p>	<p>Full closure of the bridge for 28 months during construction is likely to create community impacts through detours and diverted trips. Impacts will be minimized through community notification, traffic control plans and using buses for light rail disruption. Nevertheless, adverse community impacts will still occur.</p> <p>The Partial Preservation Alternative would require the installation of a cofferdam and foundation piles for the seismic retrofit of the control tower, using a crane-mounted vibratory driver. These activities are expected to generate temporary groundborne vibration, which could affect the adjacent SFPUC Southeast Treatment Plant and Booster Pump Station outfall pipes that run below Islais Creek Channel. These pipes have a very low vibration threshold of 0.2 inch/second peak particle velocity. Applicable mitigation measures, such as those outlined in Appendix C for vibration control may reduce temporary impacts but will not eliminate them.</p> <p>This additional in-water work, compared with the Standard Project Alternative, may also create additional water quality and biological impacts, including potential effects on federally protected fish species, marine mammals and Pacific herring. Mitigation and minimization measures for these impacts are outlined in Appendix C, including monitoring, safety zones, and consultation requirements. These measures will require further coordination with regulatory agencies. Appendix C also identifies standard construction impact minimization measures for biology, air quality, noise and hazardous materials.</p>
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Factor	Standard Project Alternative	Partial Preservation Alternative
vii. <i>Substantial differences in costs among the project alternatives</i>	Cost (2023): \$37,971,000. This alternative represents the least expensive option among the alternatives analyzed, reflecting its design and reduced reliance on retaining historic structural elements. The cost aligns with the project scope and maintains fiscal responsibility.	Cost (2023): \$42,604,000. This alternative incurs higher costs compared to the Standard Project Alternative due to the retention of the control tower. These costs reflect the additional complexities involved in preservation while still aligning with the project's overall goals. In addition, ongoing maintenance costs are likely to be substantially greater than the Standard Project Alternative as while the project addresses potential sea level rise impacts to the bridge, it does not address potential sea level rise impacts to the control tower.

Notes:

APE = area of potential effect

Muni = San Francisco Municipal Railway

NRHP = National Register of Historic Places

9 Coordination

Under 23 CFR 774.5, prior to making Section 4(f) approvals under 23 CFR 774.3(a), this Draft Section 4(f) Evaluation will be provided for coordination and comment to the official(s) with jurisdiction over the Section 4(f) resources.

In the case of historic sites, the official with jurisdiction is the SHPO for the state wherein the property is located. In addition, in accordance with 23 CFR 774.5, this Draft Section 4(f) Evaluation will be circulated to the Department of Interior. It is not considered necessary to circulate to the Department of Agriculture or the Department of Housing and Urban Development.

Public outreach will also occur as part of the NEPA process. An EA for the project that includes this Draft Section 4(f) Evaluation will be circulated to the public for review and comment.

All outreach identified above will consist of a minimum of 45 days for receipt of comments. If comments from the officials with jurisdiction are not received within 15 days after the comment deadline, a lack of objection is assumed, and the action may proceed. A summary of comments received and copies of correspondence will be included with the Final 4(f) Evaluation.

In addition, relevant coordination continues to occur through the Section 106 process:

A cultural resources records search was conducted by AECOM Archaeologist Karin G. Beck at the Northwest Information Center of the California Historical Resources Information System at Sonoma State University, on May 25, 2022. The records search and literature review identified no archaeological resources in the APE except the San Francisco Fire Department AWSS (see below under “Resources Evaluated Relative to the Requirements of Section 4(f): No-Use Determination[s]”).

In September 2023, potential local interested parties for the project were identified and each was sent a letter informing them of the project. The letter was sent via Registered U.S. Mail and email on September 25, 2023. Recipients of the letter and email were:

- San Francisco Heritage
- San Francisco Historical Society
- Armenian Engineers and Scientists of America
- Bayview Hunters Point Citizen Advisory Committee
- California Preservation Foundation

As of 30 days, no organizations had responded to the letters. Follow-up phone calls were conducted on November 14, 2023 and voicemails were left for each organization with the exception of the contact at the San Francisco Historical Society, whose mailbox was full. A second call was attempted on November 15, 2023 and a voicemail left. On November 15, 2023 the Armenian Engineers and Scientists of America requested

AECOM to re-email the letter. AECOM emailed the letter with a copy of the original email; however, the email was undeliverable. On November 15, 2023, the Armenian Engineers and Scientists of America messaged AECOM that they would call at a future time; however, no further communication has been received.

Based on a Finding of Effects assessment, Caltrans has determined that the undertaking will have an Adverse Effect on the Islais Creek Bridge and on November 7, 2024, obtained SHPO concurrence with these findings pursuant to Section 106 PA Stipulation XI.C and 36 CFR 800.5. Caltrans will continue consultation regarding resolution of adverse effects pursuant to Section 106 PA Stipulation XI, and 36 CFR 800.6 through preparation of a separate Memorandum of Agreement (MOA) in consultation with consulting parties. This document serves to obtain SHPO concurrence on Caltrans' Finding of Adverse Effect on historic properties. Mitigation measures will be discussed in a separate consultation document along with a draft MOA.

Further Section 106 consultation is likely to support this, and will be summarized in the Final Section 4(f) Evaluation.

RESOURCES EVALUATED RELATIVE TO THE REQUIREMENTS OF SECTION 4(F): NO-USE DETERMINATION(S)

This section of the document discusses parks, recreational facilities, wildlife refuges, and historic properties found in or next to the project area that do not trigger Section 4(f) protection because: 1) they are not publicly owned, 2) they are not open to the public, 3) they are not eligible historic properties, or 4) the project does not permanently use the property and does not hinder the preservation of the property.

1 Historic Resources

1.1 Central Waterfront/Potrero Point Historic District

The approximately 500-acre District is bordered by Pennsylvania Street and I-280 to the west, 16th Street to the north, San Francisco Bay to the east, and the southern side of Islais Creek Channel to the south (see Attachment 3). The Islais Creek Bridge lies within the boundaries of the District.

The District is considered historically important for its association with the industrial development of the City of San Francisco from 1872 to 1958. The District contains a significant concentration of mixed-use industrial properties, associated residential and commercial properties, and civic infrastructure oriented to water, railroad, and road transportation.

The District was evaluated as eligible for listing in the NRHP as a result of a 2001 DPR 523 District Record prepared by Tim Kelley.⁸ Following the 2001 survey, the District was listed in 2002 in the Historic Property Data File as “3S,” meaning it appears to be eligible for listing in the NRHP (Reference Number 4101-1125-9999). In 2008, Christopher VerPlanck, Rebecca Fogel, and Rich Sucre prepared a DPR 523 District Record that documented the District (also identified in that form as the Potrero Point Historic District).⁹ Both the 2001 and 2008 DPR 523 District Records are included in Attachment 1.

No records indicate that the previous district records were reviewed or concurred on by SHPO. As such, this historic district has been assumed eligible for the purposes of this undertaking only, per Stipulation VIII.C.4. of the Section 106 Programmatic Agreement.

Neither of the two records specifically identified the District’s character-defining features and neither mentioned the Islais Creek Bridge. All buildings and structures identified as contributing elements to the District are well north of the Islais Creek Bridge. The District

⁸ Tim Kelley, “Department of Parks and Recreation District Record: Central Waterfront,” July 20, 2001.

⁹ Christopher VerPlanck, Rebecca Fogel, and Rich Sucre, “Department of Parks and Recreation District Record: Central Waterfront,” March 2008.

is described in the 2001 study as having a flat and low topography, averaging between 10 and 20 feet above sea level. “Industrial uses monopolize the length of the waterfront and begin to mix with retail, commercial, and office space further inland along 3rd Street. A modest residential neighborhood, commonly referred to as Dogpatch, is tucked behind the Third Street corridor and is otherwise bordered by industrial buildings.”

In 2008, VerPlanck described the building types in the District as ranging from “large multi-story brick, concrete, and steel-frame industrial buildings along the waterfront, to smaller pre-World War II brick and concrete light industrial structures along Illinois and Third Streets, to lighter corrugated steel and concrete warehouses south of Twenty-Third Street. The residential enclave of Dogpatch is mostly characterized by frame single-family and multiple-family housing, most of which was built between 1880 and 1920.”

Based on a Finding of Effects assessment, Caltrans has determined that only non-contributing elements of the historic district would be affected by the project. Therefore, there would be no Section 4(f) use.

1.2 San Francisco Fire Department Auxiliary Water Supply System (P-38-004672)

The San Francisco Fire Department AWSS is a high-pressure water supply network built for the city of San Francisco in response to the failure of the existing emergency water system during the 1906 earthquake. In 2020, the AWSS was determined to be eligible for listing in the NRHP under NRHP Criterion A because it is directly associated with the historically significant period of reconstruction in San Francisco following the 1906 earthquake and fires that destroyed 28,188 buildings and city infrastructure.

Only a small portion of the underground pipe dates to the historic district’s period of significance and is a character-defining element of the AWSS in the vicinity of the Islais Creek Bridge. The hydrant south of the bridge is from 1988 and is not considered a contributing element of the historic district. The AWSS will not be touched by the project and there would therefore be no direct effects on the property. No indirect effects due to the change in setting resulting from the build alternatives are anticipated on contributing elements or character-defining features of the discontinuous AWSS historic district outside of the project area. The project would not cause a cumulative adverse effect on the AWSS. In addition, FHWA Section 4(f) regulations (23 CFR 774.15(f)(1)) state that no constructive use occurs on a historic resource when review in accordance with Section 106 for proximity impacts results in an agreement of “no adverse effect.” Based on a Finding of Effects assessment, Caltrans has determined that while non-contributing elements of the AWSS historic district are in the APE, the historic property will not be directly, indirectly, or cumulatively affected by the project.

The AWSS is a Section 4(f) property, but no “use” will occur; the provisions of Section 4(f) do not apply.

2 Recreational Resources

As shown in **Figure 2**, there are two recreational resources in the project area that meet the criteria for consideration under Section 4(f). These recreational resources and potential use of these resources are described in the following sections. This section also identifies a third property that is not considered significant and is therefore not a Section 4(f) resource.

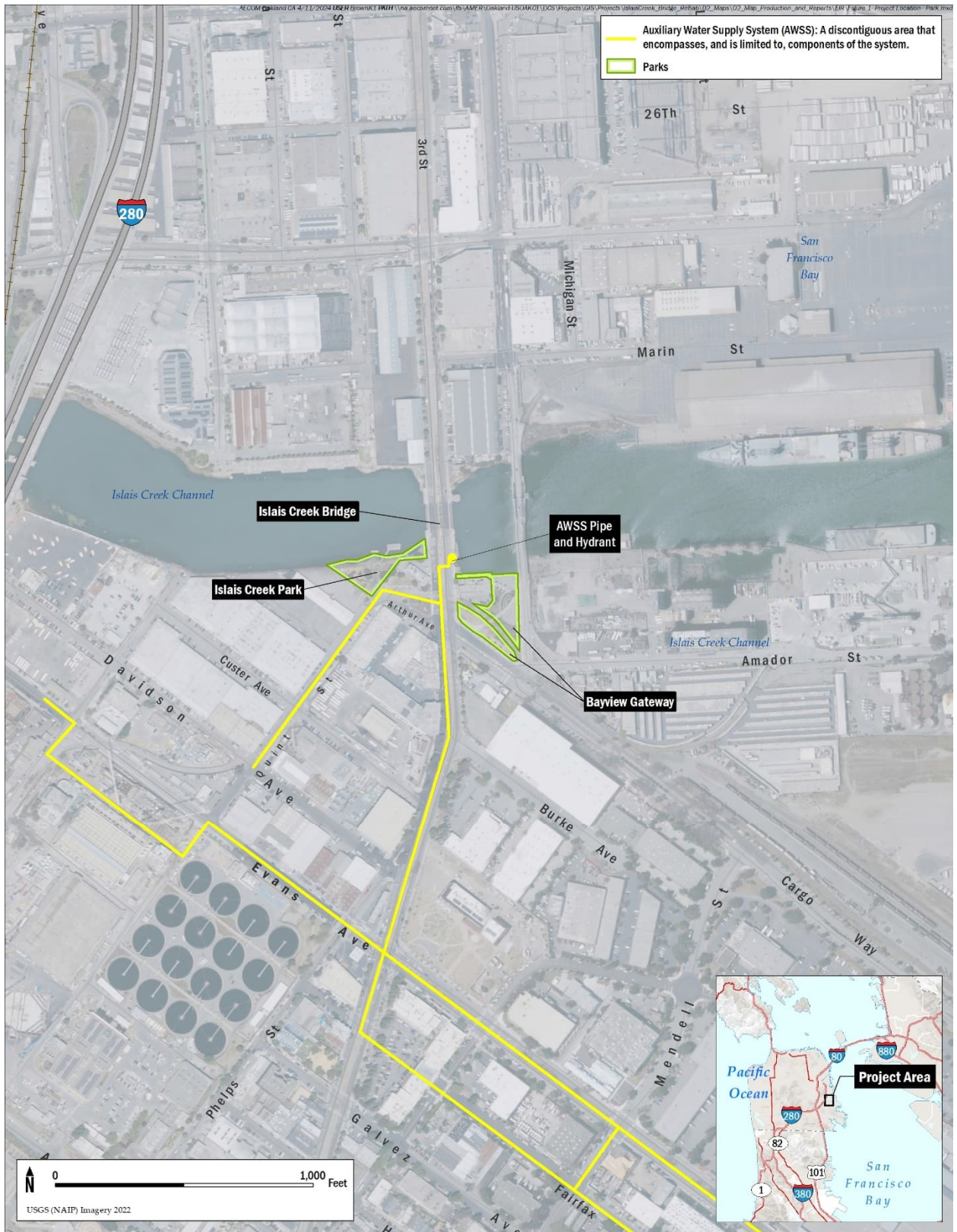


Figure 2. Section 4(f) Properties

2.1 Bayview Gateway

Bayview Gateway is a publicly owned park on Illinois Street north of Cargo Way. Recreational facilities include a wharf, planted areas, and a skate plaza. Bayview Gateway is managed and administered by the Port, and is identified in the Port's draft Waterfront Plan as a neighborhood recreational amenity with recreational boating and water recreation, parks/public open space, and public access/public realm uses. Public access to Bayview Gateway is possible from Third Street, Cargo Way, and Illinois Street.

Project construction activities would not require temporary or permanent acquisition of land from Bayview Gateway nor would the construction activities impact the public's use of Bayview Gateway. During construction, users of Bayview Gateway may be exposed to proximity impacts related to construction activity. Construction would expose users to temporary increases in noise over ambient levels. However, the recreational activities at Bayview Gateway are not noise sensitive. In addition, construction noise avoidance, minimization, and/or abatement measures would be implemented during construction to minimize temporary increases in noise. Construction activities could also result in short-term visual impacts to the users of Bayview Gateway. However, these impacts would cease at the end of construction. Construction activities would comply with key San Francisco policies and ordinances that address construction emissions thereby minimizing temporary air quality impacts. While construction activities would be visible from Bayview Gateway, these activities would not restrict or limit access to Bayview Gateway, and the park would remain open during construction. Furthermore, the project would not hinder the future use of Bayview Gateway, nor would any proximity impacts result in constructive use because Bayview Gateway is approximately 120 feet from the project. The project would not adversely affect the activities, features, and attributes that qualify Bayview Gateway for protection under Section 4(f).

Bayview Gateway is a Section 4(f) property, but no "use" will occur; the provisions of Section 4(f) do not apply.

2.2 Islais Creek Park

Islais Creek Park (also known as Islais Creek Landing) is a publicly owned park at the corner of Third Street and Arthur Avenue, southeast of the project area. It is owned and managed by the Port and maintained by both the Port and Kayaks Unlimited. According to the Port, Islais Creek Landing is maintained for recreational boating and water recreation, parks/public open space, and public access. The recreational facilities, including benches, picnic tables, trash/recycling receptacles, sculptures, and parking spaces, are publicly accessible, and the park constitutes a significant recreational resource as defined by the Port.

The project would not require the temporary or permanent acquisition of land from Islais Creek Landing, nor would construction activities impact the public's use or land-side access to the park. During construction, users of Islais Creek Landing may be exposed to proximity impacts related to construction activity. Construction would expose users to

temporary increases in noise over ambient levels. However, the recreational activities at Islais Creek Landing are not noise sensitive. In addition, construction noise avoidance, minimization, and/or abatement measures would be implemented during construction to minimize temporary increases in noise. Construction activities could also result in short-term visual impacts to the users of Islais Creek Landing. However, these impacts would cease at the end of construction. Construction activities would comply with key San Francisco policies and ordinances that address construction emissions thereby minimizing temporary air quality impacts. While construction activities would be visible from Islais Creek Landing, these none of the recreational features in Islais Creek Landing would be temporarily or permanently affected by the project, nor would the project result in a permanent adverse change in access to Islais Creek Landing. The project would not hinder the use of the property, nor would any proximity impacts result in constructive use. The project would not adversely affect the activities, features, and attributes that qualify Islais Creek Landing for protection under Section 4(f)

Islais Creek Landing is a Section 4(f) property, but no “use” will occur; the provisions of Section 4(f) do not apply.

2.3 Tulare Park

Tulare Park is a property on the north side of Islais Creek Channel between Third Street and Illinois Street. It is managed and administered by the Port of San Francisco. According to the Port, Tulare Park was constructed in the early 1970s but has not since been updated. The Port has determined Tulare Park is not a significant recreational resource (see Attachment 2). Therefore, Tulare Park is not a Section 4(f) property and the provisions of Section 4(f) do not apply.

Attachment 1

Department of Parks and Recreation Form 523: Islais Creek Bridge, June 2004

**Department of Parks and Recreation Form 523: Potrero Point Historic District,
March 2008**

Department of Parks and Recreation Form 523: Central Waterfront, July 20, 2001

State of California — The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
PRIMARY RECORD

Primary #: P-38-004380
HRI # _____
Trinomial _____
NRHP Status Code: _____
Other Listings HPD FHGWA051028B
Review Code _____ Reviewer _____ Date _____

Page 1 of 6

*Resource Name or #: Bridge 34C0024

P1. Other Identifier: Third Street Bridge over Islais Creek

*P2. Location: Not for Publication Unrestricted *a. County San Francisco

*b. USGS 7.5' Quad San Francisco South Date 1956 (photorevised 1980)

c. Address Third Street City San Francisco Zip N/A

*d. UTM: 554070 mE, 417760 mN (Map #4482)

*e. Other Locational Data:

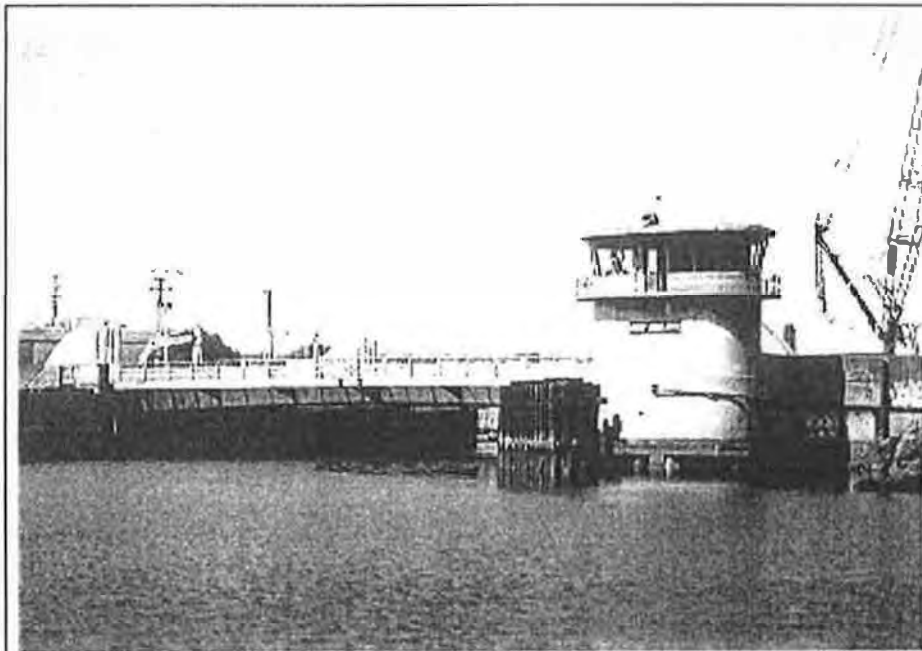
*P3a. Description:

This bridge is a double-leaf, bascule structure with concrete abutments. The two bascule arms, which open to allow boats to pass on Islais Creek (which is a shipping channel) consist of riveted steel girders supporting an open, steel-grate roadway. The bridge is approximately 100 feet wide, carrying four lanes of traffic and two sidewalks. The sidewalks, which are also open, steel grates, are supported by brackets attached to the outer girders. The bridge span is approximately 105 feet.

(See Continuation Sheet, page 3.)

*P3b. Resource Attributes: HP19 – Bridge

*P4. Resources Present: Building Structure Object Site District Element of District Other



Bridge 34C0024 (Third Street over Islais Creek)

P5b. Description of Photo:
View west-southwest
May 2004

*P6. Date Constructed/Age
and Sources: Historic
1949 (S.F. Chronicle)

*P7. Owner and Address:
City of San Francisco

*P8. Recorded by:
Andrew Hope, Caltrans
1120 N Street
Sacramento, CA 95814
(916) 654-5611

*P9. Date Recorded: June 2004

*P10. Type of Survey: Intensive

*P11. Report Citation: *Caltrans Statewide Historic Bridge Inventory Update: Survey and Evaluation of Common Bridge Types*. Andrew Hope, California Department of Transportation, 2004.

*Attachments: Building, Structure, and Object Record Continuation Sheets Location Map

BUILDING, STRUCTURE, AND OBJECT RECORD

Page 2 of 6

*NRHP Status Code:

*Resource Name or #: Bridge 34C0024

- B1. Historic Name: Third Street Bridge
- B2. Common Name: Third Street Bridge
- B3. Original Use: Roadway bridge
- *B5. Architectural Style: Art Moderne
- *B6. Construction History:

B4. Present Use: Roadway bridge

This bridge was constructed in 1949. In 1973, repairs were made to damage caused by a ship colliding with the bridge. The bridge has otherwise been subject only to routine maintenance, and appears unaltered.

*B7. Moved? No Yes Unknown Date: Original Location:

*B8. Related Features: This bridge is part of Third Street in the City of San Francisco

B9a. Designer: L. H. Nishkian, Calif. Division of Highways b. Builder: Unknown

*B10. Significance: Theme: Art Moderne design Area: San Francisco

Period of Significance: 1949 Property Type: Bridge Applicable Criteria: C

This bridge was not included in the original statewide bridge survey of 1986-88, as it was less than 50 years old at that time. The bridge is a double-leaf, bascule structure with counterweights for the bascule leaves located beneath the roadway at each end of the bridge. Of the 38 moveable roadway bridges in California, 16 are bascule structures, with 16 swing bridges and 6 lift spans. The earliest extant bascule bridge was constructed in 1917 (The Fourth Street Bridge over the China Basin Channel in San Francisco, Bridge 34C0027). As a work of civil engineering, the Third Street Bridge is not an early, innovative, or rare example of its type.

This bridge replaced an earlier bascule bridge at the same location, which was constructed in 1915. The present bridge is not associated with significant persons or events in San Francisco history that would qualify it for National Register listing under Criteria A or B.

(See Continuation Sheet, page 3.)

B11. Additional Resource Attributes:

*B12. References:

Bridge Report (Caltrans records), June 19, 1973.

"Islais Headache: Detour Bothers Both
Motorists, Merchants." *San Francisco
Chronicle*, May 1, 1949, pp. 1, 16.

B13. Remarks:

B14. Evaluator: Andrew Hope, Caltrans

Date of Evaluation: June 2004

(This space reserved for official comments.)

See Location Map, page 6.

* Recorded by: Andrew Hope, Caltrans

* Date: June 2004

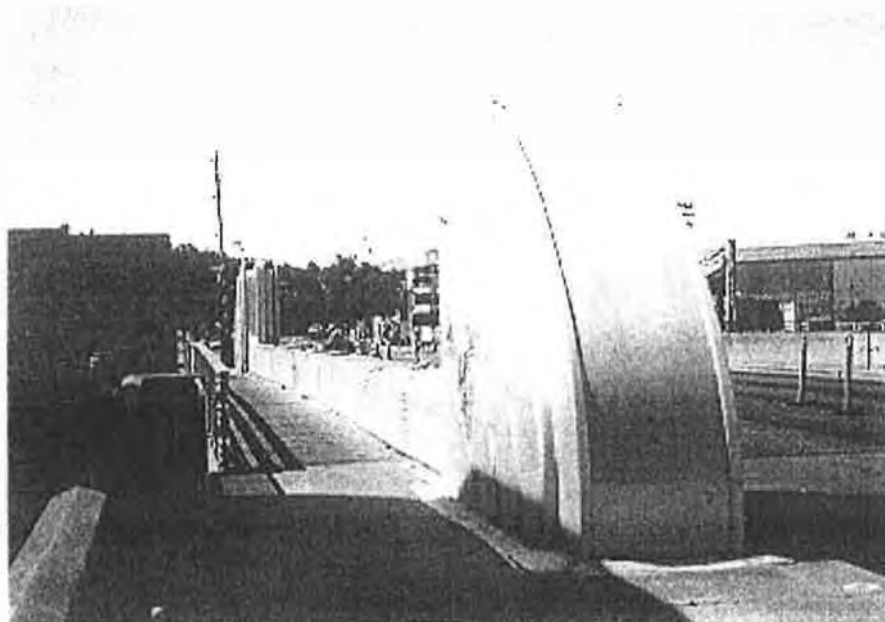
Continuation Update

***P3a. Description (continued from page 1):**

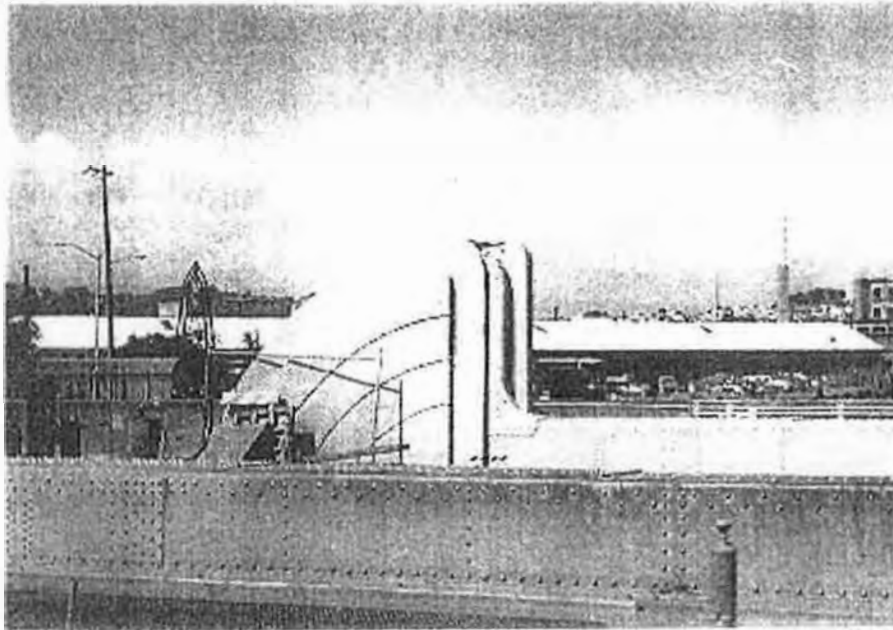
At the four corners of the bridge, the gears for the bascule arms are contained in metal housings of quarter-circle shape. These housings are detailed in a streamlined, Art Moderne style. The tops of the bascule arms project above the level of the roadway, and form the railings between the roadway and sidewalks. There is also a raised, center median. The control tower, which is located at the northeast corner of the bridge, consists of a concrete tower topped by a glass control room. The tower is oblong in shape, with rounded ends. A projecting balcony with metal pipe railings surrounds the control room. The control room has a flat roof, with large, plate glass windows canted slightly outward.

***B10. Significance (continued from page 2):**

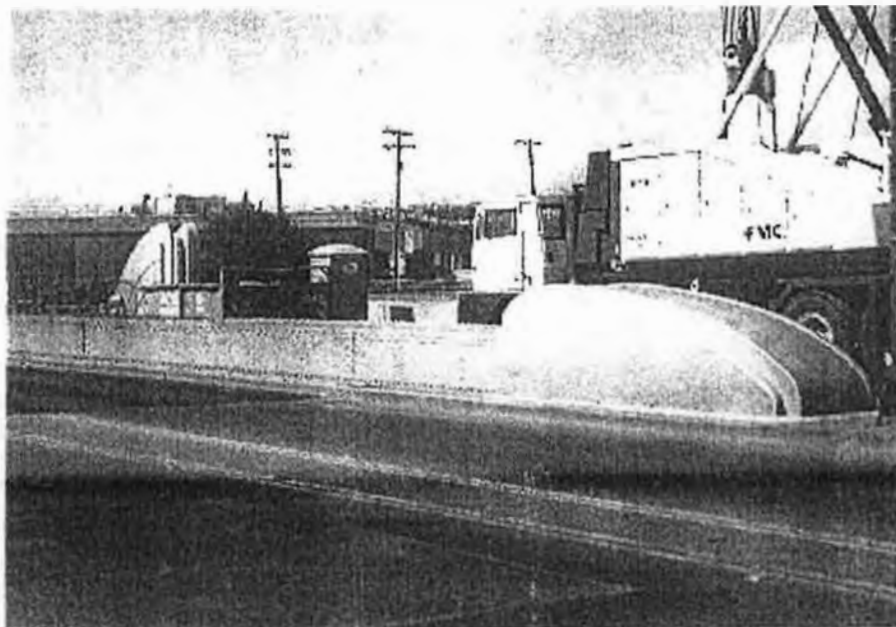
However, this structure is significant as an example of the Art Moderne style applied to a bridge. The detailing of the ends of the bascule leaves, with their quarter-circle gear housings, the control tower, and the sidewalk railings all contribute to the bridge's Streamlined Moderne appearance. This bridge therefore meets National Register Criterion C, at the local level of significance, for its distinctive design qualities. This bridge is also considered to be an historical resource for the purpose of compliance with CEQA.



**View of the sidewalk, and metal housings for the bascule gears.
May 2004. View south.**



Detail of the gear housing at the end of the bascule leaf. May 2004.



Detail of the center median. May 2004.



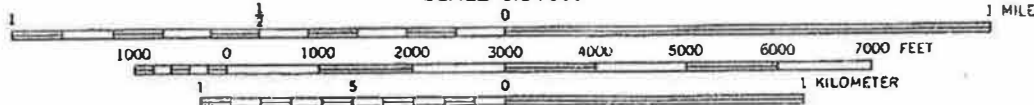
Detail of the control tower. May 2004.



Detail of sidewalk (open, metal grate) and railing. May 2004.



SCALE 1:24 000



PROPERTY-NUMBER	PRIMARY-#	STREET-ADDRESS	NAMES	CITY-NAME	OWN	YR-C	OHP-PROG..	PRG-REFERENCE-NUMBER	STAT-DAT	NRS	CRIT
151703		36TH AVE	SAN FRANCISCO MODEL YACHT CLUB	SAN FRANCISCO	M	1938	HIST.SURV.	4101-0488-0007		3D	
151713		39TH AVE	GOLDEN GATE PARK PETANQUE COURT	SAN FRANCISCO	M	1907	HIST.RES.	NPS-04001137-0163	10/15/04	1D	AC
092672	38-003026	211 3RD AVE	211 3RD AVE	SAN FRANCISCO	P	1893	HIST.SURV.	4101-1050-0000	01/01/90	5S2	
092673	38-003027	215 3RD AVE	215 3RD AVE	SAN FRANCISCO	P	1893	HIST.SURV.	4101-1051-0000	01/01/90	5S2	
092679	38-003033	426 3RD AVE	414-414 1/2 3RD AVE//426-428 3RD A	SAN FRANCISCO	P	1892	HIST.SURV.	4101-1058-0000	01/01/90	5S1	
006951	38-001339	3RD ST	FRANCIS "LEFTY" O'DOUL BRIDGE, BRI	SAN FRANCISCO	C	1933	HIST.RES.	DOE-38-98-0101-0001	09/24/98	2D2	
							PROJ.REVW.	FHWA851030A	09/24/98	2D2	
							HIST.SURV.	4101-0666-0000	01/01/85	2S2	
							PROJ.REVW.	FHWA850823A	12/24/85	2S	
006916	38-001311	3RD ST	ARONSON DISTRICT, ARDNSON HISTORIC	SAN FRANCISCO	U		HIST.SURV.	4101-0631-9999	01/01/79	2D	
119138	38-004187	3RD ST	TRAFFIC CONTROL GATE STANDARD #1	SAN FRANCISCO	CM	1933	HIST.RES.	DOE-38-98-0101-0004	09/24/98	2D2	
							PROJ.REVW.	FHWA851030A	09/24/98	2D2	
119139	38-004188	3RD ST	TRAFFIC CONTROL GATES STANDARD #2	SAN FRANCISCO	MC	1933	HIST.RES.	DOE-38-98-0101-0005	09/24/98	2D2	
							PROJ.REVW.	FHWA851030A	09/24/98	2D2	
119135	38-004184	3RD ST	FRANCIS "LEFTY" O'DOUL BRIDGE DIST	SAN FRANCISCO	MC		HIST.RES.	DOE-38-98-0101-9999	09/24/98	2S2	
							PROJ.REVW.	FHWA851030A	09/24/98	2S2	
119140	38-004189	3RD ST	TRAFFIC CONTROL GATES STANDARD #3	SAN FRANCISCO	MC	1933	HIST.RES.	DOE-38-98-0101-0006	09/24/98	2D2	
							PROJ.REVW.	FHWA851030A	09/24/98	2D2	
119142	38-004191	3RD ST	COMMERCIAL WHARF - SOUTHERN PACIFI	SAN FRANCISCO	P	1934	HIST.RES.	DOE-38-98-0102-0000	09/24/98	6Y	
							PROJ.REVW.	FHWA851030A	09/24/98	6Y	
119141	38-004190	3RD ST	TRAFFIC CONTROL GATES STANDARD #4	SAN FRANCISCO	MC	1933	HIST.RES.	DOE-38-98-0101-0007	09/24/98	2D2	
							PROJ.REVW.	FHWA851030A	09/24/98	2D2	
119137	38-004186	3RD ST	WATCHMAN'S HOUSE	SAN FRANCISCO	MC	1931	HIST.RES.	DOE-38-98-0101-0003	09/24/98	2D2	
							PROJ.REVW.	FHWA851030A	09/24/98	2D2	
119136	38-004185	3RD ST	BRIDGE OPERATOR'S HOUSE	SAN FRANCISCO	MC	1931	HIST.RES.	DOE-38-98-0101-0002	09/24/98	2D2	
							PROJ.REVW.	FHWA851030A	09/24/98	2D2	
130908		3RD ST	POTREERO EMERGENCY HOSPITAL	SAN FRANCISCO	M	1867	HIST.SURV.	4101-1066-0002	12/26/01	5D2	
135503		3RD ST	3RD ST LIGHT STANDARDS (BETWEEN AL	SAN FRANCISCO	M	1944	HIST.SURV.	4101-1125-0089	05/06/02	7N1	A
X 157045		3RD ST	BRIDGE #34C-0024 / THIRD STREET BR	SAN FRANCISCO	M	1949	PROJ.REVW.	FHWA051028B	12/07/05	2S2	C
006196	38-000641	71 3RD ST	BREENS FINE FOOD	SAN FRANCISCO	M	1908	HIST.SURV.	4101-0464-0000		3S	
006029	38-000479	87 3RD ST		SAN FRANCISCO	U	0	HIST.SURV.	4101-0294-0003	01/01/78	2D	
006197	38-000642	101 3RD ST	WILLIAMS BLDG	SAN FRANCISCO	M	1907	HIST.SURV.	4101-0465-0000		3S	
008058	38-002441	601 3RD ST	GENERAL CIGAR CO, WELLS FARGO BANK	SAN FRANCISCO	P	1919	HIST.SURV.	4101-0795-0067		3D	
008056	38-002439	625 3RD ST		SAN FRANCISCO	P	1908	HIST.SURV.	4101-0795-0065		3D	
007993	38-002377	660 3RD ST	BUTTERFIELD AND BUTTERFIELD	SAN FRANCISCO	P	1906	HIST.SURV.	4101-0795-0002		3D	
008057	38-002440	665 3RD ST	CLINTON CONSTRUCTION CO, MAJB CO	SAN FRANCISCO	P	1916	HIST.SURV.	4101-0795-0066		3D	
008055	38-002438	689 3RD ST	A NICE CO	SAN FRANCISCO	P	1906	HIST.SURV.	4101-0795-0064		3D	
008054	38-002437	691 3RD ST	WALL AND CO	SAN FRANCISCO	P	1917	HIST.SURV.	4101-0795-0063		3D	
007893	38-002277	737 3RD ST		SAN FRANCISCO	S	1935	HIST.SURV.	4101-0696-0000		7R	
069189	38-002586	901 3RD ST	PIER 46 / REFRIGERATION TERMINAL	SAN FRANCISCO	U	1937	HIST.RES.	DOE-38-90-0001-0016	10/22/90	6Y	
							PROJ.REVW.	FHWA900926B	10/22/90	6Y	
119143	38-004192	1050 3RD ST	WAREHOUSE - BLADIUM ROLLER SKATE A	SAN FRANCISCO	P	1935	HIST.RES.	DOE-38-98-0103-0000	09/24/98	6Y	
							PROJ.REVW.	FHWA851030A	09/24/98	6Y	
135395		1830 3RD ST	THE VIADUCT CAFE	SAN FRANCISCO	P	1934	HIST.SURV.	4101-1125-0002	05/06/02	7N1	
135396		1900 3RD ST	BETHLEHEM STEEL CO. WAREHOUSE/ AM	SAN FRANCISCO	CM	1946	HIST.SURV.	4101-1125-0003	05/06/02	7N1	A
135283		2051 3RD ST	VINCENT MORABITO BUILDING	SAN FRANCISCO	P	1927	HIST.SURV.	4101-1078-0000	05/06/02	6L	A
135281		2065 3RD ST	CRESCENT OIL COMPANY / CRESCENT PA	SAN FRANCISCO	P	1926	HIST.SURV.	4101-1077-0000	05/06/02	6Z	
135399		2075 3RD ST	GILMORE OIL COMPANY LTD. GARAGE /	SAN FRANCISCO	P	1931	HIST.SURV.	4101-1125-0006	05/06/02	7N1	A
135397		2085 3RD ST	GILMORE OIL CO. OFFICES/ CARPENTER	SAN FRANCISCO	P	1930	HIST.SURV.	4101-1125-0004	05/06/02	7R	
135400		2092 3RD ST	JACOB KNOBLOCK BUILDING/ MOSHI MOS	SAN FRANCISCO	P	1889	HIST.SURV.	4101-1125-0007	05/06/02	7N1	A
135410		2121 3RD ST	SEASIDE OIL COMPANY PLANT	SAN FRANCISCO	P	1930	HIST.SURV.	4101-1125-0016	05/06/02	7N	A
135406		2146 3RD ST		SAN FRANCISCO	P	1900	HIST.SURV.	4101-1125-0013	05/06/02	7N1	
135407		2150 3RD ST	NOW WE'RE COOKING, INCORPORATED	SAN FRANCISCO	P	1900	HIST.SURV.	4101-1125-0014	05/06/02	7N1	A

P-38-004380

State of California — The Resources Agency
 DEPARTMENT OF PARKS AND RECREATION
PRIMARY RECORD

Primary # P-38-004380

HRI # _____

Trinomial _____

NRHP Status Code 4S

Other Listings _____

Review Code _____

Reviewer _____

Date _____

Page 1 of 6

*Resource Name or #: (Assigned by recorder) 2

P1. Other Identifier: L.H. Nishkian Bridge

P2. Location: Not for Publication Unrestricted *a: County San Francisco

and (P2c, P2e, and P2b or P2d. Attach Location Map as necessary.)

*b. USGS 7.5' Quad San Francisco North Date 1956/PR1973 T 2S; R 5W; 1/4 of 1/4 of Sec : B.M.

c. Address Islais Creek at Third Street City San Francisco Zip 94124

d. UTM: (Give more than one for large and/or linear resources) Zone _____; _____ mE/ _____ mN

*e. Other Locational Data: (e.g., parcel #, directions to resource, elevation, etc., as appropriate) Islais Creek at Third Street

*P3a. Description: (Describe resource and its major elements. Include design, materials, condition, alterations, size, setting, and boundaries)

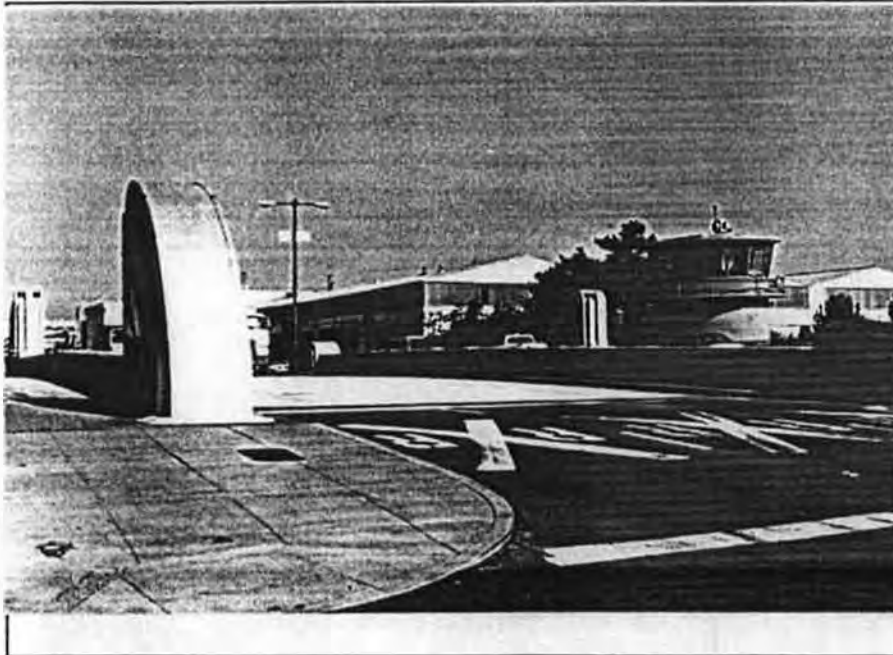
The L.H. Nishkian Bridge is a low profile, double leaf, bascule span measuring 68 feet in width by 100 feet in length. The bridge is placed in reinforced-concrete anchorages on either bank. It has six, traffic lanes with a raised median and sidewalks outside either side railing. Its railings are enclosed by riveted, steel plates whose curvilinear ends reflect the mechanism and movement of the bascule bridge and also produce the streamlined image of the Moderne style. Hand railings along each sidewalk are also in this style, with three bands of three horizontal bars terminating in rounded ends for each railing.

On the east side of the bridge near the north end is a control tower. The tower is in two parts, a stuccoed base below and glazed control room above. Both have flat sides and rounded ends with the view up and down the channel through the flat sides and the view up and down Third Street through the rounded ends. The two parts of the tower are visually divided by a cantilevered walkway around the base of the control room. The design of the railings around this walkway echo those on the

see continuation sheet

*P3b Resource Attributes: (List attributes and codes) HP19

*P4. Resources Present: Building Structure Object Site District Element of District Other (isolates, etc.)



P5b. Description of Photo:

(View, date, accession #) _____

L.H. Nishkian Bridge; view northeast;

Oct. 27, 1997; by W. Kostura;

Roll K3-8

*P6. Date Constructed/Age and

Source: Historic

Prehistoric Both

1949-1950; Caltrans Bridge

Survey

*P7. Owner and Address:

California Department of

Transportation

*P8. Recorded by: (Name, affiliation, and address)

Michael Corbett, Dames & Moore

221 Main Street, Suite 600

San Francisco, CA 94105

*P9. Date Recorded: Oct. 1997

*P10. Survey Type: (Describe)

intensive

P11. Report Citation*: (Cite survey report and other sources, or enter "none".) HASB, Third Street Light Rail
Project, San Francisco, CA

*Attachments: NONE Location Map Sketch Map Continuation Sheet Building, Structure and Object Record

Archaeological Record District Record Linear Feature Record Milling Station Record Rock Art Record

Artifact Record Photograph Record Other (List) _____

BUILDING, STRUCTURE, AND OBJECT RECORD

Page 2 of 6

*NRHP Status Code 4S

*Resource Name or # (Assigned by recorder) L.H. Nishkian Bridge

B1. Historic Name: L.H. Nishkian Bridge

B2. Common Name: same

B3. Original Use: bridge B4. Present Use: bridge

*B5. Architectural Style: Streamlined Moderne

*B6. Construction History: (Construction date, alterations, and date of alterations)

Designed ca. 1941; built 1949-1950

*B7. Moved? No Yes Unknown Date: _____ Original Location: _____

*B8. Related Features: _____

B9a. Architect: L.H. Nishkian, engineer b. Builder: Duncanson-Harrelson

*B10. Significance: Theme bridge Area San Francisco

Period of Significance 1950 Property Type bridge Applicable Criteria C

(Discuss importance in terms of historical or architectural context as defined by theme, period, and geographic scope. Also address integrity.)

History

As San Francisco grew after the Gold Rush, Islais Creek was one of several impediments to travel by land along the waterfront. A major improvement was made in 1867 with the construction of Long Bridge over Mission Creek and a movable bridge of unknown character over Islais Creek. By 1886, Islais Creek had become little more than a pond, connected by a 28-foot-wide drainage culvert under the bridge to the bay, caused by levees along the bridge. By 1900, there was discussion of dredging Islais Creek for navigation. By 1914, Islais Creek was navigable and developed with new industries — a copra processing plant and the Rosenberg rice mill. In 1914, Southern Pacific built a Strauss trunion bascule steel drawbridge, with tracks used by the Southern Pacific Railroad, the Santa Fe Railroad, and the Market Street Railway (streetcar line). In 1940, the drawbridge carried six trains and 12,000 cars per day and opened for four ships. In 1942, the streetcar line was replaced with bus service. With wartime production at Hunter's Point shipyard, traffic over the bridge tripled between 1940 and 1943. Whether due to the traffic increase or the age of the old bridge, planning began for a new bridge over Islais Creek. Because of steel shortages during the war, the new bridge was not begun until the war was over. The bridge was designed by L.H. Nishkian who died in

see continuation sheet

B11. Additional Resource Attributes: (List attributes and codes) _____

*B12. References: _____

see continuation sheet

B13. Remarks: _____

*B14. Evaluator: Michael Corbett

Date of Evaluation: October 31, 1997

(This space reserved for official comments)

(Sketch map with north arrow required)

Description (continued)

bridge. The control room itself is glazed with canted windows which have both a practical and a design purpose. Shaded by an overhanging roof, this arrangement reduces glare and improves visibility. At the same time, the rounded ends of the tower in plan and the angled form of the control room windows echo similar shapes on the bridge and the movement of the bridge itself.

History (continued)

1947 before construction began. During the year of construction (1949-1950), traffic was routed around Islais Creek on Army and Evans streets. The bridge opened 4 March 1950 and was named for its designer. Today, the bridge is raised and lowered about six times a month, primarily for testing of the sewer treatment plant.

The 1951 Sanborn map shows two industries on Islais Creek Channel that were inland from the bridge. One was the Islais Creek Plant of the F.E. Booth Company, whose fish processing plant included a wharf on the creek channel. The other industry was the rice mill, feed mill, and warehouse of Rosenberg Brothers and Company. Their plant had a two-story, open, conveyor belt that ran across Islais Street to the creek channel. Both of these businesses needed access to shipping.

The designer, L.H. Nishkian, was born in Constantinople in 1882. He received his B.S. degree in Civil Engineering at the University of California in 1906 and for several years thereafter worked for other engineers in San Francisco, Los Angeles, and Portland on the structural design of buildings and bridges. From 1912 to 1919, he worked as an assistant engineer in the City Engineer's office of San Francisco's Board of Public Works and as the Consulting Structural Engineer in the city's Bureau of Building Inspection. He then entered private practice. According to his obituary, he was the engineer for many important buildings, including the Fox Theater, the Western Merchandise mart, buildings for the Bank of America, and this bridge over Islais Creek. In 1941, he replaced Russell Corie as bridge engineer for the Golden Gate Bridge and supervised "exhaustive studies of the structural stability of the bridge," according to the San Francisco Chronicle. He also was credited for developing, with the famous bridge engineer D.B. Steinman of New York, "a graphic method for the design of continuous beam and frame."

Evaluation

The L.H. Nishkian Bridge appears to be eligible for the NRHP under criterion C at the local level of significance for the period 1950 (it will become eligible when it reaches 50 years of age in 2000). This is an outstanding example of a Moderne style drawbridge, with its curvilinear railings and silver color classic expressions of the image of speed, movement, and newness, associated with the Moderne. It is also significant as the work of a master, L.H. Nishkian. Like many structural engineers, most of his work is invisible, hidden inside the walls of buildings. This best expresses not only his engineering skill but his design sensitivity as well.

This bridge was considered ineligible (rating 5) by Caltrans in its 1983 bridge survey. At that time it was only 33 years old, far less than the 50 year threshold. It has been re-evaluated here because it is now almost 50 years old.

References

San Francisco Chronicle. July 19, 1941 and June 3, 1947.

Architect and Engineer. September 1930.

Caltrans Bridge Survey. Bridge #34C-0024, Islais Creek Bridge.

Roberts, Kingsley, San Francisco Department of Public Works. Telephone interview with William Kostura. 4 November 1997.

CONTINUATION SHEET

Page 4 of 6

Resource Identifier: L.H. Nishkian Bridge

Recorded by Michael Corbett

*Date Oct. 1997

Continuation Update

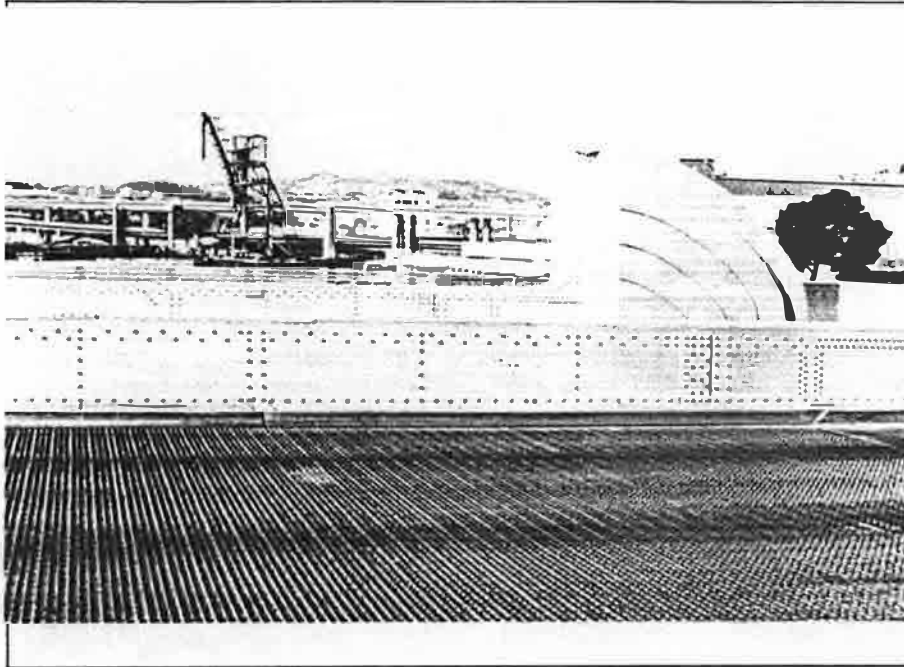


Photo #2: L.H. Nishkian Bridge; view east; Oct. 27, 1997 by W. Kostura; Roll K3-3.

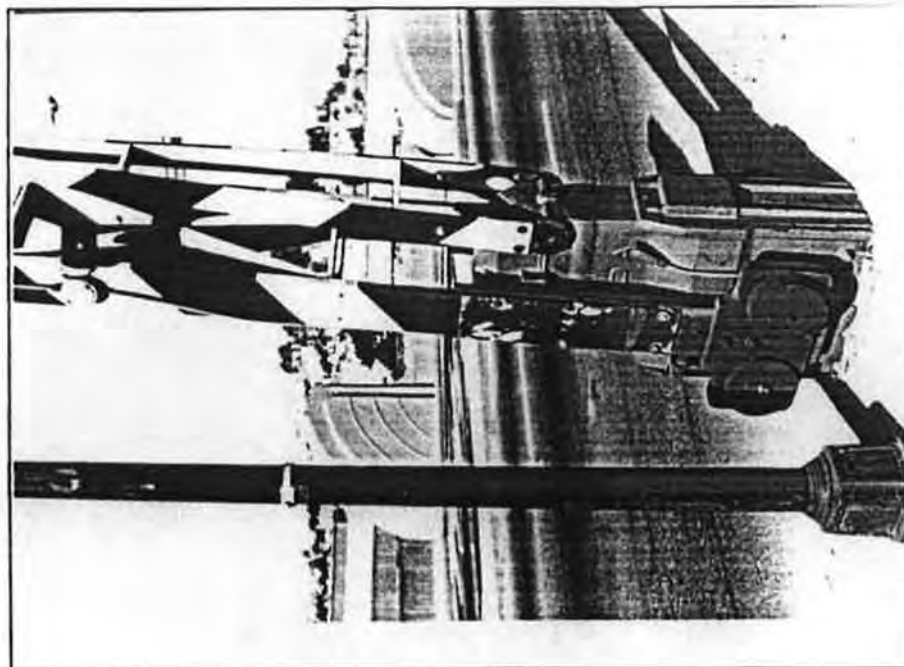


Photo #3: L.H. Nishkian Bridge; raising safety barrier; view northeast; Oct. 27, 1997 by W. Kostura; Roll K3-6.

State of California — The Resources Agency
DEPARTMENT OF PARKS AND RECREATION

Primary # P-38-004380

HRI/Trinomial _____

CONTINUATION SHEET

Page 5 of 6

Resource Identifier: L.H. Nishkian Bridge

Recorded by Michael Corbett

*Date Oct. 1997

Continuation Update

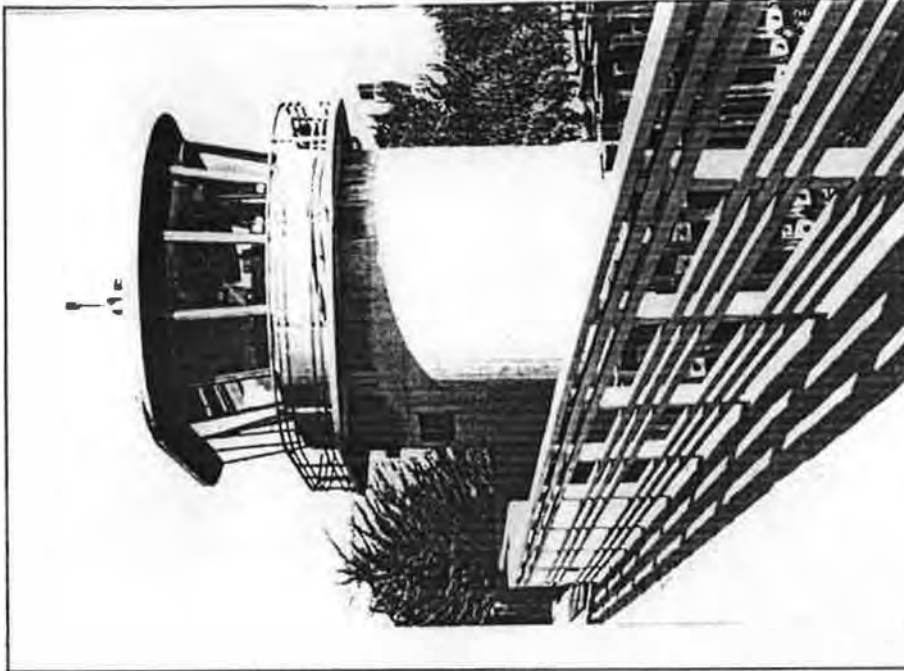
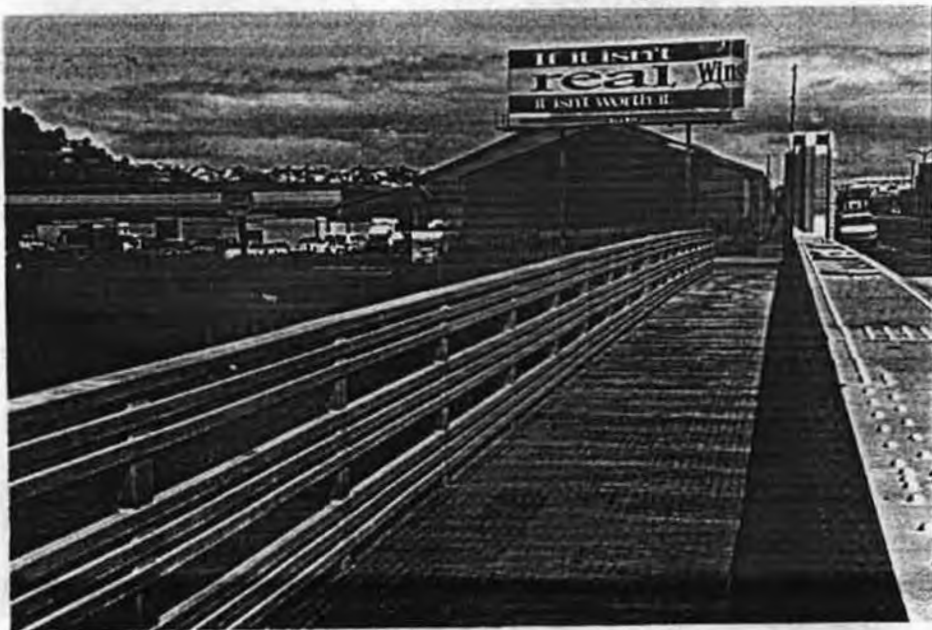


Photo #4: L.H. Nishkian Bridge; control tower; view north; Oct. 27, 1997 by W. Kostura; Roll K3-4.



Islais Creek Bridge, view northeast with control tower at right; June 1998; by D. Bradley; Roll AC:5.



Islais Creek Bridge; view of sidewalk decking and railing; June 1998; by D. Bradley; Roll AC:2.

State of California — The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
PRIMARY RECORD

Primary # P-38-004380
HRI # _____
Trinomial _____
NRHP Status Code 561

Page 1 of 1

Other Listings Unknown
Review Code _____ Reviewer _____ Date _____

- P1. Resource Identifier: Islais Creek Bridge
P2. Location: a. County San Francisco and (Address and/or UTM Coordinates. Attach Location Map as required.)
b. Address Third Street and Islais Creek Channel
City San Francisco CA Zip 94124
c. UTM: USGS Quad _____ (7.5'/15') Date _____; Zone _____, _____ mE/ _____ mN
d. Other Locational Data (e.g., parcel #, legal description, directions to resource, additional UTMs, etc., when appropriate):

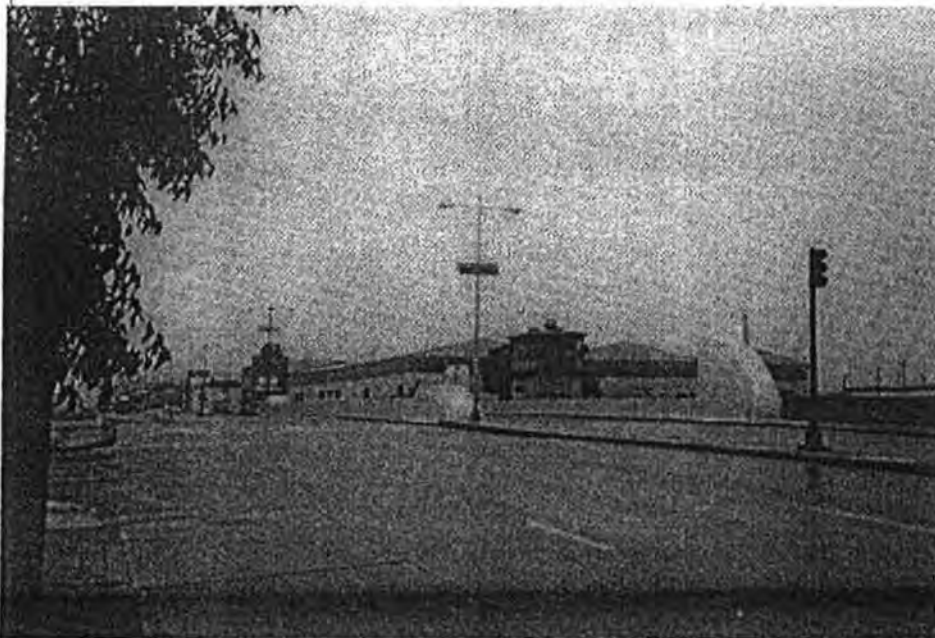
Official Name: Levon Hagop Nishkian Bridge

P3. Description (Describe resource and its major elements. Include design, materials, condition, alterations, size, setting, and boundaries):

This streamlined steel-riveted drawbridge features bridge supports which terminate in an upturned, low, quarter-circle. The steel center lane-divider exhibits a similar, simpler version of the bridge rails.

The small, two-story, elliptical bridge control house on the northeast side is constructed of concrete, green glass, and copper. The lower story is solid concrete except for a small horizontal strip window. A projecting porch surrounds the second story, which features angled, green glass windows and a flat roof topped by a large light fixture. This structure appears to be in good condition.

P4. Resources Present: Building Structure Object Site District Element of District



P6. Date Constructed/Age:
 Prehistoric Historic Both
built 1938; expanded and redesigned 3-3-50 (F)

P7. Owner and Address:
City of San Francisco

P8. Recorded by (Name, affiliation, and address): Nancy Goldenberg & Marianne Hurley, Carey & Co, Inc, 123 Townsend St. San Francisco 94107

P9. Date Recorded: 10-21-94

P10. Type of Survey: Intensive
 Reconnaissance Other

Describe: _____

P11. Report Citation (Provide full citation or enter "none."): Hansen, Gladys, 1975, "San Francisco Almanac", Chronicle Books, San Francisco; San Francisco Landmarks Case Report, June 1, 1990 "Pier 84 with Loading Tower".

Attachments: NONE Map Sheet Continuation Sheet Building, Structure, and Object Record Linear Resource Record
 Archaeological Record District Record Milling Station Record Rock Art Record Artifact Record Photograph Record
 Other (List): _____

State of California & The Resources Agency	Primary #
DEPARTMENT OF PARKS AND RECREATION	HRI # 4101-1125-9999
DISTRICT RECORD	Trinomial

Page 1 of 32 *CHR Status Code 5S3

*Resource Name or # (Assigned by recorder) Potrero Point Historic District

D1. Historic Name Potrero Point/Lower Potrero D2. Common Name: Central Waterfront

***D3. Detailed Description** (Discuss coherence of the district, its setting, visual characteristics, and minor features. List all elements of district.):

The Potrero Point Historic District (also referred to as the Central Waterfront) is located in the Potrero Hill district of San Francisco on the western side of San Francisco Bay in the City of San Francisco between Mission Creek on the north and Islais Creek to the south. The approximately 500-acre area is more precisely described as a roughly rectangular district bounded by Sixteenth Street to the north, San Francisco Bay to the east, Islais Creek to the south, and U.S. Interstate 280 to the west. The area measures approximately 1.3 miles from north to south, and approximately 0.6 miles wide from east to west. (See Continuation Sheet, Pg. 2)

***D4. Boundary Description** (Describe limits of district and attach map showing boundary and district elements.):

The Potrero Point (Central Waterfront) area is enclosed within a rectangle formed by the following streets and natural features: Beginning at the northwest corner of Pennsylvania and Sixteenth streets, the northern boundary of the area extends east along Sixteenth Street into San Francisco Bay. The boundary turns ninety degrees and heads south through the bay encompassing the entirety of Piers 70 and 80. At Islais Creek Channel, the boundary makes a ninety degree turn and heads west along the southern shore of the channel. At the western end of Islais Creek Channel, the boundary shifts north and proceeds along Pennsylvania Street until it reaches the point of beginning. (See Continuation Sheet, Pg. 9)

***D5. Boundary Justification:**

The boundaries of the Central Waterfront area were selected on the basis of common historical patterns and events, as well as physical continuity. The western boundary—Pennsylvania Street—marks the western end of the area historically known as “Lower Potrero.” West of Pennsylvania Street the land becomes much steeper, and industrial uses give way to residential. I-280 and the former Southern Pacific commuter railroad tracks (now Caltrain), which are both located immediately east of Pennsylvania Street, create another formidable boundary. Sixteenth Street—the northern boundary—marks the approximate location of the southern shore of Mission Bay, a natural water feature that historically divided the Potrero District from the South of Market area and downtown San Francisco. Mission Bay was filled in the 1890s and early 1910s, and until recently was the location of massive rail yards. Its historical use, street pattern, and development patterns were quite different from the Central Waterfront. (See Continuation Sheet, Pg. 11)

D6. Significance: Theme Industrial Development and Settlement Area San Francisco Central Waterfront
 Period of Significance 1872-1958 Applicable Criteria 1, 3

(Discuss district's importance in terms of its historical context as defined by theme, period of significance, and geographic scope. Also address the integrity of the district as a whole.)

The Central Waterfront, inclusive of Pier 70, the proposed Third Street Industrial District, and the Dogpatch Historic District appears significant under Criterion 1 (Events) for association with the industrial development of the City of San Francisco from 1872 to 1958. The Central Waterfront Historic District contains a significant concentration of mixed-use industrial properties, associated residential and commercial properties, and civic infrastructure oriented to water, railroad, and road transportation. The district was the epicenter of major industrial production beginning in the late 1850s, and continuing through the end of World War II. During the World Wars, the Central Waterfront was a centerpiece of the single-largest shipbuilding region in the Western United States (and briefly, the world), employing up to 18,500 workers at the height of World War II. The district also includes one of the only surviving grouping of workers' housing located adjacent to industrial sites in the City of San Francisco: the Dogpatch neighborhood. The Central Waterfront contains some of the most significant industrial buildings and structures in the West, primarily the historic industrial buildings and structures at Pier 70 associated with Bethlehem Steel and the earlier Union Iron Works. Elements of other important industrial facilities, including PG & E's Station A, the Western Sugar Refinery and the American Can Company, remain substantially intact. (See Continuation Sheet, Pg. 12)

***D7. References** (Give full citations including the names and addresses of any informants, where possible.)

[See Continuation Sheet, Pg. 31]

*D8. Evaluator: Christopher VerPlanck, Rebecca Fogel, and Rich Sueré Date: March 2008

Affiliation and Address: Kelley & VerPlanck and Page & Turnbull, Inc., 724 Pine Street, San Francisco, CA 94108

Endorsed by Landmarks Preservation Advisory Board May 7, 2008.

D3. Detailed Description (continued)

The existing topography of the Central Waterfront area is low and relatively flat—largely the product of extensive blasting, cutting, and filling operations. The land rises gently toward the west from San Francisco Bay, ranging from 5 feet above sea level at the Bay to a maximum of 25 feet near Interstate 280. One notable exception to the generally level topography is “Irish Hill,” an 80 foot, rocky promontory located east of Illinois Street, between Twentieth and Humboldt streets. A remnant of the eastern spur of Potrero Hill that once occupied the area, the small serpentine hillock looms over a paved parking lot between Pier 70 and the PG & E Potrero Station. Most of the modern shoreline of the Central Waterfront is the result of cutting and filling operations that took place during the late nineteenth and early twentieth centuries. Of the total land area, approximately one-third consists of solid bedrock, with two-thirds representing filled land.¹ Water-related landscape features include the abandoned remains of piers and shipways at Pier 70 and Warm Water Cove, the latter named for the heated industrial discharge of the PG&E Potrero Station. Islais Creek Channel, a more recent manmade intervention in the landscape of the Central Waterfront, forms the southern boundary of the study area. The waterfront has an irregular shoreline created by fill and pier construction. Major piers include the irregularly-shaped Pier 70 at the north end of the shoreline, lined with ship ways, wharves, and drydocks; and the filled expanse of the container shipping facility at Pier 80, located at the southern end of the Central Waterfront, opened in 1967. Other manmade features include the trench and railroad tunnel network built by the Southern Pacific Railroad in 1904, and the I-280 right-of-way that transects the western part of the neighborhood.²

Development and vehicular and pedestrian circulation in the Central Waterfront area follows a standard American grid street pattern with named streets running north-south and numbered streets running east-west. According to the Wackenerud Map, the street network of the Potrero district was laid out as early as 1861, although many remained as “paper streets,” meaning that they were ungraded and unpaved well into the early twentieth century. Most of the numbered east-west streets dead-end east of Illinois Street, where major industrial properties occupy the waterfront. Kentucky (Third) Street, laid out in 1867 and widened in 1938, forms the main north-south artery through the area. The rest of the north-south streets are named for states, like rest of the Potrero district. The east-west streets of the Potrero district, originally named for California counties, were changed to numbered streets in the early 20th century to match the naming-convention of streets in the adjoining Mission and South of Market districts.³

With the exception of the residential enclave of Dogpatch, production, distribution, and repair uses dominate the Central Waterfront area. The most significant industries were historically concentrated along the waterfront, including the former Union Iron Works/Bethlehem Steel San Francisco Yard facility at Pier 70; the Pacific Gas & Electric facility at the foot of Humboldt Street; and the remnants of the Western Sugar Refinery at the foot of Twenty-Third Street. Smaller industrial and commercial properties that support waterfront industrial activity fill the street grid west of the waterfront, particularly within a linear section between Illinois and Third streets and in the filled area south of Twenty-Third Street. Commercial corridors are clustered at the intersections of Twenty-Second and Third streets and Twentieth and Third streets. A compact residential neighborhood of approximately eighty properties, commonly known as Dogpatch, is located near the center of the Central Waterfront, running along Minnesota and Tennessee streets between Mariposa and Twenty-Third streets.

Although residential and commercial uses are present, the Central Waterfront is unique in San Francisco for its concentration of heavy industrial buildings and associated waterfront infrastructure, including piers, pilings, seawalls, slips, drydocks, and cranes. Most of the Central Waterfront area was built well before the introduction of municipal zoning regulations in 1921, leading in part to the heterogeneous character of the area. Building types range from large multi-story brick, concrete, and steel-frame industrial buildings along the waterfront, to smaller pre-World War II brick and concrete light industrial structures along Illinois and Third Streets, to lighter corrugated steel and concrete warehouses south of Twenty-Third Street. The residential enclave of Dogpatch is mostly characterized by frame single-family and multiple-family housing, most of which was built between 1880 and 1920.

¹ Moses Corcoran *Central Waterfront Cultural Resources Survey Summary Report and Draft Context Statement* (San Francisco: San Francisco Planning Department, 2001), 15.

² *Ibid.*, 16.

³ *Ibid.*

DESCRIPTION BY BUILDING TYPE AND AREA

This section provides information on the building types and features found within the Potrero Point Historic District/Central Waterfront Area, and discusses each type within one of three sub-areas, where possible. The three sub-areas are: Pier 70 Waterfront, Dogpatch, and the Third Street Industrial District. The Pier 70 Waterfront is currently being evaluated by the Port of San Francisco, as part of the planning work anticipated for this area. Dogpatch is a locally-listed historic district. The Third Street Industrial District is detailed as part of this district record.

Industrial Buildings

The earliest industrial buildings in the Central Waterfront area were constructed in the 1850s for powder magazines, rope manufacturing and the early iron industry. Most of these buildings, few of which survive, were constructed of brick. Wood frame and wood-clad buildings were prevalent during this period, but over time have typically been refaced in corrugated steel siding or stucco. The following list discusses some of the most important concentrations of historic industrial buildings and structures in the Central Waterfront area.

Pier 70 Waterfront

The waterfront was historically the most desirable location for heavy industry, particularly industries dependent on either deep water access for launching ships or shipping. In the Central Waterfront area, the waterfront area, a swath of land located between Illinois Street and the Bay, attracted the largest and most well-financed industries, several of which still survive. Pier 70, a large irregularly shaped tract of fill, dry docks, wharves and finger piers was historically the location of Pacific Rolling Mills, Risdon Locomotive & Iron Works, Union Iron Works and Bethlehem Steel's San Francisco Yard. The site is occupied by largely vacant offices, machine shops, foundries, warehouses, dry docks, platforms, and ancillary buildings constructed in several major campaigns, beginning in 1883 and in subsequent periods including 1896-1900, 1912, 1917, and 1937-45. There are six extant buildings and structures from the earliest Union Iron Works period (circa 1883-1902). These include: Buildings 113, 114, and 104; Pier 68, Slip #4, and parts of the rail spur system. Additionally, later buildings incorporated parts of buildings from this period, including Buildings 118, 105, and possibly 109. One building survives from the operations of Risdon Locomotive & Iron Works at Pier 70: Building 21 (1900). There are four buildings and structures at Pier 70 that were constructed between 1905 and 1915 for Bethlehem Steel: Buildings 38, 102, 108, and 109. Approximately twenty-five buildings at Pier 70 were constructed for the Bethlehem Steel Company between 1937 and 1945.

Pier 70 is not a historic district, although it is informally treated as a potential National Register historic district by the City and County of San Francisco. Most of the historic buildings at Pier 70 have California Register Status Codes of '3D,' meaning that they "appear eligible for the National Register as a contributor(s) to a National Register eligible district through survey evaluation." Currently, the Port of San Francisco is completing historic documentation of the Pier 70 site.

Dogpatch

The most important industrial buildings in Dogpatch are two large timber-framed brick warehouses constructed after 1900 on land belonging to the Santa Fe Railroad. These include the San Francisco Building & Manufacturing Building at 800-50 Tennessee (1900), and the Schilling Wine Warehouse at 900 Minnesota (1906). During the 1920s and 1930s, industrial encroachment on Dogpatch increased and several additional industrial buildings were erected, including:

- 904 Twenty-Second Street, the concrete George Scharetg & Sons drayage warehouse (1919),
- 900 Tennessee Street, the steel-frame and corrugated metal-clad American Meter Company warehouse (1926), and
- 970 Tennessee Street, the Streamline Moderne style Taylor Machine Shop (1935).

Dogpatch is a local landmark district in San Francisco and as such most contributors have a status code of 5D1, meaning that they are contributors to a local district.

CONTINUATION SHEET*Third Street Industrial District*

A long swath of land between Dogpatch and Pier 70 contains a large number of manufacturing, repair, and processing plants constructed mostly during the first half of the twentieth century. Most of these industries did not require access to deep water but they were dependent on freight-hauling service provided by Santa Fe Railroad trains that ran along Illinois Street. Initially discussed in the 2001 Central Waterfront survey as a potential historic district comprised of "industrial-type buildings," this district is fully documented in this district record and is comprised of the following buildings:

- 2121 Third Street, Seaside Oil Company Plant (1930),
- 2203 Third Street, the Alberta Candy Company Building (1919),
- 2225 Third Street, M. Levin & Sons Warehouse (1924),
- 2250 Third Street (1919),
- 2255 Third Street, Jos. Levin & Sons Warehouse (1922),
- 2289-95 Third Street, a mixed-use commercial building and boarding house (1900),
- 2290-98 Third Street, Anglo America Trust Co. (1917),
- 2301 Third Street, the American Can Company Building (1915-29),
- 2350 Third Street, the Castelluo Machine Shop (1927),
- 2364 Third Street, the Pelligrini Bros. Winery (1939),
- 2400 Third Street, the Goodyear Rubber Co. Building (1937),
- 2440 Third Street, Bertsch Machine Works (1937),
- 2501 Third Street, the American Can Extension Building (1955), and
- 825 Tennessee Street, Bowie Switch Company Building (1926),
- 728 Twentieth Street, Dr. Frank M. Close Medical Center (1948),
- 1300 Illinois Street, the Pacific Telephone & Telegraph Co. Building (1947).

Most of these buildings have been assigned a status code of '5D2,' signifying their inclusion in a historic district eligible for local designation. For those properties that were previously assigned a NRSC of "4," Page & Turnbull completed an update of the evaluation of all of these properties through DPR 523L forms.

In addition to the aforementioned buildings, the Third Street Industrial District includes several properties just south of Pier 70 that once constituted PG & E's Potrero Station A and the remnants of the Western Sugar Refinery. PG & E's property includes five historic buildings: Station A, the Pump Station, the Gate House (all 1901), the Meter House (1914), and the Compressor House (1924). Most of these buildings are constructed of brick in the American Commercial style. The former Western Sugar Refinery plant stands south of the PG & E property at the foot of Twenty-Third Street. The plant was originally constructed in 1881 by Claus Spreckels but only two warehouses remain from a later expansion of the plant that occurred between 1923 and 1929. The rest of the plant has been demolished. These properties have been previously evaluated by qualified architectural historians. Although the Meter House and Compressor House on PG & E property were both found eligible for listing in the California Register have status codes of "7," along with the rest of the facility. The Western Sugar Refinery buildings were determined eligible for listing in the National Register. These buildings have a similar history and significance as the other properties found within the Third Street Industrial District and are considered contributors to the sub-district.

Minnesota and Indiana Streets

Several historic industrial and food processing buildings continue to stand in isolated pockets of the Central Waterfront area, and are located outside of the three sub-areas: Pier 70 Waterfront, Dogpatch, and Third Street Industrial District. Constructed along Santa Fe spur lines along Indiana and parts of Minnesota Street, these buildings are extremely varied in regard to construction materials and methods and industries housed within them. Some of the more notable examples include:

- 590 Minnesota Street, the California Bag Company warehouse (ca. 1929),
- 600 Minnesota Street, the California Canneries Company (ca. 1900),
- 580 Indiana Street, the E.J. Bartells Co. Building (1946), and

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- 1275 Minnesota Street, the Crown Products Corp. Plant.

Retail and Mixed-use Buildings

Restaurants, bars, groceries and other neighborhood services have operated within the Central Waterfront since its earliest days, serving the working-class residents of the area. Many of these building types were constructed as two-or-three-story buildings with commercial uses on the ground floor and residences above. The existing retail and mixed-use buildings are generally located along Third Street at the intersections of Twentieth and Twenty-Second streets within the Dogpatch neighborhood. They are characteristically small-scale buildings constructed of wood, brick or concrete, and many have been altered over time.

There are seven mixed-use residential and commercial buildings, mostly within the Dogpatch Historic District. Most of these were built around 1900, and are typically two-or-three-story structures located on corner lots. Examples of this type include 900-02 Twenty-Second Street (built 1899), and 700 Twenty-Second Street (built 1912). Others are larger residential hotels or lodging houses with commercial space on the ground floor, including the Kentucky Hotel at 2500-03 Third Street (1902), and the March Hotel at 726-32 Twenty-Second Street (1917). There are a handful of other residential hotels located along Third Street outside Dogpatch.

Residential Buildings

Outside of the Dogpatch neighborhood, there are only seven residential buildings within the Central Waterfront area. These wood-frame houses were largely constructed as housing for workers employed at nearby factories. The majority of housing that continues to exist outside Dogpatch is typically part of mixed-use structures (ground floor commercial with residential above), or dwellings that remain from compact residential areas that have been largely demolished. Notable examples of this type of housing include:

- 2636-2638 Third Street, the oldest residential building outside of Dogpatch, but within the study area (circa 1875),
- 670-674 Tennessee Street, a two-story frame house that appears heavily altered (circa 1884),
- 2476-2478 Third Street, another two-story frame building that appears heavily altered (1900), and
- 1270 Indiana Street, a single-family dwelling that is isolated within an industrial zone in the southern part of the study area (1893).

Dogpatch is the only significant concentration of residential structures in the Central Waterfront; of the 100 buildings built during the period of significance, 83 are wood-frame residential structures built before 1930. Of these, 32 are single-family dwellings; 41 are multi-family dwellings; eight are commercial buildings with residential above; and two are residential hotels. Multi-family dwellings were constructed in Dogpatch throughout most of the period of significance, with the greatest number erected between 1900 and 1917. 920-22 and 924-26 Minnesota, built as a pair in 1900, as well as most buildings on the west side of Minnesota Street between Twentieth and Twenty-Second Streets, or the north side of Twenty-Second Street between Minnesota and Tennessee Streets, are home to many good examples of this type. The single-family dwelling is the second-most common residential building type in Dogpatch, with thirty surviving within the district boundaries. Single-family dwellings were generally divided into two main subcategories: spec-built workers' cottages that were rented to laborers, such as the "Pelton cottages" located at 1002-1014 Tennessee (constructed 1890-91); or larger single-family dwellings built by more affluent skilled laborers, such as 700-02 and 704 Tennessee (constructed 1883 and 1891, respectively). Single-family dwellings were constructed throughout the period of significance, although relatively few were built after 1900. Most contributing buildings within Dogpatch have CHRSC of '5D2,' thus designating them as "Contributor to a district that is eligible for local listing or designation."

Civic Buildings

There are four surviving public and civic buildings in Dogpatch:

- 1060 Tennessee Street, the Irving M. Scott School (1895);
- 2300 Third Street, the Potrero Police Station (1912);
- 2310 Third Street, Potrero Emergency Hospital (1915); and
- SFPD Engine House #16.

Typically more architecturally significant than residential or commercial buildings, several of the civic buildings have higher status codes, including the Irving M. Scott School, which has a status code of '1S,' meaning that it is an individual property listed in the National Register. In addition, the Potrero Police Station, Potrero Emergency Hospital, and SFPD Engine House #16 all have a status code of '5B1,' meaning that it is a contributor to a locally designated district (Dogpatch) and are individually significant.

Transportation-Related Resources

The railroad tunnels under Iowa Street and many of the railroad tracks seen today in the Central Waterfront area were constructed in the first decade of the 20th century. Between 1904 and 1907, the Southern Pacific cut tunnels for trains under Iowa Street to create the alignment for what became known as the "Bayshore Cut Off." The tracks laid through these tunnels continued south over a bridge at Islais Creek. Spurs to individual warehouses were also built to allow rail cars to deliver goods from ships to warehouses. Buildings were often constructed around the locations of the rails and set back 10 feet to accommodate the width of a rail car.

This network of tunnels and associated bridges over Twenty-Second and Twenty-Third streets were recognized by the San Francisco Planning Department as a National Register-eligible district and as a result have a status code of '3D.'

Landscape Features

Irish Hill, historically a small residential enclave, was located between Illinois, Maryland, Twentieth, and Humboldt Streets. Over the past 100 years, the hill has been reduced in size to the extent that only a "T" shaped portion remains. The remaining portion is located within three areas: the unopened portion of Michigan Street, and portions of Assessor's blocks 4111 and 4120. Irish Hill represents two major significant themes. First, it represents the extent to which industry has made the land in the study area conform to its needs through a system of grading and filling of San Francisco Bay—primarily in the Pier 70 area. Gravel and soil taken from Irish Hill over the years was also used as fill material for the reclamation of land from the Bay at Islais Creek Basin and Mission Bay. Second, Irish Hill represents the last vestige of an entire residential neighborhood Irish Hill a historically working-class residential enclave of workers' housing demolished in various stages of shipyard expansion.

Contributors to the Central Waterfront: Pier 70 Waterfront District

The list of contributors to the Pier 70 Waterfront District will be further refined by documentation to be published by the Port of San Francisco. However, the 2001 Central Waterfront Cultural Resources Survey provides an evaluation and examination of all Pier 70 properties.

Contributors to the Central Waterfront: Dogpatch Historic District

The list of contributors to the Dogpatch Historic District is defined in Appendix L, Article 10, San Francisco Planning Code.

Contributors to the Central Waterfront: Third Street Industrial District

The following properties are contributors to the Third Street Industrial District:

APN	Address	Resource Name
	20 th Street	20 th and Illinois streets paving

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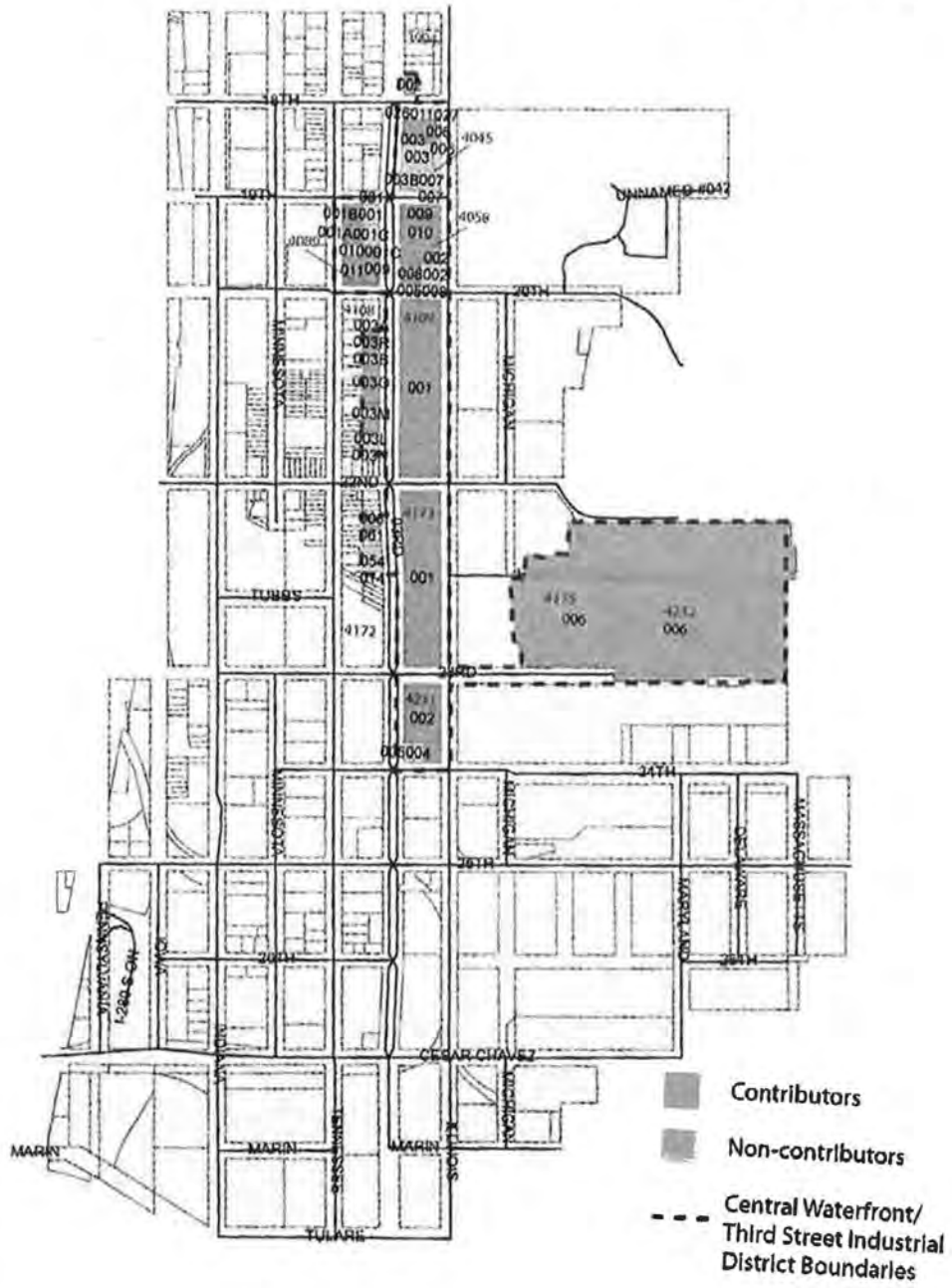
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3994 002	2085 3 rd Street	Gilmore Oil Co. Office Bldg
4045 002	2121 3 rd Street	Seaside Oil Co. Plant
4058 005	2289-2295 3 rd Street	
4058 009	2201-2203 3 rd Street	Alberta Candy Company
4058 010	2225 3 rd Street	M. Levin and Sons Warehouse
4058 010	2255 3 rd Street	Jos. Levin and Sons Warehouse
4059 001A-001B	815-825 Tennessee Street	Bowie Switch Co.
4059 008	2250 3 rd Street	
4059 009	2290-2298 3 rd Street	Anglo California Trust Co.
APN (cont'd)	Address (cont'd)	Resource Name (cont'd)
4059 011	724-728 20 th Street	Dr. Frank M. Close Medical Clinic
4108 003	2350 3 rd Street	
4108 003J	2440 3 rd Street	Bertsch Machine Works
4108 003R	2360-2364 3 rd Street	Pellegrini Bros. Winery
4108 030	2400 3 rd Street	Goodyear Rubber Co.
4109 001	2301 3 rd Street	American Can Co. Building
4172 005	2530 3 rd Street	(1516-1510 Kentucky Street)
4172 007	2542-2544 3 rd Street	(1522 Kentucky Street)
4173 001	2501 3 rd Street	American Can Co. Southern Ext.
4175 006	1201 Illinois Street	PG&E, Station A Power Plant
4175 006	1201 Illinois Street	PG&E, Pump House, Station A
4175 006	1201 Illinois Street	PG&E, Meter House, Station A
4175 006	1201 Illinois Street	PG&E, Compressor House, Station A
4175 006	1201 Illinois Street	PG&E, Gate House, Station A
4232 010	435 23 rd Street	Western Sugary Refinery Warehouses
4232 010	435 23 rd Street	Western Sugary Refinery Warehouses
4231 002	1300 Illinois Street	

Central Waterfront/Third Street Industrial District



D4. Boundary Description (continued)

The eastern boundary—San Francisco Bay—would seem an obvious demarcation line. Historically speaking, however, the bay was not much of an impediment to eastward expansion, as streets were platted far out into the bay and filling operations added several acres of new industrial sites in the area. Therefore, the eastern boundary extends out into the Bay in order to encompass all of the filled lands that encompass Piers 70 and 80. The southern boundary—Islais Creek—marks what was once the center of a vast area of tidal marshes that was not filled until the 1920s, ending only with the construction of Pier 80 in 1967. South of Islais Creek is the Bayview Hunters Point District.

Pier 70 Waterfront

Refer to 2001 Central Waterfront Cultural Resources Survey completed by San Francisco Planning Department for a description of the boundaries of Pier 70.

Dogpatch Historic District

The boundaries of the Dogpatch Historic District are defined in Appendix L, Article 10, San Francisco Planning Code.

Third Street Industrial District

The proposed Third Street Industrial District posited by this district record is a narrow linear district bounded by Eighteenth Street to the north (inclusive of the Carpenters' Union Hall at 2069 Third Street), Illinois Street to the east, Twenty-fourth Street to the south, Third Street to the west, and those parcels that encompass PG&E Station A (APN 4175 006) and the remnants of the Western Sugar Refinery (APN 42320010). The proposed district also includes several properties on the west side of Third Street between Twentieth and Twenty-Second streets and the contiguous block bounded by Nineteenth, Third, Twentieth, and Tennessee streets.

The illustrated map on the next page provides an accurate visual account of the boundaries of the Potrero Point Historic District and the three sub-areas.

D5. Boundary Justification (continued)

Pier 70

Pier 70 is treated as a local landmark district and it has been determined eligible for listing in the National Register as a nationally significant historic district.

Dogpatch

The Dogpatch Historic District is already listed as a local landmark district. The boundaries of this district are listed in Appendix L of Article 10 of the San Francisco Planning Code.

Third Street Industrial District

The boundaries of the proposed Third Street Industrial Historic District encompass the highest concentration of significant light industrial and processing properties remaining in the Central Waterfront district. The linear character of the district boundaries is dictated by the separation of heavy maritime industrial uses along the waterfront from the residential enclave of Dogpatch. The intermediate zone between the two areas gradually developed with light industrial, repair, warehousing and food processing businesses, as well as some wholesale businesses, such as oil distribution companies, that needed to have proximity to rail lines along Third Street as well as a local labor force of blue collar workers. Historically, the blocks between Third and Illinois have been occupied by manufacturing operations and warehouses, most notable of which is the vast American Can Company plant.

The proposed Third Street Industrial Historic District links Pier 70 and Dogpatch and provides a sense of historical and geographical continuity between the two areas. Potentially, these three districts could be conceived as a single entity, San Francisco's only historic district that recognizes the remaining infrastructure of a mixed-use industrial and residential community, once the most important industrial zone on the West Coast.

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D6. Significance (continued)

Many are good examples of late-19th and early 20th-century American industrial design, justifying the district's eligibility for listing in the California Register under Criterion 3 (Design/Construction).

PREFACE

The Central Waterfront is presently the focus of millions of dollars of private and public investment. Increasing residential development, in particular the arrival of dozens of newly constructed "live-work lofts" placed an increasing amount of pressure on the older residential and industrial resources of the study area. In response to these development pressures, the San Francisco Planning Department surveyed the Central Waterfront at the same time that Page & Turnbull surveyed the Dogpatch neighborhood. Both surveys were completed in 2001 and both surveys were adopted by the San Francisco Landmarks Board and Planning Commission prior to being submitted to the Office of Historic Preservation (OHP) and listed in the Historic Resources Inventory (HRI). The Dogpatch Cultural Resources Survey resulted in the listing of the "Dogpatch Historic District," a local historic district (See Appendix L, Article 10, San Francisco Planning Code), which qualified it for listing in the California Register of Historic Resources. The San Francisco Planning Department provided funding to Kelley & VerPlanck Historic Resource Consulting and Page & Turnbull, to complete an update of the 2001 Central Waterfront Survey through the completion of a DPR 523D (District Record) form and DPR 523L (Continuation/Update Sheets).

In the Central Waterfront Cultural Resources Survey, each property was assigned a National Register Status Code (NRSC) ranging from 1 to 7. The Planning Department's *Central Waterfront Cultural Resources Survey Summary Report and Context Statement* includes a spreadsheet that lists each property and its status code. In August 2003, the State adopted the new California Historic Resource Status Codes (CHRSC). The adoption of the CHRSC resulted in the need to re-evaluate properties assigned an NRSC of 4, including many properties in the Central Waterfront.

The Central Waterfront also includes several properties that have been evaluated separately in environmental review documents initiated by other undertakings. These include five surviving historic structures at the PG & E Potrero Station at 1201 Illinois Street. Evaluated by historian Ward Hill for Dames & Moore in 1999, Mr. Hill found the historic Meter House (1914) and the Compressor House (1924) eligible for listing in the California Register under Criterion 1 (events) based on their association with PG & E's gas manufacturing facility. The other three buildings, recorded by Mr. Hill on California Department of Parks and Recreation (DPR) 523A forms: the Gate House (1901), Station A (1901 & 1930), and the Pump House (1930), were determined to be ineligible based on lack of integrity due to the demolition of a large portion of Station A in 1983. Other buildings in the Central Waterfront evaluated separately include two surviving buildings of the Western Sugar Refinery facility at 435 Twenty-Third Street. The warehouses, built in 1923 and 1929, were recorded by architectural historian Michael Corbett on DPR 523A and B forms in 2001. Mr. Corbett found the two warehouses to be eligible for listing in the National Register under Criterion A (event(s)).

The residential enclave of Dogpatch aside, the Central Waterfront area includes 114 industrial and commercial buildings; ten retail, mixed-use buildings; seven residential buildings; and eight structures and objects, which include railroad tracks, railroad tunnels, historic basalt paving, and cranes and other marine structures. Dogpatch contains 122 parcels, of which 100 contain buildings constructed during the period of significance. The period of significance selected for the Central Waterfront study area in 2001 was 1854 to 1948, with the earlier date recognizing the earliest industrial development in the study area and the later date selected to mark the end of World War II and the immediate post war boom.

This updated context statement and district record includes an updated period of significance spanning the years 1872 to 1958. The year 1872 indicates the date of construction of the earliest known building or structure in the area (the Thompson House at 718 Twenty-Second Street) and 1958 marks fifty years before the present year (2008), a standard threshold used by the National Park Service in evaluating historic properties. Furthermore, moving the period of significance forward to 1958 encompasses many of the postwar light industrial and food processing buildings that were erected contemporaneously with the newly filled tidal lands south of Twenty-Third Street.

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HISTORIC CONTEXT: PREHISTORIC ERA – 1776

Prior to European contact, California was home to what author Malcolm Margolin has called “the densest Indian population anywhere north of Mexico.”⁴ It has been estimated that between 7,000 and 10,000 Native Americans inhabited the Bay Region. The Spanish called the indigenous inhabitants *costeños*, or “coastal peoples.” Today, the term Ohlone is preferred by their descendants. The Ohlone who lived within what is now San Francisco spoke a dialect called Ramaytush, which was probably intelligible to other Ohlone bands living as far away as the Santa Clara Valley and the East Bay.⁵

The Ohlone were semi-nomadic people who inhabited small seasonal villages near streams and tidal flats, where they had ready access to fresh water and food sources such as waterfowl, fish, and various kinds of shellfish. Hunting small terrestrial and marine mammals, and gathering seeds, nuts, roots, shoots and berries, were also important sources within the Ohlone diet. One of the most important sources of nutrients, as suggested by the presence of grinding rocks and *manos* and *metates* near most Ohlone settlements, were acorns provided by Oak trees.⁶

The Ohlone had a rich material culture that made use of both the materials at hand as well as goods traded with inland tribes. Tules harvested from coastal marshes were used to build houses and to make baskets. Balsa logs were utilized to make seafaring canoes used for trade, fishing and hunting. The Ohlone manipulated stone and bone fragments to make arrowheads, scrapers, knives, spears, hooks, sewing needles, and other tools. Furs were used to create cold weather clothing and bedding. The Ohlone were particularly adept at decorative basketwork and making personal ornaments, such as necklaces and earrings, from feathers, shells, bones and other materials.⁷

It is uncertain when the first humans settled in the San Francisco area. Colder and less hospitable than the Santa Clara Valley or the East Bay, what is now San Francisco was probably settled at a later date than surrounding areas. The early history of Ohlone is difficult to ascertain as many of their prehistoric sites have been built over or destroyed to make way for development. The earliest known occupation sites in San Francisco have been radio-carbon dated to about 5,000 to 5,500 years ago, and prehistoric middens containing both burials and artifacts have been dated to 2,000 years ago.⁸

According to several sources, the northern part of the San Francisco Peninsula was located within the Yelamu tribal territory of the Ohlone. The closest permanent Ohlone village to the Central Waterfront was called *Chutchni*, located on Mission Creek. The group of people who lived at *Chutchni* would move seasonally to harvest shellfish at another village on San Francisco Bay called *Sillintac*, located along the tidal flats of what is now the Mission Bay area.⁹

HISTORIC CONTEXT: EUROPEAN SETTLEMENT AND THE SPANISH/MEXICAN PERIOD (1776-1846)

The earliest recorded history of the Central Waterfront area dates from the late 18th century in conjunction with the simultaneous establishment of Mission San Francisco de Asís (Mission Dolores) and the Presidio de San Francisco in 1776. At that time, the natural landscape of the Central Waterfront was vastly different than it is today. The majority of the area formed an irregular, broad, hilly peninsula surrounded by Islais Creek inlet to the south, San Francisco Bay to the east, and a broad expanse of tidal mud flats called Mission Bay to the north. A steep extension of Potrero Hill, called Potrero Point, extended east into San Francisco Bay, boasting elevations of as much as 150' above sea level. The geographic bounds afforded by the peninsula made the area a natural grazing place for the Mission's cattle herds, giving the area the name *Potrero*, or “pasture” in Spanish. After secularization of the missions in 1833, the Mexican government granted the Potrero Hill area to the sons of Francisco de Haro, the first alcalde of San Francisco. The land became

⁴ Malcolm Margolin, *The Ohlone Way* (San Francisco: Heyday Books, 1978), 1.

⁵ Allen G. Pastron, Ph.D. and J. Dale Beevers, *From Bullfights to Baseball: Archaeological Research Design and Treatment Plan for the Valencia Gardens Hope VI Project* (Oakland: December 2002), 16.

⁶ *Ibid.*, 17.

⁷ *Ibid.*, 18.

⁸ National Park Service, Southeast Archaeological Center, “An Unvanishing Story: 5,500 Years of History in the Vicinity of Seventh & Mission Streets, San Francisco,” Website: <http://www.cc.nps.gov/seac/sfprehis.htm>

⁹ Allen G. Pastron, Ph.D. and J. Dale Beevers, *From Bullfights to Baseball: Archaeological Research Design and Treatment Plan for the Valencia Gardens Hope VI Project* (Oakland: unpublished report, December 2002), 18.

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part of the vast Rancho Potrero de San Francisco, and continued in use as grazing land well into the American period.¹⁰

HISTORIC CONTEXT: EARLY AMERICAN PERIOD - FIRST INDUSTRIAL AND RESIDENTIAL DEVELOPMENT, TRANSPORTATION INFRASTRUCTURE, LAND DIVISION (1846-1886)

The Central Waterfront area remained largely undeveloped following the American acquisition of California in 1848. The tidal mud flats of Mission Bay physically isolated the area from the burgeoning mixed-use industrial and residential district of the South of Market Area. Similarly, the high stone rise of Potrero Point limited useable land in the area to pasturage and light agriculture. A brief episode in the city's early squatter was occurred in the Central Waterfront area. In 1849, John Townsend and Cornelius de Boom attempted to establish a squatters' settlement on de Haro's land at Potrero Point, but the effort soon disintegrated.¹¹

Gunpowder Manufacturing (1854-1881)

The physical isolation of the Central Waterfront was pivotal in the development of the area as an early industrial center in San Francisco. A city ordinance in the early 1850s forbidding dangerous industries from operating near settled areas—combined with intensifying development in the South of Market district—led to the removal of certain industries from the existing city limits. The remote location and access to deep water anchorage at Potrero Point attracted gunpowder manufacturer, E.I. du Pont de Nemours Company, to the Central Waterfront in 1854. The E.I. du Pont de Nemours Company, one of the largest manufacturers of black powder in the United States, constructed the first powder magazine on the West Coast on the south shore of Potrero Point, near what is now the corner of Maryland and Humboldt streets (no longer extant). This facility first appears on the 1857 Coast Survey and Geodetic Map. Gunpowder was in demand for use in mining and local street grading in San Francisco. By 1855, a second gunpowder manufacturer, the Hazard Powder Company, constructed a facility on Twenty-Third Street between Maryland and Louisiana streets (no longer extant). Both facilities built wharves for shipping and receiving along the shoreline. Gunpowder manufacturers remained at Potrero Point until 1881, when encroaching industrial and residential development forced them to sell their plants to sugar baron, Claus Spreckels. The manufacturers subsequently moved to rural Contra Costa County.

Rope Manufacturing (1857-1886)

The same need for large tracts of vacant land and access to deep-water anchorage brought maritime industries to Potrero Point. The San Francisco Cordage Manufactory, a pioneer rope-making facility, moved to Potrero Point in 1857. Brothers Alfred and Hiram Tubbs constructed a 1,000 foot ropewalk extending into the Bay from the present-day intersection of Iowa and Twenty-Second streets. The complex was comprised of a large brick structure and several smaller offices, warehouses and sheds. The company sold rope to ship riggers and mining companies throughout the western United States, Mexico, Peru, China and Japan. Later renamed Tubbs Cordage Company, the business was one of the largest employers in the area during the 1870s. The 1886 Sanborn Map shows the facility as being comprised of several large brick buildings, including a building containing offices and spinning jennies, several sheds, and a 1,500 foot rope walk which extended into San Francisco Bay on a plank pier.

Shipbuilding (1862-1872)

Following the establishment of San Francisco Cordage Manufactory, the industrialization of Potrero Point began to intensify. Boat and ship builders in search of deep-water access made the move from the older and more congested South of Market district to Potrero Point. In 1862, John North, San Francisco's most prominent shipbuilder, relocated his shipyard from Steamboat Point to a large site near the foot of Sierra Street (now Twenty-Second Street) on Potrero Point. Other shipbuilders such as Henry Owens, William E. Collyer, and Patrick Tiernan soon followed suit.¹² The construction of shipyards began to change the landscape of the area—an important theme in the physical evolution of the Central Waterfront. The 1869 Coast Survey map shows five wharves and shipways along the rugged coastline. The early shipyards illustrated the potential of the district as a major ship building center, a realization not lost on the owners of Union Iron Works and other major San Francisco manufacturers. The shipyards also began to attract a significant residential labor force to the area. According to the 1869 Coast Survey Map, many of the earliest residents lived either on the steep hillsides of Potrero Point (later called Irish Hill), or west of Kentucky Street in the flats presently known as Dogpatch. The oldest surviving dwelling in the Central Waterfront is a gable-roofed frame dwelling located at 718 Twenty-Second Street in Dogpatch. Built in 1872, the dwelling originally

¹⁰ "Genesis of Our Hill," *Potrero View* (September 1976), 1.

¹¹ Hubert Howe Bancroft, *History of California, Volume 6* (San Francisco: A.L. Bancroft and Co., 1888), 194.

¹² Roger and Nancy Olmsted, *San Francisco Bayside Historical Cultural Resource Study* (San Francisco: 1982), 191.

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housed a boat builder named William J. Thompson, who worked in the employ of Locke & Montague.

Long Bridge (1865-68)

Continued industrial development in the Central Waterfront area depended on improved communication with downtown and the Northern Waterfront. The creation of such infrastructure was in large part carried out by speculators anticipating the completion of the transcontinental railroad in 1869. Flush with dividends from the Comstock Lode mines, speculators invested heavily in unimproved lands on Potrero Point. Before large-scale industrial development could occur, though, Mission Bay—a large tidal flat separating Steamboat and Potrero Points—needed to be bridged. Investors were eventually rounded up to finance what would be called Long Bridge. The first pilings were driven off Steamboat Point in February 1865, and two years later the Potrero bridgehead was completed near Mariposa Street.¹³

Kentucky (Third) Street (1868-1893)

By 1868, the route established by Long Bridge continued south from the bridgehead through a trench blasted out of serpentine rock. Originally called Kentucky Street (now Third Street), this was the first major vehicular route to traverse the Central Waterfront. It crossed Islais Creek and eventually terminated at the Bayview District, then known as South San Francisco. In this first major alteration of the topography of Potrero Hill, over 100,000 cubic yards of rock were removed and dumped in Mission Bay.¹⁴ Within a few months of the opening of Long Bridge, horse car lines operated by the Potrero & Bayview Railroad were taking day-trippers out to the Bayview Race Track.¹⁵ Land values rose accordingly. Originally, the cost of maintaining Kentucky Street was the responsibility of its private owners, but in 1893 the Board of Supervisors accepted Kentucky Street as a municipally-maintained street and paved it in basalt blocks.¹⁶

Land Transformation (1869-1886)

Perhaps no other district in San Francisco has been physically transformed to such an extent as the Potrero District. Massive blasting and earthmoving projects undertaken by industrialists, railroads and street builders gradually removed the eastern arm of Potrero Hill, using the rubble to fill adjoining marshlands and "water lots." The latter were tracts of submerged "land" granted by the State of California to various industries. The filling of Mission Bay and the leveling of the eastern arm of Potrero Hill began as early as the 1860s with the completion of Long Bridge and the acquisition of the Alford Grant by Pacific Rolling Mills. The *San Francisco Examiner* ran a feature story on Potrero Point in August 1889, which described the tremendous physical changes that had occurred during the previous twenty years:

There is no portion of San Francisco where the work of 'the mighty hand of man' is shown so plainly, perhaps, as in that district known as the Potrero. Elsewhere within the city's boundaries vast changes have been brought about...work was strictly that of development. But here it is far different. The pioneers of progress at the Potrero, have had first actually to create the very ground upon which have been erected those vast establishments that have given to the district its name and fame as the very foremost center of mechanical industry and wealth-producing enterprises upon the Coast.

Where the massive factories now stand solidly along the level shore, which bristles with its rows of piers, was once but a choice between precipitous hillsides, along which a goat could scarcely make his way, and noxy fowl-smelling marshes, a mere glance at which would seem sufficient to have utterly discouraged the most progressive combination of energy and capital.

Great stretches of craggy bluffs have disappeared. Vast masses of rock have been blasted away from the hillsides and thrown upon the marshes. Thousands and thousands sink into the depths and left no trace, but a time came at last when the vast dumping process had its effect, and the solid earth appeared above the surface. The mountain had perished! That portion it was necessary to remove so that the

¹³ Henry Langley, *The Pacific Coast Business Directory* (San Francisco: 1867), 14.

¹⁴ Henry Langley, *The Pacific Coast Business Directory* (San Francisco: 1867), 15.

¹⁵ Moses Corrette *Central Waterfront Cultural Resources Survey Summary Report and Draft Context Statement* (San Francisco: San Francisco Planning Department, 2001), 18.

¹⁶ Board of Supervisors of the City and County of San Francisco, Tables showing status of streets in San Francisco (San Francisco: The Hinton Printing Co., 1895).

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great manufactories could take root -- and with the mountain had gone the marshes.¹⁷

Early Transportation Infrastructure (1869-1886)

Railroads, in particular the mighty Southern Pacific, were the most powerful force in California politics during the 19th century. Through adept manipulation of the political process, the railroads successfully acquired extensive tracts of land in the Central Waterfront area. Potrero Point remained an important base of operations for the Southern Pacific, and later the Western Pacific and Atchison Topeka & Santa Fe, well into the 20th century. In 1869, the Southern Pacific and then-rival, Western Pacific (not to be confused with the post-1903 railroad with the same name), acquired most of Mission Bay from the State of California. Both railroads made out quite well, each receiving 150 acres and extensive rights-of-way throughout the Central Waterfront.¹⁸ In the absence of a direct connection between San Francisco and the Transcontinental Railroad railhead in Oakland, the Southern Pacific (and eventually the Atchison, Topeka & Santa Fe and Western Pacific), established car ferry slips in the Central Waterfront to allow westbound trains to access San Francisco's main depot at Third and Townsend streets.

Early Iron Industry (1868-1886)

In anticipation of the completion of Long Bridge, several early iron manufacturers began purchasing large tracts of bayside land on Potrero Point. The first was Pacific Rolling Mills. Organized on May 10, 1866 by industrialists William Alvord, John Bensley, and Darius C. Mills, Pacific Rolling Mills received from the State Legislature a grant of submerged land north of Potrero Point known as the Alvord Grant. Alvord, the president of Pacific Rolling Mills, then purchased approximately twenty acres of adjoining dry land on Potrero Point and began building wharves and buildings at the foot of Napa Street (now Twentieth Street). By July 1868, Pacific Rolling Mills was producing rolled steel, a first for the West Coast.¹⁹ From 1868 onward, Pacific Rolling Mills turned out approximately 30,000 tons of iron and 10,000 tons of steel annually, most of which came from locally obtained scrap metal. The company also manufactured items such as rails, locomotive parts, marine and engine forgings, bolts, nuts, railroad spikes, track nails, washers and coil chains.²⁰ In 1882, historian J. S. Hittell described the labor conditions for the largely Irish immigrant workforce, many of whom lived in the adjoining community of Irish Hill, as follows:

From 430 to 450 men are employed in the different shifts. The rates of wages are 25 percent higher than the Eastern states. Common laborers receive from \$1.75 to \$2 per day; puddlers, rollers, and the millmen are paid by the ton, and make about \$4 a day; and those in charge of a gang of men receive \$8 per day.²¹

Early Gas Light Companies (1872-1886)

Early industries such as iron manufacturing and shipbuilding were soon joined by manufacturers and distributors of gas for both street lights and household lighting and cooking. The City Gas Company was the first gas works to relocate to Potrero Point. In 1872, the company began building a complex on four blocks of land fronting the bay between Humboldt and Sierra (Twenty-Second) streets. In 1873, City Gas Company merged with Metropolitan Gas Company and San Francisco Gas Company to form the San Francisco Gas Light Company. The 1886-87 Sanborn Map shows the company's facilities on Potrero Point as occupying a tract of land bounded by Georgia Street to the west, Pacific Rolling Mills to the north, San Francisco Bay to the east, and Humboldt Street to the south. The facility included a large plank wharf and adjoining coal shed, a "retort house," a purifying house, several sheds and storage buildings, an office building and two massive gas tanks.

California Sugar Refinery (1881-1886)

The pioneer sugar industry in California owes a huge debt to German immigrant Claus Spreckels. He established his first refinery in the South of Market in 1863. In 1881, he purchased a five-block site on the south shore of Potrero Point from gunpowder manufacturers and commenced construction of the California Sugar Refinery. The massive brick buildings which comprised the plant included a "melt/filter

¹⁷ "The Potrero as It Is," *San Francisco Examiner* (August 11, 1889), p. 14.

¹⁸ Stuart Daggett, *Chapters on the History of the Southern Pacific* (New York: The Ronald Press Company, 1922), 99-100.

¹⁹ J.S. Hittell, *Commerce and Industry of the Pacific Coast* (San Francisco: A.L. Bancroft, 1882), 682.

²⁰ William Issel and Robert W. Cherny, *San Francisco: 1865-1932* (Berkeley: University of California Press, 1986), 30.

²¹ J.S. Hittell, *Commerce and Industry of the Pacific Coast* (San Francisco: A.L. Bancroft, 1882), 683.

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house," a "wash house" and a "char house." All were designed in 1881 by a New York architect named Hepworth.²² By 1884, these huge works were described as "the most complete concern of the kind in the world, and in size ranks with the great refineries of Brooklyn, New York, and St. Louis."²³ The 1886 Sanborn Map shows the layout of the facility (no longer extant), including a ten-story brick filter house and refinery, machine shop/blacksmith's shop, a row of one-story frame shops along the western edge of the property, a two-story melting house and three massive timber-frame warehouses—one of which sat atop a large wharf.

Union Iron Works (1882-1886)

From the early-1880s onward, Union Iron Works evolved into the most important industry on Potrero Point. According to census records, it was the largest employer in the area, employing anywhere between a quarter to half of Dogpatch's residents. Union Iron Works was founded in 1849 by the brothers Peter, James, and Michael Donahue. Although initially little more than a blacksmith's shop, Union Iron Works was the first iron works established on the West Coast. In 1862, the company became known as Donahue Iron & Brass Company. A few years later, when H. J. Booth, Irving M. Scott and George W. Prescott joined the firm, it was renamed Union Iron Works. In 1865, the pioneer firm established its position as the most important iron-manufacturing firm in the West when it built the first locomotive on the West Coast for the San Francisco-San Jose Railroad. Within the next decade, Union Iron Works manufactured 90 percent of the heavy machinery used by mining companies working the Comstock Lode. By 1865, Peter Donahue sold his interest in Union Iron Works, and for the next ten years the company was known as H. J. Booth & Co.²⁴

In the early 1880s, H. J. Booth & Co. was reorganized under the management of partner Irving Murray Scott and renamed Prescott, Scott & Co—although it was popularly still known as Union Iron Works. One of Scott's first major accomplishments was to purchase thirty-two acres of land with deep-water frontage on the north side of Potrero Point, adjacent to Pacific Rolling Mills. In 1883, he oversaw the construction of the new Union Iron Works plant at Potrero Point. The total cost of the shipyard came to approximately \$2 million, an extremely large sum for the day. The buildings, which were designed by a civil engineer named Dr. D. E. Melliss, included a boiler shop, a blacksmiths' shop, a riveting and erecting shop (Building 112, which is still extant), a machine shop (Building 113, also still extant), a 120-foot chimney, a brass-plating shop, an iron foundry and a pattern shop. The shipyard was connected to transportation lines via a Southern Pacific spur line. As the operation grew, the physical site was expanded through fill operations that involved removing rock from Irish Hill and dumping it in the Bay. Shipways, cranes, and long wharves were constructed to handle ships of virtually any size. Gradually, Union Iron Works bought out its nearby competitors at Potrero Point, including Atlas Iron Works and Risdon Iron & Locomotive Works.²⁵

California Barrel Company (1884-1955)

Another early industry at Potrero Point was the California Barrel Company. First established at Potrero Point in 1884 on Louisiana Street between Humboldt and Nevada (Twenty-Third) streets, the company was one of the oldest barrel manufacturers in San Francisco. Its original Central Waterfront location adjoined another important maritime chandlery business: Tubbs Cordage Company. According to the 1886 Sanborn maps, the facility consisted of four, large gable-roofed buildings, including a manufacturing building/machine shop and three large warehouses.²⁶ In 1900, California Barrel Company sold part its old facility to adjoining landowner, Claus Spreckels, and consolidated its operations on a block bounded by Twenty-Second, Michigan, Humboldt, and Illinois streets. With the introduction of steel containers in the 1950s, the demand for barrels for shipping and storage declined. By 1955, the facility was torn down and replaced by the American Can Company Annex.

Other Industries (1869-1886)

Contrary to predictions, the completion of the Transcontinental Railroad in 1869 unleashed an economic downturn in San Francisco, as local industries suddenly found it difficult to compete with the influx of inexpensive goods manufactured in Eastern states. As domestic industries collapsed, land values, which had been bid up by speculators over the past decade, likewise declined. The development of Potrero Point and the Central Waterfront temporarily halted. Nonetheless, surviving industries began to recover during the early 1870s,

²² Bancroft Library, University of California-Berkeley, Documents and materials pertaining to the Western Sugar Refinery collected by Dan Gudeben.

²³ Michael Corbett, *Historic Architecture Report for 4352 Third Street, City and Count of San Francisco* (San Francisco: unpublished report by URS Corporation, 2001), 5.

²⁴ Robert O'Brien, "Riptides: From Shoves to Ships," *San Francisco Chronicle* (October 21, 1949).

²⁵ "The New Union Iron Works and the Arctic Oil Works," *San Francisco Morning Call* (January 24, 1884), 1.

²⁶ Christopher VerPlanck, *Context Statement—Dogpatch Cultural Resources Survey* (San Francisco: 2001), 7.

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partially as a result of an influx of cheap immigrant labor from eastern cities which helped the industries of Potrero Point be more competitive. In 1871, the State of California auctioned off the remaining water lots surrounding Potrero Point to various industries. Despite another slump that lasted from 1878 to 1884, the industries of Potrero Point continued to expand. The Coast Survey Map of 1883, the first prepared since 1869, show that the existing industries at Potrero Point had been joined by the Arctic Oil Works, the Southern Pacific Cattle Yards, the Atlas Iron Works and the California Barrel Company. These businesses also appear on the 1886 Sanborn Map, the earliest to provide detailed illustrations of development in the Central Waterfront.

Aside from the industries discussed above and the residential enclaves of Irish Hill and Dutchman's Flat (now Dogpatch), there was little other industry or development. Most of the area remained either submerged beneath water or was too steep to develop. The only other industries shown on the 1886 Sanborn Map not discussed above were located near the intersection of Sonoma (Twenty-fourth) and Minnesota streets. Located on the edge of what was still labeled on the map as a "Tide water basin," was a pair of businesses more closely related to nearby Butchertown: the Potrero Compressed Yeast and Vinegar Company and the Ohlandt & Co. Bone Charcoal Works. In addition, the 1886 Sanborn Map depicted a pair of buildings (a car barn and hay barn) belonging to the Potrero & Bay View Railroad near the corner of Nevada (Twenty-Third) and Kentucky streets, as well as a small encampment of Chinese shrimp fishermen located on a block bounded by Nevada, Kentucky, Sonoma, and Minnesota streets.

Residential and Commercial Development (1867-1886)

The arrival of several large industries in the Central Waterfront during the 1860s created a need for a local labor supply. In theory, the completion of Long Bridge in 1867 and the provision of transit along Kentucky Street made the area accessible to the teeming South of Market and its large labor force. But despite improved access, Potrero Point was still difficult to access for those of moderate means. The Potrero & Bay View Railroad charged hefty fares and Long Bridge was a toll bridge, making the commute to Potrero Point too expensive for most laborers. In the absence of reliable public transit, most industrial workers in San Francisco had to live within walking distance of their place of employment. In order to accommodate workers, provisions were made by corporations to allow them to settle on less desirable tracts of land, particularly the steep hillsides behind Pacific Rolling Mills and within a narrow band of land west of Kentucky Street (Dogpatch). The 1869 Coast Survey map shows only a few scattered dwellings near the bridgehead on Kentucky Street, and another cluster of cottages south of Pacific Rolling Mills on Irish Hill.²⁷

Houses constructed in the Central Waterfront were either built on speculation by landlords and rented out to workers, or built by the workers themselves—either on privately held residential lots or on company-owned land. The proximity of many residences to industrial properties and railroad sidings often resulted in houses exposed to noise and smoke and built on irregularly-shaped parcels. Regardless of where they built, house builders faced significant challenges; building sites often had to be terraced from steep, rocky hillsides or built up over marshy, low-lying ground. An article in the August 11, 1889 edition of the *San Francisco Examiner* described the conditions faced by house builders:

Allowing that the factories were built, the mills and docks erected, communication with the city established—this, in itself a Herculean task—there still remained the problem of housing the great armies of workmen, without whom the wheels and the hammers and the forges must forever remain useless and silent. All could not come from a distance and on those bleak and almost inaccessible hillsides there seemed no more chance for human habitations than upon the low-lying, repulsive and tide-swept marsh.

And about the centers of industries which flourish, so to speak, the lifeblood of what has now come to be the vigorous young community, has grown up the town. More and more of the hillsides were leveled down; more and more of the marsh built up into high and solid ground.

Pathways, alleys and finally broad streets and avenues were graded through or up the slopes, and such of the bigger acclivities (sic) as were allowed to remain were terraced and graded and made the sites of numberless cozy (sic) homes. As the industries of the place grew and the necessity for more building ground, both for business purposes and homes, increased, the streets were carried further, though in many instances at least, at almost incredible toil and expense, and more favorable locations were

²⁷ Christopher VerPlanck, *Context Statement—Dogpatch Cultural Resources Survey* (San Francisco: 2001), 9-11.

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*opened up.*²⁸

The demand for housing in the area remained acute throughout the history of the Central Waterfront, accounting for the overall high residential densities.²⁹ Areas that were easiest to build on were developed first. The 1886 Sanborn Map indicates that the earliest concentrations of houses were located near the intersection of Illinois and Twentieth streets; on Irish Hill; and along the intersections of Tennessee and Eighteenth and Tennessee and Twenty-Second streets in Dogpatch.³⁰ The residential districts of the Central Waterfront comprised the only significant concentration of urbanization within the entire Potrero District during the 1870s and 1880s. The 1883 Coast Survey Map and the 1886 Sanborn Maps indicate that most of "upper" Potrero Hill remained pasture, and consequently, when San Franciscans referred to the "Potrero" during this time, they generally referred only to the urbanized portion along the Central Waterfront.³¹

Irish Hill, the older of the two residential neighborhoods in the Central Waterfront, was located in an area bounded by Illinois Street to the west, Napa (Twentieth) Street to the north, Maryland Street to the east and Humboldt Street to the south. Irregularly shaped, Irish Hill consisted of two separate areas: a district of approximately 60 cottages huddled on a steep outcropping behind Union Iron Works, and a compact district of approximately 40 lodging houses occupying all four blocks surrounding the intersection of Illinois and Twentieth streets. As suggested by its name, contemporary Census records from 1880 indicate that Irish Hill was a solidly working-class neighborhood inhabited largely by single Irish male laborers.³²

"Dutchman's Flat," now known as Dogpatch, developed a few years later than Irish Hill and consisted of two separate clusters of flats and cottages, saloons, shops and several churches. The 1886 Sanborn Map shows only the southernmost section of the neighborhood, in particular what is now the 1100 block of Tennessee Street south of Sierra (Twentieth) Street. This area consisted for the most part of rows of identical two-story frame flats clustered along Tennessee and Kentucky streets; several tenements along Sierra Street; the original Potrero School; and several small cottages built on the irregularly shaped diagonal lots aligned with the Tubbs Cordage ropewalk. Several remain standing today, including the Thompson Residence at 718 Twenty-Second Street (1872), and several flats on the 1100 block of Tennessee. Although not shown on the map, there was another small cluster of houses centered around the intersection of Tennessee and Solano (Eighteenth) streets, including the Castner Residence at 707 Eighteenth Street (1876). According to the 1880 Census, most of the residents of Dogpatch/Dutchman's Flat were American-born skilled craftsmen employed either in the boatyards or by Tubbs Cordage. Some were also skilled ironworkers employed at Pacific Rolling Mills. Aside from these two clusters of development, Dogpatch remained largely undeveloped, dominated by rocky outcroppings and impassible streets.³³

As a small, self-contained industrial/residential neighborhood removed from the rest of the city, Dogpatch supported several small groceries, butcher shops and vegetable stands within the survey boundaries. The principal commercial districts included Solano (Eighteenth) Street between Iowa and Kentucky streets, and Sierra (Twenty-Second) Street between Minnesota and Kentucky streets. Prior to its demolition during the First World War, the intersection of Illinois and Twenty-Second Streets in Irish Hill was the most dynamic commercial area, accommodating saloons, groceries, cafes and other businesses.³⁴

HISTORIC CONTEXT: BOOM TIMES IN THE CENTRAL WATERFRONT (1886-1900)

Industrial Development (1886-1900)

Union Iron Works, Pier 70 (1886-1900)

Following the collapse of the Comstock Lode boom in 1878, San Francisco—and by extension the entire state of California—entered a recession that lasted through the mid-1880s. By 1886, the regional economy had recovered and the industries of the Central

²⁸ "The Potrero as It Is," *San Francisco Examiner* (August 11, 1889), 14.

²⁹ Christopher VerPlanck, *Context Statement—Dogpatch Cultural Resources Survey* (San Francisco: 2001), 9-11.

³⁰ *Ibid.*

³¹ *Ibid.*

³² *Ibid.*

³³ *Ibid.*

³⁴ *Ibid.*

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Waterfront were again running full bore. Irving Scott's Union Iron Works led the way with an ambitious campaign to expand its maritime operations. Union Iron Works launched its first ship, the 800-ton collier *Ango*, in April 1885.³⁵ Soon after, the company submitted bids to build new warships for the U.S. Navy, putting it into direct competition with major East Coast shipyards. Union Iron Works won two important commissions in 1888: the battle cruisers *USS Charleston* and *USS San Francisco*. These were followed in 1893 by the legendary cruiser *USS Olympia* (Admiral Dewey's flagship during the siege of Manila in 1898), and the battleship *USS Oregon*. These two ships were especially crucial in solidifying Union Iron Works' growing reputation as one of America's most important shipyards.³⁶

Much to the chagrin of eastern shipyards, Scott took advantage of a preferential bid-price formula designed by the federal government to encourage shipbuilding on the West Coast. As a result, Union Iron Works gained a healthy share of the contracts that led to the creation of the Great White Fleet, the symbol of American Naval might. Thanks to the ongoing Navy contracts, Union Iron Works expanded its labor force to around 1,500 workers by 1893. In 1896, Irving Scott retained the firm of Percy & Hamilton to design a new headquarters/drafting house for the shipyard (Building 104—still extant). In the decades that followed, Union Iron Works launched dozens of battleships, armored cruisers, submarines, destroyers and other craft, making it the rival of major shipyards around the world. One of these ships was the *USS Ohio*, one of the biggest battleships (otherwise known as 'dreadnoughts'), of its era. President McKinley, Irving M. Scott's close friend, presided over the laying of the keel in 1899 after being escorted to the ceremony by a group of schoolchildren from Irving M. Scott School in Dogpatch.³⁷ The 1899-1900 Sanborn maps show a vastly expanded shipyard comprised of the 1883 machine shop, forge/erecting shop and foundry, the 1896 headquarters, a boiler shop, flange shop, pattern shop, plate shop, dozens of other ancillary shops, as well as six large slips and a dry dock. Union Iron Works was located on the northern portion of what is now known as Pier 70, which is generally defined by City Block 4046.

Pacific Rolling Mills/Risdon Iron Works, Pier 70 (1898-1900)

In 1898, Pacific Rolling Mills closed its doors on the southern portion of what is now known as Pier 70 (generally defined by City Block 4052), unable to withstand Eastern competition. Not long after it was acquired by Risdon Iron & Locomotive Works, manufacturers of mining equipment, locomotives and dredges. Risdon, founded in 1855 by blacksmiths John Risdon and Lewis Coffey, originally focused on manufacturing boilers. In 1868, the company expanded its focus, entering the maritime sector by making engines for steamships. During this time the company became known as Risdon Iron & Locomotive Works. The company's plant was located on a full block in the South of Market bounded by Folsom, Howard, Beale, and Main streets. In 1891, the company changed its name to Risdon Iron Works, and in 1899 it acquired the defunct Pacific Rolling Mills and relocated much of its manufacturing operations to Potrero Point. It was there that the company branched out into shipbuilding.³⁸

Western Sugar Refinery, Pier 70 (1891-1900)

Claus Spreckels' California Sugar Refinery remained within the top five employers of residents in the Central Waterfront well into the 1940s. Concerns over political instability in Hawaii in the early 1890s caused Spreckels to diversify into sugar beet cultivation and refining throughout central California. The Potrero plant continued to play a major role as a refiner of imported Hawaiian sugar and was listed in city directories variously as the California, or increasingly, the Western Sugar Refinery. The 1899-1900 Sanborn map labels the facility as the Western Sugar Refinery. Although the plant was doubtlessly constantly being modernized, the footprint of the individual buildings did not change greatly between 1886 and 1900. Raw Hawaiian sugar was delivered by ship to the massive east wharf and then moved into adjoining warehouses. The sugar would then be moved from the warehouses to the melt wash house, and from there through the melt filter house where refining would take place. The refined sugar was then transported via conveyors to a large warehouse located south of Twenty-Third Street where it would be stored in bags prior to shipment via rail or ship.³⁹

³⁵ George R. Adams, *National Register of Historic Places Inventory - Nomination Form: "San Francisco Yard"* (Nashville, TN: unpublished nomination form prepared by the American Association for State and Local History, 1978), 8-3.

³⁶ *Ibid.*, 8-4.

³⁷ Christopher VerPlanck, *Context Statement—Dogpatch Cultural Resources Survey* (San Francisco: 2001), 7-8.

³⁸ *The Bay of San Francisco: The Metropolis of the Pacific Coast and its Suburban Cities* (San Francisco: The Lewis Publishing Co., 1892), 309. Ivan Peterson, *The Risdon Iron Works* (San Francisco: unpublished manuscript at the Maritime Museum Library, 1948), 1-6.

³⁹ Michael Corbett, *Historic Architecture Report for 1352 Third Street, City and Count of San Francisco* (San Francisco: unpublished report by URS Corporation, 2001), 7.

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San Francisco Gas & Electric Co. Pier 70. (1897-1905)

In 1897, industrialist Joseph Crockett's San Francisco Gas & Electric took over the San Francisco Gas Light Company plant at Potrero Point.⁴⁰ In 1898, powerful sugar magnate Claus Spreckels complained to Joseph B. Crockett about smoke from Crockett's downtown gas light plant damaging Spreckels' Market Street office building. When Crockett apparently brushed off Spreckels' complaints, the latter hired New York engineer, A.M. Hunt, to design a competing gas light plant to be erected next to Spreckels' Western Sugar Refinery on the former site of the California Barrel Company facility at Potrero Point. Completed in late 1901, Spreckels' Independent Electric Light & Power Company expanded the physical presence of the gas light generation industry at Potrero Point. The facility, which consisted of a large powerhouse (Station A), a machine shop, a meter house, and a purifying house on Humboldt Street, was eventually sold to San Francisco Gas & Electric Company in 1903 following the ouster of Crockett.⁴¹

California Barrel Company (1886-1900)

In 1900, California Barrel Company sold part its old facility to adjoining landowner, Claus Spreckels, and consolidated its operations on a block bounded by Twenty-Second, Michigan, Humboldt, and Illinois streets. The 1899-1900 Sanborn map still shows the company as owning two parcels, with the main manufacturing works and offices located at the corner of Twenty-Second and Illinois streets. Storage was accommodated in several warehouses on a large tract located on Humboldt Street. According to the Sanborn map, both facilities had rail access provided by Southern Pacific spurs.

Railroads (1886-1900)

After the demise of the first Western Pacific Railroad in the 1870s, the Southern Pacific enjoyed a monopoly in the Central Waterfront throughout the rest of the 19th century. Although the state gave most of Mission Bay to the railroad in 1869 with the condition that it fill the mud flats, the 1899-1900 Sanborn map indicates most of the area remained unfilled. The Southern Pacific ran an extensive network of spur tracks throughout the entire Central Waterfront area, using Illinois Street as its principal right-of-way. Prior to the completion of the Southern Pacific's Bayshore Cut Off line in 1907, the track network in the Central Waterfront effectively operated as a cul-de-sac, transporting manufactured goods from the Central Waterfront to the main Southern Pacific Depot at Fourth and Townsend streets via tracks that ran along a route following sections of Illinois, Seventeenth, Pennsylvania, and Seventh streets. From there, trains would depart for the main railhead in Oakland from a car ferry slip located at the foot of King Street.⁴² According to the 1899-1900 Sanborn map, the Southern Pacific also maintained a large network of livestock corrals on the west side of Illinois Street, between Twentieth and Twenty-Second streets (now the location of the American Can Company).

In search of a more direct and level route from San Jose to San Francisco, the Southern Pacific began building the so-called "Bayshore Cut Off" in 1904. The Cut Off ran along the eastern shore of the San Francisco Peninsula from San Bruno to the San Francisco Depot. In effect, this project relocated the main north-south trunk line through the western part of the Central Waterfront area. The route was partially trenched and tunneled through the eastern edge of Potrero Hill following the alignments of Pennsylvania and Iowa streets. The project, which cost almost ten million dollars, resulted in the construction of two double-track tunnels through the Central Waterfront: one at the intersection of Twenty-Second and Iowa streets (Tunnel No. 1), and the other at Twenty-Third and Iowa (Tunnel No. 2). Constructed of concrete with Romanesque facades of brick and sandstone, these tunnels still exist, providing a unique gateway to downtown San Francisco. The network of two tunnels and two bridges at Twenty-Second and Twenty-Third streets were determined eligible for listing in the National Register in the Planning Department's Central Waterfront Survey of 2001.⁴³

The Atchison, Topeka & Santa Fe (Santa Fe) Railroad entered the Bay Area following the completion of a competing railhead at Richmond in 1900. The Santa Fe acquired several blocks of land in the Central Waterfront, and established a network of tracks that ran north along Illinois Street, with a parallel line running along Iowa and Indiana streets. The company's real estate arm, the Santa Fe Land

⁴⁰ Ward Hill, *Historic Architecture Report: Station A Potrero Power Plant in the City and County of San Francisco* (San Francisco: Dames & Moore, 1999), 3-4.

⁴¹ Ibid.

⁴² Sanborn Fire Insurance Company, *Sanborn Maps for San Francisco, California: Volume 5 (1899-1900)*.

⁴³ Moses Corrette, *State of California Department of Parks and Recreation Primary Record: "Bayshore Cutoff Tunnels No. 1 & 2"* (San Francisco: San Francisco Planning Department, 2001).

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Improvement Company, acquired a substantial portion of the rugged Potrero Point peninsula, including much of the acreage that comprises the northern part of Dogpatch—including sections of Blocks 4043, 4060, 4061, 4106, and 4107. The Santa Fe Land Improvement Company gradually graded and developed its holdings in the area, including the construction of a row of cottages along the 900 block of Minnesota Street, and the construction of two large brick warehouses which still stand: the Schilling Wine Cellars warehouse at 900 Minnesota, and the Hulme & Hart Wool Scourers plant at 800-50 Tennessee Street.⁴⁴

Other Industries (1886-1900)

According to the 1899-1900 Sanborn maps, the Central Waterfront area was still largely confined to Potrero Hill and filling operations had created new industrial sites along the margins of San Francisco and Mission bays. A handful of smaller industries were located on the periphery of the established industrial core of the Central Waterfront, including the Potrero Compressed Yeast and Vinegar Works at Twenty-Third and Minnesota streets, and the Ohlandt & Co. Bone Black and Fertilizer Works located immediately south at Twenty-fifth and Minnesota streets. Both of these businesses were on the 1886 Sanborn map. The nearby Chinese shrimpers' village which appears on the 1886 Sanborn map had, by the time of the 1899-1900 map, been partially taken over by a small poultry ranch. Much of the northern part of the Central Waterfront—the area bounded by Iowa, Sixteenth, and Mariposa streets and San Francisco Bay—was still unfilled marshland and tidal lagoon. The only significant industrial development in the area consisted of two oil companies. According to the 1899-1900 Sanborn map, Union Oil Company maintained a small oil distribution facility on the northwest corner of Mariposa and Illinois streets. The much larger Arctic Oil Works/Pacific Steam Whaling Company complex was located on a large tract of filled ground that extended into San Francisco Bay between Sixteenth and Seventeenth streets. Formed in 1877 to hunt Arctic whales, the company established a refinery to process lamp oil on the property. Administered by former California Governor, George C. Perkins, Arctic Oil Works became one of the largest whale oil producers in the world until the popularity of gas and electricity put it out of business in the early 20th century.⁴⁵

Residential and Commercial Development (1886-1900)*Residential Development (1886-1900)*

The expansion of Union Iron Works was the most significant factor behind the continued residential development in the Central Waterfront during the 1880s and 1890s—and beyond. Indeed, for the next seventy years the fortunes of the neighborhood ebbed and flowed with the largest shipyard on the West Coast. Observers of the “new Potrero” remarked on the steadily growing residential character of the area as it was transformed from a quasi-rural district into a workingman's suburb inhabited largely by immigrant families employed in the industries of Potrero Point.

The residence portion of the Potrero may be said to be divided like ancient Gaul, into three parts, the “old town” is that first divided, mentioned as crowning the heights above the waterside factories, and the principal means of gaining access to which are long flights of stairs [Irish Hill]. Another section is that which has also been referred to as lying to the southwest in the valley next to the cordage factory [Dogpatch].

The days of the cliff-dwellers is passing. Many and many scores of modest homes still crown the heights which frann above the great waterside factories, and to which the principal means of access is still long flights of wooden stairs, but it is upon the gentler and more pleasing sites that rows of cottages, in later days erected, are located, and for long stretches of level or slightly rising streets, bordered by broad, tree-shaded sidewalks mark the new Potrero...⁴⁶

The density of residential development in Dogpatch remained sparse in comparison with Irish Hill until the early years of the 20th century. Reasons for the relatively uneven level of development include the fact that much of land was occupied by large rock outcroppings or owned by the Archison, Topoka & Santa Fe railroad. The 1899-1900 Sanborn map indicates that approximately half of the existing enclave of Dogpatch was occupied by clusters of single-family cottages and two or three-story flats. The central section of the neighborhood, a roughly four-block area bounded by Eighteenth, Kentucky, Minnesota and Kentucky Place, remained

⁴⁴ Christopher VerPlanck, *Context Statement—Dogpatch Cultural Resources Survey* (San Francisco: 2001), 4-5.

⁴⁵ Hubert Howe Bancroft, *History of California, Volume 6* (San Francisco: A.L. Bancroft and Co., 1888), 408-11.

⁴⁶ *San Francisco Examiner* (August 11, 1889).

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undeveloped. Notes on the map indicate that the blocks were occupied by steep banks rising to 50 feet in elevation.

Despite the obstacles, some of the Central Waterfront's most distinctive residential development occurred between 1886 and 1900. One of the most significant developments was a cluster of identical Eastlake cottages erected on the northern end of a block bounded by Twentieth, Tennessee, Twenty-Second, and Minnesota streets. This cluster of thirteen extant (originally sixteen) identical Eastlake style workers' cottages stands near the central part of the area on Tennessee and Minnesota streets, between Twentieth and Twenty-Second streets. The so-called "Pelton cottages" were constructed between 1890 and 1891 by a local carpenter named Rees O. Davis for speculators Jacob and John O. Reis. The Reis brothers owned more land in Dogpatch than any other entity beside the Santa Fe Land Improvement Company, but instead of developing their lands for industrial use, the Reis' constructed small wood-frame cottages which were rented to local workers. The cottages were based on architectural patterns drawn up by San Francisco architect John Cotter Pelton, Jr. A progressive housing reformer and practicing architect, Pelton published plans of inexpensive, single-family cottages in the pages of the *San Francisco Bulletin* between 1880 and 1883. The plans and specifications were geared toward working-class San Franciscans intent on building their own housing, but who could not afford to hire an architect. Ironically, many speculators used the plans to build rental housing, such as the cottages built by the Reis brothers in Dogpatch.⁴⁷

Around 1890, the Santa Fe Land Improvement Company utilized John Cotter Pelton Jr.'s plans to build a row of seven identical double houses on the west side of Minnesota Street between Twentieth and Twenty-Second streets. Between 1890 and 1900, the Santa Fe Land Improvement Company rented these cottages to its railroad workers. In 1900, the company decided to redevelop the large lot with a brick warehouse (the Schilling Cellars Wine Warehouse). But instead of tearing the cottages down, the Santa Fe sold the cottages to John O. Reis, who moved them to a large parcel with frontage on both Tennessee and Kentucky streets. Most of the relocated Kentucky Street cottages were demolished when Third Street was widened in the 1930s; however, one of the cottages survives at 997-99 Tennessee Street.⁴⁸

Meanwhile, Irish Hill continued to grow with large residential hotels going up along Illinois, Michigan, and Humboldt streets. Although there were still cottages and shacks perched on the hill above Union Iron Works, the expansion of the plant before and during the Spanish-American War resulted in the removal of some of the hilltop dwellings as the bank was cut away to build more warehouses and workshops. Ethnically, both Irish Hill and Dogpatch were predominantly Irish by 1900, although Dogpatch was more ethnically diverse, with German, Scandinavian, Japanese, and Italian residents.⁴⁹

Civic Development (1886-1900)

Both Irish Hill and Dogpatch were served by the new Irving Scott School, built in 1895 (extant). Originally founded in 1865 on the corner of Twentieth and Kentucky streets, the school was moved to its current site in 1877. Swamped with the children of workers, the San Francisco School Department hired architect Thomas J. Welsh to design a \$22,834 addition facing Tennessee Street. This building, which still exists and is listed in the National Register of Historic Places, was renamed for Irving Scott, the superintendent of Union Iron Works. Scott, a benefactor of the school, contributed money and equipment and saw to it that the education program for boys centered on vocational training and trades useful for employment at Union Iron Works. The Central Waterfront received its first fire station in the early 1880s when the San Francisco Fire Department erected Station #16, an Eastlake-style, wood-frame firehouse at 1009 Tennessee Street (not extant).⁵⁰ The 1899-1900 Sanborn map also shows a small police station located at 609 Twentieth Street (not extant).

Religious Institutions (1886-1900)

The religious and cultural life of Central Waterfront residents is reflected in the churches that began appearing in the area during the last quarter of the 19th century. The area acquired its first religious institution in 1869 when a congregation of seventeen Scottish ironworkers built a small Protestant chapel on Tennessee Street. The first regular Catholic services in the Central Waterfront began as early as the 1860s, when priests from St. Peter's began celebrating Mass in the dining room of the Breslin Hotel in Irish Hill. In 1880, Archbishop Patrick Riordan established a new parish in area, calling it St. Teresa, after St. Teresa of Avila. Father John Kenny was appointed the first pastor and a former warehouse was converted into a church. In 1892, Father Patrick O'Connell built a church for

⁴⁷ Christopher VerPlanck, *Context Statement—Dogpatch Cultural Resources Survey* (San Francisco: 2001), 14-15.

⁴⁸ *Ibid.*

⁴⁹ Christopher VerPlanck, *Context Statement—Dogpatch Cultural Resources Survey* (San Francisco: 2001), 12-13.

⁵⁰ Christopher VerPlanck, *Context Statement—Dogpatch Cultural Resources Survey* (San Francisco: 2001), 13.

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the parish on the northeast corner of Nineteenth and Tennessee streets.⁵¹ Despite these developments, the Central Waterfront never appears to have been a hotbed of religious activity. The 1899-1900 Sanborn map shows only two churches within the survey boundaries: St. Teresa's at 600 Nineteenth Street, and Potrero Methodist Episcopal Church at 714-16 Tennessee Street (still extant).

Commercial Development (1886-1900)

As a small, self-contained industrial/residential neighborhood removed from the rest of the city, the Central Waterfront supported several compact commercial districts containing small green grocers, butcher shops and saloons. The principal commercial districts included Eighteenth Street between Iowa and Kentucky Streets, and Twenty-Second Street between Minnesota and Kentucky Streets. Prior to its demolition during the First World War, the intersection of Illinois and Twenty-Second Streets in Irish Hill was the most dynamic commercial area, accommodating saloons, groceries, cafes and other businesses. Most businesses were housed in the first floor of mixed-use commercial/residential buildings, with many merchants living above their business. Census research indicates that many neighborhood merchants worked in one of the local industries before opening their own business. Green grocers and butchers were frequently run by German immigrants, and saloons and general merchandise stores by Irish immigrants.⁵²

HISTORIC CONTEXT: DISASTER AND RECOVERY IN THE CENTRAL WATERFRONT (1900-1929)

1906 Earthquake

The 1906 Earthquake was a major factor behind population growth in the Central Waterfront during the early 20th century. The 1906 Earthquake and Fire left approximately 250,000 San Franciscans homeless. Especially hard-hit was the working-class industrial/residential South of Market district. After the disaster, many earthquake refugees made their way to undestroyed parts of the Mission and Potrero districts where they squatted on parkland and empty lots. The Red Cross Relief Corporation established a large refugee camp on several parcels of unimproved Santa Fe land bounded by Eighteenth, Kentucky, and Indiana streets and Kentucky Place. By autumn 1906, the Army tents that housed the refugees were replaced with more substantial two-and-three-room prefabricated wood dwellings euphemistically called "refugee cottages." During the reconstruction of San Francisco, many earthquake refugees decided to move to outlying parts of the city, including the Central Waterfront.⁵³

Industrial Development (1900-1929)

Union Iron Works/Bethlehem Steel (1900-1929)

Between 1900 and 1929, Union Iron Works (known after 1905 as Bethlehem Steel San Francisco Yard) absorbed an increasingly larger share of the Central Waterfront's employment pool. By the conclusion of the Spanish-American War, the shipyard had become the single-largest employer in the neighborhood, employing approximately 25 percent of Dogpatch residents and an even higher proportion of Irish Hill residents. Other iron-working concerns, such as Risdon and Atlas Iron Works, employed additional neighborhood residents until the companies were absorbed by Bethlehem Steel. The years leading up to American participation in the First World War witnessed significant growth at Bethlehem Steel's San Francisco Yard. Several million dollars were invested in modernizing and expanding the shipyard, including the addition of a state-of-the-art powerhouse (Building 102—extant) in 1912. With orders from the British and American Navy, the shipyard expanded south into what was Irish Hill. A new office building (Building 101—extant) was completed in 1917 at the northeast corner of Twentieth and Illinois streets. Also in 1917, Bethlehem Steel added a concrete foundry (Building 115—extant), an ordnance repair shop/warehouse (Building 116—extant), and various smaller machine shops, watch buildings, garages and washrooms. By 1920, Bethlehem Steel employed 50 percent of the householders in the Central Waterfront.⁵⁴

Western Sugar Refinery (1900-1929)

Western Sugar Refinery remained one of the top five employers in Dogpatch until the early 1950s, employing 1,000 men and between 10 percent and 15 percent of local residents. Throughout this period, Claus Spreckels' sons, J. D. and A. B. Spreckels, ran the company. In

⁵¹ Margaret Henry, "Potrero Hill History," prepared for Potrero Neighborhood Bicentennial Festival, 1976.

⁵² Christopher VerPlanck, *Context Statement—Dogpatch Cultural Resources Survey* (San Francisco: 2001), 12.

⁵³ Interview with Edward Cicerone, conducted by Cheryl and Clark Taylor, (May 1964).

⁵⁴ United States Census Schedules (1920).

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response to growing competition from C & H Sugar, they continually modernized the Potrero Plant, which remained the company's primary refiner of raw Hawaiian sugar on the mainland. In 1923 and 1929, respectively, the Spreckels brothers demolished several older wood-frame sugar warehouses and replaced them with modern concrete warehouses—two of which still survive at 435 Twenty-Third Street. A comparison of the 1900 and 1913 Sanborn maps illustrates the growth of the Western Sugar Refinery, with several new warehouses located alongside the East Wharf.

Pacific Gas & Electric Co. (1905-1929)

The merger of the California Gas & Electric Company with San Francisco Gas & Electric in 1905 created Pacific Gas & Electric (or PG&E), the largest private utility company on the West Coast. PG&E went on to run its San Francisco Plant, known as Station A, for the next 70 years. The 1913-15 Sanborn map illustrates the PG&E plant, which at this time wraps around Spreckels' Western Sugar Refinery on three sides. The steam plant housed in the large brick building at the center of the property was the largest of its kind in the West until 1913. Operating as a "peaker" plant, Station A was nonetheless capable of supplying electricity for the entire city. Station A was heavily remodeled and upgraded in 1929-30. A large section of the original building still exists, as well as the historic office building and gatehouse. The San Francisco plant also contained remnant gas manufacturing facilities from the old City Gas Company. Housed in three buildings adjoining two large gas tanks at the western end of the property, the facility featured the 1914 meter house (extant), the 1924 compressor house (extant), and the purifying house (demolished 1960). During the first decades of the 20th century, PG&E employed a relatively small number of Central Waterfront residents. Not as labor-intensive as Bethlehem Steel or other manufacturing operations, PG&E relied on a small, highly trained staff.⁵⁵

California Barrel Company (1900-1929)

The California Barrel Company continued to grow throughout the first quarter of the 20th century after consolidating its operations at Twenty-Second and Illinois streets in 1900. Barrels remained in high demand throughout much of the period for use as wine caskets and maritime shipping containers. The 1913-15 Sanborn map indicates that the California Barrel Company had expanded beyond its cramped property to include the former site of the Pacific Refining and Roofing Company facility on Michigan Street.⁵⁶

Tubbs Cordage Company (1900-1929)

In addition to the California Barrel Company, other maritime-related industries continued to thrive in the Central Waterfront—namely the Tubbs Cordage Company, which was the oldest surviving industry in the area. Although its offices were located at 200 Bush Street, Tubbs Cordage continued to operate its plant in the Central Waterfront. The 1913-15 Sanborn map indicates that the configuration of the factory underwent relatively little change from 1900, although the 1,500 foot ropewalk had been truncated so that it terminated at Kentucky Street. According to Census records, the company continued to employ a fairly large number of local residents on the ropewalk, and also as overseers and mechanics.⁵⁷

American Can Company (1900-1929)

American Can Company, the largest manufacturer of cans in the United States, was the last industrial company to construct a major facility in the Central Waterfront. By 1910, there were few suitable vacant parcels remaining in the area. Early in 1915, American Can Company purchased a two-block tract of land bounded by Twentieth, Illinois, Twenty-Second, and Kentucky streets. On the 1913-15 Sanborn map, this tract appears mostly vacant and ungraded. The American Can Company began construction on the first section of its new facility in 1915. Designed by architect N.M. Loney, the \$172,000 factory was completed in 1916. The facility was expanded in 1923 and 1929, and eventually employed upwards of 1,200 workers, becoming one of the largest employers of Central Waterfront residents by 1930. The entire four-building complex remains intact today.⁵⁸

Railroads (1900-1929)

From 1900 onward, the Southern Pacific yielded most of the Central Waterfront to its rival, the Santa Fe Railroad. As a major

⁵⁵ Ward Hill, *Historic Architecture Reports: Station A Potrero Power Plant in the City and County of San Francisco* (San Francisco: Dames & Moore, 1999), 3-4.

⁵⁶ 1913-15 Sanborn Fire Insurance Map.

⁵⁷ 1913-15 Sanborn Fire Insurance Map.

⁵⁸ Moses Corrette, *State of California Department of Parks and Recreation Primary Record: "American Can Co. Building"* (San Francisco: San Francisco Planning Department, 2001).

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landowner in the area, the Santa Fe used its money and influence to construct miles of spur tracks to connect its properties with its main freight tracks on Illinois Street. The Santa Fe also had a secondary line that branched off of Illinois Street at Twenty-fifth Street before heading north along Iowa Street. From there it ran parallel to the Southern Pacific's Bayshore Cut Off to the new Southern Pacific Roundhouse at Mariposa and Minnesota streets. During this period, a third railroad company entered the market: the Western Pacific. Reusing the name of the its long-defunct namesake, the new Western Pacific reached the Central Waterfront via a car ferry slip located on landfill at the foot of Twenty-fifth Street. From there, the line ran west along Twenty-fifth to Iowa Street where it passed beneath Potrero Hill through a tunnel and continued on to the newly developed warehouse district on the western edge of Mission Bay. After acquiring water lots on either side of its car ferry slip, the real estate arm of the Western Pacific—the Standard Realty Development Company—began to fill in the bay south of Twenty-Third Street.⁵⁹ Meanwhile, the 1913-15 Sanborn maps indicate that Mission Bay had been entirely filled by the Southern Pacific, which then built a large roundhouse on the site.

Other Industries (1900-1929)

By the end of the 1920s, the Central Waterfront was increasingly dominated by a handful of major industries as discussed above. Many of the smaller industries that appear on the 1899-1900 Sanborn maps or in city directories had either been absorbed by the larger companies or had gone out of business. Arctic Oil Works was replaced by Hooper Lumber Company at the foot of Mariposa and Seventeenth streets. Other lumber yards, displaced from the South of Market, relocated to the Central Waterfront—most notably Christenson Lumber, located opposite Hooper Lumber Company at Mariposa and Illinois streets. A small area just south of the lumber yards along the Bay remained the province of small boat yards, including John Twigg & Sons and G.W. Kneass Boat Building. Located opposite the shipways of the mighty Bethlehem Steel shipyard, the smaller boat yards took advantage of the deep water of the Central Basin. Between 1900 and 1915, the Santa Fe Land Improvement Company leased much of its landholdings in the Central Waterfront to various businesses, including construction supply, iron working, and alcohol makers and distributors. Early examples of industrial buildings erected on Santa Fe land include: the 1900 San Francisco Building & Manufacturing Company at 800 Tennessee Street (extant), and the 1906 Schilling Wine Cellars building at 900 Minnesota (extant). The 1913-15 Sanborn map also shows several large, wood-frame, steel-clad warehouses and manufacturing facilities, including C. J. Hillard Co. Ornamental Iron Work at 654 Minnesota Street (demolished), George Tay & Co. Plumber Supplies at 700 Minnesota (demolished), and Ralston Iron Works at 830 Indiana Street (extant). At the southern end of the study area, the Central Waterfront remained largely unfilled tidal flats, although the Western Pacific had begun filling along Twenty-Fifth Street. In addition to some dilapidated houses, the only industry in the southern part of the study area was the Potrero Compressed Yeast and Vinegar Company at 1255 Indiana Street.

Residential, Commercial, and Civic Development (1900-1929)

Residential Development (1900-1929)

Before the widespread ownership of automobiles in the early 1920s, most workers employed by Bethlehem Steel's San Francisco Yard and other local industries sought housing within walking distance of their jobs. However, with most of Irish Hill gone and Dogpatch increasingly hemmed in by industry, many of the newcomers took up residence as boarders with local families or in the large residential hotels located along Kentucky and Twenty-Second streets. Between 1910-1920, residential construction declined in the Central Waterfront due to the lack of available land. Rocky outcroppings on residential blocks were expensive to grade and still blocked several streets in the area. In September 1910, the Potrero Improvement Club demanded that the City remove a 30-foot-high mound of serpentine rock that blocked the intersection of Tennessee and Twentieth streets.⁶⁰ Later that year, the Department of Public Works dismantled the hill and dumped the rocks in a large, four-block square lagoon, referred to locally as the "Red Sea."⁶¹ Nevertheless, with ownership of much of the northern part of the neighborhood controlled by the Santa Fe Land Improvement Company, residential development in the Central Waterfront had reached a standstill by the early 1920s. Workers with other options began moving away to neighborhoods where better housing was available and industrial nuisances fewer.⁶² As older Irish-American and German-American residents moved away from the Central Waterfront, they were replaced in large part by Italian and Latin-

⁵⁹ 1913-15 Sanborn Fire Insurance Map, Moses Corrette *Central Waterfront Cultural Resources Survey Summary Report and Draft Context Statement* (San Francisco: San Francisco Planning Department, 2001), 17.

⁶⁰ "Potrero Demands Improvements," *San Francisco Evening Call* (September 4, 1910).

⁶¹ "One Stone Pile Kills Two Birds," *San Francisco Morning Call* (November 17, 1910), p. 7.

⁶² Christopher VerPlanck, *Context Statement—Dogpatch Cultural Resources Survey* (San Francisco: 2001), 19.

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American immigrants.

Institutional Development (1900-1929)

Between 1900 and 1929, the City constructed several institutional buildings in the Central Waterfront in an effort to cope with the expanding population. In 1912, City Architect, John Reid Jr., designed the new Potrero Police Station which was built on a large parcel on the southwest corner of Kentucky and Twentieth streets (extant). Prior to being developed by the City, this lot had featured an ungraded, 60-foot-high outcropping of serpentine. Three years later, John Reid Jr. designed a similarly detailed public hospital for the southern portion of the same lot (extant). The Potrero Emergency Hospital was necessary to cope with injured shipyard workers, who typically had little recourse beyond the company dispensary. Within the next decade these two important public buildings were joined on the site by another John Reid Jr. building: San Francisco Fire Department's Station #16, located at 909 Tennessee Street (extant).

Commercial Development (1900-1929)

Due to the proximity to the nearby residential development, the Central Waterfront continued to see commercial development along established corridors, including the blocks on Eighteenth Street between Iowa and Kentucky Streets, and Twenty-Second Street between Minnesota and Kentucky Streets. Based upon the Sanborn Fire Insurance Maps, commercial developments that occurred in the neighborhood included small drug stores, restaurants (lunch counters), laundries, and a moving picture houses (1201 Kentucky and 1338 Kentucky). In 1917, the first bank, Anglo California Trust Company, was constructed in the neighborhood at 2290-2298 Third Street. This bank was the only financial facility to serve the neighborhood during this time period.

HISTORIC CONTEXT: DEPRESSION AND SECOND WORLD WAR IN THE CENTRAL WATERFRONT (1930-1948)

Industrial Development (1930-1962)

Bethlehem Steel's San Francisco Yard (1930-1948)

After World War I, Bethlehem Steel's San Francisco Yard suffered through a post-war slump, but business recovered by the mid-1920s. By 1938, the shipyard had built 142 vessels, including submarines, oil tankers, freighters, ferries and other passenger ships. Growing orders caused Bethlehem to modernize the plant between 1936 and 1938. The outbreak of war in Europe in 1939 led to more orders from the U.S. Navy. From 1939 to 1944, Bethlehem Steel expanded the shipyard to its greatest extent, employing 18,500 workers in round-the-clock shifts. New cranes, shipways, and equipment were installed to bring the shipyard up to the most modern standards. During World War II, the shipyard built 52 warships and retrofitted another 2,500.⁶³ Expansion of the yard to the south resulted in the elimination of the surviving residential structures on Irish Hill. The concentrated area of residential hotels and businesses that stood on the block bounded by Twentieth, Michigan, Twenty-Second, and Illinois streets was also cleared for a training school and offices. Most of the new buildings were semi-permanent, steel-frame, corrugated steel-clad warehouses and shops—many of which survive today, including Plate Shop No. 2 and Machine Shop No. 2. Additional slips were erected on the eastern part of the property, where Risdon Iron Works once stood. Once the most important privately owned shipyard in the Bay Area, Bethlehem Steel's San Francisco Yard was joined in the war effort by several other major shipyards, including Marship, the Kaiser yards in Richmond, and Bethlehem Steel's Alameda Yard. Plans of the San Francisco Yard drawn up by Bethlehem Steel in 1944 illustrate a densely built-out facility with nearly every square foot covered with buildings, slips, storage or parking. The only section of Irish Hill that was left was an 80-foot ledge on the alignment of Michigan Street.⁶⁴

Western Sugar Refinery (1930-1951)

By the eve of World War II, the Spreckels family was facing increasing competition from C & H Sugar. In August 1948, the Spreckels brothers decided that sugar refining was no longer profitable and closed the Potrero Plant. In April 1949, C & H Sugar Refining Corporation bought the refinery for \$3,780,000. However, the new owners—facing labor trouble in Hawaii—were overextended and

⁶³ Moses Corrette *Central Waterfront Cultural Resources Survey Summary Report and Draft Context Statement* (San Francisco: San Francisco Planning Department, 2001), 10.

⁶⁴ 1948-50 Sanborn Fire Insurance Maps. "Plans of San Francisco Yard, San Francisco, California: Bethlehem Steel Company Shipbuilding Division, 1944."

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came to the conclusion that the Potrero Plant was too antiquated to be profitably modernized. In 1951, C & H demolished most of the buildings and sold the machinery for scrap.⁶⁵ The 1948-50 Sanborn map shows the Western Sugar Refinery much as it had appeared in 1915, as demolition had not yet begun. Of those parts of the complex that were spared demolition in the 1950s, the ten-story refinery building survived until the early 1990s, and two 1920s-era warehouses continue to stand today, although they are threatened with demolition.

Pacific Gas & Electric (1930-1949)

In 1930, PG&E rebuilt Station A as a high pressure steam-electric plant. The work involved installing new machinery and rebuilding the south and west facades of the building in the Renaissance Revival style. A new addition was likewise constructed to house boiler equipment and new turbines, giving the plant its 130,000 kilowatt capacity—the second largest generating capacity of any plant west of the Rockies. Following the dismantling of much of the Western Sugar Refinery, PG&E purchased the land and expanded Station A onto the site with new “open-design” facilities. Station A continued in operation until 1983, when the boiler room was demolished.⁶⁶ According to the 1948-50 Sanborn map, the PG&E plant had not yet expanded into the adjoining Western Sugar Refinery facilities. Its gas plant was still in operation north of Station A, and several large gas tanks had been built. In addition, a new compressor building had been constructed west of Station A in 1926 (extant).

California Barrel Company (1930-1957)

With the introduction of steel containers in the 1950s, the demand for barrels for shipping and storage began to decline. The 1948-50 Sanborn map indicates that the plant was still in operation, but it had not been expanded or clearly modernized since 1915. The California Barrel Company remained in operation until the early 1950s, when the plant was torn down and replaced by the American Can Company Annex in 1955.

Tubbs Cordage Company (1930-1963)

Tubbs Cordage Company continued to manufacture and supply rope at its San Francisco Plant through World War II, and remained the largest rope manufacturer in the western United States into the early 1950s. By 1963, though, the operations had outgrown the outmoded Central Waterfront facility. Seeking cheaper labor overseas, Tubbs Cordage closed the plant in 1962.⁶⁷ Over the next 15 years, the facilities were gradually dismantled or demolished and replaced with a MUNI maintenance yard in the 1970s.⁶⁸

American Can Company (1930-1955)

Following the Second World War—and the concurrent slump in shipbuilding—American Can Company became the largest employer in the Central Waterfront area, employing over 1,200 workers in the manufacture of tin cans and canning fruit. Many of the employees were women, who were reputed to be better workers than men. In 1955, the company expanded its facilities south of Twenty-Second Street, constructing a large concrete annex on the block formerly occupied by the California Barrel Company.

Central Waterfront's Small Oil Companies

Within the survey boundaries of the Central Waterfront, the intersection of Third and Eighteenth streets represents a cluster of small oil companies built circa 1930. Union Oil Company had maintained a small oil distribution business on the corner of Mariposa and Illinois streets since the early 1900s. This facility was eventually joined by several other companies that sold fuel oil to shipping companies. Located on two blocks bounded by Mariposa, Illinois, Nineteenth and Third Streets, the companies included Norwalk Co. at 925 Mariposa; Crescent Pacific Oil Co. at 2065 Third Street; General Petroleum Company at 2085 Third Street; Seaside Oil Company at 2121 Third Street; and Hancock Oil Company at 500 Nineteenth Street. While relatively small in scale, the businesses typically consisted of an office building, warehouse and freestanding tanks. Today, only Seaside Oil Company remains largely intact.

Other Industries

⁶⁵ Michael Corbett, *Historic Architecture Report for 4352 Third Street, City and County of San Francisco* (San Francisco: unpublished report by URS Corporation, 2001), 7.
⁶⁶ Ward Hill, *Historic Architecture Report: Station A Potrero Power Plant in the City and County of San Francisco* (San Francisco: Dames & Moore, 1999), 5-6.
⁶⁷ Maria Colyaco, *California's Master Rope-makers* (Manila: Manila Cordage Company, 1977).
⁶⁸ *National Register of Historic Places Inventory – Nomination Form: "Tubbs Cordage Company Office Building."* (San Francisco: National Park Service, 1978), 3.

From the 1920s through the 1950s, the residential enclave of Dogpatch increasingly succumbed to industrial redevelopment. In addition, the Santa Fe Land Improvement Company had leased or sold the rest of its undeveloped holdings in the area for industrial uses. Both factors led to the construction of dozens of one and two-story concrete (and in some cases, brick) industrial buildings housing a variety of business types. Much of this development occurred along Minnesota and Indiana streets between Mariposa and Twentieth streets, and on the newly filled Western Pacific lands south of Twenty-Third streets. Examples include the Bowie Switch Company Building at 815-25 Tennessee Street, which was built in three phases from 1926 to 1942 (extant). They also include the American Meter Company built in 1929 at 900 Tennessee Street (extant), and a row of three identical concrete buildings constructed in 1956 at 760-90 Tennessee Street for Wesco Manufacturing (extant).

Much of Third Street had become industrialized as well, beginning with the east side in the 1920s. Here, small brick light industrial and warehouse buildings replaced residential and commercial uses on the edge of Irish Hill. Some of the best examples include the 1919 Albert Candy Company Building at 2201-03 Third Street (extant), and the 1924 Max Levin & Co. Scrap Warehouse located at 2225 Third Street (extant). A 20-foot widening of Third Street in 1937 (Kentucky Street was renamed Third Street around the same time), resulted in buildings along the west side of the street being moved back on their lots, demolished, or truncated. This period also saw many landowners replace existing residential buildings with light manufacturing, warehousing, or auto repair facilities, further contributing to the expansion of industry westward into Dogpatch. Examples include the 1937 Goodyear Rubber Co. building at 2400 Third Street (extant), and the 1939 Pellegrini Brothers Winery at 2360-64 Third Street (extant).

Transportation Infrastructure

The rise of the trucking industry reduced the Central Waterfront's dependence on water transport and rail beginning in the late 1930s. To accommodate the increase in vehicular traffic, Third Street was widened in 1937, and became a major thoroughfare from downtown to the southeastern section of the city.⁶⁹ As a result, trucking-oriented businesses began locating in the Central Waterfront area, as did truck and auto repair facilities.⁷⁰ This growth is evident in distribution warehouses that have rails along one side and loading docks for trucks on the other. The use of standard containers for trucks accelerated the downfall of rail service.

Land Transformation

Islais Creek and its surrounding wetlands were viewed as a barrier to the southern development of San Francisco. Organized efforts for reclamation were unsuccessful until 1925, when the passage of State legislation enabled the creation of the Islais Creek Reclamation District. The District subsequently filled the tidelands and dredged Islais Creek, constructing a turning basin at its western end to allow room for ship maneuvering. The most recent filling of Islais Creek occurred during the construction of Pier 80, formerly the Army Street Ship Terminal. Financed by a bond issue approved by California voters in 1958, the terminal went into operation in 1967.⁷¹

Industrial development in the blocks immediately north of Islais Creek was delayed by use of the land for temporary military housing during World War II. The housing was demolished after the war and the area was developed as an industrial park with single-story concrete buildings. The development of southern portions of the study area likewise occurred largely after World War II, and included food and oil processing plants constructed south of Army Street (now Cesar Chavez Street). In 1948, Cargill Inc. constructed a plant and refinery for coconut oil, adding an administration building in 1956. The Granex Corporation, a copra processing plant, erected the copra-loading crane in 1965. A report by the Copra Crane Labor Landmark Association states that the crane is significant as it is purportedly the last piece of machinery on the port of San Francisco hand-operated by longshoreman working bulk cargo. The crane also represents the ties of San Francisco's economy with those of the South Pacific Islands. A number of other cranes used in the outfitting of naval and merchant vessels are also still extant, serving as visual icons of the Pier 70 area.⁷²

⁶⁹ Moses Corrette *Central Waterfront Cultural Resources Survey Summary Report and Draft Context Statement* (San Francisco: San Francisco Planning Department, 2001), 16.

⁷⁰ *Ibid.*, 23.

⁷¹ San Francisco Department of City Planning, "Central Waterfront, An Area Plan of the Master Plan of the City and County of San Francisco," (1990), p. II.8.5.

⁷² Moses Corrette *Central Waterfront Cultural Resources Survey Summary Report and Draft Context Statement* (San Francisco: San Francisco Planning Department, 2001), 23.

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 *Recorded by: Kelley & VerPlanck and Page & Turnbull *Date March 2008 Continuation Update

The buildings constructed for industrial and office uses during this time continued to be built of reinforced concrete or prefabricated steel. These buildings tended to be smaller and almost entirely devoid of ornamentation. Butler Buildings—prefabricated steel buildings that could be ordered from catalogs—were also erected in great numbers in the area.

Residential and Commercial Development (1930-1962)

During the late 1930s, residential construction had all but stopped in Dogpatch—the last remaining residential enclave in the Central Waterfront. As discussed previously, greater mobility among workers meant that they could commute from other neighborhoods via automobile or public transit. Although the influx of war workers into the area during the late 1930s and early 1940s increased the population, most took up residence in converted single-family housing or boarded. There was simply no room for new housing in the area, and industry was actively nibbling away at the edges of the residential enclave. Despite the influx of industry, the existing commercial development in the area resisted and renewed as evidenced by the 1940 face-lift to the only bank in the Central Waterfront neighborhood, the Anglo California Trust Company at 2290-98 Third Street.

Following the end of World War II, the neighborhood began to decline as jobs at the shipyard dried up and other industries, such as the Western Sugar Refinery and Tubbs Cordage Company, began closing shop or moving overseas. Between 1965 and 1980, jobs in the Central Waterfront dropped from 16,304 to 11,004, with most of the losses occurring in manufacturing and ship repair.⁷³ By the late 1960s, Dogpatch had deteriorated to the point where the San Francisco Planning Department considered demolishing it and rezoning it for industrial uses. Arson and industrial encroachment also took their toll, reducing the residential core of Dogpatch to what exists today. The 1980s witnessed a revival of the area, with an influx of artisans in search of inexpensive housing with character.

⁷³ San Francisco Department of City Planning, "Central Waterfront, An Area Plan of the Master Plan of the City and County of San Francisco," (1990), p. 11.8.5.

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*Date March 2008

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Prop # 135,392

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*NRHP Status Code: Various 35

*Resource Name or # (Assigned by recorder): Central Waterfront

D1. Historic Name:

D2. Common Name: Central Waterfront

***D3. Detailed Description** (Discuss overall coherence of the district, its setting, visual characteristics, and minor features. List all elements of district.): The boundaries of the Central Waterfront survey area/proposed district are 16th Street to the north, Interstate 280 to the west, Islais Creek to the south and San Francisco Bay to the east. The area consists of approximately 500 acres, is one and one-third miles long (north-south) and about two-thirds of a mile wide (east-west). It is largely located in the eastern Potrero Hill neighborhood and encompasses just a few blocks of the Bayview and Hunters Point neighborhoods at its southern end. The boundaries run along the city's eastern waterfront, midway between the head of Market Street and Hunters Point.

Elements of the district include individually surveyed buildings in the Central Waterfront Survey, prepared by the San Francisco Planning Department, as well as the Dogpatch Neighborhood Survey, prepared by Christopher Ver Planck, architectural historian. Two additional examinations of resources within the Central Waterfront area were conducted by Ward Hill, architectural historian, who completed DPR 523A forms and a DPR 523D form on resources at the Station A, Potrero Power Plant. According to the report, Station A appears ineligible for the California Register because of a loss of integrity, but the site's Meter House and Compressor House appear individually eligible for the California Register. Michael Corbett, architectural historian, completed DPR 523A and B forms on resources located at 435 23rd Street - Western Sugar Refinery Warehouses - assigning a National Register Status Code of 3S to the warehouses. These additional studies have been included as appendices to the Central Waterfront Cultural Resources Survey Summary Report and Draft Context Statement prepared by the San Francisco Planning Department. They are approximated on the attached map as the "P G & E Area."

***D4. Boundary Description** (Describe limits of district and attach map showing boundary and district elements.):

The topography is flat and low, averaging between 10 feet to 20 feet above sea level. Industrial uses monopolize the length of the waterfront and begin to mix with retail, commercial and office spaces further inland along 3rd Street. A modest residential neighborhood, commonly referred to as Dogpatch, is tucked behind the 3rd Street corridor and is otherwise bordered by industrial buildings. The overall boundaries of the Central Waterfront survey area along with the boundaries of the Dogpatch neighborhood are shown on the attached map.

***D5. Boundary Justification:** The northern boundary is justified as it abuts the Mission Bay Redevelopment area, a large, vacant parcel of land currently being built upon. The eastern boundary is San Francisco Bay, a natural boundary. The southern boundary is justified as Islais Creek, which forms a distinct geographic form. Although the industrial development on Islais Creek's southern lands shares some of the same history, the building stock is not as coherent. The western boundary is Interstate 280, a large elevated freeway built over an older cut -- the Bayshore Cutoff -- a physical divide between the lower industrial lands and the upper residential building stock of Potrero Hill. To the northeast and southeast of the Central Waterfront, industrial lands and older building stock exist. While not surveyed, these resources may fit contextually with some of the existing Central Waterfront resources.

***D6. Significance: Theme:** Industrial Development and Settlement **Area:** San Francisco's Central Waterfront
Period of Significance: 1854-1948 **Applicable Criteria:** None (Discuss district's importance in terms of its historical context as defined by theme, period of significance, and geographic scope. Also address the integrity of the district as a whole.)

The Central Waterfront area, which includes the Dogpatch neighborhood, is historically significant as a mixed-use industrial and residential district; its period of significance spans from 1854 to 1948. Historical research and survey data indicates several distinct periods of history, which support various levels of integrity throughout the survey area. National Register Status Codes of 3B and 3D have been primarily assigned to resources located in the Pier 70 area of the Central Waterfront, which is identified below. The remaining resources with Status Codes of "3" are identified as well.

Early Manufacturing and Industry, 1854-1900

The earliest manufacturing businesses in the Central Waterfront included gunpowder and cordage production. In 1854, the E.I. du Pont de Nemours Company, one of the largest manufacturers of black gunpowder in the United States, constructed the first powder magazine on the south shore of Potrero Point. The earliest cordage industry was the San Francisco Cordage Manufactory; a pioneer rope-making factory established by brothers Alfred and Hiram Tubbs in 1857. The Kneass/Twigg Boat Works, assigned a National Register Status Code of 3B, is possibly the oldest commercial resource within the survey boundaries, constructed ca. 1878. The resource located at 2518-2520 Third Street was assigned a Status Code of 3D and represents a rare, surviving mixed-use structure from the Central Waterfront's early history. The resource located at 2636-2638 Third Street assigned a Status Code of 3B represents one of the oldest residences in the Central Waterfront from this early period of development, constructed ca. 1875.

DPR 523D (1/95)

*Required Information

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Other Industry, 1867-1945

Throughout the course of its history, the dominant industry in the Central Waterfront has historically been iron works and the production of vessels at Pier 70 (discussed below). Other industries have historically had a comparable presence in the Central Waterfront, if at a smaller scale. Beginning in the 1880s with the construction of canneries, both fish and fruit, and production facilities for goods such as sugar, many of these industries built larger buildings more in scale with the iron works manufacturers. One such resource is the original portion of American Can Company located at 2301 Third Street, constructed in 1915, assigned a Status Code of 3B. At one time the largest manufacturer of tin cans in the United States, the company manufactured tin cans and canned fruit. Another cannery complex, the California Canneries Company located at 600 Minnesota Street, was constructed ca. 1900 and has been given a 3D Status Code.

Pier 70 -- Central Waterfront's Iron Works Industry, 1867 - 1945

Note: National Register Status Codes have been assigned to the majority of resources in the Pier 70 area of the Central Waterfront, which are identified within the following periods.

Pacific Rolling Mills/Risdon Iron Works/U.S. Steel; Atlas Iron/Thomeycroft Boilermakers; Union Iron Works; U.S. Shipbuilding; and Bethlehem Steel Corp. There are no known surviving buildings, structures or objects from the U.S. Shipbuilding or Atlas Iron/Thomeycroft years of operation, although there may be archeological remains. Buildings conformed to the block pattern and were not built in the path of unopened streets.

Union Iron Works Period, 1883 to 1902. From 1883 until the end of World War II, Union Iron Works remained the most important industry in the Central Waterfront area and the largest employer of local residents, employing anywhere between a quarter to half of local residents.

First Bethlehem Steel Period, 1905-1940. The First Bethlehem Steel Period from 1905-1940 is a continuation of the Union Iron Works period. After 1915, Bethlehem Steel doubled in size with the acquisition of Pacific Rolling Mills, Risdon Iron and U.S. Steel.

Bethlehem Steel/World War II Period, 1940-1945. This period was one of cooperation between the federal government and Bethlehem Steel. The buildings were, in most cases, designed, built and owned by the government on joint-Bethlehem Steel and government-owned land. In 1940, the City and County of San Francisco Board of Supervisors vacated streets within Block 4052 with Resolution #1376, thereby allowing the construction of more buildings on vacant land for the increased production of military vessels during World War II. Of Pier 70's approximately 50 remaining historic resources, half date from the Bethlehem Steel/WWII period of significance, 1940-1945.

Tunnels and Bridges

Tunnels and bridges resources within the Central Waterfront survey area are the 22nd and 23rd street bridges and the Bayshore Cutoff Tunnels # 1 and #2, all of which have been assigned National Register Status Codes of 3D. The Bayshore Cutoff was constructed from San Bruno to San Francisco on ten miles of infill from 1904 through 1907 to divert the increasingly longer trains from an original route over the San Bruno Mountains. Bayshore topography required the construction of five tunnels between Mariposa Street and the freight yards, which were built at Visitation Point. Four brick and concrete tunnels were constructed between 1904 and 1907, when the Southern Pacific rerouted its coast division's Peninsula Railroad from the Ocean View line -- to a cut-off along the eastern shore of San Francisco to Brisbane -- where the line rejoined the railway. The Bayshore Cutoff tunnels and corresponding bridges represent Southern railroad's influence on the development of San Francisco, the Central Waterfront and Mission Bay in particular.

Irish Hill

Irish Hill, historically a small residential enclave of eight blocks was located between Illinois, Maryland, 20th and Humboldt Streets in the Central Waterfront. Over the past 100 years, the hill has been reduced in size to the extent that only a "T" shaped portion remains. Assigned a National Register Status Code of 3D, Irish Hill represents two major significant themes.

DPR 523L

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First, it represents the extent to which industry has made the land in the survey area conform to its needs through a system of quarrying and filling in of the San Francisco Bay -- primarily at the Union Iron Works site located to the north. Second, Irish Hill represents the last testament of an entire residential neighborhood. Irish Hill was by all accounts a solid working-class district comprised mostly of single, Irish male immigrants employed in the Central Waterfront.

Conclusion

All of these resources contribute to a potential National Register historic district as it relates to the development of the Central Waterfront as a mixed industrial and residential district, 1854-1948. The district is significant at a local level under National Register Criterion A: Resources that are associated with events that have made a significant contribution to the broad patterns of our history. The resources are also contributors to a locally designated historic district.

*D7. **References** (Give full citations including the names and addresses of any informants, where possible.):

*D8. **Evaluator:** Tim Kelley, historian

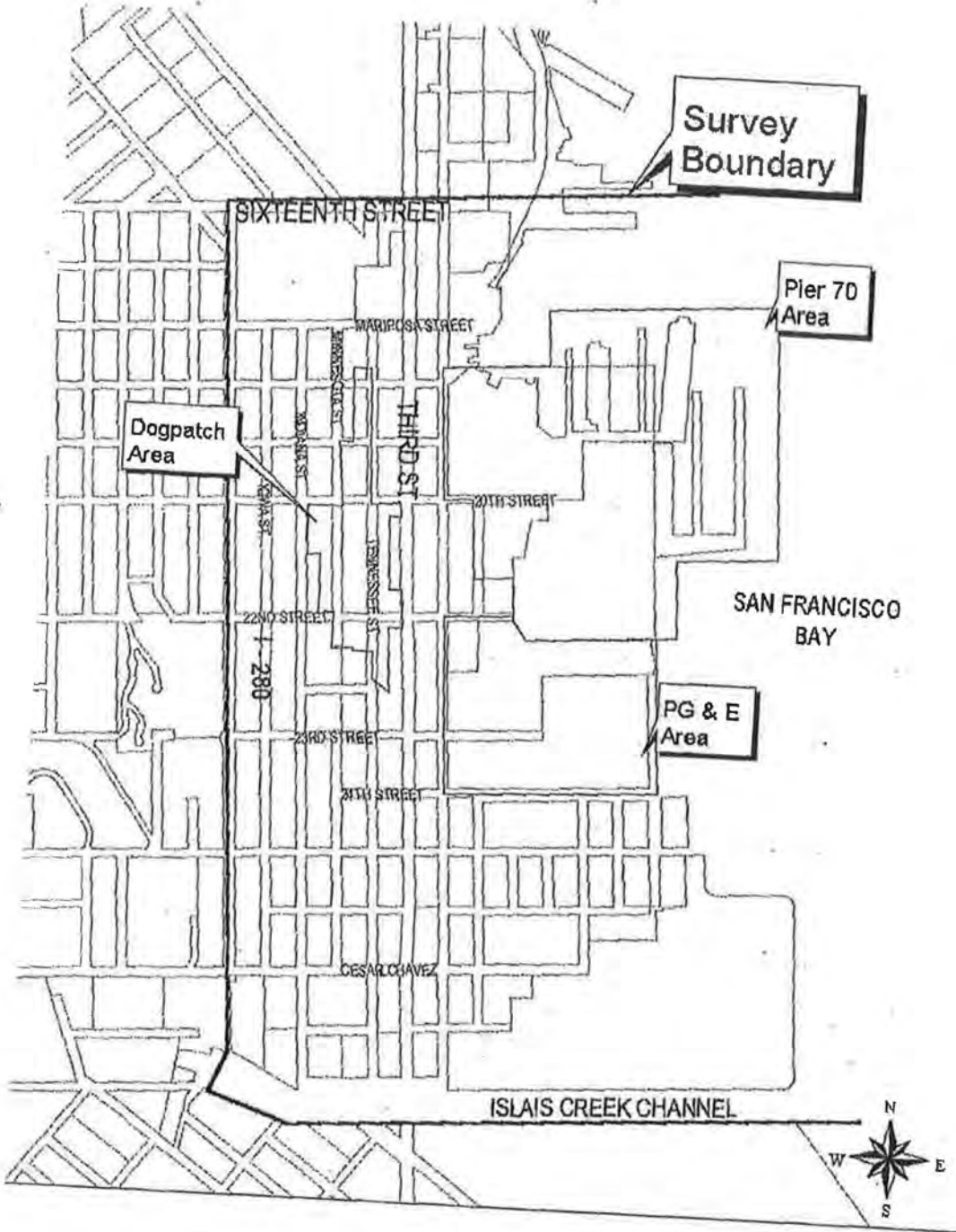
Date: July 20, 2001

Affiliation and Address: Central Waterfront Survey Advisory Committee member, City and County of San Francisco Planning Department, 1660 Mission Street, 5th floor, San Francisco, CA 94103-2414.

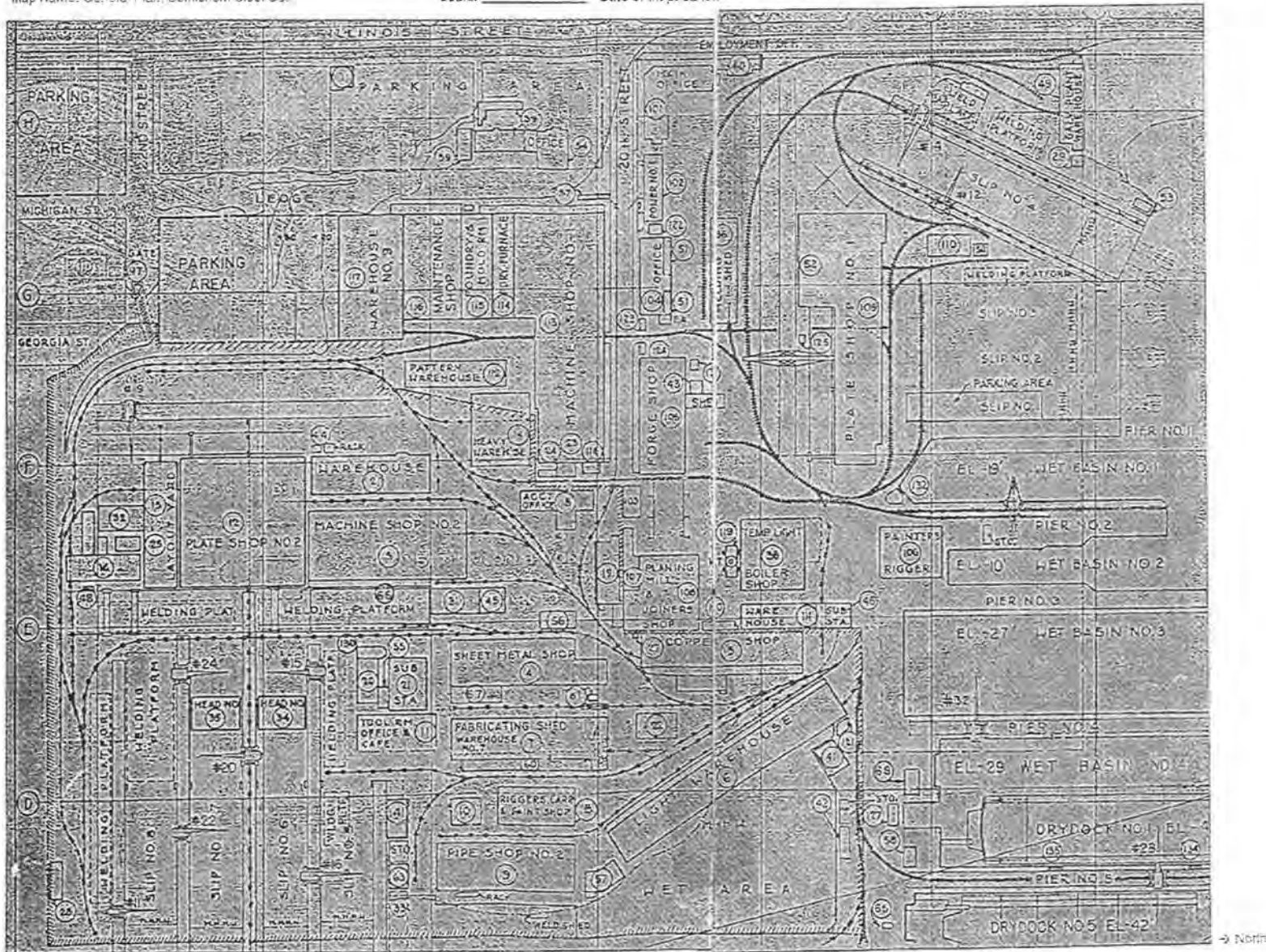
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LOCATION MAP



Attachment 2

Letter from Port of San Francisco November 8, 2022



November 8, 2022

Boris Deunert
San Francisco Public Works City and County of San Francisco
49 South Van Ness Avenue, Suite 700
San Francisco, CA 94103

Regarding Port of San Francisco, Islais Creek Plazas & Open Spaces

Dr. Boris Deunert,

The Port Commission has jurisdiction for the purposes of Section 4(f) over properties managed and administered by the Port of San Francisco (Port), under the City and County of San Francisco. As the Deputy Director for Planning and Environment of the Port of San Francisco, I certify that the following assertions are true.

That the Bayview Gateway, within the boundaries shown in figure 1 below, is a property on Illinois St. north of Cargo Way encompassing a wharf, planting areas and a Skate Plaza, is managed and administered by the Port of San Francisco, and is identified in the Port's draft Waterfront Plan, which the Port expects to finalize in 2023, as a neighborhood recreational amenity ("Southern Waterfront", item 2), with acceptable permanent uses given as: Recreational Boating and Water Recreation, Parks/Public Open Space, and Public Access/Public Realm. The park did not exist in 2009, when the most recent update to the current Port Waterfront Land Use Plan was issued. It is open to the public and actively maintained and constitutes a significant recreational resource under the section.



Figure 1 Bayview Gateway

That the open-space area designated Tulare Park, within the boundaries shown in figure 2 below, is a property on Islais Creek Channel between Third St. and Illinois St. in San Francisco is managed and administered by the Port of San Francisco, and is shown as "existing open space and public access" without specific associated objectives in the Port's existing 2009 Waterfront Land Use Plan, and as a "Parks and Public Access" area without specific associated objectives in the draft Waterfront Land Use

Plan that the Port expects to adopt in 2023. It was constructed in the early 1970s but has not been updated since, major improvements to it have been postponed indefinitely following the project's failure to be funded within the budget of the City of San Francisco 2008 Clean & Safe Neighborhood Parks Bond. Modest improvements are planned for in 2023. It is not a significant resource under the section.



Figure 2 Tulare Park

That the open-space area designated Islais Creek Landing, within the boundaries shown in figure 3 below, is a property at the corner of 3rd Street and Arthur Avenue managed by the Port of San Francisco and maintained by both the Port and Kayaks Unlimited, a cooperative paddling club and registered 501(c)4 organization who act as park stewards in exchange for space for a boat-storage area. Islais Creek Landing is an San Francisco Bay Area Water Trail access site (labeled "SF4") as identified in the Enhanced San Francisco Bay Area Water Trail Plan (2011), providing a launch to serve the water trail. The Park is identified in the Port's draft Waterfront Plan with acceptable permanent uses given as: Recreational Boating and Water Recreation, Parks/Public Open Space, and Public Access/Public Realm. The park facilities, including benches, picnic tables, trash/recycling receptacles, sculptures, and parking spaces are publicly accessible, and the park constitutes a significant recreational resource under the section.



Figure 3 Islais Creek Park

Very Sincerely Yours,

A handwritten signature in black ink that reads "David Beaupre". The signature is written in a cursive style.

David Beaupre
Deputy Director
Planning and Environment
Port of San Francisco
aavid.beaupre@sfport.com

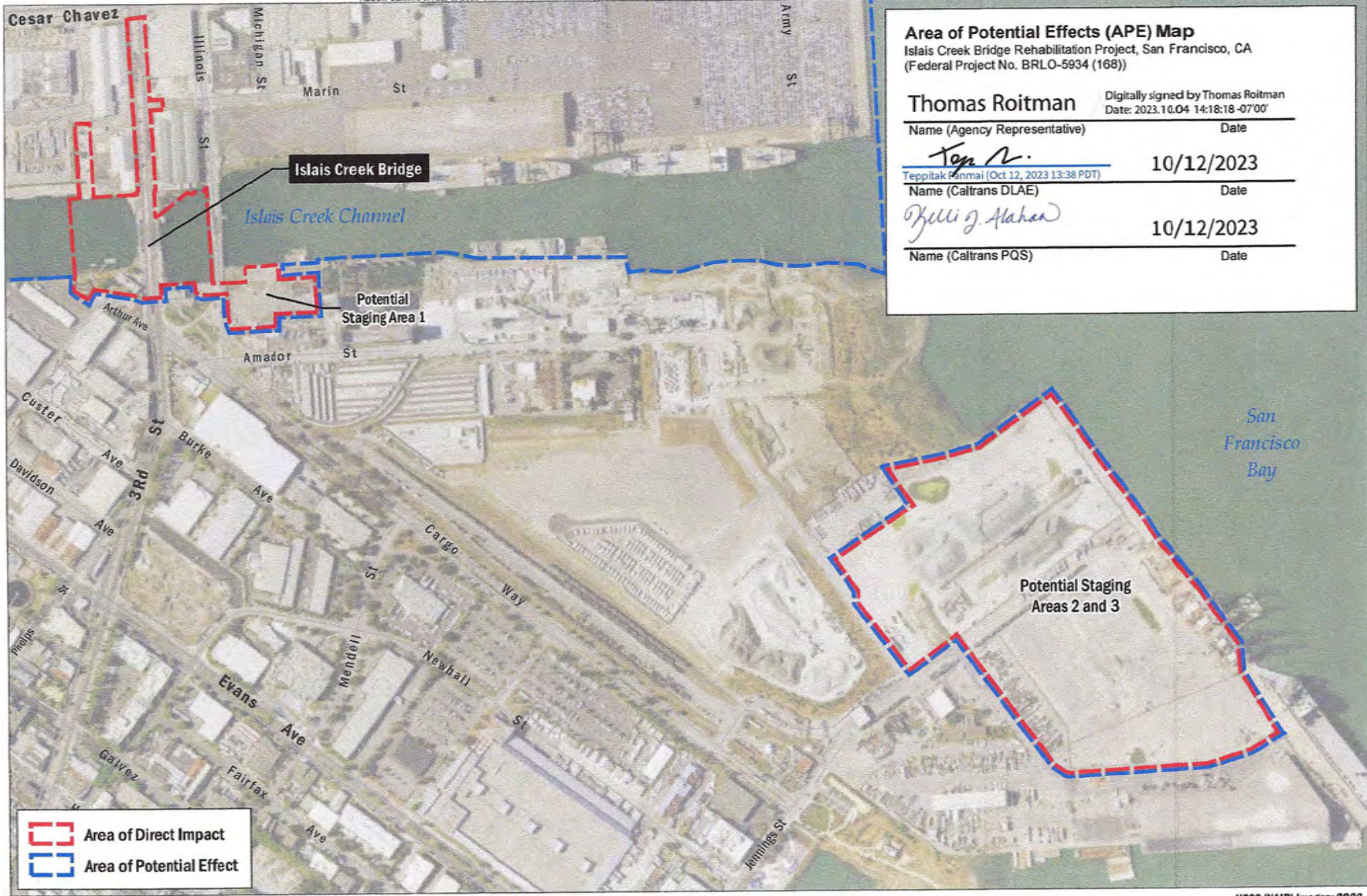
Attachment 3

Section 106 Area of Potential Effect



DATA SOURCE
USGS (NAIP) Imagery 2022

FIGURE 1
Project Location and Vicinity Map



Area of Potential Effects (APE) Map
 Islais Creek Bridge Rehabilitation Project, San Francisco, CA
 (Federal Project No. BRLO-5934 (168))

Thomas Roitman	Digitally signed by Thomas Roitman Date: 2023.10.04 14:18:18 -07'00'
Name (Agency Representative)	Date
<i>Tom R.</i>	10/12/2023
Teppitak Panmai (Oct 12, 2023 13:38 PDT)	
Name (Caltrans DLAE)	Date
<i>Kelli J. Alahan</i>	10/12/2023
Name (Caltrans PQS)	Date

USGS (NAIP) Imagery 2022



FIGURE 2
 Area of Potential Effects

Attachment 4

Central Waterfront/Potrero Point Historic District Eligibility Assumption

From: [Bevk, Alexandra@DOT](mailto:Bevk,Alexandra@DOT)
To: [Stewart, Noah M@DOT](mailto:Stewart,Noah M@DOT)
Cc: [Reichardt, Karen J@DOT](mailto:Reichardt,Karen J@DOT); [Blackmore, Helen@DOT](mailto:Blackmore,Helen@DOT)
Subject: RE: 2/2 LA Islais Creek Bridge Rehabilitation Project, BRLO 5934 (168)
Date: Monday, June 12, 2017 2:49:11 PM

Hi Noah,

Thank you for providing the detailed information on the resource and project. **CSO approves the assumption of eligibility** for Central Waterfront/Potrero Point Historic District for purposes of the project due to large resource size, pursuant to Stipulation VIII.C.4 of the 2014 PA. Please retain this email as confirmation for your files.

Thanks for consulting with CSO!

Alexandra Bevk Neeb
Branch Chief, Section 106 Coordination Branch
Cultural Studies Office
Caltrans Division of Environmental Analysis
1120 N Street, MS 27, Sacramento, CA 95814
alexandra.bevk@dot.ca.gov
(916) 654-3567

From: Stewart, Noah M@DOT
Sent: Monday, June 12, 2017 11:13 AM
To: Bevk, Alexandra@DOT <Alexandra.Bevk@dot.ca.gov>
Cc: Reichardt, Karen J@DOT <karen.reichardt@dot.ca.gov>; Blackmore, Helen@DOT <Helen.Blackmore@dot.ca.gov>
Subject: 2/2 LA Islais Creek Bridge Rehabilitation Project, BRLO 5934 (168)

Hi Alex,

As we discussed earlier today, Caltrans District 4, in coordination with the City and County of San Francisco, proposes to rehabilitate Islais Creek Bridge, in the City of San Francisco. There are two resources within the Area of Potential Effect that District 4 would like to assume eligible for inclusion on the National Register of Historic Places (NRHP) for the purposes of the project as outlined under Stipulation VIII.C.4 of the Section 106 PA. This message addresses one of the two properties - Central Waterfront/Potrero Point Historic District (CW/PP).

The CW/PP encompasses three smaller historic districts and extends from 18th Street in the north to Islais Creek in the south and from the San Francisco Bay to the east with Interstate 280 on the west. The resource was evaluated for the NRHP by the City of San Francisco, however there is no evidence that this determination was concurred on by the SHPO. The district is listed as a 3S – appears eligible through survey evaluation under NRHP criterion A – in the Historic Property Data File maintained by the Office of Historic Preservation. An updated DPR of the resource established the period of

significance is 1872 to 1958. Contributing elements of the district include residential, commercial and industrial buildings. While not called out specifically, it appears that Islais Bridge itself would be a contributing element of the historic district. Attached, please find a copy of the Historic Property Data File as well as the DPR form documenting the evaluation.

This resource is quite large and the project does not have the scope to evaluate it in its entirety. Furthermore, the project has limited potential to affect the resource.

I look forward to your reply.

Thank you.

Noah M. Stewart, MCP
Branch Chief, Built Resources/Architectural History
Senior Environmental Planner
Office of Cultural Resource Studies
Caltrans District 4
111 Grand Avenue, MS 8A
Oakland, CA 94612
Phone: (510) 286-5370

Attachment 5

SHPO Concurrence on Finding of Adverse Effect



**DEPARTMENT OF PARKS AND RECREATION
OFFICE OF HISTORIC PRESERVATION**

Armando Quintero, Director

Julianne Polanco, State Historic Preservation Officer

1725 23rd Street, Suite 100, Sacramento, CA 95816-7100

Telephone: (916) 445-7000 FAX: (916) 445-7053

calshpo.ohp@parks.ca.gov www.ohp.parks.ca.gov

November 7, 2024

VIA EMAIL

In reply refer to: FHWA_2024_1018_001

Mr. Jeff Carr, Acting Section 106 Coordinator
Cultural Studies Office
Division of Environmental Analysis
PO Box 942873, MS-27
Sacramento, CA 94273-0001

Subject: Finding of Adverse Effect for the Proposed Islais Creek Bridge Replacement Project, City and County of San Francisco, California

Dear Mr. Carr:

Caltrans is initiating consultation regarding the above project in accordance with the 2014 *First Amended Programmatic Agreement Among the Federal Highway Administration, the Advisory Council on Historic Preservation, the California State Historic Preservation Officer (SHPO) and the California Department of Transportation Regarding Compliance with Section 106 of the National Historic Preservation Act, as it Pertains to the Administration of the Federal-Aid Highway Program in California* (106 PA). As part of your documentation, Caltrans submitted a Supplemental Historic Properties Survey Report, Supplemental Archaeological Survey Report, Finding of Effect Report for the above project.

Caltrans proposes to replace the Islais Creek Bridge (34C0024) located on Third Street in San Francisco, a bridge previously determined eligible for the National Register of Historic Places (NRHP). Ongoing inspections by San Francisco Public Works and Caltrans indicate that the existing bridge would require extensive structural, mechanical, and electrical repairs to bring it into compliance with current bridge standards and to allow it to continue as a main artery in San Francisco.

As part of its identification efforts Caltrans identified the following three historic properties within the area of potential effect for the project:

- Islais Creek Bridge (Bridge 34C0024) – Caltrans previously determined the Islais Creek Bridge (34C0024) eligible for listing in the NRHP through the Caltrans Historic Bridge Inventory update in December 2005. The project would demolish and replace the existing Islais Creek Bridge; therefore, Caltrans anticipates the Undertaking will adversely affect this historic property.

- San Francisco Fire Department Auxiliary Water Supply System (AWSS) - In 2020, Caltrans determined the AWSS eligible for listing in the NRHP through Section 106 compliance efforts for the Better Market Street Project (FHWA_2020_0312_001). The SHPO concurred with that determination of eligibility on April 23, 2020. No character-defining features of this historic property are located within the APE of the current Undertaking, and Caltrans has concluded that the historic property would not be adversely affected.
- Central Waterfront / Potrero Point Historic District – In accordance with Stipulation VIII.C.4 of the 106 PA, Caltrans is assuming the Central Waterfront / Potrero Point Historic District eligible for the NRHP for purposes of this Undertaking due to the large size of the resource. While partially located within the boundaries of the historic district, the Islais Creek Bridge is not a contributing resource to the historic district, and the project would not affect any contributing elements of the historic district. Moreover, because the majority of historic district contributors are not located in close proximity to the bridge, peripheral changes to the setting and viewshed would not adversely affect the historic district.

Caltrans applied the criteria of adverse effect and found the project will have an adverse effect on the Islais Creek Bridge.

Based on my review of the submitted documentation, I have no objections to Caltrans' finding of adverse effect for this undertaking.

If you have any questions, please contact Natalie Lindquist at natalie.lindquist@parks.ca.gov.

Sincerely,



Julianne Polanco
State Historic Preservation Officer

Appendix B Title VI/Non-Discrimination Policy Statement

CALIFORNIA STATE TRANSPORTATION AGENCY

GAVIN NEWSOM, GOVERNOR

California Department of Transportation

OFFICE OF THE DIRECTOR
P.O. BOX 942873, MS-49 | SACRAMENTO, CA 94273-0001
(916) 654-6130 | FAX (916) 653-5776 TTY 711
www.dot.ca.gov



September 2024

TITLE VI/NON-DISCRIMINATION POLICY STATEMENT

It is the policy of the California Department of Transportation (Caltrans), in accordance with Title VI of the Civil Rights Act of 1964 and the assurances set forth in the Caltrans' Title VI Program Plan, to ensure that no person in the United States shall on the grounds of race, color, or national origin, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any program or activity receiving federal financial assistance. Related non-discrimination authorities, remedies, and state law further those protections, including sex, disability, religion, sexual orientation, age, low income, and Limited English Proficiency (LEP).

Caltrans is committed to complying with 23 C.F.R. Part 200, 49 C.F.R. Part 21, 49 C.F.R. Part 303, and the Federal Transit Administration Circular 4702.1B. Caltrans will make every effort to ensure nondiscrimination in all of its services, programs, and activities, whether they are federally funded or not, and that services and benefits are fairly distributed to all people, regardless of race, color, or national origin (including LEP). In addition, Caltrans will facilitate meaningful participation in the transportation planning process in a non-discriminatory manner.

The overall responsibility for this policy is assigned to the Caltrans Director. The Caltrans Title VI Coordinator is assigned to the Caltrans Office of Civil Rights Deputy Director, who then delegates sufficient responsibility and authority to the Office of Civil Rights' managers, including the Title VI Branch Manager, to effectively implement the Caltrans Title VI Program. Individuals with questions or requiring additional information relating to the policy or the implementation of the Caltrans Title VI Program should contact the Title VI Branch Manager at title.vi@dot.ca.gov or at (916) 639-6392, or visit the following web page: <https://dot.ca.gov/programs/civil-rights/title-vi>.

A handwritten signature in black ink, appearing to read 'Tony Tavares'.

TONY TAVARES
Director

"Provide a safe and reliable transportation network that serves all people and respects the environment"

Appendix C Avoidance, Minimization and/or Mitigation Summary

Avoidance and Minimization Measures

AES-1: Construction Staging. All construction staging areas shall be sited and/or screened with temporary fencing in order to minimize public views to the maximum extent feasible. The fencing shall be comprised of opaque material to shield views from surrounding sensitive viewers.

AQ-1: Control Measures for Construction Emissions of Fugitive Dust. Dust control measures would be implemented to minimize airborne dust and soil particles generated from graded areas. For disturbed soil areas, the use of an organic tackifier to control dust emissions would be included in the construction contract. Watering guidelines would be established by the contractor and approved by the Caltrans resident engineer. Any material stockpiles would be watered, sprayed with tackifier, or covered to minimize dust production and wind erosion.

AQ-2: Air Pollution Control. Caltrans Standard Specifications Section 14-9.02, Air Pollution Control, requires contractors to follow all air pollution control rules, regulations, ordinances, and statutes.

BIO-1: Permits. All relevant permits will be included in the construction bid package of the proposed project.

BIO-2: Biological Monitor Approval. An approved biologist(s) will provide services for the project. If required by project permits, the names and qualifications of the biological monitor(s) will be submitted to the required agency approval prior to initiating construction activities for the proposed project.

BIO-3: Preconstruction Surveys. Prior to project commencement, an approved biologist(s) will conduct preconstruction surveys in and adjacent to the project area. If listed species are identified, regulatory agencies will be notified.

BIO-4: Biological Monitoring. If required by permits, an approved biologist(s) will be on-site during activities. The biologist(s) will keep copies of applicable permits in their possession when on-site. The approved biologist(s) will be given the authority to communicate either verbally or by telephone, email, or hard copy with all project personnel to ensure that permit requirements are fully implemented. The biologist(s) will have the authority to stop project activities to avoid take of listed species or if he/she determines that any permit requirements are not fully implemented.

BIO-5: Worker Environmental Awareness Training. All construction personnel will attend a mandatory environmental education program delivered by an approved biologist prior to working on the project. At a minimum, the training will include a description of protected biological resources, including fish, marine mammals, bats, and migratory birds. The training will discuss the potential occurrence of these species in the project construction area; provide an explanation of the status of these species and their protection under the federal Endangered Species Act (FESA) and other laws; list the measures to be implemented to conserve listed species and their habitats as they relate to the work site; and describe the boundaries within which construction may occur.

BIO-6: Pile-Driving Restrictions. All piles will be installed and removed using a crane-mounted vibratory driver, or by using CIDH methods. Vibratory pile driving is beneficial to use in the marine environment because the method is more efficient (reduces ground vibrations) than impact hammers into wet, particulate sediment; and because it creates a lower level of underwater noise (GDG 2014). If, during pile installation, an obstruction is encountered below the mudline, the pile will be vibrated out and placed in a

new location. If the pile cannot be relocated (especially during the replacement of the existing pile fenders), buried timber piles and other abandoned piles that may be encountered will be removed using a barge equipped with a crane-mounted vibratory hammer. This work may be supported by divers who would clear material at the bottom of the channel to the extent necessary to expose the top of abandoned or broken timber piles, allowing for their removal.

BIO-7: Protection of Marine Mammals. SFPW will consult with the National Oceanic and Atmospheric Administration's (NOAA's) National Marine Fisheries Service (NMFS) to determine the potential for project activities to impact marine mammals, including California sea lions, harbor seals, and harbor porpoise. Through the consultation process, AMMs specific to marine mammals will be identified. These may include measures such as limiting the number of piles installed or removed in a 24-hour period; and providing biological monitoring for marine mammals to enforce a marine mammal safety zone, where no pile driving can occur if a marine mammal is observed.

BIO-8: Monitoring for Underwater Noise. Monitoring will be done during pile driving and extraction to ensure that underwater noise levels do not exceed predicted levels.

BIO-9: Protection of Herring Spawn. SFPW will consult with the California Department of Fish and Wildlife (CDFW) to determine the potential for project activities to impact Pacific herring. Through the consultation process, AMMs specific to Pacific herring will be identified. These may include measures such as providing biological monitoring to identify spawn events during the herring spawning season, from December 1 through February 28. If herring spawning is observed, in-water work will be suspended within 500 meters of spawning activity, and the work will not resume until spawning has ended and eggs have hatched (up to 21 days).

BIO-10: Debris Containment. Debris containment systems will be implemented for work over water to prevent airborne or falling debris from entering the waters below. An encapsulation containment system will be used to contain debris for rust, lead paint, and asbestos. Additional containment systems will be constructed to hang off the deck for additional deck repair work and counterweight replacement.

BIO-11: Preconstruction Surveys for Nesting Birds and Roosting Bats. Preconstruction surveys for nesting birds and roosting bats will be conducted by a qualified biologist no more than 72 hours prior to the start of construction for activities occurring during the breeding season (February 15 through August 31).

BIO-12: Non-Disturbance Buffer for Nesting Birds and Roosting Bats. If work must occur within 300 feet of active raptor nests or 50 feet of active passerine nests or roosting bats, a non-disturbance buffer will be established, with agency approval, at a distance sufficient to minimize disturbance based on the nest/roost location, topography, cover, the species' sensitivity to disturbance, and the intensity/type of potential disturbance.

BIO-13: Night Lighting. Artificial lighting of the proposed construction area during nighttime hours will be minimized to the maximum extent practicable. All lighting will be directed away from the marine environment and natural areas.

BIO-14: Project Staging. Project vehicle, laydown, and equipment staging will be restricted to barges or the potential areas. Staging will not occur in vegetated areas.

BIO-15: Trash Control. All food-related trash items such as wrappers, cans, bottles, and food scraps will be disposed of in closed containers and removed at least once a day from the work area.

BIO-16: Firearms. No firearms will be allowed in the active construction area except for those carried by authorized security personnel, or local, state, or federal law enforcement officials.

BIO-17: Pets. To prevent harassment, injury, or mortality of sensitive species, no pets of project personnel will be permitted on the project site.

BIO-18: Caltrans Standard Best Management Practices (BMPs). The potential for adverse effects to water quality will be avoided by implementing the temporary and permanent BMPs outlined in Section 7-1.01G of the Caltrans Standard Specifications. The Caltrans Construction Site BMPs Manual includes many protective measures and guidance to prevent and minimize pollutant discharges, and can be found at the following website: <http://www.dot.ca.gov/hq/construc/stormwater/manuals.htm>

BIO-19: Concrete Waste and Stockpiles. All grindings and asphaltic-concrete waste will be stored in previously disturbed areas absent of habitat and at a minimum of 150 feet from any aquatic habitat, culvert, or drainage feature.

BIO-20: Water Quality. Protection measures will be implemented to protect all waters of the U.S. The project has been designed to avoid increased turbidity by cutting existing fenders at the mudline. In-water work can be supported by divers to clear material at the bottom of the channel and gather abandoned or broken fender piles. Silt curtains and turbidity curtains may be used to minimize turbidity if necessary. Implementation of Caltrans standard BMPs (Measure #17) and proper storage of concrete waste and stockpiles (Measure #18) will further reduce impacts on water features. When piles or other debris from the existing fender system are removed from the channel, they will be promptly removed from the water and placed on a barge. The barge will be configured to contain all sediment that may be adhering so that it does not fall into the water.

CULT-1: Stop Work Upon Discovery of Cultural Materials. If cultural materials are discovered during construction, all earth-moving activities within a sixty-foot radius would be halted until a Caltrans Professionally Qualified Staff (PQS) can assess the nature and significance of the find. An additional archaeological survey would be needed if the project limits are extended beyond the present survey limits.

CULT-2: Additional Actions if Cultural Materials Contain Human Remains. If Caltrans PQS determines that cultural materials contain human remains, State Health and Safety Code Section 7050.5 states that further disturbances and activities shall stop in any area or nearby area suspected to overlie remains. Caltrans' OCRS would contact the San Francisco County Coroner. Pursuant to PRC Section 5097.98, if the remains are thought by the coroner to be Native American, the coroner would notify the Native American Heritage Commission, which would then notify the Most Likely Descendent. OCRS would work with the Most Likely Descendent on the respectful treatment and disposition of the remains. Further provisions of PRC 5097.98 are to be followed as applicable.

CULT-3: Historic American Landscape Survey Documentation. Prior to the commencement of project construction, Public Works shall contact the regional Historic American Engineering Record (HAER) coordinator at the National Park Service (NPS) Interior Regions 8, 9, 10, and 12 Regional Office to request that NPS stipulate the level of and procedures for completing the documentation. Within 10 days of receiving the NPS stipulation letter, Public Works shall send a copy of the letter to the Project Programmatic Agreement (PA) Consulting Parties for their information. Public Works will ensure that all recordation and documentation activities are performed or directly supervised by architects, historians, photographers, and/or other professionals meeting the qualification standards in the Secretary of Interior's Professional Qualification Standards (36 CFR 61, Appendix A). On receipt of the NPS written acceptance letter, Public Works will make archival, digital, and bound library-quality copies of the documentation and provide them to the History Room of the San Francisco Public Library, Northwest Information Center,

California Historical Society, Environmental Design Archives at the University of California, Berkeley, Architectural Archives at the University of Pennsylvania, and California State Library.

The documentation will be completed prior to the expiration of the Project PA. Caltrans shall notify SHPO that the documentation is complete and all copies distributed as outlined in Stipulation II.C and include the completion of the documentation in the Project PA Annual Report. All field surveys shall be completed prior to the commencement of project construction.

C-1: Public Outreach Campaign. The project team will conduct a robust public outreach campaign both prior to and during construction. Outreach should also include requests for the minority community to meaningfully provide input into project decisions such as recommendations for environmental mitigation, should they be required.

HAZ-1: Soil Testing. Any soil designated for removal from the Project Site will be sampled and analyzed; and if the resulting lead concentrations exceed 320 mg/kg, and/or extractable lead is greater than 5 mg/L as determined by the CA-WET, then it is to be handled pursuant to the hazardous waste management standards of Health and Safety Code, Chapter 6.5 (Section 25100, et. seq.), and regulations adopted thereunder.

HAZ-2: Health and Safety Plan. All grading operations shall be conducted in accordance with applicable California Occupational Safety and Health Administration (Cal-OSHA) requirements, including a project-specific worker Health and Safety Plan developed using the following guidance to minimize worker exposure to VOC, semi-volatile organic compound, and lead-impacted air, dust, or soil:

- Before the start of excavation activities, a "competent person" in accordance with 29 CFR Section 1926.650 (a person who has the knowledge and training to identify hazards and the authority to correct the hazards) will assess the toxicological (health) hazards associated with exposure to organic and inorganic chemicals and metals during the project. Chemicals that may be encountered are described in the sections above.
- CCR, Title 8, Subchapter 7. General Industry Safety Orders, Group 16. Control of Hazardous Substances, Article 107. Dusts, Fumes, Mists, Vapors and Gases.
- Cal-OSHA standards addressing this issue under General Industry (29 CFR 1910) (1910.1025 – Lead).
- Caltrans requirements for a project-specific Lead Compliance Plan (CCR Title 8, Section 1532.1, the "Lead in Construction Standard").

NOI-1: Construction Equipment. Maintain construction equipment per manufacturers' specifications and fitted with feasible noise suppression devices (e.g., mufflers, silencers, wraps). Shroud or shield all impact tools, and muffle or shield all intake and exhaust ports on power equipment. Use less-noisy equipment (e.g., replace gasoline- or diesel-powered equipment with electric-powered equipment or use newer or smaller equipment). Turn off construction equipment when not in use and do not idle for extended periods of time (more than 5 minutes) near noise-sensitive receptors. Use noise control blanket barriers to shield or surround the construction equipment. Locate fixed/stationary equipment (e.g., compressors, generators) as far as practicable from noise-sensitive receptors.

NOI-2: Temporary Noise Barriers. Erect 12-foot-high (or as high as needed to block the equipment noise from direct line-of-sight to the sensitive receptor) plywood or similar material noise barrier with sound blankets or curtains between the construction area and the sensitive receptors.

NOI-3: Minimize Construction-Generated Vibration. The lead agency and the general construction contractor would implement the following measures to reduce construction-generated vibration.

- Place stationary construction equipment as far as possible from developed areas.
- Use smaller construction equipment when practical, particularly smaller vibratory rollers that are as small as practicable, or have adjustable vibratory force features.
- Locate loading areas, staging areas, vibration-generating equipment, etc., as far as feasible from sensitive receptors.
- Prohibit the use of vibratory rollers close to structures, as practical.
- If vibratory rollers are required to be used and need to be used within 110 feet of structures, the contractor must use a vibratory roller whose vibratory force can be turned down or turned off.
- Prohibit using vibratory rollers during nighttime hours (7 p.m. to 7 a.m.) to avoid annoyance.
- Designate a “noise disturbance coordinator” who will be responsible for responding to any local complaints about construction vibration. The disturbance coordinator will determine the cause of any vibration complaint (e.g., human annoyance and structural damage) and require that reasonable measures be implemented to correct the problem. Post the disturbance coordinator’s telephone number at the construction site.
- Should the Partial Preservation Alternative be chosen, during final design further consideration and discussion will need to be held with SFPUC to determine the best way to conduct required foundation work for the control tower. This may also create additional water quality and biological impacts which may in turn need to be included in further consultation with National Marine Fisheries Service.

TRANS-1: Construction Detours. During project construction, detour routes and a temporary bus bridge will be put in place. SFPW will work with the SFMTA to provide a temporary bus bridge service in place of the existing T Third LRT line between Marin Street Station and Sunnydale Station during the project construction. The buses will run along Illinois Street and Cesar Chavez Avenue instead of Third Street, and passengers will transfer between the T Third rail vehicle and a bus near the 23rd Street station or Marin Street station. Full details of the temporary bus service, including the last light rail station, passenger pick-up/drop-off locations, bus frequency, and passenger transfer route, will be developed by SFPW and SFMTA as the project’s design progresses.

SFPW will also work with SFMTA to develop a detailed detour plan for the 15 Bayview-Hunters Point Express and 91 Third Street/19th Avenue Owl bus routes to minimize transit delays during construction. It is anticipated that these routes will be rerouted along Cesar Chavez Street, Illinois Street, and Cargo Way.

Pedestrians approaching from either side of the bridge will be directed to use the Illinois Street Bridge via continuous sidewalks along Cargo Way, Rosa Parks Plaza, and Illinois Street. Bicyclists will be directed to detour to the Illinois Street Bridge via Cargo Way (Class 2 bike facility) or Cesar Chavez Street (with a Class 3 bike facility). Detour routes will direct pedestrians and bicyclists to existing facilities with safety features. Moreover, the construction logistics will include advance warning signs, detour signs, and variable message signs along Third Street and other detour routes.

Appendix D List of Technical Studies

The following studies and/or technical analyses have been prepared and are incorporated by reference into this Environmental Assessment and can be located at: the “NEPA Environmental Documents” section on the Public Works project website: <https://sfpublicworks.org/Islais-Creek-Bridge>.

Community Impact Assessment, AECOM, April 2024

Construction Noise/Vibration Technical Memorandum, AECOM, March 2023

Finding of Adverse Effect, AECOM, September 2024

Location Hydraulic Study, AECOM, April 28, 2023

Natural Environment Study, AECOM, August 2023

Transportation Impact Study, CHS, April 2023

Updated Phase I Initial Site Assessment, AECOM, April 13, 2023

Visual Impact Assessment, AECOM, March 28, 2023

Supplemental Historic Properties Survey Report, AECOM, September 2024

Appendix E SHPO Concurrence Letter



State of California • Natural Resources Agency

Gavin Newsom, Governor

**DEPARTMENT OF PARKS AND RECREATION
OFFICE OF HISTORIC PRESERVATION**

Armando Quintero, Director

Julianne Polanco, State Historic Preservation Officer
1725 23rd Street, Suite 100, Sacramento, CA 95816-7100
Telephone: (916) 445-7000 FAX: (916) 445-7053
calshpo.ohp@parks.ca.gov www.ohp.parks.ca.gov

November 7, 2024

VIA EMAIL

In reply refer to: FHWA_2024_1018_001

Mr. Jeff Carr, Acting Section 106 Coordinator
Cultural Studies Office
Division of Environmental Analysis
PO Box 942873, MS-27
Sacramento, CA 94273-0001

Subject: Finding of Adverse Effect for the Proposed Islais Creek Bridge Replacement Project, City and County of San Francisco, California

Dear Mr. Carr:

Caltrans is initiating consultation regarding the above project in accordance with the 2014 *First Amended Programmatic Agreement Among the Federal Highway Administration, the Advisory Council on Historic Preservation, the California State Historic Preservation Officer (SHPO) and the California Department of Transportation Regarding Compliance with Section 106 of the National Historic Preservation Act, as it Pertains to the Administration of the Federal-Aid Highway Program in California* (106 PA). As part of your documentation, Caltrans submitted a Supplemental Historic Properties Survey Report, Supplemental Archaeological Survey Report, Finding of Effect Report for the above project.

Caltrans proposes to replace the Islais Creek Bridge (34C0024) located on Third Street in San Francisco, a bridge previously determined eligible for the National Register of Historic Places (NRHP). Ongoing inspections by San Francisco Public Works and Caltrans indicate that the existing bridge would require extensive structural, mechanical, and electrical repairs to bring it into compliance with current bridge standards and to allow it to continue as a main artery in San Francisco.

As part of its identification efforts Caltrans identified the following three historic properties within the area of potential effect for the project:

- Islais Creek Bridge (Bridge 34C0024) – Caltrans previously determined the Islais Creek Bridge (34C0024) eligible for listing in the NRHP through the Caltrans Historic Bridge Inventory update in December 2005. The project would demolish and replace the existing Islais Creek Bridge; therefore, Caltrans anticipates the Undertaking will adversely affect this historic property.

Mr. Carr
October 17, 2024
Page 2 of 2

FHWA_2024_0603_001

- San Francisco Fire Department Auxiliary Water Supply System (AWSS) - In 2020, Caltrans determined the AWSS eligible for listing in the NRHP through Section 106 compliance efforts for the Better Market Street Project (FHWA_2020_0312_001). The SHPO concurred with that determination of eligibility on April 23, 2020. No character-defining features of this historic property are located within the APE of the current Undertaking, and Caltrans has concluded that the historic property would not be adversely affected.
- Central Waterfront / Potrero Point Historic District – In accordance with Stipulation VIII.C.4 of the 106 PA, Caltrans is assuming the Central Waterfront / Potrero Point Historic District eligible for the NRHP for purposes of this Undertaking due to the large size of the resource. While partially located within the boundaries of the historic district, the Islais Creek Bridge is not a contributing resource to the historic district, and the project would not affect any contributing elements of the historic district. Moreover, because the majority of historic district contributors are not located in close proximity to the bridge, peripheral changes to the setting and viewshed would not adversely affect the historic district.

Caltrans applied the criteria of adverse effect and found the project will have an adverse effect on the Islais Creek Bridge.

Based on my review of the submitted documentation, I have no objections to Caltrans' finding of adverse effect for this undertaking.

If you have any questions, please contact Natalie Lindquist at natalie.lindquist@parks.ca.gov.

Sincerely,



Julianne Polanco
State Historic Preservation Officer

Appendix F U.S. Fish and Wildlife Service and National Marine Fisheries Service Species Lists



United States Department of the Interior



FISH AND WILDLIFE SERVICE
Sacramento Fish And Wildlife Office
Federal Building
2800 Cottage Way, Room W-2605
Sacramento, CA 95825-1846
Phone: (916) 414-6600 Fax: (916) 414-6713

In Reply Refer To:

02/11/2025 18:36:04 UTC

Project Code: 2025-0054791

Project Name: Islais Creek Bridge Rehabilitation Project

Subject: List of threatened and endangered species that may occur in your proposed project location or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*).

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2))

(c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

<https://www.fws.gov/sites/default/files/documents/endangered-species-consultation-handbook.pdf>

Migratory Birds: In addition to responsibilities to protect threatened and endangered species under the Endangered Species Act (ESA), there are additional responsibilities under the Migratory Bird Treaty Act (MBTA) and the Bald and Golden Eagle Protection Act (BGEPA) to protect native birds from project-related impacts. Any activity, intentional or unintentional, resulting in take of migratory birds, including eagles, is prohibited unless otherwise permitted by the U.S. Fish and Wildlife Service (50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)). For more information regarding these Acts, see <https://www.fws.gov/program/migratory-bird-permit/what-we-do>.

The MBTA has no provision for allowing take of migratory birds that may be unintentionally killed or injured by otherwise lawful activities. It is the responsibility of the project proponent to comply with these Acts by identifying potential impacts to migratory birds and eagles within applicable NEPA documents (when there is a federal nexus) or a Bird/Eagle Conservation Plan (when there is no federal nexus). Proponents should implement conservation measures to avoid or minimize the production of project-related stressors or minimize the exposure of birds and their resources to the project-related stressors. For more information on avian stressors and recommended conservation measures, see <https://www.fws.gov/library/collections/threats-birds>.

In addition to MBTA and BGEPA, Executive Order 13186: *Responsibilities of Federal Agencies to Protect Migratory Birds*, obligates all Federal agencies that engage in or authorize activities that might affect migratory birds, to minimize those effects and encourage conservation measures that will improve bird populations. Executive Order 13186 provides for the protection of both migratory birds and migratory bird habitat. For information regarding the implementation of Executive Order 13186, please visit <https://www.fws.gov/partner/council-conservation-migratory-birds>.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Code in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Note: IPaC has provided all available attachments because this project is in multiple field office jurisdictions.

Attachment(s):

- Official Species List
- USFWS National Wildlife Refuges and Fish Hatcheries
- Bald & Golden Eagles
- Migratory Birds
- Wetlands

OFFICIAL SPECIES LIST

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

Sacramento Fish And Wildlife Office

Federal Building
2800 Cottage Way, Room W-2605
Sacramento, CA 95825-1846
(916) 414-6600

This project's location is within the jurisdiction of multiple offices. However, only one species list document will be provided for all offices. The species and critical habitats in this document reflect the aggregation of those that fall in each of the affiliated office's jurisdiction. Other offices affiliated with the project:

San Francisco Bay-Delta Fish And Wildlife

650 Capitol Mall
Suite 8-300
Sacramento, CA 95814
(916) 930-5603

ENDANGERED SPECIES ACT SPECIES

There is a total of 22 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries¹, as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

-
1. [NOAA Fisheries](#), also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

MAMMALS

NAME	STATUS
Salt Marsh Harvest Mouse <i>Reithrodontomys raviventris</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/613	Endangered

BIRDS

NAME	STATUS
California Least Tern <i>Sternula antillarum browni</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/8104	Endangered
California Ridgway's Rail <i>Rallus obsoletus obsoletus</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/4240	Endangered
Marbled Murrelet <i>Brachyramphus marmoratus</i> Population: U.S.A. (CA, OR, WA) There is final critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/4467	Threatened
Western Snowy Plover <i>Charadrius nivosus nivosus</i> Population: Pacific Coast population DPS-U.S.A. (CA, OR, WA), Mexico (within 50 miles of Pacific coast) There is final critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/8035	Threatened

REPTILES

NAME	STATUS
Green Sea Turtle <i>Chelonia mydas</i> Population: East Pacific DPS No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/6199	Threatened
Northwestern Pond Turtle <i>Actinemys marmorata</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/1111	Proposed Threatened
San Francisco Garter Snake <i>Thamnophis sirtalis tetrataenia</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/5956	Endangered

AMPHIBIANS

NAME	STATUS
California Red-legged Frog <i>Rana draytonii</i> There is final critical habitat for this species. Your location does not overlap the critical habitat.	Threatened

NAME	STATUS
Species profile: https://ecos.fws.gov/ecp/species/2891	

FISHES

NAME	STATUS
Longfin Smelt <i>Spirinchus thaleichthys</i> Population: San Francisco Bay-Delta DPS There is proposed critical habitat for this species. Species profile: https://ecos.fws.gov/ecp/species/9011	Endangered
Tidewater Goby <i>Eucyclogobius newberryi</i> There is final critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/57	Endangered

INSECTS

NAME	STATUS
Monarch Butterfly <i>Danaus plexippus</i> There is proposed critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/9743	Proposed Threatened

FLOWERING PLANTS

NAME	STATUS
California Seablite <i>Suaeda californica</i> Population: No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/6310	Endangered
Franciscan Manzanita <i>Arctostaphylos franciscana</i> There is final critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/5350	Endangered
Marin Dwarf-flax <i>Hesperolinon congestum</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/5363	Threatened
Presidio Clarkia <i>Clarkia franciscana</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/3890	Endangered
Presidio Manzanita <i>Arctostaphylos hookeri</i> var. <i>ravenii</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/7216	Endangered
Robust Spineflower <i>Chorizanthe robusta</i> var. <i>robusta</i> There is final critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/9287	Endangered

NAME	STATUS
San Francisco Lessingia <i>Lessingia germanorum</i> (=L.g. var. <i>germanorum</i>) No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/8174	Endangered
Showy Indian Clover <i>Trifolium amoenum</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/6459	Endangered
Sonoma Sunshine <i>Blennosperma bakeri</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/1260	Endangered
White-rayed Pentachaeta <i>Pentachaeta bellidiflora</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/7782	Endangered

CRITICAL HABITATS

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

YOU ARE STILL REQUIRED TO DETERMINE IF YOUR PROJECT(S) MAY HAVE EFFECTS ON ALL ABOVE LISTED SPECIES.

USFWS NATIONAL WILDLIFE REFUGE LANDS AND FISH HATCHERIES

Any activity proposed on lands managed by the [National Wildlife Refuge](#) system must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

THERE ARE NO REFUGE LANDS OR FISH HATCHERIES WITHIN YOUR PROJECT AREA.

BALD & GOLDEN EAGLES

Bald and Golden Eagles are protected under the Bald and Golden Eagle Protection Act ² and the Migratory Bird Treaty Act (MBTA) ¹. Any person or organization who plans or conducts activities that may result in impacts to Bald or Golden Eagles, or their habitats, should follow appropriate regulations and consider implementing appropriate avoidance and minimization measures, as described in the various links on this page.

-
1. The [Bald and Golden Eagle Protection Act](#) of 1940.
 2. The [Migratory Birds Treaty Act](#) of 1918.
 3. 50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)

THERE ARE NO BALD AND GOLDEN EAGLES WITHIN THE VICINITY OF YOUR PROJECT AREA.

MIGRATORY BIRDS

The Migratory Bird Treaty Act (MBTA) ¹ prohibits the take (including killing, capturing, selling, trading, and transport) of protected migratory bird species without prior authorization by the Department of Interior U.S. Fish and Wildlife Service (Service). The incidental take of migratory birds is the injury or death of birds that results from, but is not the purpose, of an activity. The Service interprets the MBTA to prohibit incidental take.

-
1. The [Migratory Birds Treaty Act](#) of 1918.
 2. The [Bald and Golden Eagle Protection Act](#) of 1940.
 3. 50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)

THERE ARE NO FWS MIGRATORY BIRDS OF CONCERN WITHIN THE VICINITY OF YOUR PROJECT AREA.

WETLANDS

Impacts to [NWI wetlands](#) and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local [U.S. Army Corps of Engineers District](#).

Please note that the NWI data being shown may be out of date. We are currently working to update our NWI data set. We recommend you verify these results with a site visit to determine the actual extent of wetlands on site.

ESTUARINE AND MARINE WETLAND

- E2EM1N
- E2USN

ESTUARINE AND MARINE DEEPWATER

- E1UBL

IPAC USER CONTACT INFORMATION

Agency: San Francisco city
Name: David Pecora
Address: 300 Lakeside Drive, Suite 400
City: Oakland
State: CA
Zip: 94612
Email: mkpdppecora@gmail.com
Phone: 5107546453

LEAD AGENCY CONTACT INFORMATION

Lead Agency: California Department of Transportation District 4

Pecora, David

From: Pecora, David
Sent: Tuesday, February 11, 2025 7:37 PM
To: nmfs.wcrca.specieslist@noaa.gov
Subject: Islais Creek Bridge Replacement Project

Federal Agency: Federal Highway Administration – California Division
Federal Agency Address: 650 Capitol Mall, Suite 4-100, Sacramento, CA 95814-4708
Non-Federal Agency Representative: California Department of Transportation
Non-Federal Agency Address: Caltrans District 04, 111 Grand Ave, Oakland, CA 94612
Non-federal agency conducting biological studies: AECOM, 300 Lakeside Drive, Suite 400, Oakland, CA 94612, USA
Point of contact: David Pecora, Senior Biologist at AECOM, 973-525-9976,
David.pecora@aecom.com

Project Name: Islais Creek Bridge Replacement

Quad Name **San Francisco South**

Quad Number **37122-F4**

ESA Anadromous Fish

SONCC Coho ESU (T) -

CCC Coho ESU (E) - **X**

CC Chinook Salmon ESU (T) -

CVSR Chinook Salmon ESU (T) -

SRWR Chinook Salmon ESU (E) -

NC Steelhead DPS (T) -

CCC Steelhead DPS (T) - **X**

SCCC Steelhead DPS (T) -

SC Steelhead DPS (E) -

CCV Steelhead DPS (T) -

Eulachon (T) -

sDPS Green Sturgeon (T) - **X**

ESA Anadromous Fish Critical Habitat

SONCC Coho Critical Habitat -

CCC Coho Critical Habitat - **X**

CC Chinook Salmon Critical Habitat -

CVSR Chinook Salmon Critical Habitat -

SRWR Chinook Salmon Critical Habitat -

NC Steelhead Critical Habitat -

CCC Steelhead Critical Habitat -

SCCC Steelhead Critical Habitat -

SC Steelhead Critical Habitat -

CCV Steelhead Critical Habitat -
Eulachon Critical Habitat -
sDPS Green Sturgeon Critical Habitat - X

ESA Marine Invertebrates

Range Black Abalone (E) - X
Range White Abalone (E) -

ESA Marine Invertebrates Critical Habitat

Black Abalone Critical Habitat - X

ESA Sea Turtles

East Pacific Green Sea Turtle (T) - X
Olive Ridley Sea Turtle (T/E) - X
Leatherback Sea Turtle (E) - X
North Pacific Loggerhead Sea Turtle (E) - X

ESA Whales

Blue Whale (E) - X
Fin Whale (E) - X
Humpback Whale (E) - X
Southern Resident Killer Whale (E) - X
North Pacific Right Whale (E) - X
Sei Whale (E) - X
Sperm Whale (E) - X

ESA Pinnipeds

Guadalupe Fur Seal (T) - X
Steller Sea Lion Critical Habitat -

Essential Fish Habitat

Coho EFH - X
Chinook Salmon EFH - X
Groundfish EFH - X
Coastal Pelagics EFH - X
Highly Migratory Species EFH -

MMPA Species (See list at left)

ESA and MMPA Cetaceans/Pinnipeds

**See list at left and consult the NMFS Long Beach office
562-980-4000**

MMPA Cetaceans - X
MMPA Pinnipeds - X

David Pecora

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