Final

Initial Study/Mitigated Negative Declaration

BART Market Street Canopies and Escalators Modernization Project

State Clearinghouse Number 2018042081

San Francisco Bay Area Rapid Transit District

June 2018

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State Clearinghouse Number 2018042081

Prepared for

San Francisco Bay Area Rapid Transit District

300 Lakeside Drive, 21st floor

Oakland, CA 94612

Prepared by

AECOM

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Oakland, CA 94612

June 2018

Introduction

The San Francisco Bay Area Rapid Transit District (BART) is acting as the Lead Agency under the California Environmental Quality Act (CEQA) for the BART Market Street Canopies and Escalators Modernization Project (proposed project). BART is working in cooperation with the City and County of San Francisco to install canopy covers over the majority of the entrances/exits at the four downtown San Francisco BART/Muni stations (Embarcadero, Montgomery Street, Powell Street, and Civic Center/UN Plaza), as well as replace/refurbish existing street-level escalators.

On April 30, 2018, BART published a Draft Initial Study/Mitigated Negative Declaration (IS/MND) which analyzed potential environmental impacts associated with the proposed project. The Draft IS/MND was available for a 30-day public review period from April 30, 2018 to May 30, 2018 pursuant to Section 15073 of the State CEQA Guidelines.

The Notice of Availability and Notice of Intent (NOA/NOI) to adopt the IS/MND was posted with the City and County of San Francisco Clerk and the State Clearinghouse, mailed to all residents and businesses within ¼-mile of the project site, emailed to the project's listserv of relevant stakeholders and interested people, made available on the BART website, and provided for public review at the San Francisco Main Library at Civic Center.

A public meeting was held on May 16, 2018 in the Latino/Hispanic Community Room in the San Francisco Main Library from 5:30 p.m. to 7:30 p.m. to provide the public an opportunity to learn more about the project, discuss project features with project staff, and collect public comments on the Draft IS/MND. No oral comments were received at the public meeting. The transcript of the meeting is included below under Comments and Responses.

This Final MND for the proposed project has been prepared in compliance with CEQA and includes the following information:

- A copy of each public comment letter received during the public review period and a response to each substantive issue raised.
- A Final IS/MND including edits to provide clarification or additional detail made in response to comments. In this Final IS/MND, new or revised text is shown with <u>underline</u> for additions and ~~strikethrough~~ for deletions.

This document constitutes the proposed Final MND for the proposed project. The BART Board of Directors will consider the proposed Final MND, including the responses to comments, and may adopt the proposed Final MND if it finds, on the basis of the whole record before it, that there is no substantial evidence that the proposed project will have a significant effect on the environment.

Comments and Responses

Comments Received on the Draft IS/MND

This section includes all comments received on the Draft IS/MND. Comment letters and their associated commenters are listed in Table A. Comments within each comment letter are bracketed by topic and assigned a number in the margin.

No oral comments were received at the public meeting.

Table A. Comments Received on Draft IS/MND

Letter #	Commenter	Date
1	Ana Noles	May 7, 2018
2	San Francisco Municipal Transportation Agency (SFMTA)	May 30, 2018
3	David Pilpel	May 30, 2018
4	Governor's Office of Planning and Research	May 30, 2018

Responses to Comments

This section contains responses for each comment identified in the comment letters. Each response provides a response to the comment and identifies if revisions to the Draft IS/MND are required or if revisions have been made for clarification.

The CEQA Guidelines do not require written responses to comments received on an MND; however, BART has reviewed the comments received and has prepared these responses to provide full information to the decision-makers and the public.

Comment Letter 1: Ana Noles

From: Ana Noles, PsyD [mailto:dr.noles@ananoles.com]
Sent: Monday, May 07, 2018 12:44 PM
To: Janie Layton <jlayton@bart.gov>
Subject: Comment re Draft IS/MND

Hello Ms. Layton.

I'd like to share my thoughts about the proposed BART Market Street Canopies and Escalators Modernization Proposed Project.

1.1 I come into San Francisco on BART and use the Montgomery BART Station daily during the week. In doing so I have noticed that the outdoor escalator is out of order and/or being repaired very often. I've seen people of all ages, some with obvious physical difficulties, struggling to climb the stairs with or without belongings when the escalator is out of order. I've wondered why the entrances and the outdoor escalators are not covered by some sort of roof and have thought that this could probably cut down on the wear and tear on these escalators. I was thrilled to hear about this project that's being proposed by BART. I think it's a great idea to cover the escalators so that they can hopefully run on a more regular basis and be available for the many people who struggle to climb the regular stairs.

I hope my comments are helpful.

Best,
Ana

Ana E Noles, PsyD
Licensed Clinical Psychologist
Psychotherapy & Consultation
582 Market Street, Ste. 311, San Francisco, CA 94104
510-496-6066
dr.noles@ananoles.com
www.ananoles.com

Thank you

1

Response to Comment Letter 1: Ana Noles

Response to Comment 1.1

Comment noted. This comment states the commenter's support of the proposed project and does not concern the adequacy of the Draft IS/MND. No revisions to the Draft IS/MND are necessary.

Comment Letter 2: SFMTA

From: "Olea, Ricardo" <Ricardo.Olea@sfmta.com>
Date: May 30, 2018 at 9:11:58 PM PDT
To: "jlayton@bart.gov" <jlayton@bart.gov>
Cc: "Velasco, Manito" <Manito.Velasco@sfmta.com>, "Liu, Cheryl" <Cheryl.Liu@sfmta.com>, "Tanner, Britt" <Britt.Tanner@sfmta.com>, "Trout, Ian" <Ian.Trout@sfmta.com>, "Markowitz, Frank" <Frank.Markowitz@sfmta.com>
Subject: Re: DRAFT BART Market Street Canopies and Escalators Modernization Project formal comments to the Draft Mitigated Negative Declaration

After reviewing the Draft Mitigated Negative Declaration for the BART Market Street Canopies and Escalators Modernization Project, the SFMTA would like to submit a comment to be incorporated for review and response by the project team.

2.1 In section 5.16, under the Discussion sub-section in part d), there is no mention about the potential for these proposed canopies to block or partially block traffic signal visibility. The California MUTCD 2.C36 states: The visibility criteria for a traffic control signal shall be based on having a continuous view of at least two signal faces for the distance specified in Table 4D-2. Signal visibility is an important safety factor when installing traffic signals.

The SFMTA has already raised this concern with the project team during the 35% design review and the project team promised to examine side-mounted signals and perform a signal visibility model. We look forward to working proactively with the project team to ensure that traffic signals remain visible with the proposed canopies.

If you have any questions please contact Ian Trout of my staff at 415.701.4556

Thanks,
Ricardo Olea
City Traffic Engineer
SFMTA

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Response to Comment Letter 2: SFMTA

Response to Comment 2.1

SFMTA has expressed concerns that the canopies proposed for the station entrances/exits on the near-side of a select number of intersections and in close proximity to existing crosswalks may result in reduced driver visibility of near-side traffic signals and impact a driver's view of pedestrians preparing to step into the crosswalk. SFMTA has also expressed concerns that the overhang of the proposed canopy roofs that are in close proximity to existing crosswalks on the near-side of intersections may interfere with the visibility of future near-side signals planned as part of the Better Market Street project, as well as interfere with pedestrian's views of oncoming traffic. The proposed canopies that were identified by SFMTA during their review of the 35% design plans as having potential impacts are shown in Table B.

Table B. Station Entrance/Exit Escalator and Canopy Count

Canopy Number	Station	Intersection	Side of Street	Distance to Crosswalk (Feet)[1]	Existing Nearside Signal?	Planned Future Better Market Street Nearside Signal?
2	Embarcadero	Spear Street	South	45	No	Yes
3		Davis Street	North	65	No	Yes
4		Main Street	South	53	No	Yes
6		Beale Street	South	54	No	Yes
7	Montgomery Street	Sansome Street/ Sutter Street	West	35	No	N/A
8		Pedestrian Crosswalk to Sutter Street	South	70	No	Yes
12		New Montgomery Street	South	6	Yes	Yes
15	Powell Street	Pedestrian Crossing Midblock before 4th Street	South	54	No	Yes
16		Pedestrian Crossing Midblock to Powell Street	South	55	No	Yes
17		5th Street	South	19	Yes	Yes
21	Civic Center/ UN Plaza	Hyde Street/ Grove Street	North	17	No	Yes

Source: STV, Inc., 2018
Note: 1. Distance from closest canopy enclosure element to nearside of crosswalk.

In order to assess SFMTA's concerns, a signal visibility assessment is being conducted as part of the BART Market Street Canopies and Escalators Modernization Project. The plans for the future Better Market Street project are still under development; as the plans for the Better Market Street project progress, the proposed canopies will be re-assessed (if necessary) for potential signal and pedestrian visibility conflicts.

Currently, the Better Market Street project proposes to widen existing sidewalks thereby placing near-side signals further away from the proposed canopies resulting in improved sight lines for both signal and pedestrian visibility.

Signal Visibility Assessment

Signal visibility requirements are defined in the California Manual on Uniform Traffic Control Devices (MUTCD) 2014 Edition Revision 3 (March 9, 2018). The MUTCD requires a minimum of two signal faces be provided for the major movement on an approach to an intersection. Signal heads placed in accordance with the MUTCD should be visible to all motorists approaching the intersection from a minimum distance as prescribed by Table 4D-1 of the MUTCD (reproduced as Table C below). In the case of Market Street, the 85th percentile speed is set as 25 mile per hour (mph) with a minimum sight distance of 215 feet for two primary signal faces. There is also a "cone of vision" requirement that states that at least one traffic signal must be not less than 40 feet beyond the stop line and not greater than 150 feet from the stop line and within a 40-degree cone of vision centered on the center of the approach lanes.

Table C. Station Entrance/Exit Escalator and Canopy Count

85th Percentile Speed (mph)	Minimum Sight Distance (feet)
20	175
25	215
30	270
35	325
40	390
45	460
50	540
55	625
60	715

Source: Table 4D-1, California Manual on Uniform Traffic Control Devices (MUTCD) 2014 Edition Revision 3 (March 9, 2018).

Note: Shading indicates minimum sight distance for Market Street

Potential Issues with Proposed Canopies and Primary Signal Faces

Of the eleven proposed canopies identified in Table B, eight are in close proximity to intersections on the approach side. The signal visibility assessment determined that all but one has the required two overhead primary signal faces where the canopies would not impair the visible sight distance at 215 feet. Montgomery Street Station canopy #7, proposed for the intersection of Sansome Street and Sutter Street, is the exception.

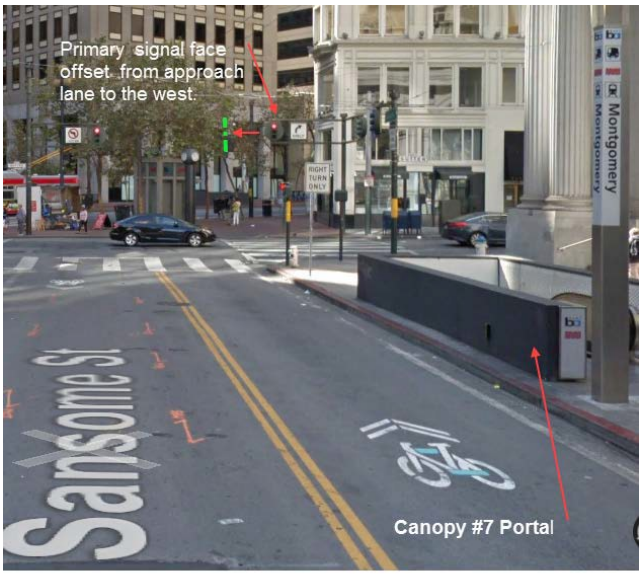

Figure A

The primary overhead signal (far right side) for southbound Sansome Street is not centered on the approach lane, but offset to the west. (see Figure A). The construction of canopy #7 would likely obscure this signal face at a sight distance of 215 feet which may require the relocation of the signal to the east.

Supplemental Pole-Mounted Signals on Near-side Approach

Two of the proposed canopies, #12 and #17, have existing near-side pole-mounted signals in addition to the required primary signal faces on near-side approaches. The MUTCD does not require a minimum visibility distance to supplemental signals. SFMTA best practices use the same distances for near-side signals as prescribed in Table 4D-1 of the MUTCD.

As illustrated in Figures B and C, canopy elements, including support columns and glass enclosures have the potential to obscure a driver's line of sight to the supplemental signal faces.

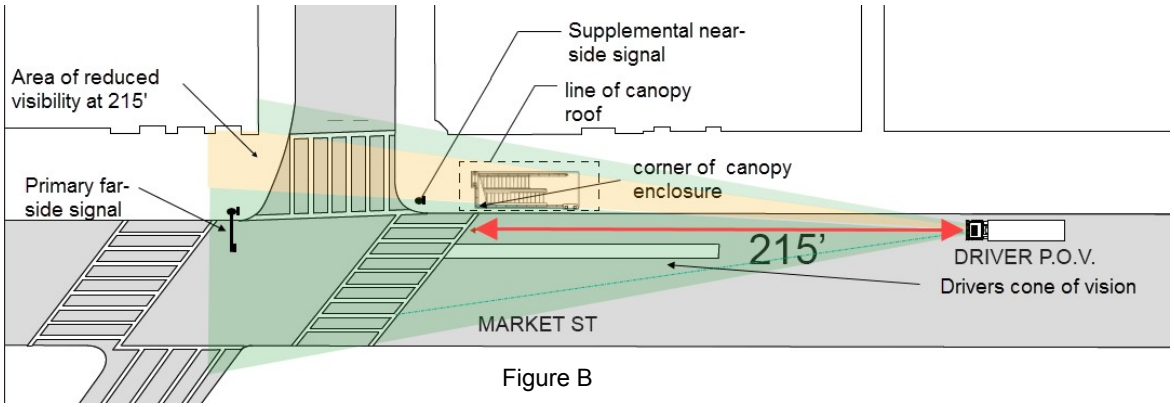

Figure B

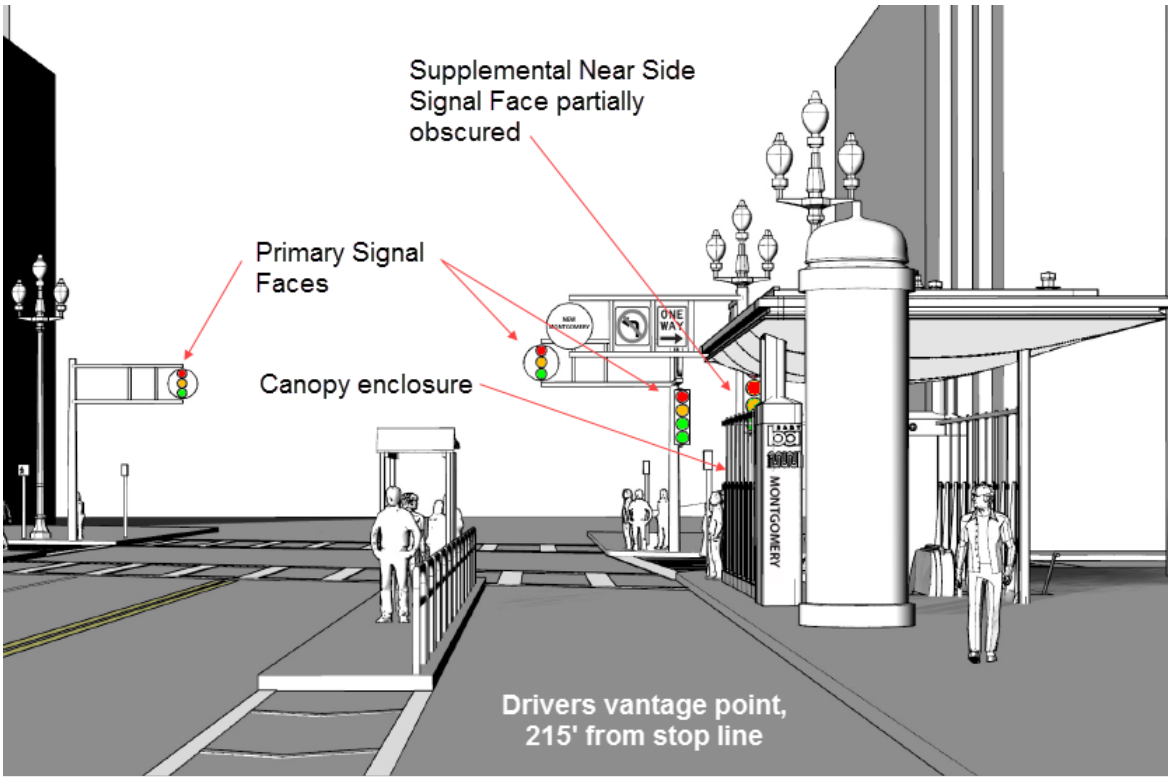

Figure C

As such, proposed canopies #12 and #17 were modeled to assess signal and pedestrian visibility. Figures B and C show the Signal Visibility Model for canopy #12 illustrating the drivers' position and their cone of vision as they approach the intersection of Market Street and New Montgomery Street from the west. Canopy #12 represents the worst condition of the 22 canopies included in the proposed project.

The models show:

- the locations of the primary signal poles and heads;
- the location of near-side supplemental signal pole and heads;
- the location of canopy columns and enclosure;
- a driver's point of view from 215 feet from the intersection limit line.

Canopy #12: At 215 feet, the driver's sight line to the primary signal faces is not obscured by the canopy although the supplemental near-side signal face is partially obstructed. At approximately 150 feet, the supplementary signal face becomes fully in view. Because the primary signal faces are not impaired, MUTCD visibility requirements are preserved. Since the near-side signals become fully visible within a reasonable distance from the intersection, the

proposed canopy would not present a profound effect on the supplemental signal visibility. Therefore, the need for modifying the canopy is not considered necessary.

Canopy #17: At 215 feet, the driver's sight line to the primary signal faces would not be obscured by the proposed canopy. At approximately 200 feet, the supplementary signal face is no longer partially obstructed. Similar to canopy #12, modifying canopy #17 is not considered necessary.

Impacts Related to Future Proposed Better Market Street Improvements

The concern that the proposed canopy overhangs may interfere with visibility of future near-side signals as well as pedestrian's views of oncoming traffic due to changes proposed as part of the Better Market Street project was also assessed.

The Better Market Street project plans are still in development and the final placement of the curbs, crosswalks and signals is still unknown. Generally however, visibility to the near-side signal faces would not be obscured since the underside of the roofs of the canopies would be at least 14 feet above the sidewalk, and with the near-side signal faces mounted below that, the canopy overhangs would not impair a driver's vision to the signal face (see Figure D).

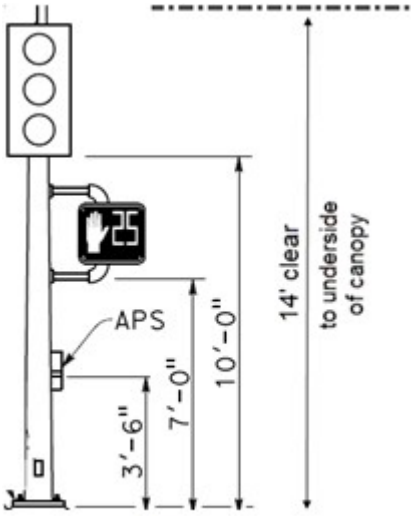

Figure D

Additionally, the current proposal for the Better Market Street project includes the curb lines being moved toward the center of the roadway thereby increasing the sidewalk width and improving sight lines to the supplementary signals. This would also improve visibility of pedestrian queuing at the crosswalks. The proposed canopy enclosures would be transparent from the ground plane to the underside of the roofs which would provide maximum visibility, so further design changes are not necessary. As the plans for the Better Market Street project progress, placement of the near-side signals and crosswalks should be considered in conjunction with the proposed canopy enclosures.

BART will continue to work with SFMTA during final design and implementation of the proposed project to ensure the design of the canopies does not obstruct existing traffic signal or pedestrian sightlines or conflict with San Francisco's Better Market Street Project. No revisions to the Draft IS/MND are necessary as a result of this comment.

Comment Letter 3: David Pilpel

David Pilpel

San Francisco CA 94116-1730

Janie Layton, Environmental Administrator, Mail Stop LKS-22
San Francisco Bay Area Rapid Transit District (BART)
PO Box 12688
Oakland CA 94604-2688

May 30, 2018

Re: BART Market Street Canopies and Escalators Modernization Project

Dear Ms. Layton,

This letter responds to the April 30, 2018 Notice of Availability and Notice of Intent to Adopt a Draft Initial Study/Mitigated Negative Declaration (IS/MND) for the BART Market Street Canopies and Escalators Modernization Project.

3.1 1. The Draft IS/MND states, on page 4-1, that "A pilot project, the Canopy/Escalator Replacement Project — Powell Street and Civic Center Station, is now under construction." I do not see further reference to details of that project, its approval date, budget and funding sources, construction status, environmental document(s), or complete project description/scope of work.

2. Regarding the Powell and Civic Center Stations Pilot Project, when will the pilot project be evaluated and using what criteria? If the pilot project is deemed a success under those criteria, how will the project become permanent? Will there be a new and separate environmental document and approval process to make the pilot project permanent?

3.2 3. Also on page 4-1 is a footnote stating "In addition, the two existing entrances/exits at the west end of the Civic Center/UN Plaza station will be permanently closed to accommodate the construction of new substations necessary to allow BART to increase peak capacity by 25 percent through the Transbay Tube." Again, I do not see further reference to details of that project, its approval date, budget and funding sources, construction status, environmental document(s), or complete project description/scope of work.

3.3 4. Since the Draft IS/MND was issued, considerable media and public attention has focused on the corridor connecting the east and west end of Civic Center Station, including the idea that it may be closed to public access due to persistent drug use or other activities. What is the relationship between that proposal and this project? Will it be proposed and evaluated separately, with its own environmental document and approval process? I note that there may be potential cumulative impacts and other concerns regarding passenger access and circulation in inclement weather, emergency access/public safety, and security from that proposal.

3.4 5. I am unclear about the consultation and coordination between BART and the San Francisco Municipal Transportation Agency (SFMTA) regarding this project. Please clarify what

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3.4 con'd discussions have occurred and refer to any relevant written communications. In particular, does SFMTA concur with the proposed canopy, escalator, signage, and stair designs and proposed operating plans? Would SFMTA station operations staff be trained to open and close the canopies if SFMTA opens or closes joint stations at other times than BART?

3.5 6. BART has various projects planned in downtown San Francisco, including internal connections with SFMTA at Civic Center and Embarcadero Stations, increased capacity at various stations, and likely others. SFMTA may also have other projects planned at these stations. I don't see a complete list of such projects or assurance that any cumulative impacts from such projects were considered here.

3.6 7. The Core Capacity Transit Study recently concluded that BART ridership will continue to increase due to employment and housing demand. Will the escalators and stairs being replaced have sufficient capacity to address such increased demand in the future, especially at peak times?

3.7 8. Where existing escalators or stairs are narrow (i.e. less than standard width, whatever that is), could a consistent design incorporate both standard width escalators and stairs, to improve both the passenger experience and circulation capacity? This may be an ideal time to accomplish those goals, since the new infrastructure from this project will likely serve for several decades.

3.8 9. Longer-term plans in San Francisco include the Better Market Street (BMS) project. How is this project coordinated with the BMS project, particularly as to circulation and design?

3.9 10. I appreciate the research work and discussion in the Draft IS/MND regarding cultural resources, including historical resources.

3.10 11. I do not see enough information regarding passenger lighting and signage at station entrances. In particular, I am interested in static (physical) and variable (electronic) passenger information and signage for both BART and SFMTA. Further, I support using lighting and materials that can be more easily maintained than existing gutters, lights, and surfaces.

Please clarify or provide additional information to address these comments. If you need any clarification you may contact me at . Thank you for considering my comments.

Sincerely,

David Pilpel

Response to Comment Letter 3: David Pilpel

Response to Comment 3.1

This comment is in reference to the canopies now under construction as part of the Canopy/Escalator Replacement Project—Powell Street and Civic Center Station pilot project. BART staff determined that the pilot project was categorically exempt from the provisions of CEQA pursuant to Title 14, California Code of Regulations, Section 15301, Existing Facilities, because it consists of minor alterations of existing facilities involving no expansion of use and a Notice of Exemption (NOE) was filed with the City and County of San Francisco on December 21, 2015.

As described in Section 4.1, the pilot project includes the installation of new canopies, lighting, real time transit information, and maps at the Powell Street Station entrance/exit at Ellis Street and Market Street on the north side of Market Street by the Diesel Store, and at the Civic Center/UN Plaza Station entrance/exit located at Seventh Street and Market Street on the south side of Market Street. A description of the pilot project is included as context for the BART Market Street Canopies and Escalators Modernization Project, and is not a part of the proposed project evaluated in the Draft IS/MND. Information gleaned from the design and construction of the pilot project canopies will be used in the final design and construction of the BART Market Street Canopies and Escalators Modernization Project. More information about the pilot project can be found at https://www.bart.gov/about/planning/sfentrances.

This comment is not related to the adequacy of the environmental impact analysis of the proposed project, and no revisions to the Draft IS/MND are necessary.

Response to Comment 3.2

This comment is in reference to the closure of two entrances/exits at the Civic Center/UN Plaza station. These entrances will be closed to install a new traction power substation at the Civic Center/UN Plaza station as part of BART's strategy to increase capacity into and out of San Francisco as part of the Transbay Corridor Core Capacity Project. New substations, along with upgrades to the train control system and a new fleet of rail cars, will allow BART to increase peak capacity by 25% through the Transbay Tube. BART will provide updates on the timeline for closure as details are finalized.

The Transbay Corridor Core Capacity Project has independent utility from and is not part of the BART Market Street Canopies and Escalators Modernization Project. The BART Board of Directors determined that the Transbay Corridor Core Capacity Project is statutorily exempt from in accordance with the Public Resources Code, Section 21080(b)(10) on November 11, 2016. On September 14, 2017, the Federal Transit Administration determined that the project met the criteria for a NEPA categorical exclusion (CE) in accordance with 23 CFR Part 771.118 (subsections (c)(l) (power substations and other discrete utilities within or adjacent to existing right of way), (c)(5) (installation and improvement of safety and communication equipment within or adjacent to existing right of way), (c)(7)(acquisition of rail cars that can be accommodated by existing facilities or by new facilities that qualify for categorical exclusion) and (c)(12) (projects

within existing operational right of way including transit power substations and transit venting structures).

Additional information regarding the closures can be found at http://www.bart.gov/news/articles/2017/news20170822-2. Additional information regarding the Transbay Corridor Core Capacity Project can be found at https://www.bart.gov/sites/default/files/docs/BART%20Congested%20Corridors%20Application.pdf.

This comment is not related to the adequacy of the environmental impact analysis of the proposed project, and no revisions to the Draft IS/MND are necessary.

Response to Comment 3.3

This comment is in reference to the potential closure of a corridor at the Civic Center/UN Plaza station. Potential closure of this corridor is not part of the BART Market Street Canopies and Escalators Modernization Project and would be subject to a completely separate planning analysis prior to approval and implementation of any such closure.

This comment is not related to the adequacy of the environmental impact analysis of the proposed project, and no revisions to the Draft IS/MND are necessary.

Response to Comment 3.4

This comment is regarding project coordination between BART and the San Francisco Municipal Transportation Agency (SFMTA). BART has been working with SFMTA throughout the planning phase of the Project. In addition, as described in Section 4.4, Section 5.8 Item g, Section 5.14 Item a(i-ii),and Section 5.16 Items a, b, and f; consultation and coordination with SFMTA will occur as necessary during final design and the permitting of phase of the proposed project. As further described in various sections of the IS/MND, construction of the proposed project would be coordinated with various City of San Francisco departments as applicable.

Muni station staff would be trained in the operation of the motorized security grilles included in the canopies. Special training procedures will provided to Muni. Muni currently uses one door at each station that allows staff entrance and then they roll up each existing grill opening using a manual chain mechanism. With installation of the new security grilles, BART station staff would operate the new security grilles at the top of the entrances/exits. If Muni staff arrives before BART staff, they would open the grille, go down to the concourse level and open the staff door and then proceed to manually raise the remaining roll up grilles.

Please refer to Comment Letter 2 for further information regarding SFMTA comments on the proposed project.

This comment does not address the adequacy of the Draft IS/MND and therefore no revisions to the Draft IS/MND are necessary.

Response to Comment 3.5

This comment is in reference to the potential for cumulative impacts. The list of cumulative projects was included in the Draft IS/MND as Appendix E. This list includes those projects that are currently under construction or are reasonably expected to commence during or shortly after construction of the proposed project.

As described in Section 5.19 Item b, "Mandatory Findings of Significance," based on the environmental analysis performed in the IS/MND, the proposed project would not have any cumulatively considerable impacts, including those to air quality, traffic congestion, odors, and historic resources. In addition, "any near- or long-term future development projects proposed within the vicinity of the project would be subject to similar best management practices and mitigation measures" and therefore the proposed project's impacts would not be cumulatively considerable. No revisions to the IS/MND are necessary in response to this comment.

Response to Comment 3.6

This comment is in regards to the capacity of the replaced/refurbished escalators and stairways. Please refer to the discussion of "Project Purpose and Goals" in Section 4-3 of the IS/MND. Implementation of the proposed project does not include a change in the existing capacity of the entrances/exits; changes to the capacity of the existing escalators and stairways are beyond the scope of the proposed project. However, implementation of the proposed project would reduce the need for frequent repair-related shutdowns of the station entrance/exit escalators thereby having a positive effect on the capacity of the existing entrances/exits.

This comment is not related to the adequacy of the environmental impact analysis of the proposed project, and no revisions to the Draft IS/MND are necessary.

Response to Comment 3.7

This comment is in regards to the commenter's preferences regarding the specifications of the replaced/refurbished escalators and stairs. Please refer to the discussion of "Project Purpose and Goals" in Section 4-3 of the IS/MND. Implementation of the proposed project does not include a change in the existing capacity of the entrances/exits. The existing station escalators meet current design standards and the replaced/refurbished escalators will also be designed to meet current design standards. Changes to the widths of the existing stairways are beyond the scope of the Project. However, implementation of the proposed project would reduce the need to for frequent repair-related shutdowns of the station entrance/exit escalators thereby improving the passenger experience.

This comment is not related to the adequacy of the environmental impact analysis of the proposed project, and no revisions to the Draft IS/MND are necessary.

Response to Comment 3.8

This comment is in regards to project coordination with the Better Market Street Project. As described in Section 4.1, Project Background of the Draft IS/MND; the proposed project is being

coordinated with San Francisco's Better Market Street. As further discussed in Sections 5.1 Aesthetics; 5.4 Biological Resources; and 5.5 Cultural Resources; the analysis in the Draft IS/MND was based on information developed for the Better Market Street Project to date. Also, please refer to Response to Comment 2.1 for a discussion of on-going coordination between BART and SFMTA regarding final design of the proposed canopies in relation to the Better Market Street Project.

This comment is not related to the adequacy of the environmental impact analysis of the proposed project, and no revisions to the Draft IS/MND are necessary.

Response to Comment 3.9

Comment noted. This comment acknowledges the sufficiency of the analysis of cultural and historic resources. No revisions to the Draft IS/MND are necessary in response to this comment.

Response to Comment 3.10

This comment is in regards to the specific lighting and signage design elements included in the proposed project. As described Section 4.3 of the Draft IS/MND, the proposed project would be limited to the installation of canopies and the replacement/refurbishment of escalators where necessary at 22 entrances/exits at the Embarcadero, Montgomery Street, Powell Street, and Civic Center/UN Plaza stations. Table 1 included in the Draft IS/MND contains a complete list of potential project features. Final details regarding these features will not be available until the design has progressed. Project features will be designed to minimize maintenance requirements.

BART is also embarking on a separate Station Modernization Program to upgrade and modernize select stations. Upgrades at the Powell Street station include lighting and ceiling improvements. As funding becomes available, additional stations may also get similar type. More information on the Station Modernization Program can be found at http://www.bart.gov/about/planning/station.

This comment is not related to the adequacy of the environmental impact analysis of the proposed project, and no revisions to the Draft IS/MND are necessary.

Comment Letter 4: Governor's Office of Planning and Research

EDMUND G. BROWN JR.
GOVERNOR

STATE OF CALIFORNIA
GOVERNOR'S OFFICE *of* PLANNING AND RESEARCH
STATE CLEARINGHOUSE AND PLANNING UNIT

KEN ALEX
DIRECTOR

May 30, 2018

Janie Layton
Bay Area Rapid Transit District
PO Box 12688 (Mail Stop LKS - 22)
Oakland, CA 94604-2688

Subject: BART Market Street Canopies and Escalators Modernization Project
SCH#: 2018042081

Dear Janie Layton:

The State Clearinghouse submitted the above named Mitigated Negative Declaration to selected state agencies for review. The review period closed on May 29, 2018, and no state agencies submitted comments by that date. This letter acknowledges that you have complied with the State Clearinghouse review requirements for draft environmental documents, pursuant to the California Environmental Quality Act.

Please call the State Clearinghouse at (916) 445-0613 if you have any questions regarding the environmental review process. If you have a question about the above-named project, please refer to the ten-digit State Clearinghouse number when contacting this office.

Sincerely,

Scott Morgan
Director, State Clearinghouse

1400 10th Street P.O. Box 3044 Sacramento, California 95812-3044
1-916-445-0613 FAX 1-916-558-3164 www.opr.ca.gov

Document Details Report
State Clearinghouse Data Base

SCH# 2018042081
Project Title BART Market Street Canopies and Escalators Modernization Project
Lead Agency Bay Area Rapid Transit District

Type MND Mitigated Negative Declaration

Description The proposed project would include the installation of canopy covers over 22 of the Downtown San Francisco BART/MUNI station entrances/exits along Market St leading to the underground Embarcadero, Montgomery St, Powell St, and Civic Center/UN Plaza station concourses, as well as replacement and refurbishment of existing street-level escalators.

Lead Agency Contact

Name Janie Layton
Agency Bay Area Rapid Transit District
Phone 510-874-7423 **Fax**
email
Address PO Box 12688 (Mail Stop LKS - 22)
City Oakland **State** CA **Zip** 94604-2688

Project Location

County San Francisco
City San Francisco
Region
Cross Streets Embarcadero, Montgomery, Powell, & Civic Center/UN Plaza BART Stations, Market St
Lat / Long 34° 47' 12" N / 122° 24' 15" W
Parcel No.
Township **Range** **Section** **Base**

Proximity to:

Highways US 101; I-80
Airports
Railways
Waterways SF Bay
Schools
Land Use C-3-O, C-3-G, and P

Project Issues Aesthetic/Visual; Agricultural Land; Air Quality; Archaeologic-Historic; Biological Resources; Cumulative Effects; Drainage/Absorption; Flood Plain/Flooding; Forest Land/Fire Hazard; Geologic/Seismic; Growth Inducing; Landuse; Minerals; Noise; Population/Housing Balance; Public Services; Recreation/Parks; Schools/Universities; Soil Erosion/Compaction/Grading; Solid Waste; Toxic/Hazardous; Traffic/Circulation; Vegetation; Water Quality

Reviewing Agencies Resources Agency; Department of Fish and Wildlife, Region 3; Department of Parks and Recreation; Office of Historic Preservation; Department of Water Resources; California Highway Patrol; Caltrans, District 4; Regional Water Quality Control Board, Region 2; Air Resources Board, Transportation Projects; Department of Toxic Substances Control; Native American Heritage Commission; Public Utilities Commission

Date Received 04/30/2018 **Start of Review** 04/30/2018 **End of Review** 05/29/2018

Note: Blanks in data fields result from insufficient information provided by lead agency.

Public Meeting Transcript (May 16, 2018)

BART MARKET STREET CANOPIES AND ESCALATORS
MODERNIZATION PROJECT

PUBLIC MEETING

Reporter's Transcript of Proceedings
Wednesday, May 16th, 2018
San Francisco Main Library
Latino/Hispanic Community Room
100 Larkin Street
an Francisco, CA 94102-4689

Reported By:
Krissy Moffett

JAN BROWN & ASSOCIATES
WORLDWIDE DEPOSITION & VIDEOGRAPHY SERVICES
701 Battery Street, 3rd Floor, San Francisco, CA 94111
(415) 981-3498 or (800) 522-7096

MAY 16, 2018 5:30 p.m.

Public Meeting:

Notice of Availability and Notice of Intent to Adopt a Draft Initial Study Mitigated Negative Declaration for the BART Market Street Canopies and Escalators Modernization Project.

COMMENTS:

There were no verbal comments at this time.

STATE OF CALIFORNIA

COUNTY OF SAN FRANCISCO

I, the undersigned, duly Qualified Shorthand Reporter of the state of California, do hereby certify:

That the said proceeding was taken before me as a Qualified Shorthand Reporter at the said time and place and was taken down in shorthand writing by me;

That I am a Qualified Shorthand Reporter of the State of California, that the said proceeding was thereafter transcribed by means of computer-aided transcription, and that the foregoing transcript constitutes a full, true and correct report of the proceedings which then took place;

That I am a disinterested person to the said action.

IN WITNESS WHEREOF, I have hereunto subscribed by my hand this 21st day of May, 2018.

Krissy Moffett

Krissy Moffett

DRAFT INITIAL STUDY/MITIGATED NEGATIVE DECLARATION

Date of Publication of Draft Initial Study/Mitigated Negative Declaration: April 30, 2018

Project Title: BART Market Street Canopies and Escalators Modernization Project

Sponsor and Lead Agency: San Francisco Bay Area Rapid Transit District

Contact Person and Phone Number: Janie Layton, (510) 874-7423

Project Location: Downtown San Francisco BART Stations (Embarcadero, Montgomery Street, Powell Street, and Civic Center/UN Plaza).

Project Description: The San Francisco Bay Area Rapid Transit District (BART), in cooperation with the City and County of San Francisco, is working to improve escalator durability and security at station entrances/exits along Market Street leading to the underground Embarcadero, Montgomery Street, Powell Street, and Civic Center/UN Plaza station concourses. The existing entrances/exits consist of variations of side-by-side stairs and escalators leading down to the underground concourse level, and are currently uncovered and exposed to inclement weather and discarded trash leading to frequent breakdowns of the existing escalators.

The proposed improvements would include the installation of canopy covers over the entrances/exits, as well as replacement and refurbishment of existing street-level escalators. Each protective canopy would also be equipped with a motorized security grille that would lock at the sidewalk level of the station entrance/exit when the stations are closed. These improvements would be constructed in accordance with the American Society of Mechanical Engineers (ASME) A17.1-2007 Section 6.1.8, which requires that outdoor escalators be covered to protect them from weather related damage and for the safety of passengers.

This Project Would Not Have A Significant Effect on the Environment: This finding is based on the criteria of the Guidelines of the State Secretary for Natural Resources, Sections 15064 (Determining Significant Effect), 15065 (Mandatory Findings of Significance), and 15070 (Decision to Prepare a Negative Declaration), and the reasons documented in the Environmental Evaluation (Initial Study) for the project, which is attached. Mitigation measures are incorporated into this project to reduce potentially significant effects to a less-than-significant level. These mitigation measures are identified in the attached Initial Study and are summarized below.

Copies of the Draft Initial Study/Mitigated Negative Declaration: Copies of the Draft Initial Study/Mitigated Negative Declaration can be reviewed on the BART website at: https://www.bart.gov/about/planning/sfentrances.

In addition, copies of the Draft Initial Study/Mitigated Negative Declaration are available for review at the following locations:

- BART offices at 300 Lakeside Drive, 21st Floor, Oakland, CA 94612
- San Francisco Main Library, 100 Larkin Street, San Francisco, 94102

Questions regarding where to review the Initial Study/Mitigated Negative Declaration should be directed to the project information telephone line at the following number: (510) 287-4745.

Public Meeting: BART will hold a public meeting to receive public comments on the Draft Initial Study/Mitigated Negative Declaration. The meeting will be held on Wednesday May 16, 2018 from 5:30 PM to 7:30 PM at the following location:

- San Francisco Main Library, Latino/Hispanic Community Room, 100 Larkin Street, San Francisco, 94102

Persons who plan to attend the public meeting and have special accommodation needs are encouraged to call (510) 464-6752 to request assistance. If you need language assistance services, please call (510) 464-6752 at least 72 hours prior to the public meeting.

Comments on the Draft Initial Study/Mitigated Negative Declaration: A 30-day public and agency review period pursuant to Section 15073 of the State CEQA Guidelines is scheduled from April 30, 2018 through May 30, 2018. Comments will be received at the public meeting, in writing, and by e-mail. Email comments will be accepted at jlayton@bart.gov. Written comments can be mailed to the following address:

San Francisco Bay Area Rapid Transit District
Attention: Janie Layton, Environmental Administrator
P.O. Box 12688 (Mail Stop LKS - 22)
Oakland, CA 94604-2688

All questions regarding the BART Market Street Canopies and Escalators Modernization Project, the Draft Initial Study/Mitigated Negative Declaration, or how to comment on this document can be directed to the project information telephone line at (510) 287-4745. **Oral comments will not be accepted by telephone.** After close of the review period, the BART Board of Directors will consider public and agency comments prior to adoption of the final Mitigated Negative Declaration.

If you need language assistance services, please call (510) 464-6752.

Si necesita servicios de asistencia de idiomas, llame al (510) 464-6752.

如需語言協助服務，請致電 (510) 464-6752.

Mitigation Measures Incorporated into the Project. The following mitigation measures are being incorporated into the BART Market Street Canopies and Escalators Modernization Project. These measures would reduce potentially significant impacts identified in the Initial Study to less than significant. The following measures can also be found in the Mitigation Monitoring and Reporting Plan:

AQ-1 Basic Air Quality Construction Control Measures. The following measures will be implemented by the BART construction contractor during all phases of construction on the project site:

- All exposed surfaces (e.g., parking areas, staging areas, soil piles, graded areas, and unpaved access roads) shall be watered two times per day.
- All haul trucks transporting soil, sand, or other loose material shall be covered.
- All visible mud or dirt track-out onto adjacent public roads shall be removed using wet power vacuum street sweepers at least once per day. The use of dry power sweeping is prohibited.
- All roadways, driveways, and sidewalks to be paved shall be completed as soon as possible.
- Idling times shall be minimized either by shutting equipment off when not in use or by reducing the maximum idling time to 5 minutes (as required by California airborne toxics control measure Title 13, Section 2485 of the California Code of Regulations). Clear signage shall be provided for construction workers at all access points.
- All construction equipment shall be maintained and properly tuned in accordance with manufacturer's specifications. All equipment shall be checked by a certified mechanic and determined to be running in proper condition prior to operation.
- A publicly visible sign shall be posted at the project site with the telephone number and person to contact regarding dust complaints. This person shall respond and initiate a corrective action. The BAAQMD's phone number shall also be visibly posted, for compliance with applicable regulations.

BIO-1 Tree Removal or Pruning. Tree or shrub removal or pruning will be avoided from February 1 through August 31, the bird nesting period, to the extent feasible. If no tree or shrub removal or pruning is proposed during the nesting period, no surveys or further mitigation measures are required. This time period coincides with the western tiger swallowtail butterfly's use of the London plane trees as host plants. Therefore, avoiding tree removal during this time frame will also reduce likelihood of impacts to developing butterflies.

BIO-2 *Nesting Bird Survey.* If any project construction activities occur during the active nesting period (February 1 through August 31), a pre-construction survey for nesting birds within the immediate project footprint will be conducted by a qualified biologist. Nesting bird surveys will be conducted within 1 week before initiation of construction activities. If no active nests are found, no further surveys and no further mitigation will be required. However, if two weeks lapse during construction within the active nesting period (i.e., if no work takes place on site for two continuous weeks between February 1 and August 31), then the survey should be repeated to ensure that any nests have not been occupied or created during the work stoppage. The survey would be required each year prior to any project construction activities occurring during the active nesting period. The survey would not be required if construction occurred outside of the active nesting period.

If active nests are found in any impact areas, a qualified biologist will assess the potential impacts of project construction noise levels to ensure an appropriate buffer is established to protect the active nests. The extent of these buffers will be determined by the biologist based on the level of noise or construction disturbance, line of sight between the nest and the disturbance, ambient levels of noise and other disturbances, and other topographical or artificial barriers. CDFW will be consulted if any listed species are found to nest in the project area.

Table of Contents

List of Appendices

List of Tables

List of Figures

List of Acronyms

AB	Assembly Bill
ABAG	Association of Bay Area Counties
ACMs	asbestos-containing materials
ARB	California Air Resources Board
ASME	American Society of Mechanical Engineers
ASTM	American Society for Testing and Materials
BAAQMD	Bay Area Air Quality Management District
BART	San Francisco Bay Area Rapid Transit District
BFS	BART Facilities Standards
BMPs	best management practices
CA LUST	California Leaking Underground Storage Tank
CalEEMod	California Emissions Estimator Model
CBC	California Building Code
CDFW	California Department of Fish and Wildlife
CEQA	California Environmental Quality Act
CESA	California Endangered Species Act
CFR	Code of Federal Regulations
CHRIS	California Historical Resources Information System
CH_4	methane
CNDDB	California Natural Diversity Database
CNPS	California Native Plant Society
CO	carbon monoxide
CO_2	carbon dioxide
CO_2e	CO_2-equivalents
CRHR	California Register of Historical Resources
DOSD	Division of Safety of Dams
EDR	Environmental Data Resources, Inc.
EIR	Environmental Impact Report
EPA	U.S. Environmental Protection Agency
FESA	Federal Endangered Species Act
GHG	greenhouse gas
GPCD	Gallons per Capita Daily
GWP	global warming potential
HCP	Habitat Conservation Plan
IS/MND	Initial Study/Mitigated Negative Declaration
LGBTQ	Lesbian Gay Bisexual Transgender Questioning
LOS	Level of Service
MBTA	Migratory Bird Treaty Act
MT	Metric Ton
MTC	Metropolitan Transportation Commission
NAHC	Native American Heritage Commission
NCCP	Natural Communities Conservation Plan

NO_2	nitrogen dioxide
NOx	nitro oxide
N_2O	nitrogen dioxide
NPDES	National Pollutant Discharge Elimination System
NRHP	National Register of Historic Places
NWIC	Northwest Information Center
OHP	Office of Historic Preservation
PM	particle matter
PRC	Public Resources Code
ROG	reactive organic gas
RWQCB	Regional Water Quality Control Board
SFBAAB	San Francisco Bay Area Air Basin
SFCTA	San Francisco County Transportation Authority
SFMTA	San Francisco Municipal Transportation Agency
SFPD	San Francisco Planning Department
SFPUC	San Francisco Public Utilities Commission
SFPW	San Francisco Public Works
SLF	Sacred Lands File
SO_2	sulfur dioxide
SWPPP	stormwater pollution prevention plan
SWRCB	State Water Resources Control Board
TAC	toxic air contaminants
USC	U.S. Code
USFWS	U.S. Fish and Wildlife Service
UST	underground storage tank

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1. BACKGROUND

1. Project Title:	BART Market Street Canopies and Escalators Modernization Project
2. Lead Agency Name and Address:	San Francisco Bay Area Rapid Transit District (BART) 300 Lakeside Drive, 21st Floor Oakland, CA 94612
3. Contact Person and Phone Number:	Janie Layton (510) 874-7423
4. Project Location:	Downtown San Francisco BART station entrances/exits San Francisco, CA
5. General Plan Designation:	Downtown Office, Mixed Use, Downtown Retail, Downtown General Commercial
6. Zoning:	Downtown Office (C-3-O District) Downtown Retail (C-3-R District) Downtown General Commercial (C-3-G District) Public (P District)
7. Description of Project:	BART is proposing to construct new canopies over twenty-two street-level BART station entrances/exits on Market Street (Embarcadero, Montgomery Street, Powell Street, and Civic Center/UN Plaza stations). As part of the project, BART also will replace or refurbish the escalators leading from street level to the station concourse level at these entrances/exits.
8. Surrounding Land Uses and Setting:	Within the BART station area, surrounding uses consist of high rise office buildings, commercial and retail use, mixed use residential buildings, cultural, hotel, and public uses.
9. Other Public Agencies Whose Permit is Required:	City of San Francisco

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2. ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED

Project impacts on each of the environmental factors listed below are evaluated in this Initial Study. None of the environmental factors listed below would result in any significant effects that cannot be mitigated to less-than-significant levels through project-specific mitigation measures identified in this Initial Study.

☐ Aesthetics	☐ Agriculture Resources	☐ Air Quality
☐ Biological Resources	☐ Cultural Resources	☐ Geology/Soils
☐ Greenhouse Gas Emissions	☐ Hazards & Hazardous Materials	☐ Hydrology/Water Quality
☐ Land Use/Planning	☐ Mineral Resources	☐ Noise
☐ Population/Housing	☐ Public Services	☐ Recreation
☐ Transportation/Traffic	☐ Utilities/Services Systems	☐ Mandatory Findings of Significance

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3. DETERMINATION OF APPLICABLE CEQA DOCUMENT

On the basis of this initial evaluation:

☐ I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.

☒ I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the applicant. A MITIGATED NEGATIVE DECLARATION will be prepared.

☐ I find that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.

☐ I find that the proposed project MAY have a "potentially significant impact" or "potentially significant unless mitigated" impact on the environment, but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.

☐ I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR OR NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.

Janie L Layton — April 30, 2018

Signature — Date

Janie L. Layton

Printed Name

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4. PROJECT DESCRIPTION

4.1 Project Background

The San Francisco Bay Area Rapid Transit District (BART), in cooperation with the City and County of San Francisco, is working to improve escalator durability and security at the four downtown San Francisco BART/Muni station entrances/exits along Market Street (Embarcadero, Montgomery Street, Powell Street, and Civic Center/UN Plaza) (Figure 1). The proposed improvements would include the installation of canopies over the entrances/exits and the replacement/refurbishment of existing street-level escalators. Each protective canopy would be equipped with a motorized security grille that would lock at the sidewalk level of the station entrance/exit at night when the stations are closed. These improvements would be constructed in accordance with the American Society of Mechanical Engineers (ASME) A17.1, Section 6.1.8, which states that all new or replaced escalator units must be covered in order to protect existing escalators from weather-related damage. This project is being coordinated closely with BART's Market Street Escalator Program and San Francisco's Better Market Street Project and the Civic Center Public Realm Plan.

A pilot project, the Canopy/Escalator Replacement Project—Powell Street and Civic Center Station, is now under construction. The pilot project includes the installation of new canopies, lighting, real time transit information, and maps at the following two entrances/exits:

- The Powell Street Station entrance/exit located at Ellis Street and Market Street on the north side of Market Street by the Diesel Store; and
- The Civic Center/UN Plaza Station entrance/exit located at Seventh Street and Market Street on the south side of Market Street by the CVS Pharmacy.

The BART Market Street Canopies and Escalators Modernization Project (proposed project) includes the installation of canopies at the remaining station entrances/exits at the four downtown San Francisco BART/Muni stations along Market Street and the replacement/refurbishment of the majority of the existing street-level escalators.[1] The potential environmental impacts associated with the proposed project are analyzed in this Initial Study.

Existing Conditions

The majority of the station entrances/exits at the four downtown San Francisco BART/Muni stations along Market Street lack protective shelter. As such, these entrances/exits are exposed to inclement weather such as rain and wind. The entrances/exits are also exposed to various forms of discarded trash deposited by BART/Muni patrons or blown into the entrances/exits. Years of exposure to the elements, as well as wear and tear by BART/Muni patrons, have taken a toll on the escalators, leading to frequent breakdowns. In addition, most of the existing ~~elevators~~ escalators are well past their expected service life, contain obsolete components, and require frequent shutdowns to perform repairs.

[1] The escalators serving Hallidie Plaza at the Powell Street BART Station are owned and maintained by the San Francisco Municipal Transportation Agency (SFMTA) and are not included in this project. In addition, the two existing entrances/exits at the west end of the Civic Center/UN Plaza station will be permanently closed to accommodate the construction of new substations necessary to allow BART to increase peak capacity by 25 percent through the Transbay Tube.

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AECOM

San Francisco Bay Area Rapid Transit District

BART Market Street Canopies and Escalators Modernization Project

FIGURE 1

Project Location

Under current conditions, the entrances/exits cannot be secured at the street level during non-operating hours. The lack of a feasible method to secure the entrance/exit stairways creates additional maintenance and security concerns for BART station agents due to public use during non-operating hours.

4.2 Project Purpose and Goals

As described above, the existing station entrance/exit ~~elevators~~ escalators are past their existing service life and are prone to frequent breakdowns. The goal of the proposed project is to increase the reliability of the existing street-level escalators at the four downtown San Francisco BART/Muni stations.

The purpose of the station entrance/exit canopies is to ensure BART compliance with current State code requirements that all new outdoor escalators be covered; provide station entrances/exits with weather protection and enhanced security; and allow employees and BART/Muni patrons to enjoy a greater degree of safety when accessing the stations. The canopies will be designed to protect both BART/Muni patrons and the new/refurbished escalators from the elements. The canopies would also bring an additional layer of security to the stations. Each canopy will include a digital display to show train arrival times so BART patrons can see when the next train arrives while entering the station. As described above, the canopies will also include security cameras, new LED lighting, and a motorized security grille that locks at the street level to help protect the escalators during non-operating hours.

While not included as part of the proposed project at this time, the canopies would be designed to accommodate the future installation of “green” roofs, including a waterproof membrane and drainage infrastructure to support a growing medium with a depth of 4 to 6 inches. The plant mix for the green roofs would be selected based on native species and resistance to drought.

4.3 Proposed Project

This Initial Study evaluates the potential physical environmental impacts of the BART Market Street Canopies and Escalators Modernization Project. The proposed project would include the installation of canopies and the replacement/refurbishment of escalators where necessary at 22 entrances/exits at the Embarcadero, Montgomery Street, Powell Street, and Civic Center/UN Plaza stations (see Figures 2A through 2D, respectively). A list of the improvements included in the proposed project by station is provided in Table 1. Figures 2A through 2D depict the locations of the entrances/exits included in the proposed project.

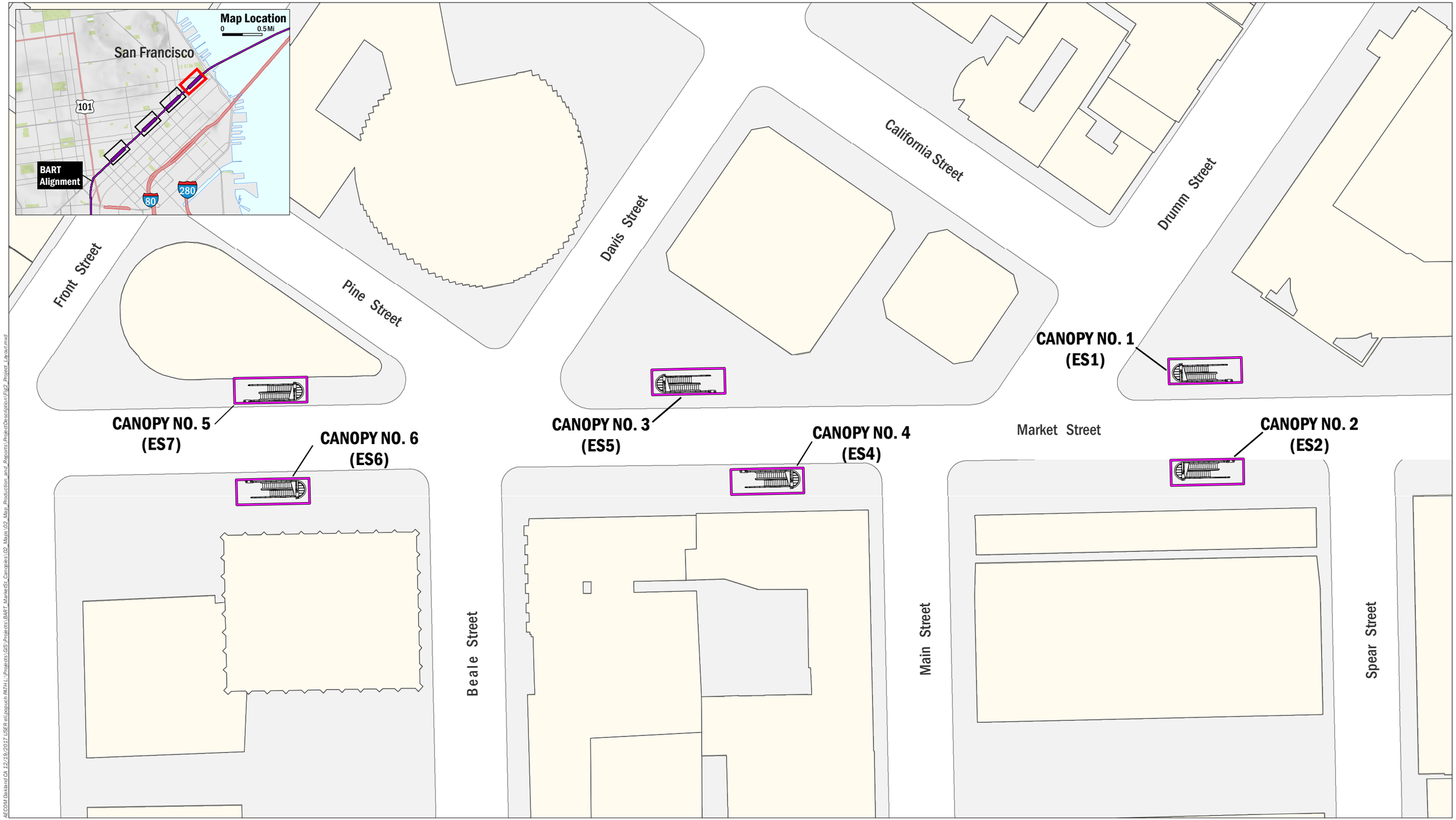
Most of the canopies would be similar in appearance to the canopies now under construction as part of the pilot project and would include three glass walls which would be installed in approximately the same footprint as the existing masonry walls that currently surround the entrances/exits. The glass walls of the canopies would allow clear sight lines on all sides while the stations are open (see Figure 3).

Table 1. Station Entrance/Exit Escalator and Canopy Count

Station	Escalator Number for Replacement/ Refurbishment	Canopy?	Canopy Number
Embarcadero	ES1	Yes	1
	ES2	Yes	2
	ES4	Yes	4
	ES5	Yes	3
	ES6	Yes	6
	ES7	Yes	5
Montgomery Street	MS1	Yes	7
	N/A – Stairs Only	Yes	8
	MS3	Yes	9
	MS4	Yes	10
	MS5	Yes	11
	MS7	No – Under Existing Cover	N/A
	MS8	Yes	12
	MS9	No – Under Existing Cover	N/A
Powell Street	PS1	Yes	13
	PS2	Yes	14
	PS6	Yes	15
	PS7	No – Part of Pilot Project	N/A
	PS8	Yes	16
	N/A – Stairs Only	Yes	17
Civic Center/ UN Plaza	N/A – Stairs Only	Yes	18
	N/A – Stairs Only	Yes	20
	CS2	No – Part of Pilot Project	N/A
	CS3/CS5[1]	Yes	19
	N/A – Stairs Only	Yes	21
	CS6	Yes	22
Totals	**22[2]**	**22**	**22**

Source: BART 2017

Notes: 1. Escalators CS3 and CS5 are adjacent and will be covered under one canopy.
2. CS3/CS5 are counted as separate escalator replacements.



(Not to Scale)

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San Francisco Bay Area Rapid Transit District

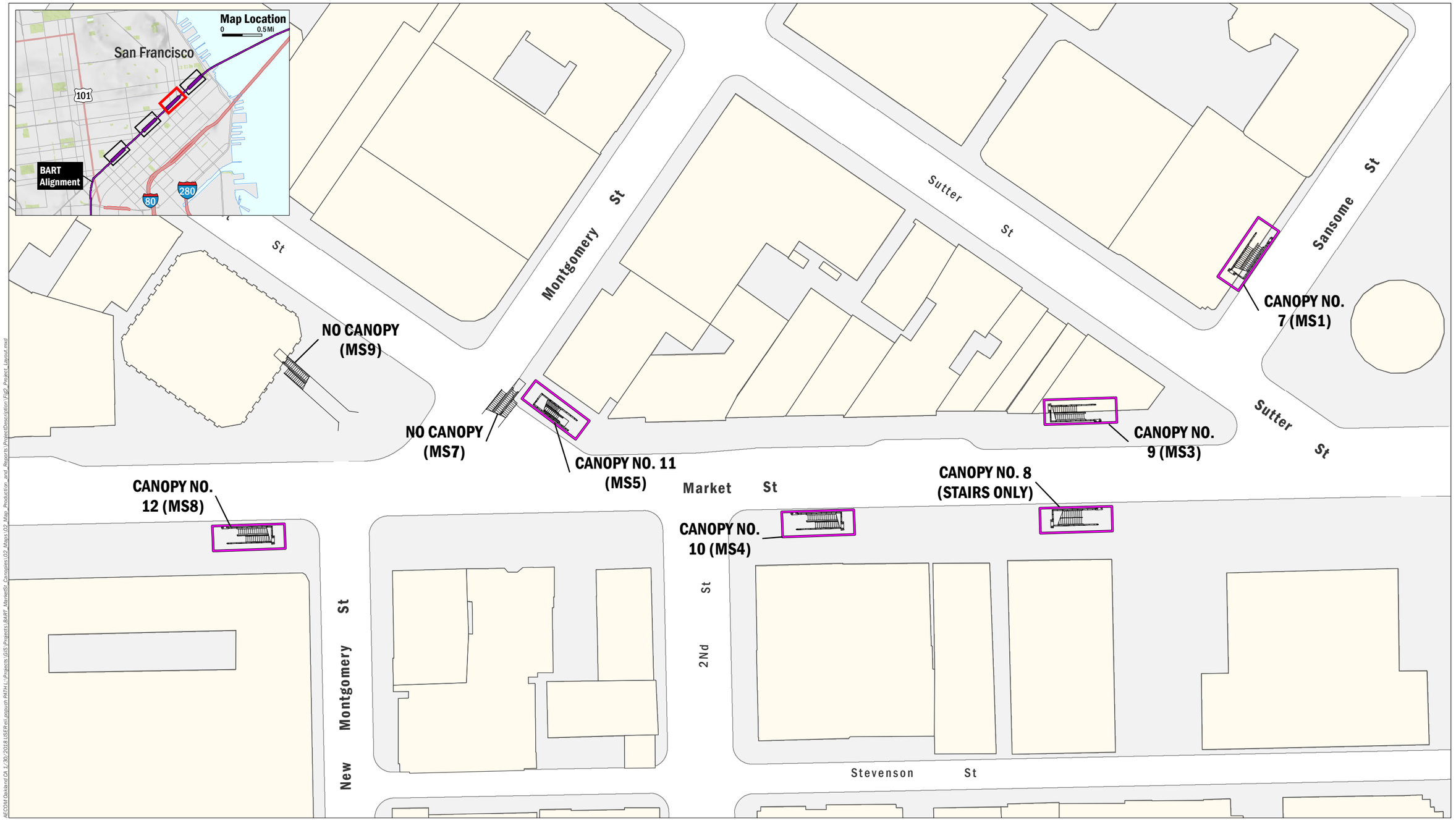
BART Market Street Canopies and Escalators Modernization Project

Key = Canopy # (Escalator #)

FIGURE 2A

Embarcadero Station

(Sheet 1 of 4)



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San Francisco Bay Area Rapid Transit District

BART Market Street Canopies and Escalators Modernization Project

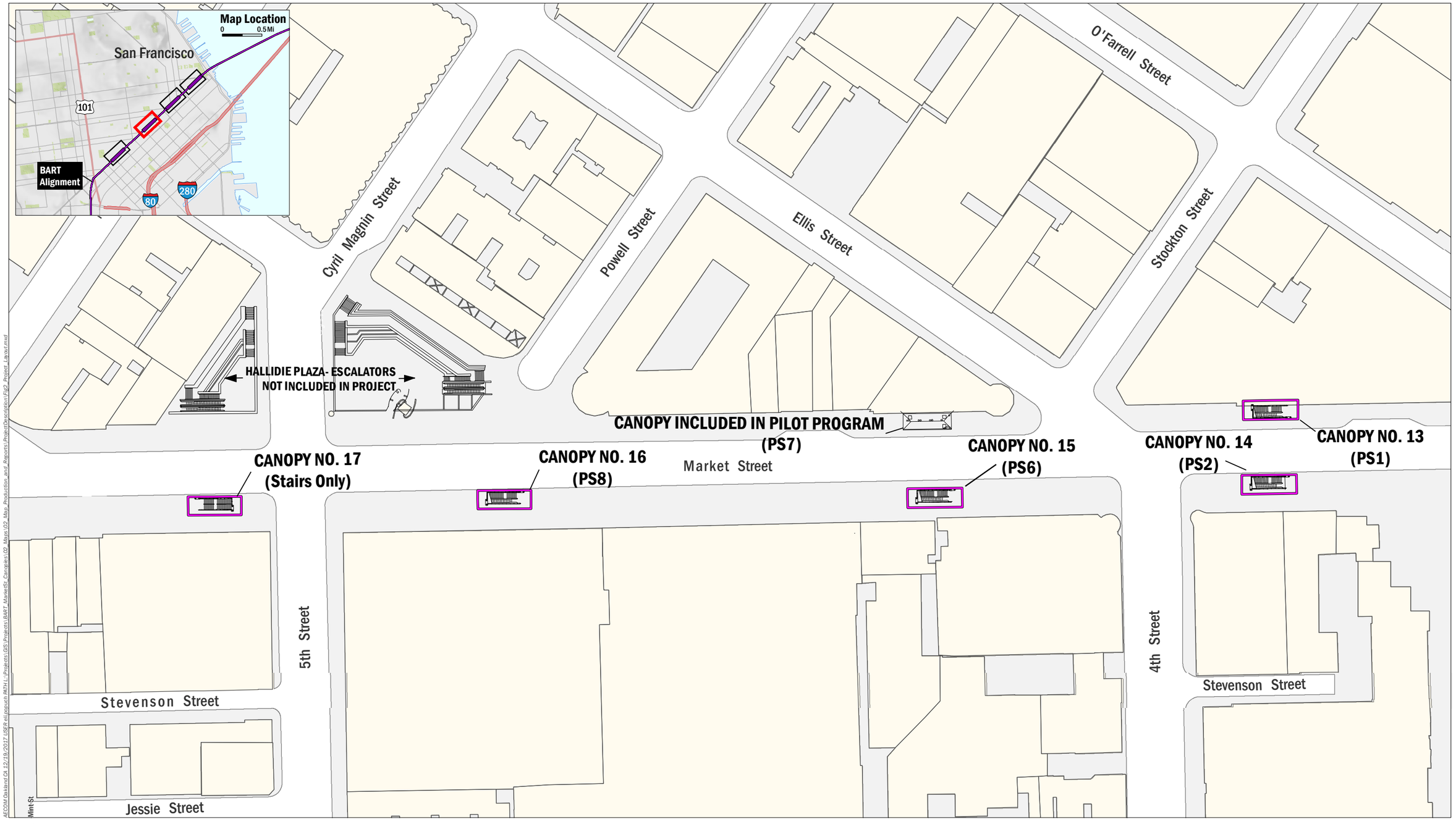
Key

= Canopy # (Escalator #)

FIGURE 2B

Montgomery Station

(Sheet 2 of 4)



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San Francisco Bay Area Rapid Transit District

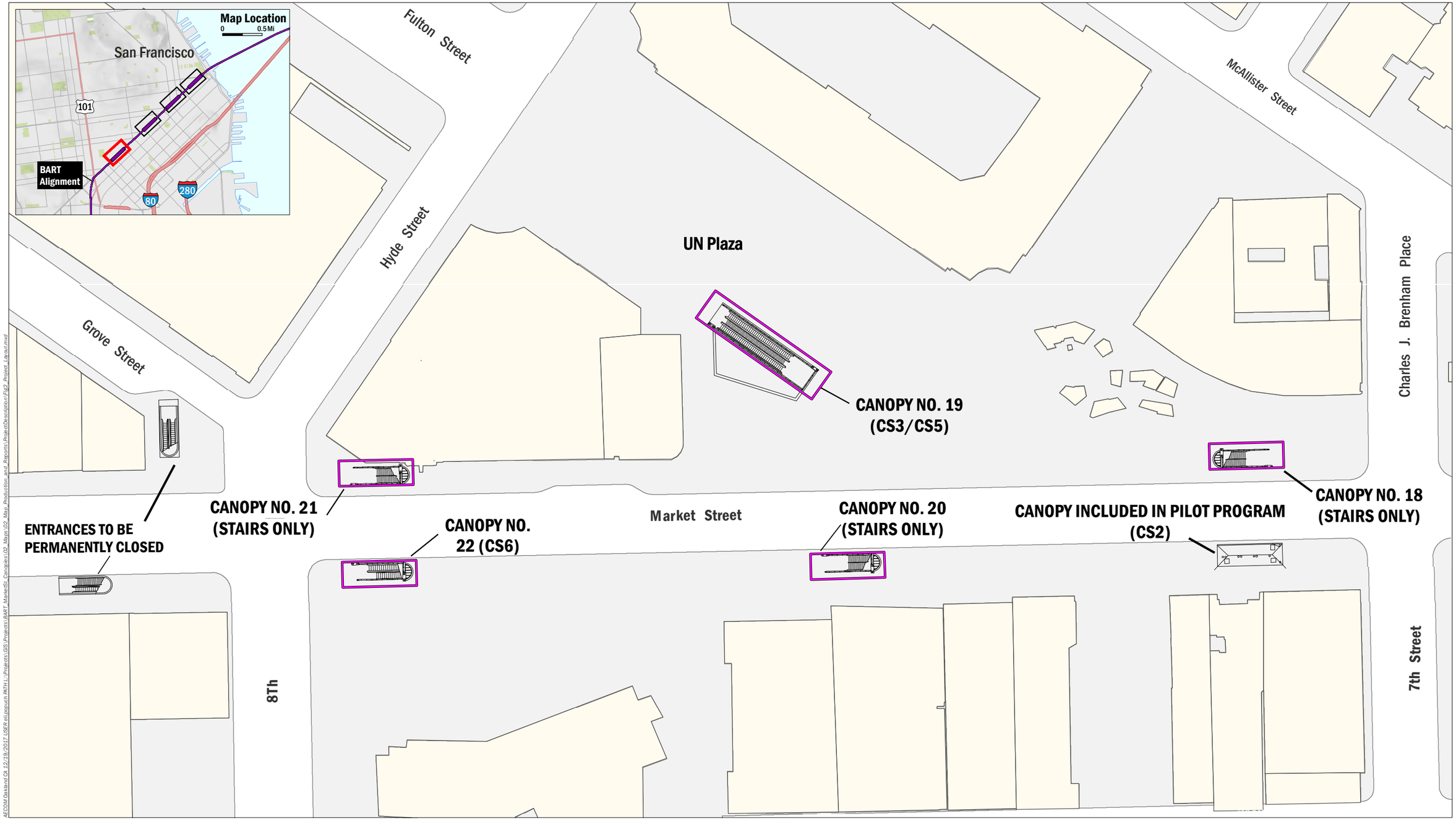
BART Market Street Canopies and Escalators Modernization Project

Key = Canopy # (Escalator #)

FIGURE 2C

Powell Street Station

(Sheet 3 of 4)



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AECOM

San Francisco Bay Area Rapid Transit District

BART Market Street Canopies and Escalators Modernization Project

Key = Canopy # (Escalator #)

FIGURE 2D

Civic Center/UN Plaza Station

(Sheet 4 of 4)

Figure 3. Visual Simulation of a Canopy at the Powell Street Station

Permanent or removable artwork may be displayed on the interior of the canopy roofs. This artwork would only be visible from inside the canopy structure for the most part. The canopies would also include lighting and may include real time transit information and maps.

A typical canopy would be approximately 25 feet wide, 57 feet long, and 16 feet high. However, the canopy size would vary depending on the station site and entrance/exit; for example, the canopy over the Civic Center/UN Plaza entrance/exit to United Nations Plaza would likely be larger than typical (see Figure 4). The canopies would overhang the entrance/exit elevation and may provide wayfinding capabilities and transit information for BART and Muni patrons. Each protective canopy would also be equipped with a motorized security grille that would lock at the sidewalk level of the station entrance/exit at night when the stations are closed. This security feature would improve safety conditions for BART employees tasked with opening the stations in the mornings by preventing use of the entrance/exit stairways during non-operating hours.

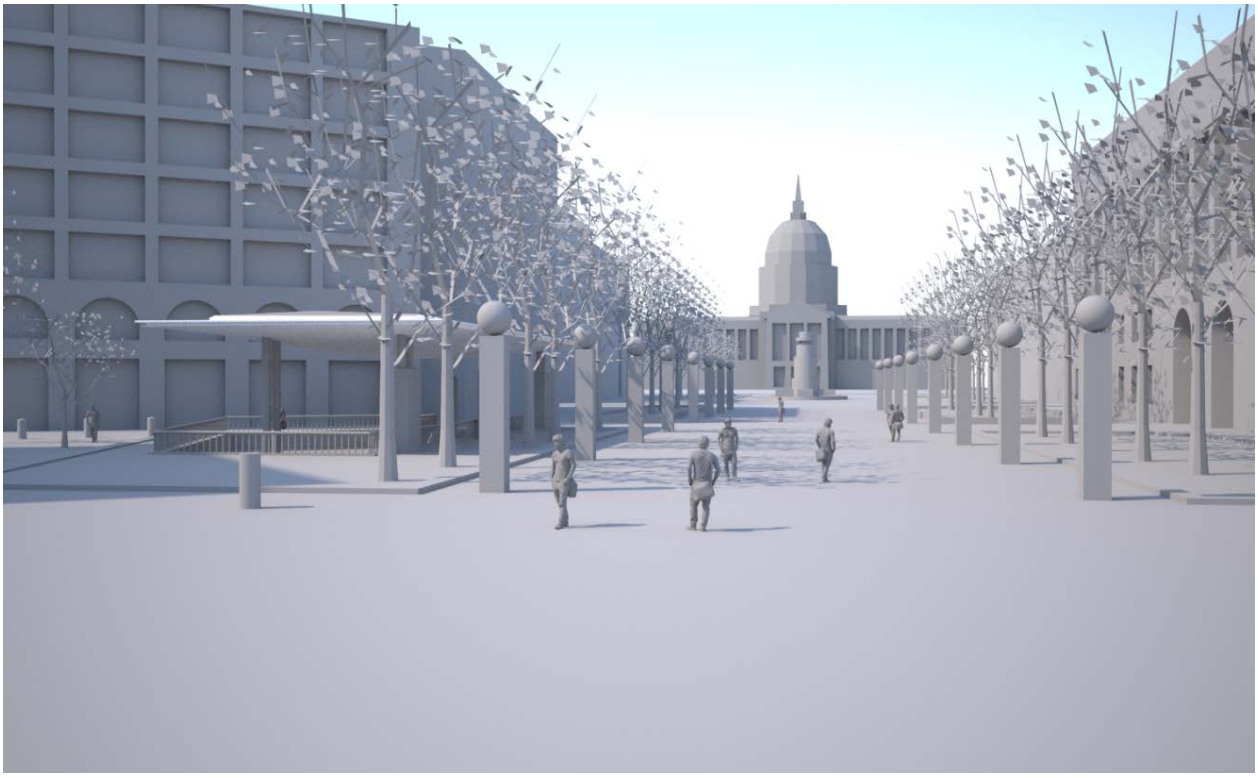

Figure 4. Graphic Depicting Proposed Canopy at United Nations Plaza

The canopy overhangs at the entrances/exits would be designed to provide code-required weather protection for the escalators and provide a landing between the top of the escalator and the security grille. The overhang beyond the security grille would be designed to accommodate the structural requirements necessary to house the security grille and to accommodate the canopy roof drainage systems. During final design, the dimensions of the overhangs along the building and street curb sides of each canopy would be scaled to provide the minimum required weather protection for the escalators.

4.4 Construction

Construction of the canopies would be phased so that adequate station access would be maintained at all times. While multiple entrances/exits may be closed simultaneously at the four different stations along Market Street, only one station entrance/exit would be under construction at any one station at any time.

The primary structural elements of the canopies would be prefabricated off site for later assembly at the specific entrance/exit. Canopy finishes, glass, stainless steel column enclosures and fascia, and roof and gutters would be installed in place. Assembly would require on-site welding of the structural steel elements of the canopies. A construction work area around each entrance/exit at the sidewalk level would be established by the contractor through the use of temporary barriers. In addition, occasional limited closure of adjacent roadway(s) during construction may be required. Such closures would likely be limited to one adjacent lane

at night after 10:00 PM for excavation along the curb line and material deliveries. All sidewalk and roadway closures would be done in coordination with San Francisco Public Works (SFPW) and San Francisco Municipal Transportation Agency (SFMTA).

Total closure time for the construction of each entrance/exit canopy would be approximately 150 days. Following completion of the canopy, a second closure would be required for the escalator replacement/refurbishment. The second closure would last approximately 120 days for escalator replacement/refurbishment.

Construction of the canopies may require the removal of existing street trees around the entrances/exists. However, such removal would be minimized during final design to the greatest extent feasible. Appropriate compensation to the City of San Francisco for the removal of the trees would be determined at a later date.

4.5 Required Permits and Coordination

The proposed project is subject to the California Environmental Quality Act (CEQA), and this Initial Study has been prepared by BART as lead agency pursuant to CEQA.

As proposed, the BART Market Street Canopies and Escalators Modernization Project would likely need the following:

- Encroachment and obstruction permits to use city streets for construction and sidewalk widening from the City and County of San Francisco.
- Night Noise Permit from City of San Francisco Public Works for nighttime construction activities.

Agency coordination may be necessary with the following:

- City and County of San Francisco, to comply with city standards and regulations regarding temporary construction activities and street, sidewalk, and other public realm improvements;
- The California Department of Fish and Wildlife (CDFW), if special status/listed species of nesting birds are detected in the project vicinity during construction; and
- Native American tribes, who may request consultation with BART pursuant to Assembly Bill (AB) 52.

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5. ENVIRONMENTAL CHECKLIST

The following checklists (at the beginning of each environmental resource topic) are from the environmental checklist form in Appendix G of the State CEQA Guidelines. The checklist form is used to identify the potential impacts of the proposed project. A discussion follows each environmental issue identified in the checklist, to explain how the checklist was filled out. Included in each discussion are project-specific mitigation measures, where appropriate, to reduce potentially significant impacts to less-than-significant levels. For these checklists, the following designations are used:

Potentially Significant Impact: An impact that could be significant, and for which a mitigation measure must be identified. If any potentially significant impacts are identified for which mitigation is not possible, an EIR must be prepared.

Less than Significant With Mitigation Incorporated: An impact that would require mitigation to be reduced to a less-than-significant level.

Less-Than-Significant Impact: Any impact that would not be considered significant under CEQA, based on established significance thresholds.

No Impact: The proposed project would not have any impact.

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5.1 Aesthetics

Would the project:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less-Than-Significant Impact	No Impact
a. Have a substantial adverse effect on a scenic vista?	❑	❑	■	❑
b. Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	❑	❑	■	❑
c. Substantially degrade the existing visual character or quality of the site and its surroundings?	❑	❑	■	❑
d. Create a new source of substantial light or glare that would adversely affect day or nighttime views in the area?	❑	❑	■	❑

Setting

The project site is in a highly developed, mixed residential/commercial urban area along Market Street in the Downtown/Civic Center and Financial District neighborhoods of San Francisco. The project site extends from Spear Street near the Ferry Building on the east to 8th Street on the west, a distance of approximately 1.5 miles.

Scenic Vistas

Scenic vistas may be generally described as panoramic views of a large geographic area for which the field of view can be wide, extend into the distance, and associated with vantage points that provide an orientation not commonly available. Examples of scenic vistas include urban skylines, valleys, mountain ranges, or large bodies of water.

Market Street is the border between the two major street grids of Downtown San Francisco and is aligned with the Ferry Building at the east end and the saddle between Twin Peaks to the west (Figures 5 and 6, respectively). The street grid north of Market Street is aligned roughly north/south and the street grid south of Market Street is aligned parallel to Market Street. The intersection of the two street grids along Market Street creates many distinct vistas. However, these vistas are limited in scope due to the presence of tall buildings at the edge of sidewalks along the project site. Market Street is not an officially designated State scenic highway (Caltrans, 2018).

Figure 5. View of the Ferry Building looking east along Market Street from 2nd Street

As shown, expansive views are limited by existing skyscrapers along Market Street.

Figure 6. Distant view of Twin Peaks looking west along Market Street near 2nd Street

As shown, expansive views are limited by existing skyscrapers along Market Street.

Most of the station entrances/exits along Market Street are placed well back from intersections parallel to the street and are not visible in any scenic vistas. However, there is single entrance that is located at the terminus of the easterly view from Post Street and is aligned with Post Street rather than Market Street (Figure 7).[2] As shown, this entrance/exit (similar to all the station entrances/exits along Market Street), shares space with many other items of street furniture such as bus shelters, kiosks, news vending machines, and civic monuments, further limiting expansive views.

Figure 7. Existing view of Montgomery Street Station entrance/exit from Post Street – Site of Proposed Canopy 11

The west end of the project site features UN Plaza, a large civic open space anchored on three corners by mid-rise buildings. There are views of Market Street to the south of UN Plaza as well as views of San Francisco City Hall to the west along the Fulton Street Promenade (Figure 8).

[2] Refer to Figures 2A though 2D in Section 4, Project Description, for the specific numbered locations of the entrances/exits and proposed canopies.

Figure 8. Existing view of Civic Center/UN Plaza Station Entrance/Exit Looking west along the Fulton Street Promenade towards San Francisco City Hall – Site of Proposed Canopy 19

Visual Character, Resources, and Quality of the Project Site. Skyscrapers along Market Street within the project site and adjacent blocks range from 400 to 600 feet between the Ferry building and 5th Street, and from 60 to 400 feet between 5th Street and 8th Street. These buildings limit expansive views from the project site. The architectural style of the buildings is mixed, with many examples of 19th century architecture that predate the 1906 earthquake which share space with contemporary and modern style buildings from the 1950s through the 1970s, along with a few newer examples rounding out an eclectic mix of architectural styles and uses of building materials. Ground level Market Street is primarily retail and food service, mixed with lobbies for offices, hotels, and commercial space. The ceiling height of the buildings at ground level is fairly consistent at 15 feet to 18 feet.

Market Street is unique in San Francisco in the width of the street, and especially the width of the sidewalks. Sidewalks tend to be 15 feet wide or less in the surrounding areas but Market Street has 25-foot-wide sidewalks that widen out to 40 feet in many areas near intersections. In addition to the width, Market Street sidewalks have red brick paving which further adds distinction to the visual character of Market Street. The generous width of the sidewalks accommodates food carts, kiosks, news vending machines, groves of trees, benches, and MUNI bus shelters, as well as entrances/exits to the stations.

Despite the variety of architectural styles and building types (i.e., contemporary and older buildings), the project area has a moderate level of cohesiveness and visual definition through the generous width of the street, the tree canopy that is matched in height by the ceiling of the buildings at ground level, and the use of brick pavement for sidewalks. All of these subtle visual elements of Market Street combined are considered moderate in aesthetic value.

Views of and along the Project Site. Representative images of the station entrances/exits and their immediate surroundings are shown in Figures 9 through 16. These figures show typical views from common types of viewing areas; primarily public sidewalks within the project site. As shown, views around the entrances/exits are defined by the mix of buildings, the brick sidewalk material, street furniture, and the existing tree canopy. The images also illustrate that while distant views are limited, the visual variety of Market Street is made cohesive with these same similar visual elements.

Figure 9. Existing view of Embarcadero Station entrance/exit looking east along Market Street near Spear Street – Site of Proposed Canopy 2

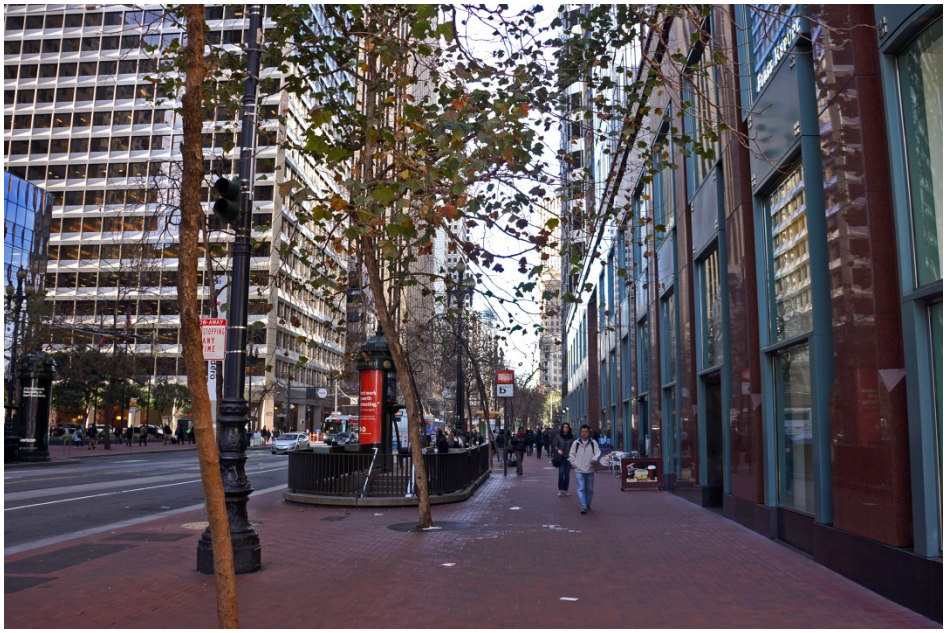

Figure 10. Existing view of Embarcadero Station entrance/exit looking west along Market Street near Pine Street/Davis Street – Site of Proposed Canopy 5

Figure 11. Existing View of Montgomery Street Station entrance/exit looking north along Sansome Street near Sutter Street – Site of Proposed Canopy 7

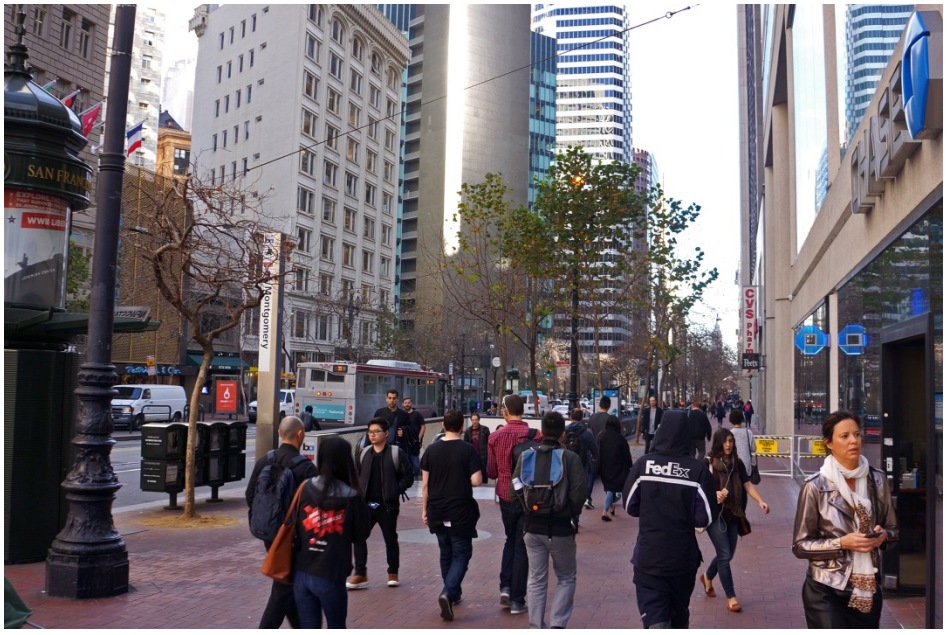

Figure 12. Existing View of Montgomery Street Station entrance/exit looking east along Market Street near 2nd Street – Site of Proposed Canopy 10

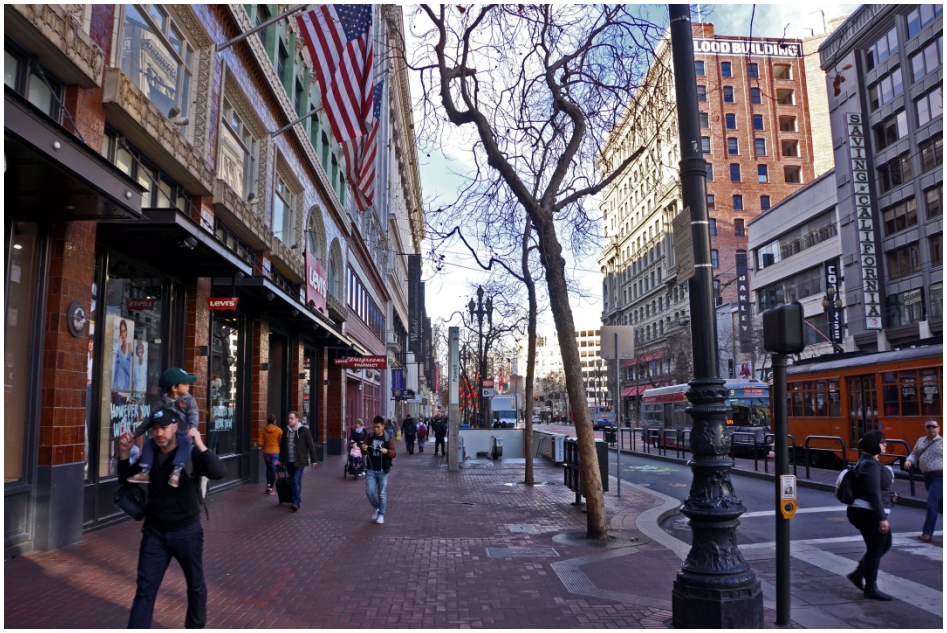

Figure 13. Existing view of Powell Street Station entrance/exit looking west along Market Street near 4th Street - Site of Proposed Canopy 15

Figure 14. Existing view of Powell Street Station entrance/exit looking east along Market Street near 5th Street – Site of Proposed Canopy 17

Figure 15. Existing view of Civic Center/UN Plaza Station entrance exit looking east along Market Street near Charles J. Brenham Place – Site of Proposed Canopy 18

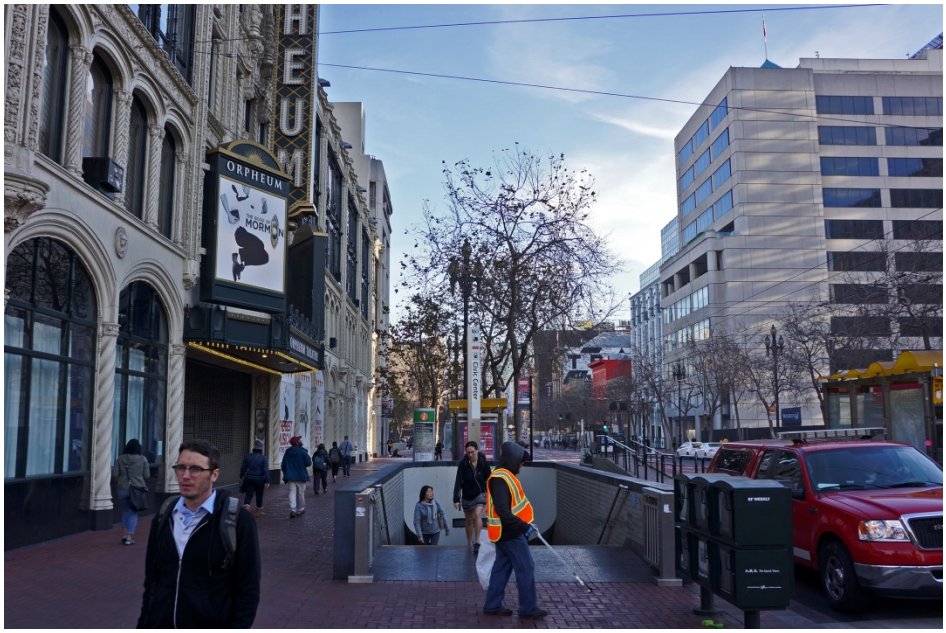

Figure 16. Existing view of Civic Center/UN Plaza Station entrance exit looking east along Market Street near Hyde Street – Site of Proposed Canopy 21

Ambient Lighting. The project area is wholly urbanized and street lighting is a common element of the visual setting. Sources of light and glare are limited predominantly to the interior and exterior lights of buildings and lighting visible through windows and from city streets.

Discussion

a, b. Scenic Vista/Scenic Resources: Less-than-Significant Impact

Significant impacts on a scenic vista would occur if the proposed project would substantially degrade or obstruct important scenic views from public areas. Damage to scenic resources would occur if a project would directly affect environmental features, such as topographic features, landscaping, or a built landmark that contribute to a scenic public setting. For a discussion of potential project impacts on cultural resources in the project site, refer to Section 5.5, Cultural Resources.

The project site is within a highly urbanized area of Downtown San Francisco that is densely built-up and contains some of the tallest buildings in San Francisco. The built-up nature of Market Street only provides extensive vistas in a few areas. Currently, long-range views and vistas while walking on Market Street are obscured and directed by building facades, street furniture, and the tree canopy. The photos of the tree canopy shown in Figures 9 through 16 were taken during the winter months when trees do not have leaves. As such, during summer months views along Market Street are more obscured by the leafy canopy than is shown in the figures. Nearby views of buildings and views across Market Street are not obscured by the tree

canopy but distant vistas up and down Market Street from the sidewalks are obscured.

Two significant views in the project site are the views of Twin Peaks to the west and the Ferry Building to the east. However, as shown above in Figures 5 and 6, these two vistas are only visible when crossing Market Street or when at either end of Market Street due to the presense of street trees in the sidewalks along Market Street. Therefore, these vistas would not be obstructed by the presence of canopies constructed over the station entrances/exits along the sidewalk.

There are occasional views down side streets from Market Street, but none of the views are significant and they mainly offer only more views of built-up corridors. One exception is the view from UN Plaza to City Hall along the Fulton Street Promenade. However, the construction of Canopy 19 would not obstruct or obscure this view because the canopy would not encroach into the Fulton Street Promanade. In addition, except for the support columns, Canopy 19 would be open on all four sides during BART operating hours, thereby minimizing the obstruction of views from UN Plaza.

The addition of canopies could obstruct minor views and vistas on Market Street, but not to a great extent. With the exception of Canopy 19, all canopies would be constructed of clear glass on three sides (minus support columns) with the fourth side remaining open during BART operating hours. The height of the canopy roofs (approximately 16 feet) would not impede views along the project site. In locations where a canopy would be constructed, existing kiosks, bus shelters, and flower and food carts create random irregularities in the streetscape limiting extensive vistas. There are no significant vistas or scenic resources that would be impacted by the addition of the canopies.

The nearest officially designated State scenic highway is Interstate 80 (I-80) (Caltrans, 2018). The proposed project would not be visible from I-80 due to the distance from the project site and the intervening buildings. Thus, the proposed project would have no impact on views of scenic resources from a State scenic highway.

Based on the above assessment, the proposed project would have a **less-than-significant impact** on scenic vistas/scenic resources.

c. Visual Character and Quality: Less-than-Significant Impact

Visual character refers to the aesthetic character or quality of a streetscape, building, group of buildings, or other manmade or natural feature that creates an overall impression of an area. The proposed project would be considered to degrade the existing visual character if it would result in substantial, demonstrable, negative aesthetic effects on a site or its surroundings. In this analysis, the discussion of

visual character addresses the visual compatibility of the proposed project with surrounding land uses, as reflected by short- and mid-range views of the project site.

Construction. Construction activities associated with the proposed project would involve the use of heavy equipment, ground disturbance, tree removal, and temporary lane closures along roadways. The construction sites would be visible from roadways, sidewalks, and windows of nearby uses. However, the potential disruption to views in the project site would be short-term because construction of the canopies is only expected to take approximately five months, with construction equipment and the level of activity varying during the different stages of construction. In addition, only one or two station entrances/exits would be under construction at any one time The construction sites would be fenced to keep the public from encroaching into the construction sites. However, chainlink fencing would be used to maintain views across the construction sites.

Following contruction of the canopies, the entrances/exits would be temporary closed again for up to 120 days for the replacement/refurbishment of the street-level escalators. However, construction activity associated with this phase of the proposed project would be below ground and largely invisible to the general public.

Because of the short-term, temporary nature of construction activities, potential visual effects associated with project construction would be minimal. The impact on the area's visual character and quality due to construction of the proposed project would be **less than significant**.

Operations. Although the proposed project would introduce new structures (the canopies) into the landscape of Market Street, because of the existing range of visual features, architectural styles, and building types, as well as the lack of distinctive patterns and notable visual attributes other than the previously mentioned trees and brick paving, the project site does not have a high level of cohesiveness or visual definition. Consequently, the proposed canopies would not substantially degrade the existing visual character or quality of the project site and its surroundings. The street-level escalators are below grade and are not visible from Market Street. They would be replaced/refurbished in kind and no change in visual character or quality would result.

The proposed project would result in a redesign of the BART entrances/exits to create an inviting, safe, and flexible public asset for the community; prioritize safety (e.g., easily identified entrances, lighting); and visually unify and improve visual and physical connections to the station entrances/exits. The canopies would provide weather protection for patrons and escalator equipment, and easily secured and maintained entrances at street level. The overall aesthetic effect of the proposed project is expected to improve the visual quality and character of Market Street. Rather than disrupt the existing visual character, the new canopies would help to visually unify Market Street in a similar fashion as the existing trees and brick sidewalks.

Construction of the canopies could result in the removal of up to 54 existing street trees along the project site. Of these 54 trees, 16 were rated as being dead, in severe decline, or in decline; 30 were rated as being trees with moderate vigor; and 8 were rated as trees with a slight decline in vigor or healthy vigorous trees (Hort Science, 2016; VIA Architecture, 2018). Removal of the 16 trees rated as being dead, in severe decline, or in decline was recommended (Hort Science, 2016). The loss of the remaining 38 remaining trees resulting from contruction of the proposed project would occur in focused areas around the 22 canopy locations scattered along the 1.5-mile-long project site thus further minimizing the overall impacts of the tree removals. The loss of the trees would not have a substantial effect on the visual character and quality of the project site.

In summary, the impact of the proposed project on the area's visual character and quality would be **less than significant**.

d. Light or Glare: Less-than-Significant Impact

The project site currently is surrounded by office, retail, food service, and recreational uses. Existing sources of nighttime light and glare are from street lights, passing vehicle headlights, and interior lighting from nearby commercial and office uses.

Construction. During construction of the canopies and escalator replacement/refurbishment, security lighting would be used. However, this lighting would be temporary and would not be expected to contribute to substantial additional light or glare because the security lighting would be focused on the enclosed work area(s). Moreover, these proposed light sources would include shielding and would be located to minimize light spill and glare beyond the construction site. These stipulations would be included within the construction contract. Accordingly, the impact during construction of the proposed project **less than significant**.

Operations. The canopies included in the proposed project could create new sources of light and glare by placing additional lighting in the project site and due to the stainless steel components included in the canopies. However, indoor lighting and outdoor lighting fixtures would be designed in accordance with specifications outlined in BART Facilities Standards (BFS) Section 26 50 00, which would ensure new lighting sources are consistent with other BART facilities and appropriate for the project site's urban setting. Lighting to be installed with the canopies would also be coordinated with the City of San Francisco Better Market Street ~~p~~Project to the extent feasible. The stainless steel components would be treated prior to construction to minimize glare.

The glass walls of the canopies could also be a source of glare during the daytime; however, the canopies will not be constructed using reflective glass because one of the objectives of the canopies is to promote a pedestrian friendly public realm. Reflective glass that could create glare would not be consistent with this objective.

Therefore, effects related to light and glare would not be substantial and impacts would be **less than significant**.

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5.2 Agriculture and Forestry Resources

Would the project:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less-Than-Significant Impact	No Impact
a. Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	❑	❑	❑	■
b. Conflict with existing zoning for agricultural use, or a Williamson Act contract?	❑	❑	❑	■
c. Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220 (g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104 (g))?	❑	❑	❑	■
d. Result in the loss of forest land or conversion of forest land to non-forest use?	❑	❑	❑	■
e. Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?	❑	❑	❑	■

Setting

The project site and the surrounding environs are developed, urbanized areas, not used for or located on land zoned for agricultural use. According to the City of San Francisco Property Information Map, the majority of the project site is designated as Downtown Commercial, and a small portion of the project site near the UN Plaza on 7th Street and Market Street is in an area designated Public (SFPD, 2018). Areas zoned as Downtown Commercial are intended to support the characteristic of the area as a "center for City, regional, national and international commerce." This includes office space, retail, general commercial, hotels, museums, cultural facilities, and housing land uses (SF Planning Code, 2017).

The City of San Francisco contains primarily urban and built-up land, and its zoning code does not contain a designation for agricultural districts. Therefore, no lands within the City are zoned or designated for agricultural use. Community gardens and small-scale urban agriculture are the only agricultural conditionally permitted uses under certain zoning designations. The nearest community gardens to the project site are the Alemany Farms urban agriculture; a 3.5-acre site at 700 Alemany Boulevard more than two miles south of the project site.

Discussion

a, b, e. Agricultural Resources and Zoning: No Impact

Based on site visits and a review of maps prepared pursuant to the Farmland Mapping and Monitoring Program, the site is not located on or near farmland. Therefore, the proposed project would not convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance.

Similarly, the proposed project would not be located on land zoned for agricultural use, and no Williamson Act contract exists for the project site. According to the City of San Francisco Property Information Map, the project site is zoned C-3-O (Downtown Office), C-3-O (SD) (Downtown Office Special Development), C-3-R (Downtown Retail), C-3-G (Downtown General Commercial), and P (Public); all of which are intended to support Downtown San Francisco as a commercial and urban center (SF Planning Code, 2017). Therefore, no impact on zoning for agricultural use or a Williamson Act contract would occur.

In light of the above considerations, the proposed project would not result in conversion of farmland to non-agricultural use or involve other changes in the existing environment that could result in conversion of farmland. Therefore, **no impact** on agricultural resources would occur.

c, d, e. Timber/Forestry Resources: No Impact

The project site is not located within an area zoned for forest land, timberland, or timberland production, nor is it located near land zoned for such uses. Therefore, the proposed project would not result in the loss of forest land or conversion of forest land to non-forest use. **No impact** on forest lands or timber resources would occur.

5.3 Air Quality

Would the project:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less-Than-Significant Impact	No Impact
a. Conflict with or obstruct implementation of the applicable air quality plan?	❑	❑	■	❑
b. Violate any air quality standard or contribute substantially to an existing or projected air quality violation?	❑	■	❑	❑
c. Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is a non-attainment area under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?	❑	❑	■	❑
d. Expose sensitive receptors to substantial pollutant concentrations?	❑	❑	■	❑
e. Create objectionable odors affecting a substantial number of people?	❑	❑	■	❑

Setting

Air quality is defined by the concentration of pollutants in relation to their impact on human health. Concentrations of air pollutants are determined by the rate and location of pollutant emissions released by pollution sources, and by the atmosphere's ability to transport and dilute such emissions. Natural factors that affect transport and dilution include terrain, wind, and sunlight. Therefore, ambient air quality conditions in the local air basin are influenced by such natural factors as topography, meteorology, and climate, in addition to the amount of air pollutant emissions released by existing air pollutant sources.

The project site is within the City and County of San Francisco, under the jurisdiction of the Bay Area Air Quality Management District (BAAQMD). BAAQMD monitors air quality in Alameda, Contra Costa, Marin, San Francisco, San Mateo, Santa Clara, and Napa counties as well as the portions of Solano and Sonoma counties in the San Francisco Bay Area Air Basin (SFBAAB). Local climatological effects, including wind speed and direction, temperature, inversion layers, and precipitation and fog, can exacerbate air quality problems in the SFBAAB. The SFBAAB climate is characterized by warm, dry summers and mild winters.

San Francisco experiences a cool and windy climate due to the marine layer that flows across most of the city. In the winter, average daily temperatures are mild overnight and moderate during the day, while summertime temperatures tend to remain moderate throughout the season. The average monthly temperature in San Francisco is 58 degrees Fahrenheit (°F), with an average annual low in January of 44°F and an average annual high of 73°F in September

(WRCC, 2018).Most of the precipitation occurs from November to April, with an average annual precipitation of 20 inches (WRCC, 2018). The highest wind speeds are focused along the western coast and are generally mild throughout the city/county.

Individual air pollutants at certain concentrations may adversely affect human or animal health, reduce visibility, damage property, and reduce the productivity or vigor of crops and natural vegetation. Six air pollutants have been identified by the U.S. Environmental Protection Agency (EPA) and the California Air Resources Board (ARB) as being of concern, both on a nationwide and statewide level: ozone; carbon monoxide (CO); nitrogen dioxide (NO_2); sulfur dioxide (SO_2); lead; and particulate matter (PM), which is subdivided into two classes based on particle size: PM equal to or less than 10 micrometers in diameter (PM_{10}); and PM equal to or less than 2.5 micrometers in diameter ($PM_{2.5}$). Because the air quality standards for these air pollutants are regulated using human and environment health-based criteria, they are commonly referred to as criteria air pollutants.

Areas are classified under the Federal Clean Air Act and California Clean Air Act as attainment, non-attainment, or maintenance (previously non-attainment and currently attainment) for each criteria pollutant, based on whether federal and State air quality standards have been achieved. With respect to federal standards, the SFBAAB is designated as a nonattainment area for ozone and fine particulate matter standard ($PM_{2.5}$), and as an attainment or unclassified area for all other pollutants (BAAQMD, 2017a). With respect to the State standards, the SFBAAB is designated as a nonattainment area for ozone, coarse particulate matter standard (PM_{10}), and $PM_{2.5}$, and as an attainment area for all other pollutants (BAAQMD, 2017a).

In addition to criteria air pollutants, EPA and ARB regulate hazardous air pollutants, also known as toxic air contaminants (TACs). TACs collectively refer to a diverse group of air pollutants that are capable of causing chronic (i.e., long-duration) and acute (i.e., severe but short-term) adverse effects on human health, including carcinogenic effects. TACs can be separated into carcinogens and noncarcinogens based on the nature of the effects associated with exposure to the pollutant.

For regulatory purposes, carcinogens are assumed to have no safe threshold below which health impacts would not occur. Any exposure to a carcinogen poses some risk of contracting cancer. Noncarcinogens differ in that there is generally assumed to be a safe level of exposure below which no negative health impact is believed to occur. These levels are determined on a pollutant-by-pollutant basis.

Discussion

a. Conflict with Air Quality Plan: Less-than-Significant Impact

Air quality plans describe air pollution control strategies to be implemented by a city, county, or region. The primary purpose of an air quality plan is to bring an area that does not attain federal and State air quality standards into compliance with the requirements of the Federal Clean Air Act and California Clean Air Act requirements. BAAQMD is responsible for developing and implementing air quality plans to address

State and federal air quality. BAAQMD prepares plans to attain State and national ambient air quality standards in the SFBAAB. BAAQMD adopted the 2017 Clean Air Plan: Spare the Air, Cool the Climate on April 19, 2017 (BAAQMD, 2017b). This plan provides a regional strategy to attain State and federal air quality standards by reducing ozone, particulate matter, TACs, and greenhouse gases (GHG).

Air quality plans identify potential control measures and strategies, including rules and regulations that could be implemented to reduce air pollutant emissions from industrial facilities, commercial processes, on and off-road motor vehicles, and other sources. BAAQMD implements these strategies through rules and regulations, grant and incentive programs, public education and outreach, and partnerships with other agencies and stakeholders. The proposed project would be consistent with Transportation Control Measure: Pedestrian Access and Facility Improvements (TCM-D2) included within the 2017 Clean Air Plan by funding projects that improve pedestrian access to transit, employment, and major activity centers.

Consistency with the air quality plan also is determined through evaluation of project-related air quality impacts and demonstration that project-related emissions would not increase the frequency or severity of existing violations, or contribute to a new violation of the National Ambient Air Quality Standards or California Ambient Air Quality Standards. The BAAQMD CEQA Air Quality Guidelines include thresholds of significance that are applied to evaluate regional impacts of project-specific emissions of air pollutants and their impact on BAAQMD's ability to reach attainment (BAAQMD 2017c). Emissions that are above these thresholds have not been accommodated in the air quality plans and would not be consistent with the air quality plans. As discussed below in Item b, construction-related emissions would not exceed BAAQMD significance thresholds. Therefore, the proposed project would not conflict with or obstruct implementation of the applicable air quality plan. The impact would be **less than significant**.

b. Violate or Contribute Substantially to an Air Quality Violation: Less-than-Significant Impact with Mitigation Incorporated

The BAAQMD CEQA Air Quality Guidelines may be used to evaluate air quality impacts for development projects in the Bay Area, but do not commit local governments or BAAQMD to any specific course of regulatory action. The BAAQMD CEQA Air Quality Guidelines are for informational purposes only and should be followed by local governments at their own discretion (BAAQMD, 2017c). The thresholds for criteria pollutants were developed through a quantitative examination of the efficacy of fugitive dust mitigation measures and a quantitative examination of statewide non-attainment emissions and are used for the analysis of project-generated emissions.

Construction. Construction of the proposed project would result in the temporary generation of ozone precursors (reactive organic gas [ROG], nitrogen oxide [NO_X]),

PM_{10}, and $PM_{2.5}$ emissions from the use of off-road construction equipment, on-road motor vehicles, soil excavation, and material transport. ROG and NO_X emissions are associated primarily with mobile equipment exhaust. Fugitive dust emissions vary as a function of parameters such as soil silt content, soil moisture, wind speed, and miles traveled by construction vehicles on- and off-site.

The proposed project would consist of the installation of canopies over station entrances/exits and the replacement/refurbishment of existing street-level escalators along Market Street. Canopy construction and escalator renovation/replacement would occur at four stations for 22 canopies and 22 escalators. Construction is anticipated to start in early 2019 and would occur over approximately 7 years.

Construction-related emissions associated with typical construction activities were modeled using the California Emissions Estimator Model (CalEEMod), Version 2016.3.2. CalEEMod allows the user to enter project-specific construction information, such as types, number, and horsepower of construction equipment, and number and length of off-site motor vehicle trips. Emissions were calculated using both default equipment lists from CalEEMod and construction equipment lists and trips provided by BART.

Construction-related emission estimates were conservatively calculated for the earliest year in construction (2019). Construction would occur beyond 2019 and exhaust emissions from the construction equipment fleet are expected to decrease over time as stricter standards take effect, advancements in engine technology, retrofits, and turnover in the equipment fleet take place; thus, these emission estimates are conservative and actual emissions are anticipated to result in lower levels of emissions as construction occurs in later years.

Construction emissions were calculated for the overlapping construction of one canopy and one escalator in 2019 and scaled up to generate total construction emissions for all 22 canopies and escalators. As such, the emission estimates are conservative as some escalators would be refurbished and would require less construction equipment and fewer delivery trips than the escalators that would be replaced.

Total emissions were converted from total tons to average pounds per day (lbs/day), using the estimated construction duration of approximately 7 years. The average daily criteria pollutant construction emissions for the proposed project are shown in Table 2. Additional modeling assumptions and details are provided in Appendix A.

Table 2. Construction Emissions

Emissions Sources	ROG	NO_X	PM_{10} (exhaust)	$PM_{2.5}$ (exhaust)
Total Emissions (tons)	0.81	7.46	0.38	0.36
Average Daily Emissions* (lbs/day)	0.90	8.27	0.42	0.40
BAAQMD Thresholds of Significance	54	54	82	54
Exceeds Thresholds	No	No	No	No

Notes:

* Average Daily Emissions are calculated based on 22 working days per month over a 7-year construction period. Detailed modeling outputs are provided in Appendix A.

BAAQMD = Bay Area Air Quality Management District; lbs/day = pounds per day; NO_X = oxides of nitrogen; PM_{10} = particulate matter with aerodynamic diameter less than 10 microns; $PM_{2.5}$ = particulate matter with aerodynamic diameter less than 2.5 microns; ROG = reactive organic gases

Source: Data compiled by AECOM in 2018

As shown in Table 2, construction-generated emissions of ROG, NO_X, $PM_{2.5}$ exhaust, and PM_{10} exhaust would not exceed applicable mass emission thresholds of significance. BAAQMD does not have quantitative mass emissions thresholds for fugitive PM_{10} and $PM_{2.5}$ dust. Instead, BAAQMD recommends that all projects, regardless of the level of average daily emissions, implement applicable best management practices (BMPs), including those listed as Basic Construction Measures in the BAAQMD CEQA Guidelines (BAAQMD, 2017c).

Compliance with BFS Sections 01 57 00 and 02 41 00, would reduce emissions during construction; however, the following mitigation measure is needed to comply with the BAAQMD Basic Construction Measures and will be incorporated into the construction contract specifications from implementation by the contractor.

Mitigation Measure AQ-1 Basic Air Quality Construction Control Measures. The following measures will be implemented by the BART construction contractor during all phases of construction on the project site:

- All exposed surfaces (e.g., parking areas, staging areas, soil piles, graded areas, and unpaved access roads) shall be watered two times per day.
- All haul trucks transporting soil, sand, or other loose material shall be covered.
- All visible mud or dirt track-out onto adjacent public roads shall be removed using wet power vacuum street sweepers at least once per day. The use of dry power sweeping is prohibited.
- All roadways, driveways, and sidewalks to be paved shall be completed as soon as possible.
- Idling times shall be minimized either by shutting equipment off when not in use or by reducing the maximum idling time to 5 minutes (as required by

California airborne toxics control measure Title 13, Section 2485 of the California Code of Regulations). Clear signage shall be provided for construction workers at all access points.

- All construction equipment shall be maintained and properly tuned in accordance with manufacturer's specifications. All equipment shall be checked by a certified mechanic and determined to be running in proper condition prior to operation.
- A publicly visible sign shall be posted at the project site with the telephone number and person to contact regarding dust complaints. This person shall respond and initiate a corrective action. The BAAQMD's phone number shall also be visibly posted, for compliance with applicable regulations.

With implementation of the standard BART air emission controls and Mitigation Measure AQ-1, the proposed project would be consistent with BAAQMD guidance and would not result in the generation of significant fugitive dust emissions. As a result, project-related construction air quality would not violate or contribute substantially to an existing or projected air quality violation and would be **less than significant with mitigation incorporated**.

Operations. Operational emissions following project construction would not result in operational and maintenance activities beyond existing conditions. Therefore, operational emissions would not violate an ambient air quality standard or contribute substantially to an existing or projected violation.

c. Cumulatively Considerable Net Increase of Criteria Pollutant: Less-than-Significant Impact

By its very nature, air pollution generally is a cumulative impact. The nonattainment status of regional pollutants results from past and present development within the SFBAAB, and this regional impact is cumulative rather than attributable to any one source. Per CEQA Guidelines Section 15064(h)(4), "the existence of significant cumulative impacts caused by other projects alone shall not constitute substantial evidence that the proposed project's incremental effects are cumulatively considerable."

The SFBAAB currently is designated as a nonattainment area for State and national ozone standards, and national PM ambient air quality standards. Past, present, and future development projects contribute to the region's adverse air quality impacts on a cumulative basis. In developing thresholds of significance for air pollutants, BAAQMD has considered the emission levels for which a project's individual emissions would be cumulatively considerable. If a project does not exceed the identified significance thresholds, its emissions would not be cumulatively considerable, resulting in less-than-significant air quality impacts on the region's existing air quality conditions.

Based on the project-level analysis described above in Item b, the proposed project's construction-related emissions would not exceed the thresholds of significance. Further, operation of the proposed project would be similar to existing conditions. Therefore, emissions associated with the proposed project would not be cumulatively considerable. The cumulative impact on air quality would be **less than significant**.

d. Expose Sensitive Receptors to Substantial Air Emissions: Less-than-Significant Impact

According to BAAQMD, if a project area is likely to be a place where people live, play, or convalesce, or if sensitive individuals are likely to spend a substantial amount of time there, it should be considered a receptor (BAAQMD, 2017c).

Sensitive individuals refer to those segments of the population most susceptible to poor air quality: children, the elderly, and those with pre-existing serious health problems affected by air quality. Examples of receptors include residences, schools and school yards, parks and play grounds, daycare centers, nursing homes, and medical facilities. The nearest sensitive receptors are the high-density residences, along Market Street. These sensitive uses are approximately 50 feet from the various station entrances/exits.

Construction. The greatest potential for TAC emissions during project construction would be related to diesel PM emissions generated by heavy-duty construction equipment. According to the Office of Environmental Health Hazard Assessment (OEHHA), health risk assessments that determine the health risks associated with exposure of sensitive receptors to TAC emissions should be based on a 30-year exposure period (OEHHA, 2015). However, health risk assessments should be limited to the period/duration of emissions-generating activity. Construction of the entire proposed project would occur at four different stations along the 1.5-mile long project site along Market Street. As such, emissions would occur intermittently throughout the construction period and would not occur as a constant plume of emissions from the project site. In addition, the primary structural elements of the canopies would be prefabricated off-site, which would reduce the amount of construction equipment used on site. Based on the anticipated construction schedule and the highly dispersive nature of diesel PM emissions, project construction would not expose sensitive receptors to substantial TAC concentrations. As a result, the construction air quality impact to sensitive receptors would be **less than significant**.

Operations. Operation of the proposed project would only involve minimal and infrequent maintenance activities that would remain similar to existing conditions. As a result, the proposed project would not be a substantial source of TAC and/or $PM_{2.5}$ emissions. The operational air quality impact to sensitive receptors would be **less than significant**.

e. Create Objectionable Odors: Less-than-Significant Impact

The occurrence and severity of odor impacts depend on numerous factors, including the nature, frequency, and intensity of the source; wind speed and direction; and the presence of sensitive receptors. Although offensive odors rarely cause any physical harm, they still can be very unpleasant, leading to considerable distress and often generating citizen complaints to local governments and regulatory agencies.

Construction activities associated with the proposed project could result in short-term odor emissions from diesel exhaust associated with construction equipment. The proposed project would use typical construction techniques, and the odors would be typical of most construction sites and temporary in nature.

Typical facilities that generate odors include wastewater treatment facilities, sanitary landfills, composting facilities, petroleum refineries, chemical manufacturing plants, and food processing facilities. The proposed project is not a facility that would generate odors, and odors associated with the proposed project would be similar to existing conditions.

Therefore, the construction and operation of the proposed project would not create objectionable odors affecting a substantial number of people. The impact would be **less than significant**.

5.4 Biological Resources

Would the project:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less-Than-Significant Impact	No Impact
a. Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	❑	❑	❑	■
b. Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	❑	❑	❑	■
c. Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marshes, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	❑	❑	❑	■
d. Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	❑	■	❑	❑
e. Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	❑	❑	■	❑
f. Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	❑	❑	❑	■

Setting

Data Collection and Review. A review of publicly available aerial imagery and mapping, and street view imagery was conducted to evaluate potential biological resources in the project area. The aerial images were combined with a review of online databases to identify locations where special-status species, wetlands and waters of the U.S., and other sensitive biological resources would have the potential to occur. Tree survey reports were reviewed for inventory of trees that occur within the project footprint (Hort Science, 2016; VIA Architects, 2018).

Queries of the California Natural Diversity Database (CNDDB) (California Department of Fish and Wildlife [CDFW], 2017), the U.S. Fish and Wildlife Service's (USFWS) Information for Planning and Conservation (IPaC) online tool (USFWS, 2017), and the California Native Plant Society (CNPS) Inventory of Rare and Endangered Plants of California (CNPS, 2017) were conducted to identify those special-status species that have potential to occur in the vicinity of the proposed project. The CNDDB list and an official species list obtained from the USFWS Information for Planning and Conservation online tool website on November 14, 2017 are provided in Appendix B. A query of observations in eBird, an online data source provided by the National Audubon Society, was conducted to obtain a list of bird species identified in the study area (eBird, 2016).

Project Setting and Regional Context. The project site is along Market Street in Downtown San Francisco, and is surrounded by existing development. Because of the developed nature of the site and surrounding area, natural vegetation communities and habitats are not present. The majority of the project site is paved, with concrete planters located along the sidewalks. Vegetation within the project site consists primarily of ornamental vegetation, non-native annual grasses, and weeds. The area surrounding the project site includes typical residential and commercial landscaping materials. Lawns, shrubs, and trees of various size, density, and arrangement are found throughout the City of San Francisco.

The majority of the tree species present are various cultivars of London plane trees (*Plantanus* sp.). Plant species that occur within or surrounding the project site include non-native grasses, such as brome (*Bromus* spp.) and wild oat (*Avena fatua*).

The eastern boundary of the project site is located approximately 1,000 feet west of the San Francisco Bay, which hosts a large population of migratory and non-migratory birds. Although no suitable nesting habitat for these bird species exists at the project site, some bird species may be observed foraging around the project site or perched on trees within the project site. Wildlife species that occur in urban areas typically include introduced species that have adapted to human habitation, and they may be present at the project site. Wildlife species that would be found at the project site include a number of common bird species that are typical to urban habitats, including rock pigeon (*Columba livia*), house sparrow (*Passer domesticus*), American crow (*Corvus brachyrhynchos*), common raven (*Corvus corax*), mourning dove (*Zenaida macroura*), and western gull (*Larus occidentalis*).

Special-Status Species. The potential occurrence of special-status plant and wildlife species within the project site and in the surrounding region has been determined from habitat information collected through a review of the CDFW CNDDB, the USFWS online species list database (Figures 17 and 18, and Appendix B), and the CNPS online Inventory of Rare and Endangered Vascular Plants of California For this section, special-status species include:

- species listed, proposed, or candidate species for listing as Threatened or Endangered by USFWS, pursuant to the Federal Endangered Species Act (FESA) of 1973, as amended;

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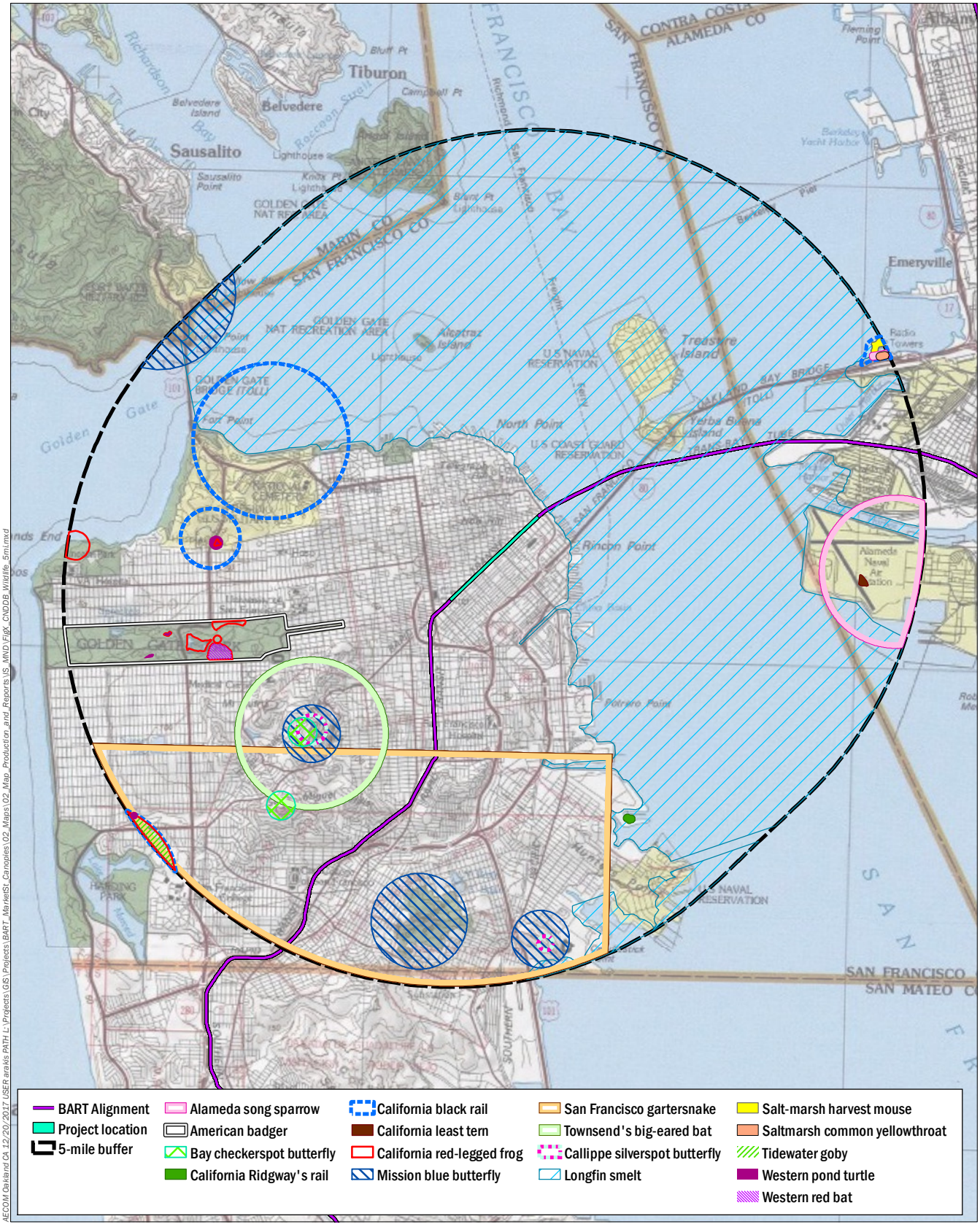
BART Market Street Canopies and Escalators Modernization Project

FIGURE 17

CNDDB Occurrences of Federally Listed Plant Species within a 5-Mile Radius



AECOM

San Francisco Bay Area Rapid Transit District

BART Market Street Canopies and Escalators Modernization Project

FIGURE 18

CNDDB Occurrences of Federally Listed Wildlife Species within a 5-Mile Radius

- species listed as Rare, Threatened, or Endangered by CDFW, pursuant to the California Endangered Species Act (CESA) of 1984, as amended;
- species designated as Fully Protected under Sections 3511 (birds), 4700 (mammals), and 5050 (reptiles and amphibians) of the California Fish and Game Code;
- species protected under other regulations (e.g., local policies, Migratory Bird Treaty Act [MBTA]);
- species designated by CDFW as California Species of Special Concern;
- plant species listed as Category 1B.1 and 1B.2 in the CNPS online Inventory of Rare and Endangered Vascular Plants of California; and
- species not currently protected by statute or regulation, but considered rare, threatened, or endangered under CEQA Guidelines Section 15380.

Because of the disturbed and urban nature of the project site, which is located along a busy thoroughfare with heavy traffic, the project site does not support suitable habitat for special-status species listed in Appendix B and shown in Figure 17 and 18, and no occurrences of CNDDB-listed special-status species have been reported within the project site.

Discussion

a. Special-Status Species: No Impact

As indicated above, the project site is predominately paved and is surrounded by existing development within the City of San Francisco. The landscaped areas (including concrete planters) are highly disturbed. Therefore, the project site does not provide suitable habitat for any regional special-status species. **No impact** on special-status species would occur.

b-c. Sensitive Biological Habitats, Natural Communities, and Wetlands: No Impact

The project site is an existing, developed area and based on a review of aerial and street view imagery, as well as a general knowledge of the project area, no riparian habitats, natural communities, or wetlands are present on-site. All ground disturbances would be limited to the existing, developed areas only and would not involve modification to any sensitive habitats. No acreage of riparian habitat, natural community, or wetlands would be lost during implementation of the proposed project. Therefore, **no impact** on sensitive biological habitats would occur.

d. Wildlife Movement: Less-than-Significant Impact with Mitigation Incorporated

All migratory birds, including feathers or other parts, nests, eggs, or products are protected under the MBTA of 1918 (16 U.S. Code [USC] 703–712). The MBTA makes it unlawful to take, possess, buy, sell, purchase, or barter any migratory bird listed in 50 Code of Federal Regulations (CFR) Part 10, except as allowed by implementing regulations (50 CFR 21). Disturbance that causes nest abandonment or loss of nest productivity (e.g., killing or abandonment of eggs or young) may be considered a “take” and potentially is punishable by fines and imprisonment.

Incidental take permits are not issued for this act. Any proposed project must take measures to avoid the take of any migratory birds, nests, or eggs. All nesting birds protected under this law would need to be avoided during construction of the proposed project.

Active nests of most birds also are protected under Section 3503 of the California Fish and Game Code, which reads, “It is unlawful to take, possess, or needlessly destroy the nest or eggs of any bird, except as otherwise provided by this code or any regulation made pursuant thereto.” Thus, CDFW typically recommends preconstruction surveys for potentially suitable nesting habitat that would be directly (actual removal or pruning of trees/vegetation) or indirectly (noise disturbance) affected by construction-related activities.

Street trees provide resting places for common bird species. However, the constant vehicle and pedestrian activity along Market Street limits their use for nesting, and the liklihood for disturbance to nesting birds from project activities is very low. Implementation of the proposed project would require tree and shrub removal or pruning of ornamental plants withinthe project site, in preparation for project construction. Tree and shrub removal or pruning during the nesting season (February 1 to August 31) has limited potential to result in the loss of active bird nests. However, the loss of active nests because of tree and shrub removal or pruning would be a potentially significant impact, should there be nesting birds present.

A tree inventory report prepared for the Better Market Street ~~p~~Project identified approximately 1,069 trees and 68 empty tree wells along Market Street between Steuart Street on the east and Octavia Street on the west, a distance of approximately 2.2 miles (Hort Science, 2016). Contruction of the proposed canopies could result in the removal of up to 54 of these trees. The proposed project would therefore potentially affect approximately 5 percent of the existing trees along Market Street within the vicinity of the project site. The tree removals would occur in focused areas around the 22 canopy locations scattered along the 2.2 mile long Better Market Street ~~p~~Project corridor thus further minimizing the overall impacts of the tree removals.

In addition to nesting or resting habitat for birds, the London plane trees on Market Street have been identified as western tiger swallowtail butterfly (*Papilio rutulus*) larval host plants (Hawkes, 2013; iNaturalist, 2018). The western tiger swallowtail butterfly uses these trees as host plants to lay eggs, and uses surrounding flowering landscape plants for nectar. The butterflys have two broods per year, and larvae are present and feeding on trees between late February and April, and between June and late August. It should be emphasized that the western tiger swallowtail butterfly is not listed as a special-status species. However, efforts have been made to preserve and enhance its habitat in Downtown San Francisco. Although the removal of up to 54 trees during construction of the proposed project would impact potential

western tiger swallowtail butterfly habitat, the number of trees to be removed would not result in a signficiant cumulative loss of habitat, due to the large number of trees present along Market Street.

Mitigation Measures. The following mitigation measures will be incorporated into BART's construction contracts and implemented by the contractor as part of construction. As a result, the proposed project's impact on nesting migratory birds would be **less-than-significant with mitigation incorporated**.

BIO-1 *Tree Removal or Pruning.* Tree or shrub removal or pruning will be avoided from February 1 through August 31, the bird nesting period, to the extent feasible. If no tree or shrub removal or pruning is proposed during the nesting period, no surveys or further mitigation measures are required. This time period coincides with the western tiger swallowtail butterfly's use of the London plane trees as host plants. Therefore, avoiding tree removal during this time frame will also reduce likelihood of impacts to developing butterflies.

BIO-2 *Nesting Bird Survey.* If any project construction activities occur during the active nesting period (February 1 through August 31), a pre-construction survey for nesting birds within the immediate project footprint will be conducted by a qualified biologist. Nesting bird surveys will be conducted within 1 week before initiation of construction activities. If no active nests are found, no further surveys and no further mitigation will be required. However, if two weeks lapse during construction within the active nesting period (i.e., if no work takes place on site for two continuous weeks between February 1 and August 31), then the survey should be repeated to ensure that any nests have not been occupied or created during the work stoppage. The survey would be required each year prior to any project construction activities occurring during the active nesting period. The survey would not be required if construction occurred outside of the active nesting period.

If active nests are found in any impact areas, a qualified biologist will assess the potential impacts of project construction noise levels to ensure an appropriate buffer is established to protect the active nests. The extent of these buffers will be determined by the biologist based on the level of noise or construction disturbance, line of sight between the nest and the disturbance, ambient levels of noise and other disturbances, and other topographical or artificial barriers. CDFW will be consulted if any listed species are found to nest in the project area.

e. Local Ordinances Protecting Biological Resources: Less-than-Significant Impact

Pursuant to California Government Code Section 53090, as a rapid transit district, BART is not subject to local ordinances and regulations of the City of San Francisco. Although the proposed project is not subject to the City and County of San Francisco's Urban Forestry Ordinance (Article 16 of the Public Works Code), BART considers this Code as a useful guide for determining when trees warrant protection or replacement.

All of the trees located on the project site are non-native ornamentals. Project construction would require that some existing trees along Market Street and UN Plaza be removed or pruned. During project construction, tree removal or pruning would be required for approximately 54 London plane trees within the project footprint. Of these 54 trees, 16 were rated as being dead, in severe decline, or in decline; 30 were rated as being trees with moderate vigor; and 8 were rated as trees with a slight decline in vigor or healthy vigorous trees (Hort Science, 2016; VIA Architecture, 2017). Removal of the 18 trees rated as being dead, in severe decline, or in decline was recommended (Hort Science, 2016). As noted under Item d, the proposed project would potentially affect approximately 5 percent of the existing trees along Market Street within the vicinity of the project site. Therefore, the impact is **less than significant**.

f. Adopted Habitat Conservation Plan: No Impact

The project site is not within the boundaries of any adopted Habitat Conservation Plan (HCP) or Natural Communities Conservation Plan (NCCP). The nearest adopted HCPs are the San Francisco Alameda Watershed Habitat Conservation Plan (20 miles to the southeast) and the East Contra Costa County Habitat Conservation Plan (15 miles to the east). Because the project site is not located within the boundaries of either of these plans, **no impact** on an adopted habitat conservation plan would occur.

5.5 Cultural Resources

Would the project:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less-Than-Significant Impact	No Impact
a. Cause a substantial adverse change in the significance of a historical resource as defined in Section 15064.5?	❑	❑	■	❑
b. Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5?	❑	❑	❑	■
c. Disturb any human remains, including those interred outside of formal cemeteries?	❑	❑	❑	■
d. Cause a substantial adverse change in the significance of a tribal cultural resource as defined in Public Resources Code §21074?	❑	❑	❑	■

Cultural resources are defined as buildings, sites, structures, or objects, each of which may have historical, architectural, archaeological, cultural, or scientific importance. Numerous federal, State, and local laws, regulations, and statutes seek to protect and target the management of cultural resources. Depending upon a variety of preconditions, such as the inclusion of federal monies or significant effects on wetlands, federal or State law may be the primary governing code. For the proposed project, these laws, regulations, and statutes include California Public Resources Code Sections 5020-5029, and Articles 10 and 11 of the San Francisco Planning Code 44. For the purposes of this Initial Study, the term "historic architectural resource" refers to buildings, structures, objects, sites, landscapes, and historic districts. The term is used to distinguish such resources from archaeological resources. Archaeological resources refer to material remains of past human life or activities that are of archaeological interest, and are typically subsurface deposits.

Setting

The proposed project is situated in the northeastern portion of the San Francisco peninsula, which is comprised of estuaries, plains, rolling hills, and rugged ridge lands, with the area surrounding the project site consisting mostly of plains situated along former estuary lands. Historical maps (US Coast Survey, 1853) depict the shoreline of the San Francisco Bay west of the Embarcadero Station. The location of this station was once within Yerba Buena Cove, and the waters of the cove once came to what is now Montgomery Street on the north side of Market Street, and what is now First Street on the south side. The current site of the Montgomery Street Station was a block away from the Yerba Buena Cove shoreline. Watercraft abandoned by eager prospectors coming to San Francisco following the discovery of gold led to the eventual infill of the cove and the City constructed its downtown on top of the fill. Likewise, the Civic Center/UN Plaza Station was once on the shores of an estuary associated with what was once Mission Bay.

The current setting of the project site is within a highly developed, mixed residential/commercial urban area along Market Street in the Downtown/Civic Center and Financial District neighborhoods San Francisco. The proposed canopies and replaced/refurbished escalators would be installed along Market Street at the four existing BART stations (Embarcadero, Montgomery Street, Powell Street, and Civic Center/UN Plaza) consisting of a total of 22 entrances/exits. The stations were designed and constructed in combination with the BART system during the early 1970s. The stations are extant and retain their original footprints and vertical circulation features (escalators and stairs). Station entrances/exits are typically located on Market Street. However, the Civic Center/UN Plaza Station and the Montgomery Street Station also have entrances/exits that are set back from Market Street within pedestrian plazas. Most of the entrances/exits are framed with a short square or U-shaped masonry parapet wall, street trees, and bike racks. The Civic Center/UN Plaza Station entrance/exit to United Nations Plaza (UN Plaza) features the largest footprint with a geometric sloping polychromatic granite wall that flanks the escalators and stairs to the south.

Given the original uncovered design of the station entrances/exits, they have continuously been subjected to inclement weather and exposed to various forms of discarded trash. This has compromised the function of the escalators over time which has led to frequent breakdowns and closures thus affecting pedestrian circulation and access into the stations. The purpose of the proposed project is to cover the existing exposed escalators (in accordance with the American Society of Mechanical Engineers A17.1, Section 6.1.8) at the existing entrances/exits with an open-air flat-roof canopy with slim wide-eave overhangs. Each station would also feature replaced/refurbished escalators where applicable; wayfinding capabilities; transit information monitors; security cameras; and security grilles at street level. The proposed project may have up to 54 potential conflicts with existing trees located in close proximity to the station entrances/exits. These trees may need to be removed or pruned due to spatial conflicts with the canopies. Existing tree grates may or may not be retained on site after tree removal.

Historic-era buildings are in close proximity to the 22 station entrances/exits. Depending on the location, some of these historic-era buildings are visible from these entrances/exits. Historic resources within the CEQA study area are located on Market Street, UN Plaza, Montgomery Street, Sansome Street, Pine Street, California Street, and Embarcadero Center. The resources are framed by cross streets beginning at 8th Street to the southwest and The Embarcadero to the northeast; and are surrounded by modern and historic-era buildings, apartments, shopping centers, offices, theaters, and hotels. Modern and historic-era buildings are also visible at a distance from the station locations.

Data Collection and Review.

The data collection and review for the proposed project are based upon a project-specific inventory report (ICF, 2017) in addition to an inventory report prepared for the Better Market Street Project (ICF, 2015). Baseline historic and archaeological conditions in the study area are based on a review of available ethnographic and historic literature and maps, archaeological base maps and site records, survey reports, and atlases of historic places on file at the Northwest Information Center (NWIC) of the California Historical Resources Information System

(CHRIS) at Sonoma State University; a review of the Office of Historic Preservation's (OHP) Directory of Properties in the Historic Property Data File for San Francisco County; and a Sacred Lands File (SLF) review by the California Native American Heritage Commission (NAHC); as well as a project site visit.[3] Materials related to the Civic Center National Historic Landmark District, historic Market Street images, historic maps, and original plans and drawings for the Civic Center and UN Plaza were provided by the City of San Francisco Planning Department. As-built plans and drawings of the Market Street Reconstruction Project of 1967-1982 were gathered from SFPW. One prehistoric cultural resource (CA-SFR-28/P-38-000028) was previously identified within the project site at the Civic Center/UN Plaza Station during the 2018 records search. Two additional prehistoric cultural resources were previously identified within the 0.5-mile radius of the project site—one south of the Powell Street Station (CA-SFR-113/P-38-000102) and one south of the Montgomery Street Station (CA-SFR-112/P-38-000101). In addition, the records search identified 22 buildings, two historic districts, two conservation districts, and three cultural landscapes within the immediate vicinity of the 22 entrances/exits included in the proposed project. No cultural resources were identified in the SLF search for the CEQA study area and surrounding area.

Archival research identified the Yerba Buena Cemetery as once located within the CEQA study area at the Civic Center/UN Plaza Station. The cemetery was in use from 1850 until 1871, when the graves were exhumed and reburied in City Cemetery near Golden Gate Park (*San Francisco Chronicle* 2001). The cemetery was contained within the triangular lot bounded by Market, McAllister, and Larkin streets (San Francisco Museum 1851). Outlier burials have been discovered over the years as the area has developed, but the majority of remaining burials have been rediscovered along McAllister and Hyde streets. Documentation of one of these rediscoveries suggests the burials were 13 feet below street level (*San Francisco Chronicle*, 2001).

Historic Architectural Resources (Buildings, Structures, and Objects)

The records search at NWIC and OHP directory indicated 22 buildings, two historic districts, two conservation districts, and three cultural landscapes within the CEQA study area. Fire hydrants related to the San Francisco Fire Department Auxiliary Water Supply System (AWSS) are also within the CEQA study area. These hydrants are collectively considered historical resources under CEQA by the City of San Francisco, and are also contributors to the districts noted in this Initial Study; however, no alterations to the hydrants are anticipated as a result of the proposed project. For the purposes of this impacts analysis the buildings, structures, and objects are discussed separately from the districts and cultural landscapes.

These resources have been previously evaluated and several have received various designations at the national (National Historic Landmark and National Register of Historic Places [NRHP]), state (California Register of Historical Resources [CRHR]), and local levels (City of San Francisco Landmark). For properties that were listed in or eligible for the NRHP, the

[3] NWIC, 2018. Completed by AECOM, January 30 (NWIC #17-1918); NWIC, 2014. Completed by ICF, DATE (NWIC #14-0541). NAHC, 2018. Response to Request for Information, January 29.

resource met at least one of four Criteria for Evaluation (Criteria A, B, C, or D) which are outlined in 36 CFR Part 60 to be significant. For resources eligible for or listed in the CRHR, they also must meet at least 1 of 4 criteria (Criteria 1, 2, 3, or 4). The CRHR criteria are roughly analogous to the NRHP criteria.

Of the 22 buildings, 16 are considered historical resources under CEQA with 10 of the 16 acting as contributors to a designated historic or conservation district. As described below, of these 22 buildings, five are individually classified as Category A properties, two are classified Category B properties, and four are classified as Category C properties by the City of San Francisco Planning Department.[4] Three properties are individually listed on the NRHP. These 22 historic properties are described below and their status is summarized in Table 3.

Hyatt Regency, 5 Embarcadero Center (1972). The Hyatt Regency at 5 Embarcadero Center is a twenty-story hotel built in the Brutalist architectural style in 1972. The property is recognized as a Category B property by the City of San Francisco. This resource was concurrently evaluated as a part of the Better Market Street Project as eligible for listing in the CRHR and is thus a CEQA historical resource (City of San Francisco Planning Department, Historic Resource Evaluation Response, Better Market Street Project, July 6, 2017).

Federal Reserve Bank, 101 Market Street (1982) (NRHP Status Code 2S2).[5] The Federal Reserve Bank at 101 Market Street is a twelve-story building built in the Post-Modern architectural style in 1982. The OHP has assigned the property NRHP status code 2S2 (Contributor to a district determined eligible for the NR by consensus through Section 106 Process. Listed in the CRHR). The property is recognized as a Category A property and a CEQA historical resource by the City of San Francisco. It is part of the 2012 Transit Center Historic Resource Survey Update. The date of this status code assignment was not specified.

Matson Building, 215 Market Street (1925) (NRHP Status Code 1S). The Matson Building at 215 Market Street is a sixteen-story building built in the Italian-Renaissance architectural style in 1925. The OHP has assigned the property NRHP status code 1S (Separately listed in the NRHP). The property is recognized as a Category A and a CEQA historical resource by the City of San Francisco. Local preservation designation: article 11 Cat: *I – Significant Building, No Alterations.* The date of this status code assignment was not specified.

[4] The City of San Francisco Planning Department describes CEQA historical resources through several categories. They include Category A.1 – Resources listed on or formally determined to be eligible for the CRHR; Category A.2 – Resources listed on adopted local registers, and properties that have been determined to appear or may become eligible, for the CRHR; Category B properties require further consultation with the Planning Department; and Category C properties are properties determined not to be historical resources. For additional information see San Francisco Planning Department's Bulletin No. 16. It can be accessed via http://www.sf-planning.org/Modules/ShowDocument.aspx?documentid=5340. Accessed May 1, 2017.

[5] The NRHP status codes were developed by the California Office of Historic Preservation to show the NRHP eligibility/listed status for individual resources. The meaning for each code is provided for each resource as easy reference. A master list of the codes can be found here: http://ohp.parks.ca.gov/pages/1069/files/chrstatus%20codes.pdf. Accessed March 20, 2018.

US Bank/Wells Fargo, 1 California Street (1969). The US Bank/Wells Fargo Building at 1 California Street is a thirty-two-story building built in the International architectural style in 1969. The property is recognized as a Category A and CEQA historical resource by the City of San Francisco.

333 Market Street, 333 Market Street (1981). The 333 Market Street Building at 333 Market Street is a thirty-three-story building built in the International architectural style in 1981. Property Information Map indicates *A – Historic Resource Presence* (Embarcadero Garage).

388 Market Street, 1 Pine Street (1987). The 388 Market Street Building at 1 Pine Street is a twenty-four-story building built in the Post-Modern architectural style in 1987. The property is recognized as a Category C property by the City of San Francisco. No historic resource present/not age eligible.

Bank of California, 1 Sansome Street (1908). The Bank of California Building at 1 Sansome Street is a forty-one-story building built in the Post-Modern architectural style in 1984 with the original one-story Classical-Revival façade of the Anglo and London Paris National Bank Building built in 1908. The Classical-Revival façade is recognized as a Category A and CEQA historical resource by the City of San Francisco.

Chevron Building, 575 Market Street (1975). The Chevron Building at 575 Market Street is a forty-story building built in the Post-Modern architectural style in 1975. The property is recognized as a Category C property by the City of San Francisco. No historic resource present/not age eligible.

Flatiron Building, 540-548 Market Street (1913). The Flatiron Building at 540-548 Market Street is a ten-story building built in the Gothic-Revival architectural style in 1913. The property is designated as a City of San Francisco City Landmark #155 and is recognized as a Category A and CEQA historical resource. Local preservation designation: article 11 Cat: *I – Significant Building, No Alterations.* It is also identified for its association with Lesbian, Gay, Bisexual, Transgender, Questioning (LGBTQ) history.

Market Center, 595 Market Street (1978). The Market Center Building at 595 Market Street is a twenty-story building built in the Post-Modern architectural style in 1978. The property is recognized as a Category C property by the City of San Francisco. No historic resource present/not age eligible.

8 Montgomery Street, 2-8 Montgomery Street (1967). The 8 Montgomery Street Building at 2-8 Montgomery Street is a one-story building built in the International architectural style in 1967. The property is recognized as a Category B property by the City of San Francisco. The City of San Francisco requires further consultation and review to determine CEQA historical resource eligibility. This resource has not been formally evaluated due to the exceedingly low probability that the proposed project would result in a substantial adverse change to its potential significance.

Palace Hotel, 633-665 Market Street (1909). The Palace Hotel at 633-665 Market Street is an eight-story hotel built in the Beaux Art architectural style in 1909. The property is designated as

a City of San Francisco City Landmark #18 and recognized as a Category A and CEQA historical resource. It is also a contributor to the New Montgomery-Mission-Second Street Conservation District and NRHP eligible.

Phelan Building, 760-784 Market Street (1908). The Phelan Building at 760-784 Market Street is an eleven-story building built in the Chicago-School architectural style in 1908. The property is recognized as a Category A and CEQA historical resource by the City of San Francisco. It is also a contributor to the Kearny-Market-Mason-Sutter Conservation District and NRHP eligible. Local preservation designation: article 11 Cat: I – Significant Building, No Alterations.

Pacific Building, 801-833 Market Street (1907). The Pacific Building at 801-833 Market Street is a ten-story hotel built in the Chicago-School architectural style in 1907. The property is recognized as a Category A and CEQA historical resource by the City of San Francisco. It is also a contributor to the Kearny-Market-Mason-Sutter Conservation District.

James Bong Building, 825-833 Market Street (1908). The James Bong Building at 825-833 Market Street is a nine-story building built in a Victoria-Era architectural style in 1908. The property is recognized as a Category A and CEQA historical resource by the City of San Francisco. It is also a contributor to the Kearny-Market-Mason-Sutter Conservation District.

Samuels Clock, 856 Market Street (1915). Samuels Clock at 856 Market Street is a four-faced globe-shaped clock atop a Corinthian column and glass base with visual mechanics. It was built in 1915 and is located on the sidewalk in front of 856 Market Street. The object is designated as a City of San Francisco City Landmark #77 and recognized as a Category A and CEQA historical resource. It is also a contributor to the Kearny-Market-Mason-Sutter Conservation District.

Hale Bros. Dept. Store Building, 901-919 Market Street (1912) (NRHP Status Code 1S). The Hale Bros. Dept. Store Building at 901-919 Market Street is a five-story building built in the Neo-Classical architectural style in 1912. The OHP has assigned the property NRHP status code 1S (Separately listed in the NRHP). The property is recognized as a Category A and a CEQA historical resource by the City of San Francisco. Local preservation designation: article 11 Cat: I – Significant Building, No Alterations. It is also a contributor to the Kearny-Market-Mason-Sutter Conservation District. The date of this status code assignment was not specified.

The Art Institute of California, 10 United Nations Plaza (1982). The Art Institute of California at 10 United Nations Plaza is a five-story building built in the Post-Modern architectural style in 1982. The property is recognized as a CEQA historical resource within the Civic Center Cultural Landscape (http://sf-planning.org/civic-center-cultural-landscape-inventory), Civic Center Historic District, and Civic Center Landmark District by the City of San Francisco.

One Trinity Center, 1145 Market Street (1990). The One Trinity Center Building at 1145 Market Street is a fourteen-story building built in the Post-Modern architectural style in 1990. The property is recognized as a Category C property by the City of San Francisco. No historic resource present/not age eligible.

Federal Building, 50 United Nations Plaza (1936) (NRHP Status Code 1S). The Federal Building at 50 United Nations Plaza is a five-story building built in the French-Renaissance architectural style in 1936. The OHP has assigned the property NRHP status code 1S (Separately listed in the NRHP). The property is recognized as a CEQA historical resource within the Civic Center Cultural Landscape (http://sf-planning.org/civic-center-cultural-landscape-inventory), Civic Center Historic District, and Civic Center Landmark District by the City of San Francisco. The date of this status code assignment was not specified.

Civic Center Campus, 1170 Market Street (1983). The Civic Center Campus at 1170 Market Street is a six-story building built in the Post-Modern architectural style in 1983. The property is recognized as a Category A and CEQA historical resource by the City of San Francisco. It is located within the Civic Center Historic District (National Historic Landmark and National Register of Historic Places Historic District) and Civic Center Landmark District (City of San Francisco Article 10).

Orpheum Theater, 1182-1192 Market Street (1925). The Orpheum Theater at 1182-1192 Market Street is a four-story theater built in the Spanish-Gothic architectural style in 1925. The property is designated as a City of San Francisco City Landmark #94 and recognized as a Category A and CEQA historical resource. Local preservation designation: article 11 Cat: I – Significant Building, No Alterations. It is also listed in the NRHP as a contributor to the Civic Center Historic District.

Table 3. Summary Historic Status for Buildings, Structures, and Objects

Address	Common Name (Historic)	Year Built	NRHP Status Code*	CEQA Historical Resource	Canopy Number & Station
5 Embarcadero Center (22 Drumm St.)	Hyatt Regency	1972	N/A	Y[#]	1/E
101 Market Street	Federal Reserve Bank	1982	2S2	Y	2/E
215 Market Street	Matson Building	1925	1S	Y	3/E
1 California Street	US Bank/Wells Fargo	1969	N/A	Y	4/E
333 Market Street	333 Market Street	1981	N/A	N	5/E
1 Pine Street	388 Market Street	1987	N/A	N	6/E
1 Sansome Street	Citigroup Center (Bank of California)	1908	N/A	Y	7/M
575 Market Street	Chevron Building	1975	N/A	N	8/M
504-548 Market Street	Flatiron Building	1913	N/A	Y	9/M
595 Market Street	Market Center	1978	N/A	N	10/M
2-8 Montgomery Street	8 Montgomery Street	1967	N/A	NE	11/M
633-335 Market Street	Palace Hotel	1909	N/A	Y	12/M
760-784 Market Street	Phelan Building	1908	N/A	Y	13/P
801-823 Market Street	Pacific Building	1907	N/A	Y	14/P
825-833 Market Street	James Bong Building	1908	N/A	Y	14/P
856 Market Street	Samuels Clock	1915	N/A	Y	15/P
901-919 Market Street	Hale Bros. Dept. Store Building	1912	1S	Y	16/P
10 United Nations Plaza	The Art Institute of California	1982	N/A	Y	17/CC
1145 Market Street	One Trinity Center	1990	N/A	N	18/CC
50 United Nations Plaza	Federal Building	1936	1S	Y	19/20/CC
1170 Market Street	Civic Center Campus	1983	N/A	Y	19/20/CC
1182-1192 Market Street	Orpheum Theater	1925	N/A	Y	21/CC

Notes:

[#] Evaluation made in City of San Francisco Planning Department, Historic Resource Evaluation Response, Better Market Street Project, July 6, 2017

E = Embarcadero Station

M = Montgomery Station

P = Powell Station

CC = Civic Center/UN Plaza Station

NE = Not evaluated due to low probability for project-related impacts

*NRHP Status Code reflects the designation assigned by the OHP.

1S = Separately listed in the NRHP.

2S2 = Contributor to a district determined eligible for NR by consensus through Section 106 process. Listed in the CR.

Historical Architectural Resources (Historic Districts and Landscapes).

As described below, two historic districts, two conservation districts, and three cultural landscapes that could be considered historical resources were identified near the project site. The two historic districts include the San Francisco Civic Center Historic District[6] and Market Street Theatre and Loft District. The two conservation districts include the New Montgomery-Mission-Second Street Conservation District and the Kearny-Market-Mason-Sutter Conservation District. These four districts qualify as CEQA historical resources and either encompass one or more of the four stations, or are within close proximity to one or more or the 22 entrances/exits at the four stations. The Market Street Theatre and Loft District is located near the project site, but none of the 22 entrances/exits encroach into the district. The three cultural landscapes include the Market Street Cultural Landscape, San Francisco Civic Center Historic District and Cultural Landscape, and UN Plaza. UN Plaza is individually eligible and is a contributor to the Market Street Cultural Landscape and the Civic Center Cultural Landscape.

San Francisco Civic Center Historic District & Cultural Landscape (1896-1951). The San Francisco Civic Center Historic District & Cultural Landscape encompasses approximately 15 blocks (58-acres) and is designated as a San Francisco Landmark District (1994), National Register of Historic Places (1978), and National Historic Landmark (1987). The landscape is significant for its association with the Panama-Pacific International Exposition, Beaux Art Civic Center Plan, the United Nations, and the United States peace treaty with Japan between the years of 1896 to 1951. Relevant character-defining features include 1 United Nations Plaza (1927), 79 McAllister (1906), 83 McAllister (1907), 50 United Nations Plaza (1936), and 1182 Market Street (1925). Three canopies for the Civic Center/UN Plaza Station would be constructed within the boundary of the landscape (Canopies 18, 19, and 21). The period of significance for the Landmark District, National Register, and National Historic Landmark Nominations does not include the period when the Market Street Redevelopment Plan Designed Landscape was completed in 1979. Cultural landscape studies, however, have acknowledged that elements within the Civic Center Cultural Landscape associated with the Market Street Redevelopment Plan are likely significant and would thus extend the Civic Center's period of significance into the 1970s (MIG, 2015).

Market Street Theatre and Loft District. Listed in the NRHP under Criteria A and C, the Market Street Theatre and Loft District consists of 16 contributing resources and 14 non-contributing resources with a period of significance that extends from 1889-1930. The district's historic buildings illustrate the City's continuity of architectural design from before and after the Earthquake and Fire of 1906 and reflects the City's embrace of the major motion picture

[6] The San Francisco Civic Center Historic District has also been identified as a potential cultural landscape. See MIG. San Francisco Civic Center Historic District Cultural Landscape Inventory: Site History, Existing Conditions & Evaluation. Prepared by MIG, in association with A&H Architecture & Planning, LLC, Berkeley, CA, 2015. As noted in this study, the design work associated with the Market Street Redevelopment Plan that occurred within the boundaries of the SFCCHD, more specifically within UN Plaza, could extend the district's period of significance to the 1970s. For the purposes of this project, the character-defining features associated with that period of significance are considered in the impacts analysis for UN Plaza, both as an individual site and as a contributor to the Market Street Cultural Landscape and Civic Center Cultural Landscape.

industry through the construction of numerous theaters in the 1920s. The nomination notes “two fine, monumental intersections created by the diagonal meeting at Market of two contrasting rectangular street grids” that focus on the 1922 Golden Gate Theatre and the 1892 Hibernia Bank. Aside from this discussion of the street grids within the district, the components of the district within the public right-of-way are not specifically discussed as contributing to the significance of the district.

New Montgomery-Mission-Second Street Conservation District. Developed between 1906 and 1930, “the district is highly cohesive in regard to scale, building typology, materials, architectural style, and relationship to the street” and is eligible for the CRHR under Criteria 1 and 3 for its associations with the post-1906 rebuilding of San Francisco and as the City’s “largest and most intact collection of significant masonry commercial loft buildings” (DPR 529 Form, 2008). The components of the district within the public right-of-way are not specifically discussed as contributing to the significance of the district.

Kearny-Market-Mason-Sutter Conservation District. This conservation district reflects the changing economic fortunes of this area of San Francisco as it experienced changes related to retail, entertainment, and residential development. In general the buildings within the district are between 4 and 8 stories tall with a majority of buildings erected within a span of less than 20 years. They feature continuity in architectural styles and generally fill their respective lots. The district includes 324 buildings with 114 architecturally significant and 140 contributory with only 98 buildings not rated. Public spaces and the street grid are discussed generally as the San Francisco Planning Code notes that “the regular street pattern” “creates interesting views and vistas down the streets”.[7] Specific features, aside from Union Square, within the public right-of way are not discussed as contributing to the significance of the district. The district is listed as California State Landmark No. 623.

Market Street Cultural Landscape (1847-1929, 1870s-1979, 1979). The Market Street Cultural Landscape is an urban landscape which has shown change and evolution over time as a reflection of contemporary trends and needs. The landscape history includes Market Street as San Francisco’s Main Circulation Artery (1847-1929), Market Street as Venue for Civic Engagement in San Francisco (1870s-1979), and the Market Street Redevelopment Plan Designed Landscape (1979); themes which define its significance and character-defining features.

Market Street as San Francisco’s Main Circulation Artery theme is significant under NRHP Criterion A and CRHR Criterion 1 for its role as San Francisco’s primary thoroughfare and facilitator of urban growth and economic development from 1987 to 1929. Character-defining features that express its significance include its spatial organization, cluster arrangement, circulation, topography, building and structures, views and vistas, constructed water features, and small-scale features.

[7] SFPC, Article 11, Appendix E. Accessed on January 31, 2018 via (https://www.cambridgema.gov/~/media/Files/historicalcommission/pdf/hscdstudy/sanfranciscoarticle11_full.pdf?la=en)

Market Street as Venue for Civic Engagement in San Francisco theme is significant under NRHP Criterion A and CRHR Criterion 1 for its role as a venue for civic engagement in San Francisco from the 1870s to 1979. The period of significance reflects its association with public demonstrations that elevated issues of LGBTQ rights at a national scale. Character-defining features that reflect its significance include its spatial organization, cluster arrangement, circulation, topography, building and structures, views and vistas, constructed water features, and small-scale features.

The Market Street Redevelopment Plan Designed Landscape theme is significant under NRHP Criterion C and CRHR Criterion 3 as the work of master architects Mario Ciampi and John Warnecke and master landscape architect Lawrence Halprin in 1979. The period of significance reflects the plan's early interdisciplinary approach to urban design and early example of a designed urban landscape that prioritized the pedestrian experience. Character-defining features that shape its significance include its natural system and features, spatial organization, cluster arrangement, circulation, vegetation, building and structures, views and vistas, constructed water features, and small-scale features. All of the canopies included in the proposed project would be constructed within the Market Street Cultural Landscape.

United Nations Plaza (1976-1985). UN Plaza appears to be NRHP eligible and the City of San Francisco considers the plaza eligible for the CRHR as a contributing feature of the Market Street Cultural Landscape and as an individually eligible historic designed landscape. UN Plaza is eligible under NRHP Criterion A and CRHR Criterion 1 for its role in the LGBTQ movement which brought national attention to its issues through parades and protests. UN Plaza is also eligible under NRHP Criterion C and CRHR Criterion 3 for its association with master landscape architect Lawrence Halprin for his impact on landscape architecture and its role in urban development. Character-defining features that shape its significance include its natural system and features, spatial organization, circulation, vegetation, views and vistas, constructed water features, and small-scale features. Two canopies included in the proposed project would be constructed within the boundary of UN Plaza (Canopies 18 and 19).

San Francisco Civic Center Historic District and Cultural Landscape (1896-1951). The San Francisco Civic Center Historic District and Cultural Landscape encompasses approximately 15 blocks (58-acres) and is designated as a San Francisco Landmark District (1994), National Register of Historic Places (1978), and National Historic Landmark (1987). The Civic Center Historic District is significant for its association with the Panama-Pacific International Exposition, Beaux Art Civic Center Plan, the United Nations, and the United States peace treaty with Japan between the years of 1896 to 1951. Relevant character-defining features include 1 United Nations Plaza (1927), 79 McAllister (1906), 83 McAllister (1907), 50 United Nations Plaza (1936), and 1182 Market Street (1925). Three canopies included in the proposed project would be constructed within the boundary of the San Francisco Civic Center Historic District and Cultural Landscape (Canopies 18, 19, and 21). As noted above, two of these three canopies would also lie within UN Plaza (Canopies 18 and 19). Studies have suggested that the district is also a cultural landscape and that its period of significance could be extended to the 1970s for the part of the district that overlaps with the Market Street Cultural Landscape.

Archaeological Resources

The three archaeological resources either in or within a 0.5-mile radius of the project site are described below.

CA-SFR-28/P-38-000028 is the location of a partial skeleton that was discovered over 70 feet below the surface of Market Street during the excavation of the Civic Center/UN Plaza Station. The individual burial, referred to as BART woman, was identified within a clayey silt layer of soil, along the edge of a previously constructed retaining wall that formed the sides of the station. The approximately 25 year old woman was dated to 5630 years calibrated (cal) Before Present (BP), and met her death in the Bay Mud along the periphery of an estuary environment associated with Mission Bay. No other cultural materials were identified during the salvage excavation of this skeleton (Kaijankoski and Meyer, 2016). The location of this site is separated from the depth of impact for the proposed project by over 70 feet of artificial fill and the Civic Center/UN Plaza Station.

CA-SFR-112/P-38-000101 is a shellmound that dates to between 1600 and 1100 years BP located along Stevenson Street between First and Second streets, approximately 150 feet south of the Montgomery Street Station and well outside the project area. Historical maps from the mid-1800s show the site located at the edge of a rise above the former Yerba Buena Cove shoreline. The top of the shellmound is located 16.5 feet below street surface.

CA-SFR-113/P-38-000102 is a cluster of closely-spaced seasonal/temporary camps that span 280 years and date from between 2200 +/-40 and 1920 +/-40 BP (Pastron and Ambro, 2005). These clusters are located at approximately 60 feet south of Market Street at Fifth Street, and outside the project area. The camps were discovered approximately 10 to 15.5 feet below the ground surface.

Discussion

Under CEQA, a project that results in a "substantial adverse change in the significance of an historical resource" may cause a significant adverse effect on the environment. The California Public Resources Code defines "substantial adverse change" as "demolition, destruction, relocation or alteration," activities that would impair the significance of an historical resource. CEQA Guidelines Section 15064.5(b)(2) defines activities that would impair the significance of a historical resource as follows:

a. Demolishes or materially alters in an adverse manner those physical characteristics of an historical resource that convey its historical significance and that justify its inclusion in, or eligibility for inclusion in the California Register of Historic Resources; or

b. Demolishes or materially alters in an adverse manner those physical characteristics that account for its inclusion in a local register of historic resources pursuant to section 5020.1(k) of the Public Resources Code or its identification in an historical resources survey meeting the requirements of section 5024.1 (g) of the Public Resources Code, unless the public agency reviewing the effects of the project establishes by a preponderance of evidence that the resource is not historically or culturally significant; or

c. Demolishes or materially alters in an adverse manner those physical characteristics of an historical resource that convey its historical significance and that justify its eligibility for inclusion in the California Register of Historical Resources as determined by a lead agency for purposes of CEQA.

a. Change in the Significance of a Historic Architectural Resource: Less than Significant

Project features that have the potential to affect historical resources under CEQA include construction activities related to the erection of 22 canopies over currently open entrances/exits that contain open air escalators or stairs at the four Downtown San Francisco BART stations along Market Street. The proposed project also includes the replacement/refurbishment of escalators which provide a vertical conveyance for pedestrians from the street level to the concourse level of the stations. The escalators were evaluated as contributing to the integrity of the Market Street Cultural Landscape. The selected canopy design is intended to be employed in a programmatic manner, with common design features and signage that consist of the protected canopy enclosed with glass to facilitate views. The canopy designs will exhibit some minor variation among stations, such as the Civic Center/UN Plaza station entrance/exit to UN Plaza (Canopy 19) which would be larger than typical. While every effort will be made to avoid existing street trees in proximity to the canopies, the proposed project may result in up to 54 potential tree conflicts that would require pruning or removal.

The analysis of project impacts to historical resources assesses the nature of specific physical alterations to the historic integrity (i.e. design, workmanship, location, association, feeling, setting, and materials) of identified historical resources. For the purposes of this section the CEQA historical resources are divided into two categories: individual historic buildings, structures, and objects; and cultural landscapes and historic districts. This organizational structure helps to differentiate between the types of resources that would experience indirect impacts from the proposed project from resources that would experience direct impacts from the proposed project.

<u>Impacts to CEQA Historic Architectural Resources (Buildings, Structures, and Objects)</u>

Sixteen individual CEQA historical resources, as identified in Table 3 above, are in close proximity to one or more of the proposed canopies. The historic architectural resources date from a variety of different chronological periods and convey different periods of significance that are related to variety of historic themes including architecture, social, cultural, and political events, and important individuals associated with San Francisco's history. The significance of these resources is considered on an individual basis rather than as a group and they have existed within a dynamic urban streetscape environment that has undergone changes and

evolution in appearance over time. These resources retain their significance despite those changes.

Most existing streetscape elements post-date the respective periods of significance of these 16 individual CEQA historical resources and thus do not contribute to their respective historic significance. Given the aggregate impact of lost streetscape elements from the period of significance for individual historical resources situated along Market Street, as well as the addition of post-Market Street Redevelopment Plan features, the physical environment surrounding these resources already exhibits diminished historical integrity. The introduction of canopies over the existing entrances/exits and potential tree removals would change the setting of the individual resources located near the proposed project; but due to the pre-existing diminishment to this aspect of integrity (setting) for these resources, indirect project impacts that would diminish the integrity of the 16 individual historical resources are not expected. Furthermore, the construction and installation of the canopies would use standard construction methods that would not directly impact these resources. The presence of the canopies would not materially alter in an adverse manner those physical characteristics of the 16 individual historical resources that convey their historical significance and no impact would result.

Impacts to CEQA Historic Architectural Resources (Historical Districts and Cultural Landscapes)

Historic Districts

The Market Street Theatre and Loft District, the Kearny-Market-Mason-Sutter Conservation District, and the New Montgomery-Mission-Second Street Conservation District are historical districts that are recognized for their association with significant events and for their architectural composition and cohesion. Records associated with the identification and/or designation of these historical resources provide little detail on whether the public right-of-way contributes to the significance to these resources. As with the individual resources, the periods of history when the contributors to these districts were constructed and gained significance do not relate to the existing setting and fabric of their respective streetscapes within the project site due to the Market Street's evolution over time and by its comprehensive redevelopment completed in 1979. Due to loss of historical integrity within the streetscapes of these three districts, project effects that appreciably diminish the historical integrity associated with these three historic districts are not expected and no impact would occur.

The proposed project has the potential for indirect and direct impacts to the San Francisco Civic Center Historic District. The proposed project would require alteration of the existing open entrance/exit that extends down to the Civic Center/UN Plaza Station at UN Plaza by adding an open air canopy (Canopy 19) over the entrance/exit. Due to spatial conflicts, two of the seven trees that compose the south portion of the allee of trees along the Fulton Promenade within UN Plaza

may require removal from the associated raised planting bed. The Cultural Landscape Inventory for the SFCC notes that the planting area (1936) with stairs and escalator (1975) would not be contributors to the district as it appears this planting bed was altered from its original 1936 appearance when the stairs and escalator were constructed (MIG, 2015). Historic photographs from 1979 show that the trees within the planting beds along the Fulton Promenade were likely planted following the Market Street Redevelopment Plan in the 1970s and thus outside of the Historic District's period of significance.

In addition to Canopy 19 over the UN Plaza entrance/exit, canopies would be erected over the Civic Center/UN Plaza Station entrances/exits at the corner of Market Street and Hyde Street (Canopy 21), as well as at Market Street and Charles J. Brenham Place/7th Street (Canopy 18). Both of these entrances/exists are within the Civic Center Historic District. For the entrance/exit at Market Street and Hyde Street (Canopy 21), one tree poses a potential conflict; while the entrance/exit at Market Street and Charles J. Brenham Place/7th Street (Canopy 18) would have four potential conflicts with trees, all of which may require removal. All of the trees that pose potential spatial conflicts for these two canopies were installed in the 1970s and thus would fall outside of the Period of Significance for the San Francisco Civic Center Historic District (1896-1951). Features included in the proposed project, therefore, would not have direct impacts to the San Francisco Civic Center Historic District as they would be constructed over existing structures that do not contribute to the significance of the district. The potential removal of trees near the station entrances/exits within the district along Market Street would not impact the district's integrity of setting as much of the streetscape along Market Street was substantially altered in the 1970s as a result of the Market Street Redevelopment Plan.

The potential project-related removal of two of the seven trees that form a portion of the allee along the Fulton Promenade would alter a non-contributing planting bed to the district. While an allee of trees was present during the period of significance, the retention of five of the seven trees at the eastern terminus of the allee would provide sufficient continuity of natural materials to convey the alignment of trees that were present within the district prior to the Market Street Redevelopment Plan. The UN Plaza canopy (Canopy 19) would not obstruct or fragment the viewshed of pedestrians moving west towards City Hall along the Fulton Promenade as the drip edges of the UN Plaza portal canopy would be recessed approximately eight feet from the current trunks of the tree allee. The edge of portal canopy would lie parallel to the Fulton Promenade thus reinforcing the linear movements of this space as it is viewed by pedestrians. These changes would not materially alter in an adverse manner those physical characteristics of the San Francisco Civic Center Historic District that convey its historical significance and no impact would occur.

Cultural Landscapes

There are three cultural landscapes that encroach into the project site - the Market Street Cultural Landscape, Civic Center Cultural Landscape, and UN Plaza (ICF, 2017). Since the period of significance for the Civic Center Historic District has yet to be extended in the 1970s and thus covering modifications within the district related to the Market Street Redevelopment Plan, the impacts to the Civic Center Cultural Landscape is assessed below as a part of UN Plaza since the plaza is located within the Civic Center Historic District and directly associated with that phase of the district's development.

For assessing the impacts to these cultural landscapes, 10 landscape characteristic categories have been identified that help to convey their overall integrity and nascent qualities.[8] They 10 landscape characteristic categories include:

- **Natural Systems and Features**. Natural aspects that often influence the development and resultant form of the landscape.
- **Spatial Organization**. Arrangement of elements creating the ground, vertical, and overhead planes that define and create spaces.
- **Cluster Arrangements**. Location of buildings and structures in the landscape.
- **Circulation**. Spaces, features, and materials that constitute systems of movement.
- **Topography**. Three-dimensional configuration of the landscape surface characterized by features and orientation.
- **Vegetation**. Indigenous or introduced trees, shrubs, vines, ground covers, and herbaceous materials.
- **Buildings and Structures**. Three-dimensional constructs such as houses, barns, garages, stables, bridges, and memorials.
- **Views and Vistas**. Features that create or allow a range of vision, which can be natural or design and controlled.
- **Constructed Water Features**. Built features and elements that utilize water for aesthetic or utilitarian functions.
- **Small-Scale Features**. Elements that provide detail and diversity combined with function and aesthetics.

When considering project elements and their potential impacts, the proposed project is not anticipated to affect natural systems and features, topography, and constructed water features as the proposed project would not affect the sunlight

[8] These 10 landscape characteristic categories are used by the National Park Service to evaluate the components of cultural landscapes. See Secretary of the Interior's Standards for the Treatment of Historic Properties with Guidelines for Treatment of Cultural Landscapes (Birnbaum n.d.); National Register Bulletin 18: How to Evaluate and Nominate Designed Historic Landscapes (Keller et al. 1987), A Guide to Cultural Landscape Reports: Contents, Process, and Techniques (Page et al. 1998) and National Park Service Cultural Landscapes Inventory Professional Procedures Guide (Page et al. 2009).

channeled through the northern diagonal street grid into rectangular plazas, nor would it involve indirect or direct modifications to the topography or water features.

Cultural landscape conservation standards and guidelines generally acknowledge that change is inherent in landscapes as they are often composed of living natural elements that experience modifications over time and have life span horizons. Likewise, change within important cultural landscapes has traditionally been managed by maintaining continuity in form, order, use, features, and materials (Birnbaum, n.d.).

Market Street Cultural Landscape and UN Plaza. The Market Street Cultural Landscape consists of three separate thematic areas of significance with their own respective periods of significance; Market Street as Venue for Civic Engagement in San Francisco (1870s-1979), Main Circulation Artery and Facilitator of Urban Development (1847-1929), and Market Street Redevelopment Plan Designed Landscape (1979)**.** The proposed project has the greatest potential to affect the Market Street Redevelopment Plan Designed Landscape and streetscape components related to Market Street as Venue for Civic Engagement in San Francisco. The proposed project has the potential to alter components of the designed landscape that are most closely aligned to these historic themes and thus potentially affecting the respective landscapes' ability to physically convey its associations with the historic events that occurred there. The proposed project is unlikely to appreciably affect the large and small scale landscape components associated with the Main Circulation Artery and Facilitator of Urban Development theme as the landscape elements affected by the proposed project were largely designed and built outside of the period of significance for this theme. Furthermore, the proposed project would not appreciably alter the larger scale and smaller scale elements that characterize this landscape's historical importance.

The proposed project would impact some character-defining features associated with the Market Street as Venue for Civic Engagement in San Francisco and the Market Street Redevelopment Plan Designed Landscape which includes UN Plaza. This impacts analysis takes into account UN Plaza's status as an individual historical resource as well as a contributor to the Market Street Cultural Landscape and Civic Center Cultural Landscape. Components included in the proposed project would be constructed within the 2.2 mile long corridor of the Market Street Cultural Landscape's identified boundaries. Landscape components identified within that boundary of the cultural landscape (which includes the applicable components identified in UN Plaza) are included in the following impact analysis.

- **Spatial Organization**. The proposed project would not affect street alignments or the separation of pedestrian, vehicle, and rail transportation modes within Market Street or UN Plaza.

- **Cluster Arrangement**. The proposed project would serve to reinforce the arrangement of BART/Muni station entrances/exits along the length of the

Market Street by creating a consistent and unifying canopy design that could be repeated for the 22 entrances/exits. The repeating pattern of station canopies would reinforce the programmatic design intentions for transportation facilities envisioned in the Market Street Redevelopment Plan design. Individual trees within larger alignments of single or double aligned tree rows would be removed due to conflicts with station canopies. These trees are typically situated at the end of the tree rows; thus their removal would avoid the interruption (or gap-toothing) of these tree alignments along the sidewalks.

- **Circulation**. The proposed project would alter vertical circulation features on a temporary basis at the 22 entrances/exits to allow for construction of the canopies and the replacement/refurbishment of the escalators. Construction-related closure periods would not exceed 150 days for the construction of the canopies followed by a closure of approximately 120 days for escalator replacement/refurbishment. While multiple entrances/exits may be closed simultaneously at the four different stations along Market Street, only one station entrances/exits would be under construction at any one station at any time. The replacement/refurbishment of the escalators would not impact the integrity of the landscape as these mechanisms have been systematically upgraded and/or repaired since their installation. Furthermore, the mechanisms are not specifically noted in the ICF evaluation report as contributing to the integrity of the district. Their importance is as a distinctive type of pedestrian transport as opposed to the physical fabric of the mechanisms themselves.

  The construction of Canopy 19 would alter the tree allee situated within UN Plaza along the Fulton Promenade due to the removal of at least two of the seven trees along the south side of the allee. An additional four trees along the allee would be pruned on their south facing sides to accommodate the canopy and construction. However, the removal of two trees would not alter circulation patterns as the trees are situated in a raised planting bed and away from pedestrian movements. The vegetated wall of the allee would be modified slightly near the station but would resume mid-block and provide a backdrop of visual continuity in terms of vegetation.

  The removal of trees in close proximity to the 21 remaining canopies could potentially improve circulation around the canopy installation locations by removing street-level obstacles to pedestrians entering or exiting the stations.

- **Vegetation**. Construction of the canopies may result in spatial conflicts with street trees and require the removal of conflicting trees that are associated with the Market Street Redevelopment Plan design. The Tree Preservation and Potential Construction Conflict Study identified 54 trees with potential conflicts that may require removal (VIA Architecture, 2017). Of these 54

trees, 16 were rated as being dead, in severe decline, or in decline; 30 were rated as being trees with moderate vigor; and 8 were rated as trees with a slight decline in vigor or healthy vigorous trees (Hort Science, 2016). Tree removals would be minimized during final design to the greatest extent feasible. A tree inventory performed along the entire 2.2 mile long study area for the Market Street Cultural Landscape identified approximately 1,069 trees within the Market Street Cultural Landscape and 68 empty tree wells. The proposed project would therefore potentially affect approximately 5 percent of the existing trees along the Market Street Cultural Landscape. The tree removals would occur in focused areas around the 22 canopy locations scattered along the 2.2 mile long Better Market Street ~~p~~Project corridor thus minimizing the overall visual impacts of the tree removals.

- **Buildings and Structures**. The proposed project would affect the open uncovered entrances/exists associated with the original station designs. Potential impacts to the original design would be minimized by use of a compatible design composed of transparent glass, open space, and an elevated flat roof with a minimal profile at the drip edge. While altering a character-defining feature of the Market Street Redevelopment Plan design, the canopies would protect the escalators and pedestrians, thereby improving circulation by diminishing the long-term impacts resulting from frequent escalator closures due to mechanical failures caused by exposure to weather and street debris. The standardized designs of the canopies (with some degree of design variation due to varying site conditions such as the larger portal at UN Plaza) would reinforce the repeating pattern of the entrances/exits along the length of Market Street. The portals would still have elements of its open air character (as enabled by the partial glass and open walls) to reflect the original design intent of the implemented Market Street Redevelopment Plan.

- **Views and Vistas**. The design of the canopies has been developed to minimize potential impacts to existing views and vistas along Market Street. Impacts to views and vistas would occur in focused areas around the 22 canopy locations scattered along the corridor, but the impact from canopies would be minimal due to the use of transparent glass, open air spaces below the canopy drip lines, and the flat profile of the canopy roof. The removal of trees near the canopies could improve views along Market Street and serve to reinforce the repeating patterns and programmatic approach to the entrance/exit design. Due to the minimalist designs of the canopies, the broad vistas looking down Market Street would not be substantively obstructed beyond existing conditions.

  At least two trees located along the Fulton Promenade allee would require removal in order to construct and install Canopy 19. An additional four trees would likely require pruning on their south sides in order to minimize conflicts

with this canopy. The removal of two of seven trees in the planter just north of the UN Plaza entrance/exit and on the south side of the Fulton Promenade would not obstruct or fragment existing pedestrian views looking towards City Hall. The retention of five of the seven trees on the south side would provide sufficient continuity of natural materials to convey the alignment of trees that were installed as a result of the implementation of the Market Street Redevelopment Plan design. The loss of these two trees would also be mediated somewhat by the existing granite columns along the Fulton Promenade that create an additional rhythmic pattern that reinforces the vista towards City Hall. Additionally, the vegetated wall of the allee resumes mid-block with a double row of trees to provide a linear backdrop of visual continuity. The construction of Canopy 19 would not obstruct or fragment pedestrian views moving west towards City Hall or coming east along the Fulton Promenade as the drip edges of the canopy would be recessed approximately eight feet from the current trunks of the tree allee. The long edge of the canopy would also lie parallel to the Fulton Promenade thus reinforcing the linear movements of this space as it is viewed by pedestrians. The open air canopy structure would further minimize its visual presence above the open air entrance/exit at eye level.

- **Small-Scale Features**. As a result of potential tree removals, there is a potential for the associated bronze tree grates to be removed to improve pedestrian safety. The tree grates are contributing elements within the landscape designs of the Market Street Redevelopment Plan Designed Landscape and UN Plaza. Therefore, the tree grates would be left in place after tree removal and the interstices between the tree grates would be filled with compacted crushed rock/soil or paving that would to match the existing sidewalk paving. Other small-scale features such as granite bollards, street elevators, bronze clocks, street signage, semaphore traffic signage and traffic lights, stone monuments, granite paving, flag poles with radia base designs, and other small scale features from earlier historical periods such as the Path of Gold Light Standards would not be affected by the proposed project.

As described above, the proposed project would alter the historical integrity of several aspects related to the Market Street as Venue for Civic Engagement, Market Street Redevelopment Plan Designed Landscape, as well as UN Plaza. However, the proposed canopies' programmatic and relatively standardized design approach, design compatibility, and minimalist visual lines and transparent materials would minimize impacts to the overall character of the Market Street Redevelopment Plan Designed Landscape and Market Street as Venue for Civic Engagement Landscape. The potential loss of trees along Market Street is minimal when compared to the existing number of trees along Market Street. In addition, the decentralized location of potential tree removals would minimize the impact across the 2.2 miles of the Market Street Redevelopment Plan Designed Landscape corridor and the impact would be less than significant.

Overall, the proposed project's potential alterations to historical resources in the vicinity of the project site would not sufficiently diminish or materially alter in an adverse manner those physical characteristics of the 16 individual historical resources, four historic districts, and three cultural landscapes (which includes UN Plaza as an individual historical resource and as a contributor to the Market Street Cultural Landscape and Civic Center Cultural Landscape) that convey their respective historical significance. The proposed project would therefore not result in a substantial adverse change to the significance of a historical resource and would have a **less-than-significant impact** on historical resources.

b Change in the Significance of an Archaeological Resource: No Impact

According to the archival research conducted for the proposed project, the only archaeological resource that is within the CEQA study area (CA-SFR-28/ P-38-000028) was located within the footprint of the Civic Center/UN Plaza Station over 70 feet below the street surface. This resource and the layers of artificial fill and Bay Mud in between its location and the street surface were excavated and redeposited during the construction of the station. The relatively shallow depth of disturbance for the proposed project (six to ten feet below the sidewalk) would occur in previously disturbed soils within the footprint of the original station excavations at each entrance/exit, and will be contained to artificial fill soils. As such, the proposed project would have **no impact** on archaeological resources pursuant to CEQA Guidelines Section 15064.5.

c. Human Remains: No Impact

Based on a records search and background research, the Yerba Buena Cemetery and CA-SFR-28/P-38-000028 are the only archaeological resources within the CEQA study area, located within the footprint of the Civic Center/UN Plaza Station. Burials at the Yerba Buena Cemetery were reportedly buried 13 feet below street level and were removed in 1871, while CA-SFR-28/P-38-000028 was buried over 70 feet below the street level and removed in 1969. The relatively shallow depth of disturbance for the proposed project would occur in previously disturbed soils within the footprint of the original station excavation. As such, the proposed project would have **no impact** on human remains pursuant to CEQA Guidelines Section 15064.5.

d. Change in the Significance of a Tribal Cultural Resource: No Impact

Tribal cultural resources are: 1) sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American tribe that are listed, or determined to be eligible for listing in the CRHR, or local register of historical resources, as defined in Public Resources Code (PRC) Section 5020.1(k); or 2) a resource determined by the CEQA Lead Agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in PRC Section 5024.1(c). For a cultural landscape to be considered a tribal cultural resource, it must be geographically defined in terms of the size and scope of the

landscape (PRC Section 21074[b]). Also, an historical resource, as defined by PRC Section 21084.1, unique archaeological resource, as defined in PRC Section 21083.2(g), or non-unique archaeological resource, as defined in PRC Section 21083.2(h), may also be a tribal cultural resource.

Assembly Bill (AB) 52, approved in September 2014, and effective July 2015, establishes a formal consultation process for California Native American tribes to identify potential significant impacts to tribal cultural resources, as defined by the CEQA statute (PRC Section 21074). AB 52 applies to projects that file for a Notice of Preparation or Notice of Negative Declaration/Mitigated Negative Declaration on or after July 1, 2015. Lead agencies must provide notice to tribes that are traditionally and culturally affiliated with the geographic area of a proposed project if the tribe has submitted written request to be notified. The tribe must respond to the lead agency within 30 days of the receipt of notification if it wishes to engage in consultation on the proposed project. The lead agency must begin the consultation process within 30 days of receiving the request for consultation.

To determine if the Native American community was aware of any undocumented prehistoric sites, features, artifacts, or other culturally sensitive properties within or near the project site, AECOM contacted the NAHC requesting a search of the SLF and a list of appropriate Native American tribal representatives and organizations that might have an interest in, or concerns with, the proposed project. The NAHC responded that no culturally sensitive properties were located within or near the project site. All tribes listed by the NAHC were contacted for the proposed project. AECOM sent letters to the following individuals and groups in February 2018:

- Tony Cerda, Chairperson (Costanoan Rumsen Carmel Tribe)
- Irene Zwierlein, Chairperson (Amah Mutsun Tribal Band of Mission San Juan Bautista)
- Rosemary Cambra, Chairperson (Muwekma Ohlone Indian Tribe of the San Francisco Bay Area)
- Andrew Galvan (The Ohlone Indian Tribe)
- Ann Marie Sayers, Chairperson (Indian Canyon Mutsun Band of Costanoan)

No tribes contacted requested further consultation under AB 52.

Based on the results of correspondence with the NAHC and the NWIC records search, no known tribal cultural resources listed or determined eligible for listing in the CRHR, or included in a local register of historical resources as defined by PRC Section 5020.1(k), pursuant to PRC Section 21074(a)(1), would be impacted by the proposed project. In addition, BART did not determine any resources that could potentially be affected by the proposed project to be a tribal cultural resource significant pursuant to criteria set forth in PRC Section 5024.1(c). Therefore, the proposed project is not anticipated to impact any such resources and **no impact** would result.

5.6 Geology and Soils

Would the project:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less-Than-Significant Impact	No Impact
a. Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:				
i. Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.	❑	❑	❑	■
ii. Strong seismic ground shaking?	❑	❑	■	❑
iii. Seismic-related ground failure, including liquefaction?	❑	❑	■	❑
iv. Landslides?	❑	❑	❑	■
b. Result in substantial soil erosion or the loss of topsoil?	❑	❑	❑	■
c. Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?	❑	❑	❑	■
d. Be located on expansive soil, as defined in Table 18-1-B of the California Building Code (1998), creating substantial risks to life or property?	❑	❑	❑	■
e. Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?	❑	❑	❑	■
f. Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	❑	❑	❑	■

Setting

The project site is in the City of San Francisco, where multiple earthquake faults occur at the intersection of the North American and Pacific tectonic plates. The nearest earthquake fault, the San Andreas Fault, is about 7.5 miles west of the project site (USGS, 2018). According to the California Geological Survey, the project site is not within a landslide hazard zone due to the flat terrain of the project site (CGS, 2000).

Geologic maps prepared by the U.S. Geological Survey (USGS) show the distribution of geologic materials in the area are dominated by Merritt sands from the Holocene and Pleistocene era, which accumulated from the San Francisco Bay and led to the formation of the underlying soils at the project site. The soil map units mapped by the Natural Resource Conservation Service (NRCS) show the project site to be classified as urban land, which does not expand or shrink in size when water is introduced (NRCS, 2015).

Discussion

a.(i) Fault Rupture: No Impact

Alquist-Priolo Earthquake Fault Zones are areas surrounding active earthquake faults with higher potential hazards related to fault rupture from an earthquake. These zones are used by cities and counties to regulate development by preventing buildings for human occupancy from being built on top of a fault. Based on information from the California Geological Survey's regulatory fault zone map for the San Francisco North quadrangle, the project site is not within an Alquist-Priolo Earthquake Fault Zone (CGS, 2000). The closest active fault is the San Andreas Fault, approximately 7.5 miles west of the project site. Therefore, the proposed project would not expose people or structures to potential adverse effects from a rupture of a known earthquake fault. **No impact** would occur.

a.(ii) Groundshaking: Less-than-Significant Impact

Earthquakes can be measured by magnitude and intensity. Magnitude identifies the total amount of energy released during an earthquake, and intensity describes the effects of an earthquake on structures, humans, and the environment. Moment magnitude commonly is used to report the "size" of an earthquake. According to USGS, the overall probability of a moment magnitude 6.7 or greater earthquake (an earthquake causing significant damage in a populated area) occurring in the San Francisco Bay Region during the next 30 years is 63 percent (USGS 2008). Therefore, the potential exists that a strong to very strong earthquake would affect the proposed project during its lifetime.

A commonly used descriptor for an earthquake's intensity is the Modified Mercalli Intensity scale, which indicates the results of an earthquake, based on 12 different levels of intensity. USGS identifies the Modified Mercalli Intensity shaking severity level of the project site as level 8, "Very Strong," which indicates "considerable damage to ordinary buildings," "severe damage to poorly built structures," and "some walls collapse" (ABAG 2015; MTU 2007). This rating indicates that the project site would experience periodic minor or major earthquakes associated with a regional fault, resulting in very strong groundshaking.

Although a high potential exists for strong seismic groundshaking, the risk of excessive permanent damage would be reduced because the proposed canopies would comply with seismic safety standards of the California Building Code (CBC)

and BFS. The CBC contains design and construction standards to ensure buildings and structures are able to withstand seismic hazards and groundshaking and address different types of construction, excavation, fill, grading, expansive soil, and foundation design and construction. These standards reduce risk to a level considered acceptable to those in the building industry. The general design policy of the BFS Structural Criteria for Seismic Design incorporates the relevant seismic safety provisions of the CBC, ensuring that the structures built for BART projects are designed to withstand seismic events, along with other professional industry standards. BART design criteria require that all operating facilities, such as the proposed canopies, be designed to withstand the effects of the Maximum Credible Earthquake (the greatest probable earthquake that could occur in a region) without substantial degradation of structural integrity.

Because BART must comply with these design standards and building and safety codes in the installation of the canopies over the entrances/exits and the replacement/refurbishment of existing street-level escalators , the proposed project is not expected to expose people or structures to substantial risks associated with strong seismic groundshaking. The impact from groundshaking would be **less than significant**.

a.(iii) Ground Failure: Less-Than-Significant Impact

According to the California Geologic Survey, sections of the project site are located within a liquefaction zone, which are areas where “historical occurrence of liquefaction, or local geological, geotechnical and ground water conditions indicate a potential for permanent ground displacements such that mitigation as defined in Public Resources Code Section 2693(c) would be required” (CGS, 2000). Under California PRC Section 2693(c), mitigation is defined as “measures that are consistent with established practice and that will reduce seismic risk to acceptable levels” (California PRC § 2693.c).

Construction of any BART project is required to comply with seismic safety standards of the CBC and the BFS. These standards are consistent with established practice and contain design and construction mitigation measures to ensure buildings and structures are able to withstand seismic-related ground failure such as liquefaction. These standards reduce risk to a level considered acceptable to those in the building industry. As described above, the general design policy of the BFS Structural Criteria for Seismic Design incorporates the relevant seismic safety provisions of the CBC, ensuring that the structures built for BART projects are designed to withstand seismic events, along with other professional industry standards. Because construction of the proposed project would follow the seismic safety standards of the CBC and BFS, which would reduce the risk associated with exposing people or structures to risks associated with liquefaction or ground failure, impacts would be **less than significant**.

a.(iv) Landslides: No Impact

As shown on the California Geological Survey's regulatory fault zone map for the San Francisco North quadrangle, prepared under the Alquist-Priolo Earthquake Fault Zoning Act of 1972 and the Seismic Hazards Mapping Act of 1990, the project site is not in an area exposed to risk of landslides (CGS, 2000). This classification reflects the flat terrain of the project site and vicinity and the absence of nearby slopes that would cause the area to be susceptible to ground movement or failure. Therefore, the proposed project would not expose people or structures to potential substantial adverse effects involving landslides. **No impact** from landslides would occur.

b. Erosion: No Impact

The proposed project would not involve the substantial removal of soil from the site. The only soil removed during construction would be minor amounts from the above ground tree wells and some soil from excavations associated with construction of canopy footings within the existing footprints fo the BART stations. Virtually all of the subsurface work would take place within the existing existing footprints fo the BART stations and would not disturb soils at the project site or within the streets. Therefore, **no impact** from substantial soil erosion would occur.

c. Unstable Geologic or Soil Units: No Impact

As described under Item a(iii), sections of the project site are located where historical occurrence of liquefaction or local geological, geotechnical, and groundwater conditions indicate a potential for permanent ground displacements. However, standards and provisions of the CBC and the BFS would require structural design to avoid and minimize potential ground failure. Therefore, the proposed project would be constructed so as to not result in on or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse. **No impact** associated with unstable geologic or soil units would occur.

d. Expansive Soils: No Impact

According to the Web Soil Survey tool from the California Department of Conservation, the soils at the project site are classified as Urban Land (NRCS, 2015). These soils are not classified as expansive. Therefore, **no impact** from expansive soils would occur.

e. Soil Suitability for Septic Systems: No Impact

The proposed project would not involve the use of septic systems. Therefore, **no impact** from use of septic or alternative wastewater systems would occur.

f. Unique Paleontological or Geologic Resource: No Impact

A search of the University of California Museum of Paleontology (UCMP) database was conducted and no paleontological resources have been mapped within the project site or vicinity (UCMP, 2018). Geologic and soil maps were reviewed to determine the paleontological sensitivity of the project site (Knudsen et al., 1997; NRCS, 2018). Geologic maps indicated the majority of the project site is underlain by artificial fill, with portions of the Montgomery Street, Powell Street, and Civic Center/UN Plaza Stations underlain with Holocene dune and beach sand (Qhs), and a portion of the western half of the Powell Street Station underlain by Pleistocene-age alluvial deposits (Qoa), which have a high paleontological sensitivity (Knudsen et al., 1997; SVP, 2010).

Given the previous disturbance to the project site during construction of the BART stations and the relatively shallow depth of disturbance, the proposed project would have **no impact** on any paleontological resources pursuant to CEQA Guidelines Section 15064.5.

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5.7 Greenhouse Gas Emissions

Would the project:	Significant or Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less-Than-Significant Impact	No Impact
a. Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	❑	❑	■	❑
b. Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	❑	❑	■	❑

Setting

Certain gases in Earth's atmosphere, classified as greenhouse gases (GHGs), play a critical role in determining the Earth's surface temperature. A portion of the solar radiation that enters the Earth's atmosphere is absorbed by the Earth's surface, and a smaller portion of this radiation is reflected back toward space. Infrared radiation is absorbed by GHGs; therefore, infrared radiation released from Earth that otherwise would have escaped back into space is instead "trapped," resulting in a warming of the atmosphere. This phenomenon, known as the "greenhouse effect," is responsible for maintaining a habitable climate on Earth.

GHGs are present in the atmosphere naturally, are released by natural sources and anthropogenic sources, and are formed from secondary reactions taking place in the atmosphere. The following GHGs are widely accepted as the principal contributors to human-induced global climate change that would be relevant to the proposed project: carbon dioxide (CO_2); methane (CH_4); and nitrous oxide (N_2O). Emissions of CO_2 are byproducts of fossil fuel combustion. CH_4 is the main component of natural gas and is associated with agricultural practices and landfills. N_2O is a colorless GHG that results from industrial processes, vehicle emissions, and agricultural practices.

Global warming potential (GWP) is a concept developed to compare the ability of each GHG to trap heat in the atmosphere relative to CO_2. The GWP of a GHG is based on several factors, including the relative effectiveness of a gas to absorb infrared radiation and length of time (i.e., lifetime) that the gas remains in the atmosphere atmospheric lifetime. The reference gas for GWP is CO_2; therefore, CO_2 has a GWP of 1. The other main GHGs that have been attributed to human activity include CH_4, which has a GWP of 28, and N_2O, which has a GWP of 265 (IPCC 2013). For example, 1 ton of CH_4 has the same contribution to the greenhouse effect as approximately 28 tons of CO_2. GHGs with lower emissions rates than CO_2 still may contribute to climate change, because they are more effective at absorbing outgoing infrared radiation than CO_2 (i.e., high GWP). The concept of CO_2-equivalents (CO_2e) is used to account the different GWP potentials of GHG to absorb infrared radiation.

Discussion

a. Greenhouse Gas Emissions: Less-than-Significant Impact

Construction. Off-road equipment, materials transport, and worker commutes during construction of the proposed project would generate GHG emissions. Total project construction GHG emissions were estimated using the methodology discussed in Section 5.3, Air Quality. The total estimated construction-related emissions for construction of all 22 canopies and the replacement/refurbishment of 22 escalators would be approximately 1,231 metric tons (MT) CO_2e over 7 years. Additional modeling assumptions and details are provided in Appendix A.

The Bay Area Air Quality Management District (BAAQMD) has not adopted thresholds for evaluating GHG emissions from construction activities. However, BAAQMD recommends that the lead agency quantify and disclose GHG emissions that would occur during project construction, and make a determination on the significance of these construction-generated GHG emission impacts in relation to meeting Assembly Bill (AB) 32 GHG reduction goals. In 2006, California passed the California Global Warming Solutions Act of 2006 (AB 32; California Health and Safety Code Division 25.5, Sections 38500, et seq.). AB 32 requires that statewide GHG emissions be reduced to 1990 levels by 2020.

Direct comparison of construction GHG emissions with long-term thresholds would not be appropriate because these emissions would cease on completion of construction. Other districts (e.g., South Coast Air Quality Management District; San Luis Obispo County Air Pollution Control District) recommend that GHG emissions from construction activities be amortized over a project's operational lifetime (typically assumed to be 30 years) for comparison with long-term GHG emissions significance thresholds. For comparison to the BAAQMD operational GHG threshold, construction emissions were amortized over the estimated lifetime of the proposed project. The amortized construction emissions for the proposed project were estimated at 41 MT CO_2e per year (1,231 MT CO_2e divided by 30 years).

Operations. Operation of the proposed project is not anticipated to generate any additional activities related to maintenance or operations that would exceed existing conditions. Therefore, the construction-related GHG emissions of 41 MT CO_2e per year would not exceed any of the adopted or recommended thresholds of significance discussed earlier in this section. As such, the proposed project would not generate GHG emissions that would have a significant impact on the environment. The impact would be **less than significant**.

b. Conflict with any Plan, Policy or Regulation to Reduce Emissions of Greenhouse Gases: Less-than-Significant Impact

AB 32 establishes regulatory, reporting, and market mechanisms to achieve quantifiable reductions in GHG emissions and establishes a cap on statewide GHG emissions. It requires that statewide GHG emissions be reduced to 1990 levels by 2020. In December 2008, the Air Resources Board (ARB) adopted its Climate Change Scoping Plan (Scoping Plan), which contains the main strategies California will implement to achieve the required GHG reductions required by AB 32 (ARB, 2014).

In 2008 and 2014, ARB approved the Scoping Plan and the first update to the Scoping Plan, respectively (ARB, 2008; 2014). In 2016, the State Legislature passed Senate Bill (SB) 32, which established a 2030 GHG emissions reduction target of 40 percent below 1990 levels. In response to SB 32 and the companion legislation of AB 197, ARB approved the Final Proposed 2017 Scoping Plan Update: The Strategy for Achieving California's 2030 GHG Target in November 2017 (ARB, 2017). The 2017 Scoping Plan draws from the previous plans to present strategies to reaching California's 2030 GHG reduction target. None of these statewide plans or policies constitutes a regulation to adopt or implement a regional or local plan for reduction or mitigation of GHG emissions. In addition, it is assumed that any requirements formulated under the mandate of AB 32 and SB 32 would be implemented consistent with statewide policies and laws.

In 2013, the City of San Francisco released the 2013 Update to the Climate Action Strategy. The Climate Action Strategy includes communitywide strategies to address the following sectors: building energy, transportation, waste, urban forest, and municipal operations. The proposed project would be consistent with the strategy of expanding alternative transit infrastructure and optimizing transit system maintenance. Consistent with the Climate Action Strategy, the proposed project would enhance public transit service facilities and encourage the use of low-carbon transportation modes.

BART adopted a 2015 Strategic Plan and a revised Sustainability Policy in April 2017 to address goals and strategies for regional sustainability. The goals of the Sustainability Policy related to the proposed project include choosing sustainable materials, construction methods, and operations practices by (1) adopting standards, designing projects, and purchasing products and services to minimize ongoing maintenance and reduce waste, and (2) considering net embodied energy, incorporating efficient construction, deconstruction, and recycling practices, and including local businesses. The Sustainability Policy also includes a goal of providing clean and comfortable stations and trains that are easy to navigate, while functioning smoothly.

To implement the Sustainability Policy, BART prepared a Sustainability Action Plan in December 2017 that includes targets, current progress and future actions to integrate sustainability as a standard practice. The Sustainability Action Plan includes priority actions for Operations and Systems Resilience and Community Experience that are relevant to the proposed project. The specific actions include:

- MC 2. Update the BART BFS for Construction Activities
- SLU 1. Improve Station Character and Community Fit
- SLU 3. Connect to Community - Station Access
- PE 1. Create Cleaner Station Environments

Construction of the new canopies and escalator replacement/refurbishments would increase the reliability of the existing stations, ensure BART compliance with current State code that all new outdoor escalators be covered, and provide station entrances/exits with weather protection and enhanced security.

As mentioned above, the proposed project would not exceed emission thresholds adopted by BAAQMD and would be consistent with the goals and strategies of San Francisco's Climate Action Strategy and BART's Sustainability Action Plan. Therefore, the proposed project would not conflict with any applicable plans, policies, or regulations adopted for the purpose of reducing GHG emissions. The impact would be **less than significant**.

5.8 Hazards and Hazardous Materials

Would the project:	Significant or Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less-Than-Significant Impact	No Impact
a. Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	❑	❑	■	❑
b. Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	❑	❑	■	❑
c. Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	❑	❑	■	❑
d. Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	❑	❑	■	❑
e. Be located within an airport land use plan area or, where such a plan has not been adopted, be within two miles of a public airport or public use airport, and result in a safety hazard for people residing or working in the project area?	❑	❑	❑	■
f. Be located within the vicinity of a private airstrip and result in a safety hazard for people residing or working in the project area?	❑	❑	❑	■
g. Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	❑	❑	■	❑
h. Expose people or structures to a significant risk of loss, injury, or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?	❑	❑	❑	■

Setting

On-Site Hazardous Materials. Small quantities of hazardous materials associated with janitorial, maintenance, and repair activities (i.e., commercial cleaners, lubricants, paint) are currently stored at the four Downtown BART stations along Market Street.

Asbestos-containing materials (ACMs) have been used as fireproofing on structural steel members within the four Downtown San Francisco BART stations. ACMs were removed from three locations in the Powell Street Station during October and November of 2017 due to installation of new ceiling panels and lights in the station (BART, 2018). The material, while not a hazard when undisturbed, was removed and disposed per applicable safety regulations. ACMs may be present within other areas of the four Downtown San Francisco BART stations.

Nearby Hazardous Materials Sites. A search of available environmental records within a 1-mile radius of the project site was conducted by Environmental Data Resources, Inc. (EDR).[9] The EDR report lists standard environmental records (e.g., federal NPL site list or the federal CERCLIS list), additional environmental records (e.g., local brownfield list or local list of hazardous waste/contaminated sites), EDR high risk historical records, and EDR recovered government archives. The search distance was based on guidance from the American Society for Testing and Materials (ASTM). ASTM-recommended search distances vary based on the type of hazardous materials site. For instance, the ASTM recommends a 1-mile search distance for Federal and State National Priority List sites, and a 0.5-mile search distance for leaking underground storage tanks, voluntary cleanup sites, and brownfield sites.

The EDR report concluded that the project site itself was not listed in any of the databases included in the search. Recorded sites beyond the project site identified within the recommended search distances were further evaluated for the likelihood of hazardous substances or petroleum products to migrate toward the project site. Of the recorded sites within 1 mile, five were determined to be active and of potential concern in evaluating the proposed project's potential impacts related to hazardous materials because their project status is open and they are at elevations greater than the project site meaning contamination from these recorded sites could migrate towards the project site. These recorded sites are listed in Table 4. All five of the recorded sites appear on the California Leaking Underground Storage Tank (CA LUST) List. Based on the distance of these sites from the nearest proposed canopy, it is unlikely that any soil contamination would have migrated to the project site. Also, since groundwater is not anticipated to be encountered during construction, groundwater contamination is not considered an issue. As shown in Table 4, corrective action at 433 Kearny Street has been completed. Additional information about the remaining four sites is included below. See Appendix C for a complete list of recorded sites within a mile of the project site.

[9] For the purposes of this section, the project site is defined as Market Street from Spear Street to 8th Street.

Table 4. Recorded Sites of Potential Concern

Address	Proximity to Project Site (Approximate)	Status[1]
433 Kearny Street	1,300 Feet from Canopy 11	Open – May Be Eligible for Closure[1]
698 Bush Street	1,800 Feet from Canopy 15	Open – Site Assessment[2]
835 Bush Street	2,200 Feet from Canopy 16	Open – Site Assessment
150 Turk Street	1,000 Feet from Canopy 17	Open – Site Assessment
882 Geary Boulevard	2,500 Feet to Canopy 19	Open – Site Assessment

Source: EDR Summary Radius Map Report, BART Market St. Canopies San Francisco, CA 94102, Inquiry Number: 05175983.2r, February 21, 2018

Notes:

1. Corrective action at the Site has been determined to be completed and any remaining petroleum constituents from the release are considered to be low threat to Human Health, Safety, and the Environment. The case in GeoTracker is going through the process of being closed.
2. Site characterization, investigation, risk evaluation, and/or site conceptual model development are occurring at the site. Examples of site assessment activities include, but are not limited to, the following: 1) identification of the contaminants and the investigation of their potential impacts; 2) determination of the threats/impacts to water quality; 3) evaluation of the risk to humans and ecology; 4) delineation of the nature and extent of contamination; 5) delineation of the contaminant plume(s); and 6) development of the Site Conceptual Model.

698 Bush Street is listed as an open site on the EDR report with ongoing assessment. The underground storage tank (UST) (size not provided) previously containing fuel oil was removed from the commercial building on November 10, 2016. A letter of responsibility was issued to the responsible party on January 11, 2017. The letter of responsibility stated "Additional investigative and/or remedial activities is needed and will be required in order to certify that the proper corrective action was taken. Upon completion of adequate site assessment, the Local Oversight Program will issue a closure letter."

835 Bush Street is a residential property where a 1,500 gallon home heating oil UST was removed on September 6, 2016. It appears that the UST was abandoned at some point in time by filling with concrete (a common means of abandonment in the past but rarely allowed now) and was then subsequently excavated and removed in 2016. It was considered a soil-only case and no remedial action was required based on soil testing. A Remedial Action Completion Certification (No Further Action) letter was issued by the San Francisco Department of Public Health on March 14, 2017. It is considered unlikely that any soil contamination would have migrated to the project site.

150 Turk Street is a commercial property operated by City Tech Auto Body Service Center, an automobile collision repair shop. The site is listed as a LUST Cleanup Site on the EDR report and listed in Geotracker as Open – Site Assessment. No details (size of tank or contents) relative to the UST are available. The UST was listed as being removed on May 31, 2016. A letter of responsibility was issued to the responsible party on August 11, 2016. The letter of responsibility stated "Additional investigative and/or remedial activities is needed and will be

required in order to certify that the proper corrective action was taken. Upon completion of adequate site assessment, the Local Oversight Program will issue a closure letter."

882 Geary Street is a residential property listed as an open site on the EDR report with ongoing assessment. The UST (size not provided) previously containing fuel oil was removed from the residence on October 3, 2016. A letter of responsibility was issued to the responsible party on December 1, 2016. The letter of responsibility stated "Additional investigative and/or remedial activities is needed and will be required in order to certify that the proper corrective action was taken. Upon completion of adequate site assessment, the Local Oversight Program will issue a closure letter."

Construction projects in San Francisco that require building and grading permits and include the excavation of 50 cubic yards of soil or more within certain designated areas of the city are subject to Article 22A of the San Francisco Health Code (the Maher Ordinance) (SFDPH, 2018). Compliance requires the completion of a Phase 1 Environmental Site Assessment and, subject to the results of the Phase 1, a subsurface investigation and site mitigation plan. Of the 22 canopies included in the proposed project, up to 17 may be in areas subject to the Maher Ordinance. However, as a Special District, BART is exempt from local ordinances. Therefore, the Maher Ordinance would not apply to the proposed project. However BART would require that the construction contractor comply with BART's own BFS should the contractor encounter potentially contaminated soils during construction, as further described below under Items a and b.

Schools. There are six schools within 0.25 mile of the project site: Youth Chance High School, Marin Day School (Fremont Campus), Golden Gate University, San Francisco City Academy, De Marillac Academy, and C5 Children's School.

Airports. The airports closest to the project site are Oakland International Airport (approximately 11–12 miles southwest) and San Francisco International Airport (approximately 11–12 miles south). There are no private airstrips in the City/County of San Francisco. Therefore, the project site is not included in any airport land use plans or near a private airstrip.

Emergency Response or Emergency Evacuation Plans. The City and County of San Francisco Emergency Response Plan provides an all-hazards response and restoration plan describing the roles and responsibilities of responding agencies and how the City works with State and federal partners if an emergency were to occur. As part of an emergency management program, the San Francisco Department of Emergency Management (DEM) maintains a number of City-wide emergency plans to ensure that the City is ready to respond to hazards and threats. These plans are consistent with National Incident Management System (NIMS) and California's Standardized Emergency Management System (SIMS), and are coordinated with State and federal plans (City and County of San Francisco, 2017). To ensure the success of these plans during an emergency, key stakeholders from City agencies and non-governmental groups are involved in the development and exercise of these plans.

On a larger Bay Area scale, the 2008 Regional Emergency Coordination Plan established an all-hazards framework for collaboration among responsible entities and coordination during

emergencies in the San Francisco Bay Area. Spearheaded by the State Governor's Office of Emergency Services and local Bay Area governments, the plan builds on and complements other national and State emergency management systems and plans. Key elements of the plan address care and shelter, communications, medical and health services/facilities, and transportation. BART is recognized in the plan as a "regional organization" that has authority or may conduct operations across more than one county and provides liaison to one or more operational area emergency operation centers (CALOES, 2008).

In addition, in 2013 the Association of Bay Area Governments (ABAG) led a Regional Resilience Initiative, the goal of which was to improve the resilience of the Bay Area by planning to more quickly and efficiently recover from disasters, ranging from fires to earthquakes to flooding (ABAG, 2013). Convened over an 18-month period beginning in 2012, the Regional Resilience Initiative focused on regional efforts to expedite recovery informed through a series of workshops and policy papers. BART is recognized in the initiative as a critical component of the regional infrastructure, for which failure or significant damage could temporarily paralyze San Francisco or a wider regional area. BART was also a presenter in the workshops to educate participants in the Regional Resilience Initiative about how interdependencies of the region's utilities and transportation systems could impact recovery from a disaster.

Wildland Fire Hazards. The project site is within a developed, highly urbanized area in the City of San Francisco. Therefore, the project site does not fall within a wildfire hazard area or within a wildland/urban interface.

Discussion

a, b. Routine Handling of Hazardous Materials: Less-than-Significant Impact

Construction. A construction work area would be established by the contractor through the use of temporary barriers around each entrance/exit at the sidewalk and concourse levels to restrict entrance into the work sites by the general public. The primary structural elements of the canopies (including canopy finishes, glass, stainless steel column enclosures and fascia, and roof and gutters) would be prefabricated off-site for later assembly at the specific entrance/exit. Assembly would require on-site welding of the structural steel elements of the canopies. As such, the contractor would be required to identify the potential risk for fire damage and maintain a fire watch during any welding activities in compliance with BFS Section 05 05 22. Compliance with BFS Section 05 05 22 would minimize risk associated with welding activities.

iInstallation of the canopies would also disturb the ground surface for the installation of canopy footings. As described below, this ground disturbance could potentially expose construction workers, the public, and the environment to soil or groundwater contamination.

As described above, ACMs has been removed from three locations at the Powell Street Station. Potential removal of additional ACMs during construction of the

proposed project will be performed in compliance with BART procedures and BAAQMD Regulation 11 Rule 2 concerning asbestos demolition, removal, and manufacturing.

Hazardous Construction Materials. Construction and site preparation for the proposed project would involve the use of heavy equipment and vehicles containing fuel, oil, and grease, as well as materials such as cement, asphalt, paint, and solvents. Fluids such as oil or grease could leak from construction vehicles or could be released inadvertently in the event of an accident, potentially releasing petroleum compounds laden with metals and other pollutants.

BART construction contractors will be responsible for emergency plans during construction of the proposed project, and the BART System Safety Department will provide emergency support. Emergency plans during construction of the proposed project will outline procedures to ensure coordination with local jurisdictions in evacuating areas and notifying BART and emergency response personnel, if necessary. In addition, accidental release during construction would need to comply with applicable federal, State, and local regulations, including Titles 8, 22, and 26 of the Code of California Regulations, the Uniform Fire Code, and Chapter 6.95 of the California Health and Safety Code. Furthermore, the contractor would comply with specifications outlined in BFS Sections 01 35 24, 01 52 00, and 31 00 00, which would limit the potential for hazardous materials to be released into the environment.

Based on the above, the proposed project's potential to create a significant hazard to the public or the environment through the accidental release of hazardous materials during construction of the proposed project would be **less than significant**.

Operations. Following construction, relatively small quantities of hazardous materials associated with janitorial, maintenance, and repair activities (i.e., commercial cleaners, lubricants, paint) would continue to be used at the four BART stations in Downtown San Francisco along Market Street. BART operates a quarterly hazardous waste disposal program through the Environmental Compliance Division of BART's System Safety Department. Hazardous and nonhazardous wastes (including cleaning supplies, lubricants, and paint) at every BART service location are packaged according to EPA guidelines and are disposed of by a licensed contractor at approved disposal facilities in compliance with BFS Section 01 74 21. Copies of hazardous waste manifests are kept on file at BART. Compliance with the quarterly hazardous waste disposal program and applicable BFS would limit the accidental release of hazardous materials into the environment during operations and the impact would be **less than significant**.

c. Hazardous Materials Emissions near Schools: Less-than-Significant Impact

There are six schools within 0.25 mile of the project site: Youth Chance High School, Marin Day School (Fremont Campus), Golden Gate University, San Francisco City Academy, De Marillac Academy, and C5 Children's School. As described above,

construction and operation of the proposed project would not release hazardous substances into the environment. BART construction contractors would follow standard BART contract provisions regarding the appropriate handling, storage, and disposal of hazardous materials during construction. Compliance with BART and EPA regulations for the handling of potentially hazardous materials would limit their accidental release into the environment during operations Therefore, the impact of hazardous materials emissions on nearby schools would be **less than significant**.

d. Location on a Listed Hazardous Materials Site: Less-than-Significant Impact

The potential presence of hazardous materials sites compiled pursuant to Government Code Section 65962.5 (known as the "Cortese List") to occur within 0.25 mile of the project site was reviewed for this Initial Study as part of the records search conducted by EDR. The records search determined that the project site was not included on the Cortese List.

Contaminated Soils, Sediments, and Groundwater. As described above, there are five recorded sites within 1 mile of the project site determined to be active and of potential concern in evaluating the proposed project's potential impacts related to hazardous materials. As described above, one of these sites is eligible for closure meaning corrective action at the site is complete. The remaining four sites are being assessed for the identification of impacts and extent of contamination. As further described above, it is unlikely that any soil contamination would have migrated to the project site. Also, since groundwater is not anticipated to be encountered during construction, groundwater contamination is not considered an issue.

The four Downtown San Francisco BART/Muni stations were constructed via a cut and cover method, with native soils excavated followed by the construction of the stations. Once the stations were constructed below grade, they were covered with structural fill, road base, and then concrete sidewalks and asphalt street paving. Therefore, most of the soils existing before BART/Muni stations were built were removed at those locations.

It is possible that some original soils could be encountered at some of entrance/exit locations. However, the proposed project is being designed such that the canopy footings would utilize the existing station wall structure to avoid encountering subsurface utilities adjacent to the station entrances/exits. This design would also lessen the likelihood of encountering any potentially-contaminated, pre-station construction soils, if present.

Given the previous disturbance to the project site during construction of the BART/Muni stations and compliance with applicable BFS and other regulatory requirements, the proposed project would have a **less-than-significant impact** in regards to nearby hazardous material sites coming into contact with the project site.

e, f. Airport Hazards: No Impact

The project site is not in the vicinity of a public or private airport or within an airport land use plan. The airports closest to the project site are Oakland International Airport (approximately 11–12 miles southwest) and San Francisco International Airport (approximately 11–12 miles south). There are no private airstrips within the City/County of San Francisco. Therefore, there would be **no impact** related to project proximity to an airport land use plan or airport operations.

g. Emergency Response: Less-than-Significant Impact

Construction. Full road closures would not be required during construction of the proposed project. However construction could require temporary lane closures adjacent to construction sites. Such lane closures would likely be limited to periods after 10:00 PM for excavation along the curb line and for material deliveries. As described in Section 5.16, Transportation/Traffic, BART would obtain necessary encroachment and obstruction permits to perform construction work in public right-of-way controlled by the City/County of San Francisco. All construction-period sidewalk and roadway closures, transit stop relocations, or temporary restrictions would be coordinated with SFPW and San Francisco Municipal Transportation Agency (SFMTA) and would be done in compliance with BFS Sections 01 52 00 and 01 57 00. During these temporary lane closures, traffic circulation on the streets surrounding the project site would be maintained. Because there are multiple parallel streets around the project site, contruction activities would not substantially interfere with an emergency response plan or emergency evacuation plan. The construction phase impact on emergency response would be **less than significant**.

Operations. The proposed installation of the canopies and the replacement/ refurbishment of escalators would not create new barriers to circulation and would have no effect on traffic flows or intersection congestion. Therefore, the proposed project would not physically interfere with emergency response or preclude access to the project site or surrounding areas by emergency vehicles. Because the proposed project would not affect circulation and congestion in the project site or vicinity and would not impede or alter the routes of emergency responders, the operational impact on emergency response plans or evacuation routes would be **less than significant.**

h. Wildland Fires: No Impact

The project site is in an urbanized area within the City/County of San Francisco and is not adjacent to wildlands. Thus, **no impact** from exposure to wildland fire risks would occur.

5.9 Hydrology and Water Quality

Would the project:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less-Than-Significant Impact	No Impact
a. Violate any water quality standards or waste discharge requirements?	❑	❑	■	❑
b. Substantially deplete groundwater supplies or interfere substantially with groundwater recharge, such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?	❑	❑	❑	■
c. Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site?	❑	❑	■	❑
d. Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?	❑	❑	■	❑
e. Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?	❑	❑	■	❑
f. Otherwise substantially degrade water quality?	❑	❑	■	❑
g. Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?	❑	❑	❑	■
h. Place within a 100-year flood hazard area structures which would impede or redirect flood flows?	❑	❑	❑	■
i. Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?	❑	❑	❑	■
j. Inundation by seiche, tsunami, or mudflow?	❑	❑	❑	■

Setting

Surface Water and Hydrology. The project site and surrounding area is in a built-up urban setting and is almost entirely covered with impervious surfaces. The project site is not within or adjacent to a creek, but San Francisco Bay (the nearest water body) is approximately 1,000 feet from the site of canopies 1 and 2 proposed at the Embarcadero Station. The entire project site is part of the North Beach and Mission Creek watersheds (CWB, 2018) and is also included in part of the San Mateo Creek-Frontal San Francisco Bay Estuary and part of the Corte Madera Creek-Frontal San Francisco Bay Estuary (CWB, 2016). Surface water from the project site is conveyed through the City's storm drainage system and into the San Francisco Bay.

San Francisco Bay is on the State Water Resources Control Board's (SWRCB) list of impaired water bodies, requiring biennial assessment pursuant to Section 303(d) of the federal Clean Water Act. The "303(d) list" is the State's list of impaired and threatened waters (e.g. stream/river segments, lakes). For each water body on the list, the State identifies the pollutant causing the impairment, when known. For San Francisco Bay, pollutants causing impairment include chlordane, dichlorodiphenyltrichloroethane (DDT), dieldrin, dioxin compounds, furan compounds, invasive species, mercury, polychlorinated biphenyls (PCBs), selenium, and trash. In addition, the State assigns a priority for development of Total Maximum Daily Loads based on the severity of the pollution and the sensitivity of the uses to be made of the waters, among other factors.

Surface Water Quality and Stormwater. Surface water quality in San Francisco is affected by land uses and activities within the watersheds, as well as by the composition of underlying geologic materials. The project site is in a highly urbanized area with substantial areas of impervious surface, including roadways, parking lots, roofs, and buildings. The Water Quality Control Plan (Basin Plan) for the San Francisco Bay region provides water quality control planning documentation. The Basin Plan must include: a statement of beneficial water uses that the Regional Board will protect, the water quality objectives needed to protect the designated beneficial water uses, and the implementation plans for achieving the water quality objectives through its regulatory programs (CWB, 2018). Most of the Bay Area counties are issued permits to discharge stormwater by the San Francisco Bay Regional Water Quality Control Board (RWQCB). To satisfy the federal Clean Water Act of 1972, project proponents would apply for a National Pollutant Discharge Elimination System (NPDES) General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities from RWQCB (SWRCB Order No. 2009-0009-DWQ, NPDES No. CAS000002 [Construction General Permit]), as amended. The General Construction Permit is further described below.

Construction General Permit

SWRCB administers the statewide NPDES program. Stormwater discharges associated with construction activities are regulated under the Construction General Permit (Order No. 2009-0009-DWQ, NPDES No. CAS000002, as amended). This permit applies to projects that have one or more acres of soil disturbance. The permit requires that the project proponents develop and implement a construction site stormwater pollution prevention plan (SWPPP) that specifies BMPs, erosion and sedimentation controls, run-on and runoff controls, and dewatering

procedures for nuisance-water removal. Permit registration documents and a site-specific SWPPP are filed with the SWRCB for coverage under the Construction General Permit. Compliance with the Construction General Permit is overseen and enforced by RWQCB.

The San Francisco Public Utilities Commission (SFPUC) administers a stormwater management program which was created in accordance with the Clean Water Act to manage stormwater that may otherwise wash pollutants into waterways or the City's sewer system (SFPUC, 2017). For construction projects, BFS Section 01 57 00 requires preparation of a plan and implementation of BMPs and control measures to reduce stormwater pollution. The roofs of the proposed canopies would drain into the local storm drain system in the sidewalk. For canopies where a storm drain system is not accessible, canopy roof drains would daylight at the face of the curb. BART will consult with SFPW during final design of the proposed canopy drainage systems.

Drainage and Flooding. The project site is outside of the 1 percent (100-year) flood hazard zone as shown in San Francisco Interim Floodplain maps (City and County of San Francisco, 2015).

Dams and reservoirs hold large volumes of water and can present hazards due to structure failure. The San Francisco Water Department monitors its facilities and submits periodic reports to the California Department of Water Resources, Division of Safety of Dams (DOSD) which regulates large dams (City and County of San Francisco, 2012). According to the San Francisco Community Safety Element's map of potential inundation areas due to reservoir failure in the San Francisco General Plan, the project site is not located within a potential inundation area due to reservoir failure.

Groundwater. The project site is located in the Downtown Groundwater Basin in the northeastern section of San Francisco and is surrounded by four other groundwater basins including: the Marina Groundwater Basin, the Lobos Groundwater Basin, the Westside Groundwater Basin, and the Islais Valley Groundwater Basin (CDWR, 2018).

Discussion

a, e, f. Water Quality and Water Quality Standards: Less-than-Significant Impact

Construction. Site preparation and project construction would involve use of heavy equipment and vehicles, using fuel, oil, and grease, as well as materials such as cement, asphalt, and paint and solvents. Fluids such as oil or grease could leak from construction vehicles or could be released inadvertently in the event of an accident, potentially releasing petroleum compounds, metals, and other pollutants that could drain into and affect the water quality of the receiving waters.

During construction, soil could be released into surface waters or the stormwater system via wind or rain. Soil and associated contaminants that enter waterways can increase turbidity, stimulate the growth of algae, increase sedimentation of aquatic habitat, and introduce compounds that are toxic to aquatic organisms. In addition, construction may cause soil erosion and sedimentation, which could affect the quality

of runoff into local drainages. These impacts would be temporary but potentially could be significant.

The proposed project would likely disturb less than one acre of soil. Therefore, coverage under the NPDES General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities (SWRCB Order No. 2009-0009-DWQ, NPDES No. CAS000002 [Construction General Permit]), as amended would not be required. However, BART would require its construction contractor to comply with specifications outlined in BFS Section 01 57 00, which would prevent erosion, siltation, or sedimentation of drainage systems and the implementation of site-specific BMPs to prevent pollution to surface waters. Other construction-related contaminants, such as oil and greases, would be managed through appropriate material handling and good housekeeping practices at the construction site. The contractor would be responsible to maintain these BMPs in good and effective condition.

On BART projects, construction contractors are responsible for emergency plans during project construction, and the BART System Safety Department would provide emergency support. Emergency plans during project construction would outline procedures to ensure coordination with local jurisdictions in evacuating areas and notifying BART and emergency response personnel. In addition, in the event of an accidental release during construction, the BART contractor would comply with applicable federal, State, and local regulations, including Titles 8, 22, and 26 of the Code of California Regulations, the Uniform Fire Code, and Chapter 6.95 of the California Health and Safety Code. Furthermore, equipment refueling and/or maintenance would take place only within the designated staging areas, and construction vehicles would be inspected daily for leaks.

Because BART will adhere to its own standard practices governing safety at construction sites, potential impacts on water quality during construction of the proposed project would be **less than significant**.

Operations. Impervious surfaces decrease the volume of water that percolates into the ground and increases the volume of runoff. This, in turn, reduces the amount of water filtered through ground percolation and increases the amount of polluted water transported to streams. The installation of the canopies and replacement/ refurbishment of the escalators would not increase the amount of impervious surfaces as there would be no net change. Consequently, runoff volumes from the project site post construction would be similar to existing conditions.

As described in Section 4, Project Description, the proposed project would be designed to accommodate the future installation of “green” roofs on top of the canopies. Should green roofs be added to the canopies, this feature would result in a slight decrease in the amount of impervious surfaces and a potential decrease in runoff volumes. However, due to the relatively small surface area of the canopies

compared to the existing project site, this decrease would be negligible and would not have a measurable impact on surface runoff.

The stormwater pollutant loading and the potential downstream water quality impacts from the proposed project likewise would be similar to existing conditions. Pollutant loading is a function of land use activities and housekeeping practices. Following construction, the project site would continue with the same uses as existing conditions. Therefore, the proposed project is not expected to alter the stormwater runoff quality from existing conditions, and thus the proposed project would have a less-than-significant impact on the water quality of the receiving water body. If green roofs were installed on the top of the canopies, maintence of the plants could require the periodic use of fertilizers. However, since the plant mix for the green roofs would be selected based on native species and resistance to drought, the use of fertilizers would be minimal and would not substantially alter stormwater runoff quality. Because the proposed project would not alter the existing amount of impervious surfaces or alter the activities that would contribute to stormwater pollutant loading, the operational impact on water quality would be **less than significant**.

b. Groundwater: No Impact

The proposed project would result in no change to the amount of impervious and pervious surfaces at the site, as stated above. Because no change would occur to the ground surface, no impact on groundwater recharge would occur. The proposed project would not intercept or change the use of groundwater resources at the project site. Construction and operation of the proposed project would not substantially degrade or deplete groundwater resources and therefore would not affect groundwater recharge. Therefore, **no impact** on groundwater supplies or recharge would occur.

c, d. Drainage: Less-than-Significant Impact

As described above, the proposed project would not result in construction of additional impervious surfaces. Because the rate and amount of surface runoff would not differ from existing conditions, the proposed project would not result in flooding on- or off-site. Furthermore, no streams or rivers are in the project sire or vicinity; therefore, the proposed project would not alter the course of a stream or river, nor would it result in erosion and siltation impacts on- or off-site. The impact on drainage patterns would be **less than significant**.

g-j. Flood Seiche, Tsunami, or Mudflow Hazards: No Impact

The proposed project does not include housing nor would it be located within a flood-prone zone.

Similarly, since the project site is not located within a potential inundation area due to reservoir failure the proposed project would not expose people to flood hazards

associated with a dam or reservoir failure. In addition, people at the project site would not be exposed to risks associated with levee failure along the San Francisco Bay shoreline, because the project site is approximately 1,000 feet from the shoreline and 11 feet above sea level (NAVD88).

According to the California Governor's Office of Emergency Services (CALOES, 2017), the project site is not in a Tsunami Emergency Response Planning Zone. Furthermore, a very low threat would exist of waters from the San Francisco Bay reaching the project site.

Based on the above assessment, **no impact** from flood, seiche, tsunami, or mudflow hazards would occur.

5.10 Land Use and Planning

Would the project:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less-Than-Significant Impact	No Impact
a. Physically divide an established community?	❑	❑	❑	■
b. Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?	❑	❑	❑	■
c. Conflict with any applicable habitat conservation plan or natural community conservation plan?	❑	❑	❑	■

Setting

California Government Code Section 53090 exempts rapid transit districts, such as BART, from complying with local land use plans, policies, and zoning ordinances. However, BART will work with the City and County of San Francisco to ensure that the proposed project is consistent with applicable local land use plans, policies, and zoning ordinances, to the extent feasible.

Existing Land Uses. The project site and the surrounding areas are in Downtown San Francisco along Market Street between Spear Street on the east and 8th Street on the west. This highly-urbanized area is mainly comprised of commercial, office, retail, service, housing, and mixed use land uses. Along this segment of Market Street, the land uses are dominated by high-rise office buildings, restaurants, bars, and retail. Additionally, hotels such as the Hyatt Regency San Francisco, museums such as the Contemporary Jewish Museum, and shopping centers such as the Westfield Mall and the Union Square shopping district are located along Market Street near the project site.

Proposed Uses. The San Francisco General Plan includes several area plans. The project site extends into the boundaries of the Downtown Area Plan and the Civic Center Area Plan. The Downtown Area Plan details objectives and policies intended to guide the City's vision for downtown San Francisco as a "center of ideas, services and trade and as a place for stimulating experiences." The Plan states that downtown San Francisco should include a "compact mix of activities, historical values, and distinctive architecture and urban forms that engender a special excitement reflective of a world city." This is implemented through multiple objectives specified in the Plan which aim to support commerce; maintain the city's position as a location for professional, financial, and corporate activity; provide space for retail trade; enhance tourism; and retain diverse commercial activity.

The Civic Center Area Plan provides guidance for future land uses and development in the Civic Center area. The plan provides policies and objectives for future development to maintain Civic Center as a center for community government and administrative functions, as well as to protect Civic Center's existing housing resources. The plan also divides future land uses into five main categories of Administrative, Entertainment-Culture, Open Space, Parking, and Housing activities.

In addition to the San Francisco General Plan, the Better Market~~s~~ Street ~~p~~Project and the Civic Center Public Realm Plan are currently being developed to revitalize the Market Street and Civic Center areas. The goal of the Better Market Street~~s~~ ~~p~~Project is to revitalize Market Street between Steuart Street and Octavia Boulevard by implementing pedestrian and bicycle access upgrades, streetscape improvements, increased transit, and other improvements. The Better Market Street~~s~~ ~~p~~Project is currently undergoing environmental review, which is estimated to be completed in 2019. The Civic Center Public Realm Plan will contain updates to urban design standards, transportation infrastructure, focus area designs, and an activation strategy for public spaces within an area roughly bounded by Market Street, Taylor Street, Turk Street, and Gough Street. It is anticipated to be adopted in April of 2020. BART is working with the City and County of San Francisco to ensure that the proposed project is consistent with the design standards and policies of these two projects/plans, to the extent feasible.

For a consistency analysis of the Congestion Management Plan for San Francisco County, San Francisco's "Transit First Policy," the San Francisco General Plan Transportation Element, the Vision Zero roadway/street safety initiative, the Climate Action Plan, and the Transportation Sustainability Program, please see Section 5.16, Transportation and Traffic.

Zoning. The project site is zoned by the City and County of San Francisco as C-3-O (Downtown Office), C-3-O (SD) (Downtown Office Special Development), C-3-R (Downtown Retail), C-3-G, and P (Public); all of which are intended to support Downtown San Francisco as a commercial and urban center (SFPD, 2018).

Discussion

a. Division of Established Community: No Impact

Existing land uses in the project vicinity include office, commercial, retail, service, housing, and mixed use land uses. The proposed project would be located at 22 of the BART station entrances/exits along Market Street within the downtown area between Spear Street and 8th Street, and would construct new station canopies above these BART station entrances/exits and replace/refurbish 22 of the street level escalators at these stations.

Because the canopies included in the proposed project would be approximately 16 feet above the existing BART station entrances/exits, the canopies would not introduce a physical barrier for pedestrians or vehicles. The addition of the canopies would not change the exising land use pattern, as no buildings or other land uses would be changed or displaced due to the proposed project. Therefore, **no impact**

related to division of an established community would result from the proposed project.

b. Consistency with Applicable Plans: No Impact

California Government Code Section 53090 exempts rapid transit districts, such as BART, from complying with local land use plans, policies, and zoning ordinances. Nevertheless, as shown in Table 5, the proposed project would comply with the objectives of the applicable area plans by maintaining and supporting the pedestrian-friendly character of the project area.

The majority of the project site is zoned as "C-3" by the City and County of San Francisco. The Civic Center UN Plaza station is in a area zoned as "P" for Public, which applies to any area owned by a governmental agency and includes open space. The proposed project would comply with the zoning for the area by providing covers for pedestrians and supporting accessbility and safety of rapid transit throughout Market Street. As demonstrated in Table 5, the proposed project would also be consistent with the applicable policies of the San Francisco General Plan (Urban Design element), the Downtown Area Plan, and the Civic Center Area Plan because the addition of canopies over station entrances/exits and the replacement/refurbishment of the escalators would improve convenience and safety for riders accessing the stations from Market Street, and would be designed consistently with the surrounding streetscape environment. Therefore, **no impact** on plans, policies, and regulations adopted for the purpose of avoiding or mitigating an environmental effect would occur.

c. Habitat Conservation Plans: No Impact

No habitat conservation plans cover the project site or areas surrounding it. Therefore, **no impact** on a habitat conservation plan would occur.

Table 5. Consistency Analysis of Proposed Project with Applicable Land Use Plans and Policies

Plan	Policy	Consistency Determination
Downtown Area Plan	**Policy 17.1** Build and maintain rapid transit lines from downtown to all suburban corridors and major centers of activity in San Francisco.	**Consistent**. Construction of canopies over station entrances/exits and the replacement/refurbishment of the escalators would improve the usability and safety of the transit system.
	POLICY 17.6 Make convenient transfers possible by establishing common or closely located terminals for local and regional transit systems.	**Consistent**. The proposed project would improve convenience for riders by protecting street level escalators and reducing escalator down time.
	POLICY 22.1 Provide sufficient pedestrian movement space.	**Consistent.** Canopies would be located above existing station entrances/exits and would maintain the existing availability of pedestrian space on Market Street.
	POLICY 22.2 Through the development of streetscape standards and guidelines, minimize obstructions to through pedestrian movement on sidewalks in the downtown core.	**Consistent.** Canopies would be located above existing entrances/ exits, and would not interfere with pedestrian movement on Market Street.
	POLICY 22.5 Improve the ambience of the pedestrian environment.	**Consistent.** Canopies would be located above existing entrances/ exits, and would maintain the existing availability of pedestrian space on Market Street.
Civic Center Area Plan	**POLICY 1.1** Emphasize key public buildings, particularly City Hall, through visually prominent siting.	**Consistent.** Design of the canopies would be consistent with the surrounding environment and would not obstruct major views in the city.
	POLICY 1.2 Maintain the formal architectural character of the Civic Center.	**Consistent.** Design of the canopies would be consistent with the surrounding environment.
	POLICY 1.4 Provide a sense of identity and cohesiveness through unifying street and Plaza design treatments.	**Consistent.** Design of the canopies would be consistent with the surrounding streetscape environment.
San Francisco General Plan – Urban Design Element	**POLICY 1.1** Recognize and protect major views in the city, with particular attention to those of open space and water.	**Consistent.** The proposed canopies would include glass walls and would not obstruct major views in the city.
	POLICY 1.6 Make centers of activity more prominent through design of street features and by other means.	**Consistent.** Design of the canopies would be consistent with the surrounding streetscape environment.
	POLICY 4.4 Design walkways and parking facilities to minimize danger to pedestrians.	**Consistent.** Implementation of canopies **would** reduce danger of slip-and-fall for pedestrians using station entrances/exits by protecting stairs and escalators from rain.

5.11 Mineral Resources

Would the project:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less-Than-Significant Impact	No Impact
a. Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	❑	❑	❑	■
b. Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?	❑	❑	❑	■

Setting

The California Division of Mines and Geology has classified mineral resource zones for the entire state consistent with the Surface Mining and Reclamation Act of 1975. Based on these classifications, the project site is classified as MRZ-1, which is defined as "areas where adequate geologic information indicates that no significant mineral deposits are present, or where it is judged that little likelihood exists for their presence;" and MRZ-3, which is defined as "areas of undetermined mineral resource significance" (CDMG 1996; CDMG 2000). Thus, the project area is not designated as having significant mineral deposits.

Discussion

a, b. Mineral Resources: No Impact

San Francisco's General Plan states that minerals are not found in San Francisco to any appreciable extent (SFPD, 2004). As described in the setting section, the project site is classified as MRZ-1, which are areas where geologic informtion indicates that no significant mineral deposits are present, and MRZ-3, which are areas of undetermined mineral resource significance (CDMG, 2000). Based on these classifications and the City's determination that significant deposits of minerals are not present within the city, **no impact** on mineral resources would occur.

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5.12 Noise

Would the project:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less-Than-Significant Impact	No Impact
a. Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	❑	❑	■	❑
b. Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?	❑	❑	■	❑
c. Result in a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?	❑	❑	❑	■
d. Result in a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?	❑	❑	■	❑
e. Be located within an airport land use plan area, or, where such a plan has not been adopted, within two miles of a public airport or public use airport and expose people residing or working in the project area to excessive noise levels?	❑	❑	❑	■
f. Be located in the vicinity of a private airstrip and expose people residing or working in the project area to excessive noise levels?	❑	❑	❑	■

Setting

Noise and Vibration Sensitive Uses and Sources in the Project Area. Noise-sensitive land uses are those uses where quiet is essential to the purpose of the land use. Noise-sensitive land uses include residences and buildings where people normally sleep, including hospitals and hotels. They also include uses where it is important to avoid interference with such activities as speech, meditation, and concentration on reading material, such as schools, libraries, theaters, and houses of worship. Parks are special cases and may be considered sensitive if they are used for passive recreation such as reading, conversation, and meditation. Offices and industrial uses are typically not considered noise sensitive.

As described in Section 4, Project Description, the proposed project would include improvements to the entrances/exits at the four Downtown San Francisco BART stations along Market Street (Embarcadero, Montgomery Street, Powell Street, and Civic Center/UN Plaza). The closest noise-sensitive receptors are the high-density residences, hotels, offices, and commercial uses along Market Street (SFPD, 2018). These sensitive uses are approximately 50 feet from the various station entrances/exits. The vibration-sensitive use to the project entrances/exits are also the high-density residences, hotels, offices, and commercial uses along

Market Street; also approximately 50 feet from the various station entrances/exits. The closest vibration-sensitive uses are the sensitive uses and the structures underneath the station entrances/exits (the existing BART stations.).

The existing noise environment surrounding the project site is influenced by ambient noise sources: BART and Muni operations, vehicular traffic noise primarily from local roadways, and mechanical equipment on buildings in the vicinity of the project site. The proposed project is not located within an area covered by an airport land use plan, within 2 miles of a public airport or a public use airport, or in the vicinity of a private airstrip.

Ambient Noise. The project site is along Market Street from 8th Street to Main Street in downtown San Francisco. Market Street is the major transportation corridor through downtown San Francisco. Ambient noise along Market Street in the vicinity of the project site is primarily generated by vehicular traffic (cars, trucks, emergency and delivery vehicles, and Muni buses, light rail vehicles, and historic streetcars). Construction activities on nearby sites also contribute to ambient noise levels. In 2009 the San Francisco Planning Department produced a citywide map of background noise levels which is still in use (SFPD, 2009). The map indicates that the noise sensitive uses along Market Street near the station entrances/exits are generally subject to elevated ambient noise levels, with modeled background noise levels above 70 dBA L_{dn}. Also, noise measurements conducted at the southwest corner of the intersection between Market Street and Golden Gate Avenue, for the 1028 Market Street Project (ESA, 2015), shows that the daytime ambient noise level in the vicinity of the proposed project is 71 dBA Leq; and the nighttime ambient noise level is 68 dBA Leq. The estimated day-night noise level at the measurement location was 75 dBA Ldn. These levels are consistent with those reported in the San Francisco General Plan's Background Noise Levels map.

Standards and Regulations. Implementation of the proposed project would not result in a permanent change in the operation of the BART entrances/exits that would result in a permanent change in noise or vibration levels. Therefore, for this analysis potential noise and vibration impacts are considered construction-only. Standards and regulations applicable to project construction include BFS, the City of San Francisco Noise Ordinance, and the City of San Francisco Public Works Night Noise Permit (NNP).Relevant information and standards from the City of San Francisco Noise Ordinance are described here for background on existing and "acceptable" levels of noise for different land uses in the vicinity of the proposed project. In addition, BART would comply with conditions outlined in the authorized NNP to be obtained for the proposed project.

BFS Section 01 57 00. BART has adopted noise control measures to minimize noise caused by construction operations associated with BART facilities. Construction activities are required to minimize noise caused by construction operations, and provide working machinery and equipment fitted with efficient noise suppression devices. BART would also employ other noise abatement measures for protection of employees and the public. In addition, BART would restrict working hours and schedule construction activity in a manner that will minimize, to the greatest extent feasible, disturbance to residents in the vicinity of the project site. BART has also adopted significance thresholds identified in the Federal Transit Administration's (FTA)

Noise and Vibration Impact Assessment (FTA 2006). These guidelines are appropriate for typical noise from the construction of transit facilities.

For construction noise and vibration impacts, the project vicinity is defined as semi-residential/commercial areas, including hotels. Standards for, and impacts from, construction noise typically use the one-hour L_{eq} (dBA) metric for general assessments. BFS Section 01 57 00 recommends the following thresholds for semi-residential/commercial areas, including hotels:

- Maximum Allowable Continuous Noise Level, dBA: 70 dBA during the day, and 60 dBA at night.
- Maximum Allowable Intermittent Noise Level, dBA: 80 dBA during the day and 70 dBA at night.

Standards for, and impacts from, construction vibration are defined for damage to nearby buildings (and differ depending on the type of building construction) and for human perception, or annoyance.[10]

- For damage, the threshold is 0.5 peak particle velocity (PPV measured in inches/second) for reinforced concrete, steel, or timber buildings and 0.3 PPV for engineered concrete and masonry.
- For annoyance, the threshold is a maximum of 80 VdB for nearby residential uses; 83 VdB for nearby office uses.

As described below, the City has no thresholds for construction vibration.

City Noise Ordinance. Compliance with Sections 2907 and 2908 of the City's Noise Ordinance, which regulate construction noise, would minimize noise impacts from the proposed project's construction activities. Section 2907(a) requires that noise levels from individual pieces of powered construction equipment, other than impact tools and equipment, not exceed 80 dBA at a distance of 100 feet from the source between 7:00 AM and 8:00 PM. Section 2907(b) requires that the intakes and exhausts of impact tools and equipment (e.g., jackhammers, impact wrenches) be equipped with mufflers, and that pavement breakers and jackhammers be equipped with acoustically-attenuating shields or shrouds to the satisfaction of the Director of Public Works or Building Inspection, as feasible, to best accomplish maximum noise attenuation. Section 2908 prohibits construction work between 8:00 PM and 7:00 AM if noise would exceed the ambient noise level by 5 dBA at the project site's property line unless a NNP is authorized by the San Francisco Director of Public Works.

[10] Vibration results from rapidly fluctuating motions. Like noise, there are multiple descriptors used to measure vibration. Peak particle velocity is often used since it is related to the stresses that are experienced by buildings, and it measures the maximum instantaneous fluctuation in inches per second. However, for evaluating human response, a different metric is commonly used – "root mean square velocity," which measures the average vibration amplitude, expressed also in inches/second or vibration decibels, VdB. Human perception of vibration occurs around 65 VdB, but human response is not usually significant until vibration exceeds 70 VdB (FTA 2006). Impacts during construction are most often concerned with building damage, and the thresholds recommended for use in environmental documents vary based on the type of building construction.

All approved NNPs allow the Permittee to work between the hours of 8:00 PM to 7:00 AM with inspection monitoring in place. However, as a part of this approval, the noise level is not allowed to exceed 5 dBA above ambient levels after 10:00 PM. For work occurring after 10:00 PM:

- No high-impact and/or pneumatic tools and equipment shall be used.
- All excavation work shall be done with the use of hand tools.
- Work shall not produce a noise level more than ten (10) dBA above the local ambient at a measured distance of twenty-five feet from the edges of the construction site.

Discussion

a, c, d. Permanent or Temporary Increase in Noise: Less-than-Significant Impact

Construction. The proposed project would include the installation of canopies and the replacement/refurbishment of escalators at 22 of the entrances/exits at the Embarcadero, Montgomery Street, Powell Street, and Civic Center/UN Plaza stations. Construction of the canopies would be phased so that adequate station access would be maintained at all times. While multiple entrances/exits may be closed simultaneously at the four different stations along Market Street during implementation of the proposed project, only one station entrance/exit would be under construction at any one station at any time. Therefore, in this section, only one construction site is evaluated and the results would be assumed to be similar to the other project sites.

The proposed project would generate temporary and short-term construction noise from equipment operating at the project site and within nearby street rights-of-way for utility relocations needed to support the proposed project. In addition, occasional limited closure of adjacent roadway(s) during construction would be required. Such closures would be limited to one adjacent lane at night after 10:00 PM for excavation along the curb line and for material deliveries. As described in Section 4, Project Description, project construction would occur over two phases (construction of the canopies followed by escalator replacement/refurbishment). The phases would vary in their duration, level of activity, types of construction equipment, and thus potential impacts on nearby noise-sensitive receptors. Typical demolition equipment would be used with methods to meet noise requirements set by San Francisco nighttime noise permit requirements. The contractor would select small excavator, hand digging, and saw cutting equipment rather than jack hammering, to meet the City noise requirements.

Noise from Construction Equipment. Project construction noise was estimated using FTA assessment guidelines (FTA 2006), project-related construction equipment (Table 6), and the federal Roadway Construction Noise Model (FHWA and DOT

2006).[11] Detailed modeling results are provided in Appendix D. Equipment operation during project construction would generate intermittent noise levels of approximately 75 dBA with one piece of equipment operating and 78 dBA with two pieces of equipment operating at a distance of 50 feet, during demolition and construction activities (Table 6). These noise levels would not exceed the BART significance threshold for nighttime hours (80 dBA L_{eq}) at semi-residential/commercial areas, including hotel uses; however, construction noise would exceed the City's daytime noise threshold for nighttime hours (70 dBA L_{eq}).

A NNP would be required to conduct nighttime constuction activities. As shown in Table 6, the maximum predicted exterior noise levels of 75 dBA Leq at the nearest receptors (assuming 50 feet from the equipment operation) would be less than 10 dBA above nighttime ambient noise level of (68 dBA Leq).

Table 6. Construction Phases, Equipment, and Calculated Noise Levels

Construction Phase	Anticipated Type of Equipment that May Be Used by the Contractor	Noise Level at 50 Feet	
		L_{eq}, dBA	L_{max}, dBA
Phase 1 - Demolition	Excavator	75	85
Phase 2 - Construction	Crane	75	85

Notes:
dB = decibels; Leq = energy-equivalent noise level;
Lmax = maximum sound level, the highest instantaneous sound level measured during a specified period
Source: Data compiled by AECOM in 2018

BART would incorporate noise control measures into construction documents to be implemented by the project contractor in compliance with BFS Section 01 57 00. These measures, identified below, would further reduce construction noise levels:

- minimize noise caused by construction operations;
- provide working machinery and equipment fitted with efficient noise suppression devices;
- employ other noise abatement measures as necessary for the protection of employees and the public;

[11] The FTA methodology for a general assessment for construction noise involves deriving the projected noise levels assuming the two noisiest pieces of construction equipment operating in the center of the project site. The FHWA methodology is a more conservative approach and assumes more pieces of construction equipment not all located in the center of the project site. This more conservative methodology has been used here because of the sensitivity of the surrounding community. As demonstrated in the analysis, construction noise impacts would not exceed the FTA construction noise thresholds under either of the assessment methodologies.

- restrict working hours and schedule operations in a manner that would minimize, to the greatest extent feasible, disturbance to noise-sensitive receptors in the vicinity of the work;
- monitor noise levels of work operations to assure compliance with the noise limitations specified;
- promptly inform BART of any complaints received from the public regarding noise;
- describe the action proposed and the schedule for implementation, and subsequently inform BART of the results of the action; and
- monitor noise levels day and night, and for each new activity or piece of equipment.

In addition, BFS Section 02 41 00 contains specifications for demolition activities, including the provision of continuous noise abatement as required to prevent disturbance and nuisance to the public and workers and to the occupants of adjacent premises. When a certain level of noise is unavoidable because of the nature of the work or equipment involved, and such noise is objectionable to the occupants of adjacent premises, BART will make arrangements with the jurisdictional authorities to perform such work or operate such equipment at the most appropriate time periods of the day.

Compliance with BFS Sections 01 57 00 and 02 41 00 would reduce construction noise and help reduce the potential for community complaints. Compliance with BFS noise control measures and NNP requirements would ensure that project-related construction noise at nearby sensitive receptors would be **less than significant**.

Noise from Construction Truck Trips. Project-related construction trips would use streets which surround the project site and provide convenient connections to the nearby freeways. The peak hour trips along these streets under existing conditions are substantially more than the project-related daily construction trips. Traffic volumes would need to double in order to result in a noticeable change in the noise environment (3 dB) (Caltrans, 2013). The daily truck volumes associated with construction would be a fraction of the peak hour volumes. As a result, the truck noise would not result in a noticeable change. Therefore, construction trips would not substantially increase the existing traffic noise. The noise impact from construction traffic would be **less than significant.**

Operations. As stated above, there would be no permananent increases in noise associated with operation of the proposed project. Therefore, no impact under the operation of the proposed project would occur.

b. Groundborne Vibration or Groundborne Noise Levels: Less-than-Significant Impact with Mitigation Incorporated

Ground-borne vibration results from heavy vehicle passbys, vehicular traffic on rough roads, and construction activities. These sources can cause feelable movement of buildings, rattling of windows, shaking of items on a shelf or hanging on a wall, and rumbling sounds. In extreme cases, vibration can result in building damage; in contrast, human annoyance from vibration can be triggered when vibration exceeds the threshold of perception by a small amount.

The proposed project would generate construction vibration from construction equipment and the transport of construction equipment, materials, and workers.

Human Perception/Annoyance. Project-related groundborne vibration would result from the use of small construction equipment during excavation and from truck trips. These activities would produce a vibration level of approximately 58 to 86 VdB (0.003 to 0.076 inch per second [in/sec] peak particle velocity [PPV]) at a distance of 25 feet (which is the reference vibration level for operation of a small bulldozer or equivalent equipment and loaded trucks [FTA 2006; Caltrans 2013]). The distance between these activities and the closest acoustically sensitive uses would be approximately 50 feet (Table 7). Assuming a standard reduction of 9 VdB per doubling of distance (FTA 2006), the vibration level at the nearest receivers (50 feet) would be approximately 49 to 77 VdB. This level of vibration would be below the 80 VdB threshold of significance for human annoyance and likely would not be perceptible. Therefore, the impact on human annoyance to the nearest receptors from construction vibration would be less than significant.

Table 7. Construction Equipment Vibration Levels at the Nearest Receivers

Nearest Receivers	Equipment Vibration Levels at 25 feet		Shortest Distance (feet) Between–Off-site Receivers and Proposed Construction Areas	Projected Vibration Levels		Distance to Threshold (feet)	
	PPV	VdB		PPV	VdB	0.3 PPV	80 VdB
Small Dozer or Equivalent	0.003	58	50	0.001	49	2	5
Loaded Truck	0.076	86	50	0.027	77	10	40

Notes:
N/A = not available; PPV = peak particle velocity; VdB = vibration decibels
Source: FTA 2006, Data compiled by AECOM in 2018

Building Damage. The FTA's Transit Noise and Vibration Impact Assessment technical manual provides criteria for groundborne vibration impacts with respect to building damage during construction activities (FTA 2006). According to FTA guidelines, a vibration-damage criterion of 0.50 in/sec PPV should be considered for structures or buildings constructed of reinforced concrete, steel, or timber. If the buildings are unreinforced, then 0.20 in/sec PPV would be appropriate. For the proposed project, BART would comply with a performance standard of 0.3 in/sec PPV at any building at any time. As shown in Table 7, vibration level from project construction equipment at off-site sensitive receptors (50 feet from the project sites) would be approximately 0.001 to 0.027 in/sec PPV (FTA 2006). This level of vibration would be below the building damage threshold of 0.50 in/sec PPV and even the more stringent threshold for unreinforced buildings of 0.3 in/sec PPV. Therefore, this impact would be **less than significant**.

Construction Vehicle Vibration. Project construction would result in additional vehicle trips on the local roadway network when workers commute and equipment and materials are transported. Heavy truck traffic can generate groundborne vibration, which varies considerably depending on vehicle type, weight, and pavement conditions. However, for off-site vibration-sensitive uses the groundborne vibration levels generated from vehicular traffic typically are not perceptible outside the road right-of-way for rubber-tired vehicles (FTA 2006). With respect to on-site (sensitive uses beneath the construction sites or the existing BART stations) vibration level from project construction at 10 feet (Table 7) would be approximately 0.29 in/sec PPV (FTA 2006). This level of vibration would be below the building damage threshold of 0.50 in/sec PPV and even the more stringent threshold for unreinforced buildings of 0.3 in/sec PPV. Therefore, this impact would be **less than significant**.

e, f. Airport Noise: No Impact

The proposed project is not located within 2 miles of any airport. Also, the proposed project would not include any aircraft uses for construction. No private airstrips are in the project vicinity, and the proposed project would not affect any airstrip operations. The proposed project would not expose people on- or off-site to any aircraft noise. **No impact** from airport noise would occur.

5.13 Population and Housing

Would the project:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less-Than-Significant Impact	No Impact
a. Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	❑	❑	❑	■
b. Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?	❑	❑	❑	■
c. Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?	❑	❑	❑	■

Setting

San Francisco is the fourth largest city in California, according to the U.S. Census Bureau, with a population of 870,887 in 2016—a 21 percent increase since 2005 (U.S. Census, 2016). According to the City of San Francisco's *2014 Housing Element*, the population is anticipated to reach 890,400 by 2020 and 1,085,700 by 2040 (SFPD, 2014).

Discussion

a. Population Growth: No Impact

The proposed project's installation of canopies over the station entrances/exits and the replacement/refurbishment of existing street-level escalators would not directly or indirectly result in construction of new homes or other residential units, new jobs, or otherwise induce growth that would increase population in the City. Therefore, the proposed project would not induce employment or population growth and there would be **no impact**.

b, c. Housing and Population Displacement: No Impact

The proposed project would construct new canopies above existing BART station entrances along Market Street and replace/refurbish the existing street-level escalators. The proposed canopies would neither displace existing housing nor displace people necessitating the construction of replacement housing elsewhere. **No impact** from displacement would occur.

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5.14 Public Services

Would the project:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less-Than-Significant Impact	No Impact
a. Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for any of the following public services:				
i. Fire protection?	❑	❑	■	❑
ii. Police protection?	❑	❑	■	❑
iii. Schools?	❑	❑	❑	■
iv. Parks?	❑	❑	❑	■
v. Other public facilities?	❑	❑	❑	■

Setting

Fire and Police Protection. The project site is served by the City and County of San Francisco Fire Department for fire and rescue response, emergency medical response, technical rescue, and hazardous material response. The project site also is served by the BART Police Department, which provides law enforcement at the existing BART facilities and has more than 200 sworn peace officers (BART 2017a).

BART police officers are invested with the same powers of arrest as city police officers and county sheriff deputies, and are authorized to take enforcement action off BART property (e.g., within city limits, county jurisdictions, or on State highways) if there is immediate danger to persons or property. The BART Police Department also cooperates with the San Francisco Police Department to request and provide outside assistance and mutual aid when required (BART 2017b).

Schools and Parks. The Academy of Art University School of Sculpture, Marin Day School Spear Street, Youth Chance High School, and Golden Gate University School of Law are within 0.25 mile of the project site. Father Alfred Boeddeker Park, Yerba Buena Gardens, Ferry Park, Sue Bierman Park, Justin Herman Plaza, Beale Street Plaza, Mechanics Monument Plaza, and McKesson Plaza are also located within 0.25 mile of the project site.

Other Public Facilities. The San Francisco Museum of Modern Art, Museum of the African Diaspora, Contemporary Jewish Museum, Asian Art Museum, International Art Museum of America, Children's Creativity Museum, Superior Court of California, Supreme Court of California, San Francisco Immigration Court, United States Court of Appeals for the Ninth

Circuit, U.S. Bankruptcy Court, San Francisco Juvenile Court, and six post offices are among the public facilities within 0.25 mile of the project site.

Discussion

a(i-ii). Fire and Police Protection: Less-than-Significant Impact

As discussed in Section 5.13, Population and Housing, the proposed project would not induce population or housing growth as it would not involve development of new residential uses, create new jobs, or introduce other services that might otherwise attract growth. Therefore, construction of the proposed canopies and the replacement/refurbishment of the existing street-level escalators would not result in the need to substantially expand existing facilities or physically alter the current provision of fire or police protection.

During the construction phase of the proposed project, temporary closure of the adjacent parking lanes, travel lanes, and part of the sidewalks immediately surrounding the station entrance/exit could occur; however, no full roadway closures are anticipated for construction. Occasional limited closure of one travel lane along the adjacent roadway would only be in effect at night after 10:00 PM, when background activity on the surrounding transportation network is generally low. In addition, the construction traffic management plan to be prepared for the proposed project would be coordinated with SFPW and SFMTA to address necessary detours, maintenance of access to residences and businesses, as well as maintenance of appropriate emergency response times. See Section 5.16, Transportation/Traffic, for more information on the construction traffic management plan that would be submitted to the City.

In addition, there are no major sources of emergency vehicle activity, such as emergency service providers (e.g., police/fire stations), adjacent to the proposed canopy locations. The proposed project would be confined to elements at station entrances/exits and adjacent portions of the sidewalk, and would not affect existing curb lines or extend into adjacent portions of the roadway, where such elements could affect emergency vehicle circulation. Emergency vehicles would continue to have access on these streets as they currently do, and would be able to bypass other traffic through use of transit-only lanes and/or opposing travel lanes, while non-emergency vehicles would be required to yield right-of-way as provided under California Vehicle Code §21806. In addition, the proposed project has been designed so as not to block or impede sidewalk access to buildings in the vicinity of the station entrances/exits. The proposed project also does not involve any uses or activities that would generate substantial amounts of additional vehicle traffic that could disrupt or impede emergency vehicle circulation. See Sections 5.8, Hazards and Hazardous Materials, and Section 5.16, Transportation/Traffic, for more information on the proposed project's operational effects on emergency response times and access.

Because the proposed project would not permanently alter the street network or result in an increase in traffic congestion, fire and police response to calls for service to the project site or surrounding areas would not be significantly affected. Therefore, operation of the proposed project would not interfere or impede response times or routes and operational and cumulative characteristics of the proposed project would have no impact on police and fire protection.

Based on the above assessment, construction, operational, and cumulative impacts on police and fire protection would be **less than significant**.

a(iii-v). Other Public Facilities: No Impact

As discussed in Section 5.13, Population and Housing, the proposed project would not induce population or housing growth as it would not involve development of new residential uses, create new jobs, or introduce other services that might otherwise attract growth. Because there would not be an increase in population or housing associated with the proposed project, the proposed project would not induce demand for other public facilities and the proposed project would have no impact associated with provision of or need for new or physically altered governmental facilities on schools, parks, or other public facilities. **No impact** on public facilities would occur.

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5.15 Recreation

Would the project:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less-Than-Significant Impact	No Impact
a. Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	❑	❑	❑	■
b. Include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	❑	❑	❑	■

Setting

Recreational facilities in San Francisco are under the jurisdiction of the San Francisco Recreation and Parks Department. The recreational facilities closest to the project site include Embarcadero Plaza and Sue Bierman Park, both approximately one block from the Embarcadero Station; Union Square, approximately three blocks from the Powell Street Station; Father Alfred E. Boeddeker Park, approximately three blocks from the Civic Center/UN Plaza Station; and the Joseph L. Alioto Performing Arts Piazza, approximately two blocks from the Civic Center/UN Plaza Station (San Francisco Recreation and Parks Department). There are no recreational facilities within the project site.

Discussion

a. Increased use of Existing Neighborhood and Regional Parks or other Recreational Facilities: No Impact

Construction. There are no recreational facilities within or immediately adjacent to the project site. As such, construction activities would not impact existing recreational facities nor would construction activities impede access to existing recreational facities. Therefore, there would be **no impact** to recreational facilities associated with construction of the proposed project.

As discussed in Section 5.13, Population and Housing, the proposed project would not directly or indirectly result in construction of new homes or other residential units, new jobs, or otherwise induce growth that would increase the population in the City. Therefore, the proposed project would not lead to an increase in use of neighborhood and regional parks or other recreational facilities nor would the proposed project lead to the deteriation of these existing facilities. **No impact** would result.

Operations. After construction is completed, the newly redesigned plaza and plaza design features would be available for resumption of the previous uses. There would be **no impact** on recreational facilities related to operation of the proposed project.

b. New or Expanded Recreational Facilities: No Impact

The proposed project includes the construction of 22 canopies over existing entrances/exits and the reconstruction/refurbishment of 22 street-level escalators at the four Downtown San Francisco BART stations. No recreation facilities would be included as part of the proposed project, nor would the proposed project displace existing recreational uses.

As discussed in Section 5.13, Population and Housing, the proposed project would not directly or indirectly result in construction of new homes or other residential units, new jobs, or otherwise induce growth that would increase the population in the City. Therefore, additional recreation facilities or the expansion of existing recreation facilities would not be necessary. Based on this assessment, there would be **no impact** related to the need for new or expanded recreational facilities.

5.16 Transportation/Traffic

Would the project:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less-Than-Significant Impact	No Impact
a. Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?	❑	❑	■	❑
b. Conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?	❑	❑	■	❑
c. Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?	❑	❑	❑	■
d. Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	❑	❑	❑	■
e. Result in inadequate emergency access?	❑	❑	❑	■
f. Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?	❑	❑	■	❑

Setting

Existing Transportation Context. The proposed project involves the construction of canopies over a total of 22 station entrances/exits and the replacement/refurbishment of 22 street-level escalators across the four shared BART/Muni stations in the Market Street Subway through Downtown San Francisco (Embarcadero, Montgomery Street, Powell Street, and Civic Center/UN Plaza). All of the affected entrances/exits are located within sidewalks along public rights-of-way, and all are located entirely within the Market Street right-of-way, with the exception of the following (as illustrated in Figures 2A through 2D):

- Canopy 7 (MS1) at Montgomery Street Station (located within the Sansome Street right-of-way)

- Canopy 11 (MS5) at Montgomery Street Station (located at the intersection of the Market Street and Post Street rights-of-way)

- Canopy 19 (CS3/CS5) at Civic Center/UN Plaza Station (located within the Fulton Street right-of-way in UN Plaza)

Market Street entrances/exits. Market Street is Downtown San Francisco's primary multi-modal thoroughfare and is a major corridor for public transit, bicycle, and pedestrian circulation. The typical cross-section along Market Street at the affected locations features a total of four travel lanes, with the center lane in each direction designated as a public transit-only lane at all times (with the exception of the segment east of Third Street/Kearny Street). Near-side boarding islands, located between the center lane and the adjacent curbside lane, are provided in each direction of Market Street at selected intersections to serve Muni buses and streetcars operating in these public transit-only lanes. The remaining curbside lane in each direction is a general-purpose lane that accommodates general vehicle traffic, as well as buses (served by a separate set of curbside stops along Market Street) and bicycle activity. Enhanced "greenback" sharrow markings denote the curbside lane as a Class III bikeway for shared use by bicycles and other traffic.

Buses operating along Market Street include both motor and electric trolley coaches, and up to four pairs of overhead electric lines (two in each direction) are provided to power Muni's electric trolley coaches. Rail tracks are also embedded in the center lanes to accommodate Muni's historic streetcars.

The affected segments of Market Street also feature an enhanced pedestrian realm with widened sidewalks; a double row of street trees; historic "Path of Gold" streetlight standards, bike sharing stations, and other street furnishings; public open spaces; and entrances/exits for Market Street Subway stations. Where feasible, the entrance/exit is located away from the curb, with sufficient space to allow pedestrians in the sidewalk to detour to either side. In some cases, only a narrow buffer zone, typically measuring no more than 2–3 feet in width, is provided between the curb line and the adjacent entrance/exit wall, but foot traffic at these locations generally detours to the opposite side of the entrance/exit.

No on-street parking is provided along the affected segments of Market Street, but on-street bays are provided at various locations to accommodate passenger and commercial loading for adjacent properties.

As a major multi-modal corridor, Market Street accommodates substantial volumes of public transit vehicles, bicycle, and pedestrian activity throughout the day, although activity typically peaks during the commute periods on weekdays. Peaking for public transit vehicles and bicycle activity is generally directional, with higher activity in the inbound (eastbound) direction during the weekday morning commute and in the outbound (westbound) direction during the weekday afternoon/evening commute. Pedestrian activity is noticeably high near the Financial District (near Second Street and Montgomery Street/New Montgomery Street) and near Union Square (near Fourth Street/Stockton Street and Fifth Street/Powell Street). Activity near the Civic Center/UN Plaza, Montgomery Street, and Embarcadero Stations is generally much lower on

weekday evenings and weekends, reflecting the dominant (commute-based) land use and travel patterns in the surrounding neighborhoods. In contrast, high levels of pedestrian activity are sustained near Powell Street Station outside of weekday commute and midday periods, partially due to the presence of nearby retail/restaurant, entertainment, and other supporting uses in Union Square that attract steady foot traffic.

Market Street serves only a minor function for general vehicle traffic, and turn restrictions in effect between Third Street and Tenth Street are designed to direct traffic (with the exception of buses/paratransit, taxis, trucks/commercial vehicles, and emergency vehicles) off of Market Street.

Canopy 7 (MS1) at Montgomery Street Station (Sansome Street). The adjacent segment of Sansome Street between Bush Street and Sutter Street functions primarily as a minor collector street, generally featuring one general-purpose travel lane and one on-street parking lane in each direction. The segment serves key functions for several secondary Muni bus routes and is also an important corridor for bicyclists and pedestrians.

The station entrance/exit is located within a widened portion of sidewalk along the west side of Sansome Street that extends into the roadway and occupies the west-side parking lane that accommodates both the entrance/exit and an adjacent public transit stop to the south for Muni's 10 Townsend and 12 Folsom/Pacific bus routes. The opposite (east) side of the street at this location features a red zone and Muni bus stop for the northbound direction of these two bus routes, such that there is no on-street parking along either side of Sansome Street immediately north of Sutter Street.

A pair of overhead lines used by electric trolley coaches on Muni's 2 Sutter/Clement and 3 Jackson routes is also present in the southbound direction, turning right onto westbound Sutter Street to serve the terminal location for these routes. Sharrow pavement markings designate the two travel lanes for shared use between bicyclists and other traffic, and turn restrictions in the southbound direction adjacent to the station entrance/exit require that all traffic, with the exception of Muni buses, turn right onto Sutter Street. Similar to some of the Market Street entrances/exits described above, this entrance/exit is located adjacent to the curb line, with pedestrians detouring to the opposite side of the entrance/exit to avoid the narrow sidewalk buffer zone between the entrance/exit wall and curb edge.

Traffic, public transit, bicycle, and pedestrian activity near the station entrance/exit generally peaks during the weekday commute periods, but is substantially lower on weekday evenings and weekends.

Other canopies. The two remaining canopies would be constructed within public open spaces along the Market Street corridor, with pedestrian circulation around the entrance/exit provided on all four sides at each location.

Canopy 11 (MS5) at Montgomery Street Station is located within a plaza space surrounding the Admission Day (Native Sons) Monument at the northeast corner of the Market Street/Montgomery Street/New Montgomery Street intersection, oriented in the direction of Post

Street. Like the other entrances/exits along Market Street, pedestrian activity is generally high throughout the day, but is noticeably lower on weekday evenings and weekends due to proximity to the Financial District.

Canopy 19 (CS3/CS5) at Civic Center/UN Plaza Station is located on the south side of UN Plaza (effectively, a pedestrianized segment of Fulton Street), oriented in the direction of Fulton Street. A buffer for landscaping surrounds the north, south, and east sides of the entrance/exit. There is a moderate level of pedestrian activity, generally peaking during the weekday commute periods. There are also occasional concentrations of pedestrian activity outside of these periods on weekday evenings or weekends, such as during performances and concerts at nearby venues and other events.

Discussion

a, b, f. Conflict with the Congestion Management Program and Performance Measures for the Circulation System, and Impacts to Public Transit, Bicycle, or Pedestrian Facilities: Less-than-Significant Impact

Congestion Management Program. The Congestion Management Program (CMP) for San Francisco County describes several performance measures related to roadway Level of Service (LOS); public transit coverage/routing, frequency, and interoperator coordination; public transit speeds and speed variability; Muni on-time performance; bicycle/pedestrian activity and safety; bikeway network connectivity; and multi-modal volume monitoring at selected intersections and mid-block locations.

As described in further detail in Section 4, Project Description, the proposed project involves upgrades to existing station entrances/exits (including elements to improve weather protection, enhance employee/patron security, and provide passenger information), and would not involve activities or uses that would have any effect on any of the aforementioned performance measures. Therefore the proposed project would comply with the CMP's public transit coordination requirements.

Other Policies, Plans, and Programs. Major overarching policies, plans, and programs relevant to transportation in San Francisco include the City and County of San Francisco's "Transit First Policy", the Transportation Element of the San Francisco General Plan, the Vision Zero roadway/street safety initiative, the Climate Action Plan, and the Transportation Sustainability Program. City agencies and departments, working individually or in concert, have also developed focused policies, plans, and programs regarding the citywide transportation system, including (but not limited to) the following:

- SFMTA published a six-year Strategic Plan for fiscal years 2013 through 2018 that defines overall goals/objectives and associated key performance indicators and targets for San Francisco's transportation system. SFMTA has also published several related and/or supportive plans (e.g., the Short Range Transit Plan, the Muni Forward Implementation Plan, the SFMTA Bicycle

Strategy, and the San Francisco Transportation Sector Climate Action Strategy) and administers and supports other programs related to transportation in San Francisco, such as the Commuter Shuttle Program and the Metropolitan Transportation Commission's (MTC) regional bikeshare program. SFMTA has also coordinated with other City agencies including the San Francisco Planning Department (Planning Department) and the San Francisco County Transportation Authority (SFCTA) in developing long-range/visionary transportation plans and policies, including ConnectSF and the San Francisco Transportation Plan.

- The Planning Department oversees and guides growth and development in San Francisco, including transportation-related urban planning and urban design for elements of the transportation system (such as streetscape design for streets and other public rights-of-way). The Planning Department publishes the San Francisco General Plan and supporting community/area plans (including specific plans that encompass the affected station entrances/exits, including the Downtown Area Plan, Civic Center Area Plan, and Transit Center District Plan). The Planning Department has also published the Better Streets Plan, which establishes general standards, guidelines, and implementation strategies for the pedestrian realm, as well as focused streetscape plans as part of the area plans described above, such as the Downtown Streetscape Plan. The Planning Department also serves as the lead agency for environmental review of most projects within San Francisco, and publishes the *Transportation Impact Analysis Guidelines for Environmental Review* to guide the analysis of transportation and circulation impacts of these projects.

As described previously, the proposed project is specifically intended to address deficiencies with the existing station entrances/exits, and would improve the durability/efficiency, safety/security, and convenience of the public transit system, in conformance with the overall goals and objectives of the aforementioned plans, policies, and programs related to public transit.

As described in further detail under Item d, the proposed project would not substantially increase hazards for traffic, public transit, bicycles, or pedestrians due to design features or incompatible uses. In addition, the proposed project would not involve activities or uses or include design features that would generate a measurable increase in demands on the transportation system or otherwise negatively affect the safety and performance of public transit, bicycle, and pedestrian facilities or conflict with the applicable congestion management program or applicable plans, ordinances, or policies described above.

As described in Section 4, Project Description, construction activities would be phased to maintain adequate station access at all times. While multiple entrances/exits may be closed simultaneously at the four stations, only one

entrance/exit would be under construction at any one station at any time. Fencing or other temporary barriers would be erected to secure a work area around each entrance/exit, and occasional limited closure of one travel lane along the adjacent roadway may be required. Such closures would likely only be in effect at night after 10:00 PM, when background activity on the surrounding transportation network is generally low. Total closure time at each entrance/exit would be approximately 150 days for canopy construction, followed by approximately 120 days for escalator replacement/refurbishment.

BART would obtain necessary encroachment and obstruction permits to perform construction work in public right-of-way controlled by the City and County of San Francisco, and all sidewalk and roadway closures, public transit stop relocations, or temporary restrictions required for construction would be coordinated with SFPW and SFMTA. Construction activities within the public right-of-way would be required to comply with SFMTA's Regulations for Working in San Francisco Streets, as well as relevant sections of the BFS Section 01 52 00 (related to parking for personnel and delivery vehicles, protective barricades, and safety precautions, including access for the local fire department) and Section 01 57 00 (related to temporary traffic and pedestrian/patron control plans during construction). Together, these regulations and requirements would ensure that any effects on traffic, public transit, bicycle, and pedestrian circulation, as well as public transit users, would be minimized.

Based on the above analysis, the impact would be **less than significant**.

c. Air Traffic: No Impact

The airports closest to the project site are Oakland International Airport (approximately 11–12 miles southwest) and San Francisco International Airport (approximately 11–12 miles south). Construction and operation of the proposed project would not involve any uses or activities that would generate air traffic. The proposed canopies, typically measuring approximately 16 feet in height, would also be shorter than surrounding buildings and would have no effect on air traffic safety. The escalators to be replaced/refurbished as part of the proposed project would be all be located below street level. Therefore, **no impact** to air traffic patterns would occur.

d. Hazards from Design Features or Incompatible Uses: No Impact

As described previously, the proposed project involves upgrades to existing station entrances/exits, and would not involve uses incompatible with the existing transportation context at these locations. In terms of design features, the canopy walls would generally have the same footprint as the existing masonry walls at each entrance/exit and would be composed of transparent/translucent glass to maintain sight lines when open. The canopy roofs may have a larger footprint than the walls, with overhangs that extend into adjacent areas of the sidewalk. However, the overhang would not extend beyond the curb line and would therefore not interfere

with traffic, public transit, or bicycle circulation or otherwise affect roadway safety. At approximately 16 feet in height, any overhang into adjacent portions of the sidewalk (an overhang of approximately four to five feet depending on location) would also not present a hazard to pedestrian circulation in the sidewalk. Therefore, **no impact** related to hazards would occur.

e. Emergency Access: No Impact

There are no major sources of emergency vehicle activity, such as emergency service providers (e.g., police/fire stations) or hospitals, adjacent to the proposed canopy locations. The proposed project would be confined to elements at station entrances/exits and adjacent portions of the sidewalk, and would not affect existing curb lines or extend into adjacent portions of the roadway, where such elements could affect emergency vehicle circulation. In addition, the proposed project does not involve any uses or activities that would generate substantial amounts of additional vehicle traffic that could disrupt or impede emergency vehicle circulation. While the surrounding streets are subject to occasional traffic congestion (particularly during weekday commute periods), emergency vehicles would continue to have access on these streets as they currently do. Emergency vehicles would be able to bypass other traffic through use of public transit-only lanes and/or opposing travel lanes, while non-emergency vehicles would be required to yield right-of-way as provided under California Vehicle Code §21806.Therefore, **no impact** to emergency access would occur.

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5.17 Utilities and Service Systems

Would the project:	Significant or Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less-Than-Significant Impact	No Impact
a. Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?	❑	❑	■	❑
b. Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	❑	❑	❑	■
c. Require or result in the construction of new stormwater drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	❑	❑	■	❑
d. Have sufficient water supplies available to serve the project from existing entitlements and resources, or would new or expanded entitlements be needed?	❑	❑	❑	■
e. Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	❑	❑	❑	■
f. Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?	❑	❑	■	❑
g. Comply with federal, state, and local statutes and regulations related to solid waste?	❑	❑	■	❑

Setting

Water and wastewater services to the project site are provided by SFPUC. SFPUC's water system serves approximately 2.7 million people including residential, commercial, and industrial in the Bay Area. Approximately one-third of water services are delivered to retail customers in San Francisco and the other two-thirds are wholesale deliveries to 27 suburban agencies in Alameda, Santa Clara and San Mateo counties (SFPUC, 2017). SFPUC serves the City of San Francisco with water from the Hetch Hetchy watershed and the Alameda and Peninsula watersheds. The Hetch Hetchy watershed is in Yosemite National Park and provides SFPUC with approximately 85% of San Francisco's total water needs while the Alameda and Peninsula watersheds produce the remaining 15% of the total water supply. The Alameda watershed is in Alameda County and Santa Clara Counties and contributes water supplies stored in two

reservoirs: Calaveras and San Antonio. Less than one percent of San Francisco's water is captured from the Sunol Filter Galleries near the Town of Sunol.

The Peninsula watershed in San Mateo County contributes water supplies in lower and upper Crystal Springs and San Andreas Reservoirs and in two smaller reservoirs, Pilarcitos and Stone Dam (SFPUC, 2017). The 2015 Urban Water Management Plan projects that the SFPUC retail (in-city retail and suburban retail) service area total population will increase from 847,370 in 2015 to approximately 1.1 million by 2040 which corresponds to an average growth rate of about 1.0% per year (SFPUC, 2016). The total population in the wholesale service area was estimated at 1.8 million in 2015 and is projected to increase to over 2.2 million by 2040 with a growth rate of about 0.9% per year. Retail per capita water use has decreased over time with a total daily per capita water use (Gallons Per Capita Daily [GPCD]) of 115 GPCD in 2001 and more recently 94 GPCD in 2010.

SFPUC owns and operates San Francisco's combined sewer system. San Francisco's wastewater is transported to one of two local treatment plants: the Southeast Treatment Plant or the Oceanside Treatment Plant. In order to treat additional flow during a storm, a third treatment plant, North Point Wet-Weather Facility, is utilized. For a non-rain day an average of 80 million gallons of wastewater is collected and transported to one of the two treatment plants. On rain days, the wastewater system can collect and treat up to 575 million gallons a day (SFPUC, 2014).

In September 2015, the City entered into a landfill disposal agreement with Recology, Inc. for disposal of all solid waste collected in San Francisco, at the Recology Hay Road Landfill in Solano County. The agreement is in effect through September 2024 or until 3.4 million tons have been disposed, whichever occurs first (SFPD, 2015). The city would have an option to renew the agreement for a period of six years or until an additional 1.6 million tons have been disposed, whichever occurs first.

Discussion

a. Wastewater Treatment Requirements: Less-than-Significant Impact

As discussed in Section 5.13, Population and Housing, the proposed project's installation of canopies over the station entrances/exits and the replacement/refurbishment of existing street-level escalators would not directly or indirectly result in construction of new homes or other residential units, new jobs, or otherwise induce growth that would increase the population in the City. As such, there would be no increase in wastewater during project operation. The proposed project would cause no change to the existing quantity and type of wastewater treated at the Southeast Treatment Plant, Oceanside Treatment Plant, or North Point Wet-Weather Facility. Because the project-related wastewater would be similar in quality to the existing wastewater generated at the site, the impact on the Regional Water Quality Control Board wastewater treatment requirements would be **less than significant**.

b, d, e. Water and Wastewater Services: No Impact

Construction. The amount of construction workers will vary from an average of five to a maximum of twelve at each construction location. At any given time, there could be three escalator locations and three canopy locations undergoing construction simultaneously. In compliance with BFS Section 01 52 00, the contractor would provide portable toilets and drinking water for contruction workers. Therefore, **no impact** on the public water or wastewater services and facilities provided by SFPUC would occur during construction of the proposed project.

Water and Wastewater. The proposed project's installation of canopies over the station entrances/exits and the replacement/refurbishment of existing street-level escalators would not directly or indirectly result in construction of new homes or other residential units, new jobs, or otherwise induce growth that would increase the population in the City. Therefore the proposed project would not result in a net increase in water demand or cause the need for new or expanded water facilities. Nor would the proposed project lead to an increase in wastewater generation or cause the need for the construction of new wastewater treatment facilities. Thus, there would be **no impact** to existing water supplies, water distribution infrastructure, or wastewater treatment facilities.

c. Stormwater Drainage Facilities: Less-than-Significant Impact

As described in Section 5.19, Hydrology and Water Quality, the proposed project would not increase the amount of impervious surfaces as there would be no net change related to the proposed project. Therefore, the rate and amount of surface runoff from the proposed project would be similar to existing flows and would not alter the demand on the capacity of existing or planned stormwater drainage systems. Rainwater runoff from the canopy roofs would collect in canopy gutters and downspouts before flowing into storm drain system in the sidewalk where they occur. For canopies that do not have access to a storm drain system, permission from the San Francisco Department of Public Works has been granted to allow runoff from the roofs to daylight at the face of the curb. Consequently, the proposed project would not require or result in the construction of new stormwater drainage facilities or expansion of existing facilities. The impact on existing drainage facilities would be **less than significant**.

f, g. Solid Waste: Less-than-Significant Impact

Construction. The Recology Hay Road Landfill is permitted to accept up to 2,400 tons per day of solid waste. At that maximum permitted rate, the landfill has the capacity to accommodate solid waste until approximately 2034 (SFPD, 2018). The proposed project would comply with BFS Section 01 74 21, which requires preparation of a Waste Management Plan at or before the pre-construction meeting. The BFS requires a minimum diversion of 75 percent of construction waste from landfill; 100 percent of steel, asphalt, concrete, and land-clearing waste from landfill;

and an overall minimum of 70 percent of remaining demolition waste from landfill. These diversion rates exceed the requirements of the 2016 California Green Building Standards Code (a minimum of 65 percent of the nonhazardous construction and demolition waste be recycled and/or salvaged for reuse). Therefore, the construction impact on landfill capacity would be **less than significant**.

Operations. The proposed project's installation of canopies over the station entrances/exits and the replacement/refurbishment of existing street-level escalators would not directly or indirectly result in construction of new homes or other residential units, new jobs, or otherwise induce growth that would increase the population in the City. Therefore, operation of the proposed project would not result in an increase in the generation of solid waste. Expansion of the existing Recology Hay Road Landfill in Solano County, or construction of new solid waste facilities, would not be necessary and **no impact** would result.

5.18 Other Issue(s)

Would the project:
a. Result in, contribute to, or substantially affect other environmental issues(s)? If so, specify below and evaluate:

Discussion

a. Other Issues – Energy Use: Less-than-Significant Impact

CEQA requires an energy use analysis, addressing project construction and operations, but does not specify significance criteria for evaluation of impacts. In terms of energy use during project construction, BART would seek to minimize construction-related energy use by specifying in its construction contracts for equipment to be turned off when not in use, with idling of construction equipment limited to not more than 5 minutes, which would reduce energy use during construction. These requirements are specified in Mitigation Measure AQ-1 in Section 5.3, Air Quality, under Item b. Construction of the canopies and the replacment/refurbishment of the escalators would comply with the California Green Building Code, including requirements for construction and demolition recycling, which would reduce the amount of energy needed to produce original materials. As a result, the proposed project would have reduced operation and maintenance energy use compared to other structures of a similar size. Electrical and natural gas lines would not be affected under the proposed project, and construction of the proposed project would follow proper construction standards during excavation to avoid impacting existing below-ground utilities. In summary, the proposed project would not result in, contribute to, or substantially affect energy consumption or energy conservation plans. The impact on energy use and conservation efforts would be **less than significant**.

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5.19 Mandatory Findings of Significance

Would the project:	Significant or Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less-Than-Significant Impact	No Impact
a. Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal, or eliminate important examples of the major periods of California history or prehistory?	❑	■	❑	❑
b. Does the project have impacts that are individually limited but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?	❑	❑	■	❑
c. Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	❑	■	❑	❑

Discussion

a. Degrade Habitat, Reduce Species, Restrict Species Range or Eliminate Important Examples of Major Periods of California History/Prehistory: Less-than-Significant Impact with Mitigation Incorporated

Based on the project site, background research, site visits, and analysis herein, the proposed project would have no potential to substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or wildlife habitat, or reduce the number or restrict the range of a rare or endangered plant or animal, because these listed species are not present. As discussed in Section 5.4, Biological Resources, the project site is urban and developed, and no habitat exists at the project site for special-status species, and no wetlands or waterways are at the site. Impacts to migratory and nesting birds would be **less than significant with mitigation incorporated.**

The Initial Study in Section 5.5, Cultural Resources concludes that the proposed project would have a less-than-significant impact on historical resources, and no impact on archaeological resources, human remains, or tribal cultural resources. The

proposed project's impact on the historical integrity of historic resources near the project site would be minimal and result in less-than-significant impacts. The construction of canopy covers over BART station entrances to protect escalators from weather-related damage and promote passenger safety and security would be consistent with the existing urban setting present within Downtown San Francisco. Thus, the proposed project would not cause a substantial adverse change in the significance of a historic architectural resource, pursuant to Section 15064.5. Therefore, **less-than-signficant-impacts** on historical resources would occur.

One archaeological resource is present within the study area, which is located within the footprint of the Civic Center/UN Plaza station over 70 feet below the street surface. The proposed project would not require implementation of ground-disturbing activities that would reach this depth of disturbance that could result in an adverse change to in the significance of an archaeological resource, pursuant to Section 15064.5. Additionally, excavations related to construction of the proposed project would occur where prior construction of stations would have already disturbed any archaeological resources present. Therefore, **no impact** on archaeological resources would occur.

The Yerba Buena Cemetery and CA-SFR-28 are the only archaeological resources within the CEQA study area, located within the footprint of the Civic Center/UN Plaza Station. Burials at the Yerba Buena Cemetery were reportedly buried 13 feet below street level and were removed in 1871, while CA-SFR-28 was buried over 70 feet below the street level and removed in 1969. The relatively shallow depth of disturbance for the proposed project would occur in previously disturbed soils/fill material within the footprint of the original BART station excavation. The proposed project would not require any ground-disturbing activities that could result in the disturbance of human remains, including those interred outside formal cemeteries. As such, the proposed project would have no impact on any human remains pursuant to CEQA Guidelines Section 15064.5, and **no impact** on human remains would occur.

With the recent adoption of AB 52, impacts on tribal cultural resources must be addressed under CEQA. Based on the results of correspondence with the Native American Heritage Commission (NAHC) and the Northwest Information Center (NWIC) records search, no known tribal cultural resources listed or determined eligible for listing in the CRHR, or included in a local register of historical resources as defined by PRC Section 5020.1(k), pursuant to PRC Section 21074(a)(1), would be impacted by the proposed project. In addition, BART did not determine any resources that could potentially be affected by the proposed project to be a tribal cultural resource significant pursuant to criteria set forth in PRC Section 5024.1(c). Therefore, the proposed project is not anticipated to impact any such resources and **no impact** would result.

b. Cumulative Impacts: Less-than-Significant Impact

The cumulative discussion determines whether the proposed roject in combination with other approved or foreseeable projects would result in a significant cumulative impact, and, if so, whether the proposed project's contribution to the significant cumulative impact would be cumulatively considerable. A list of approved or reasonably foreseeable projects considered in this cumulative impact analysis for the proposed project is included in Appendix E. Cumulative impacts would be less than significant or the proposed project would result in a less than cumulatively considerable contribution to cumulative impacts.

As stated in Section 5.16, Transportation/Traffic, the proposed project would not have any effect on traffic congestion that would cumulate with other foreseeable developments. The proposed project's traffic impacts would not be cumulatively considerable. Therefore, the cumulative traffic impact would be **less than significant**.

As discussed in Section 5.3, Air Quality, the proposed project's construction and operational emissions would not exceed the BAAQMD thresholds of significance. Therefore, emissions associated with the proposed project would not be cumulatively considerable, and the cumulative impact would be less than significant. Furthermore, the proposed project would not be a substantial source of TAC and/or $PM_{2.5}$ emissions. Neither construction nor operational emissions for the proposed project would expose sensitive receptors to substantial pollutant concentrations. The proposed project would not have a cumulatively considerable impact on TACs, and the cumulative impact with the proposed project would be **less than significant.**

Construction activities associated with the proposed project could result in short-term odor emissions from diesel exhaust associated with construction equipment. The proposed project would use typical construction techniques, and the odors would be typical of most construction sites and temporary. The odors associated with the proposed project would be consistent with existing land uses. Therefore, the proposed project would not create objectionable odors affecting a substantial number of people. No cumulatively considerable impact on odors would occur and, thus, the cumulative impacts with the proposed project would be **less than significant.**

As discussed above, the proposed project would have less-than-significant impacts on historic resources. Therefore, there would be a **less-than-significant** cumulative impact with the proposed project on historic resources.

Any near- and long-term future development projects proposed within the project vicinity would be subject to similar best management practices and mitigation measures, such as compliance with the California Building Code, requirements to implementstormwater pollution controls, construction hour limitations, and requirement for a construction traffic management plan. Therefore, the proposed

project's impacts would not be cumulatively considerable, and the cumulative impact would be **less than significant.**

c. Effects on Human Beings: Less-than-Significant Impact with Mitigation Incorporated

Based on background research, site visits, and the analysis herein, project construction would not cause substantial adverse effects on human beings with mitigation incorporated. See Section 5.3, Air Quality for potential construction-related impacts on human beings. All other construction-related environmental impacts would be less than significant. Operational impacts would be less than significant for all environmental topics described in this Initial Study. Therefore, construction and operational impacts on human beings would be **less than significant with mitigation incorporated.**

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None

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5.18 Other Issue(s)

None

5.19 Mandatory Findings of Significance

None

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APPENDIX A

AIR QUALITY / GREENHOUSE GAS

CalEEMod Construction Emission Estimates

Annual Emissions Per Location 1 escalator/1 canopy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2019	0.0368	0.3391	0.2560	0.0006	0.0168	0.0173	0.0342	0.0045	0.0162	0.0207	0.0000	55.7327	55.7327	0.0095	0.0000	55.9703

Project 22 escalators/22 canopies

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2019	0.8096	7.4602	5.632	1.34E-02	0.3696	0.3806	0.7524	9.94E-02	0.3564	0.4554	0	1226.1194	1226.1194	0.209	0	1231.347
Average	0.00045	0.00414	0.00312	0.00001	0.00020	0.00021	0.00042	0.00006	0.00020	0.00025						
Average lbs/day	0.90	8.27	6.24	0.01	0.41	0.42	0.83	0.11	0.40	0.50						

Amortized GHG 41.04

1804 working days

2000 lbs /ton

82 months

22 working days

Start 1/3/2019

End 11/7/2025

BART Canopy and Escalator Modernization Project

San Francisco County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
User Defined Industrial	1.00	User Defined Unit	0.04	0.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	4.6	**Precipitation Freq (Days)**	64
Climate Zone	5			**Operational Year**	2020
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	641.35	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

BART Canopy and Escalator Modernization Project - San Francisco County, Annual

Project Characteristics - Construction only run.

Land Use - Acreage based on size of typical canopy and escalator.

Construction Phase - Project specific schedule per location.

Off-road Equipment - Project specific equipment per canopy and escalator.

Off-road Equipment - Default demo equipment.

Off-road Equipment - Equipment delivery

Off-road Equipment - Includes backhoe during trenching/utilities phase.

Trips and VMT - Assumes 12 workers max per day. Assumes 6 round trips (rt) per escalator demo, 50 mi. Assumes 1 rt per day for installation per canopy and escalator, 30 mi. 1 rt for escalator delivery, 76 mi to district boundary.

Demolition - Typical escalator square footage based on project site diagram.

Grading - Assumes canopy will have foundation/excavation material off-haul.

Energy Use -

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	100.00	90.00
tblConstructionPhase	NumDays	10.00	30.00
tblConstructionPhase	NumDays	1.00	5.00
tblGrading	MaterialExported	0.00	336.00
tblLandUse	LotAcreage	0.00	0.04
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	PhaseName		Mobilization
tblOffRoadEquipment	PhaseName		Mobilization

tblOffRoadEquipment	PhaseName		Mobilization
tblOffRoadEquipment	PhaseName		Trenching Utilities
tblOffRoadEquipment	PhaseName		Trenching Utilities
tblOffRoadEquipment	UsageHours	6.00	4.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	1.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	8.00	1.00
tblTripsAndVMT	HaulingTripLength	20.00	50.00
tblTripsAndVMT	HaulingTripLength	20.00	76.00
tblTripsAndVMT	HaulingTripNumber	42.00	10.00
tblTripsAndVMT	HaulingTripNumber	1.00	12.00
tblTripsAndVMT	HaulingTripNumber	0.00	2.00
tblTripsAndVMT	VendorTripLength	7.30	30.00
tblTripsAndVMT	VendorTripNumber	0.00	2.00
tblTripsAndVMT	WorkerTripNumber	8.00	24.00
tblTripsAndVMT	WorkerTripNumber	5.00	24.00
tblTripsAndVMT	WorkerTripNumber	3.00	24.00
tblTripsAndVMT	WorkerTripNumber	0.00	24.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2019	0.0368	0.3391	0.2560	6.1000e-004	0.0168	0.0173	0.0342	4.5200e-003	0.0162	0.0207	0.0000	55.7328	55.7328	9.5000e-003	0.0000	55.9703
Maximum	**0.0368**	**0.3391**	**0.2560**	**6.1000e-004**	**0.0168**	**0.0173**	**0.0342**	**4.5200e-003**	**0.0162**	**0.0207**	**0.0000**	**55.7328**	**55.7328**	**9.5000e-003**	**0.0000**	**55.9703**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2019	0.0368	0.3391	0.2560	6.1000e-004	0.0168	0.0173	0.0342	4.5200e-003	0.0162	0.0207	0.0000	55.7327	55.7327	9.5000e-003	0.0000	55.9703
Maximum	**0.0368**	**0.3391**	**0.2560**	**6.1000e-004**	**0.0168**	**0.0173**	**0.0342**	**4.5200e-003**	**0.0162**	**0.0207**	**0.0000**	**55.7327**	**55.7327**	**9.5000e-003**	**0.0000**	**55.9703**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	1-3-2019	4-2-2019	0.1419	0.1419
2	4-3-2019	7-2-2019	0.1859	0.1859
3	7-3-2019	9-30-2019	0.0470	0.0470
		Highest	0.1859	0.1859

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**1.0000e-005**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**2.0000e-005**	**2.0000e-005**	**0.0000**	**0.0000**	**2.0000e-005**

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**1.0000e-005**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**2.0000e-005**	**2.0000e-005**	**0.0000**	**0.0000**	**2.0000e-005**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

BART Canopy and Escalator Modernization Project - San Francisco County, Annual

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Mobilization	Site Preparation	1/3/2019	1/9/2019	5	5	
2	Demolition	Demolition	1/10/2019	2/20/2019	5	30	
3	Trenching Utilities	Trenching	2/21/2019	3/21/2019	5	21	
4	Building Construction	Building Construction	3/22/2019	7/25/2019	5	90	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Mobilization	Cranes	1	1.00	231	0.29
Mobilization	Forklifts	1	1.00	89	0.20
Mobilization	Graders	0	0.00	187	0.41
Mobilization	Off-Highway Trucks	0	0.00	402	0.38
Mobilization	Tractors/Loaders/Backhoes	1	1.00	97	0.37
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Rubber Tired Dozers	0	0.00	247	0.40
Demolition	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Trenching Utilities	Tractors/Loaders/Backhoes	1	4.00	97	0.37
Trenching Utilities	Trenchers	0	0.00	78	0.50
Building Construction	Cranes	1	4.00	231	0.29
Building Construction	Forklifts	2	4.00	89	0.20
Building Construction	Tractors/Loaders/Backhoes	0	0.00	97	0.37

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Mobilization	3	24.00	0.00	10.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Demolition	2	24.00	0.00	12.00	10.80	7.30	50.00	LD_Mix	HDT_Mix	HHDT
Trenching Utilities	1	24.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	3	24.00	2.00	2.00	10.80	30.00	76.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Mobilization - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					5.0000e-005	0.0000	5.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.8000e-004	3.0500e-003	1.8100e-003	0.0000		1.6000e-004	1.6000e-004		1.5000e-004	1.5000e-004	0.0000	0.2920	0.2920	9.0000e-005	0.0000	0.2943
Total	**2.8000e-004**	**3.0500e-003**	**1.8100e-003**	**0.0000**	**5.0000e-005**	**1.6000e-004**	**2.1000e-004**	**1.0000e-005**	**1.5000e-004**	**1.6000e-004**	**0.0000**	**0.2920**	**0.2920**	**9.0000e-005**	**0.0000**	**0.2943**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	5.0000e-005	1.8800e-003	5.3000e-004	0.0000	8.0000e-005	1.0000e-005	9.0000e-005	2.0000e-005	1.0000e-005	3.0000e-005	0.0000	0.4537	0.4537	8.0000e-005	0.0000	0.4557
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.0000e-004	1.4000e-004	1.4800e-003	1.0000e-005	4.7000e-004	0.0000	4.8000e-004	1.3000e-004	0.0000	1.3000e-004	0.0000	0.4655	0.4655	1.0000e-005	0.0000	0.4658
Total	**2.5000e-004**	**2.0200e-003**	**2.0100e-003**	**1.0000e-005**	**5.5000e-004**	**1.0000e-005**	**5.7000e-004**	**1.5000e-004**	**1.0000e-005**	**1.6000e-004**	**0.0000**	**0.9192**	**0.9192**	**9.0000e-005**	**0.0000**	**0.9215**

3.2 Mobilization - 2019

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					5.0000e-005	0.0000	5.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.8000e-004	3.0500e-003	1.8100e-003	0.0000		1.6000e-004	1.6000e-004		1.5000e-004	1.5000e-004	0.0000	0.2920	0.2920	9.0000e-005	0.0000	0.2943
Total	**2.8000e-004**	**3.0500e-003**	**1.8100e-003**	**0.0000**	**5.0000e-005**	**1.6000e-004**	**2.1000e-004**	**1.0000e-005**	**1.5000e-004**	**1.6000e-004**	**0.0000**	**0.2920**	**0.2920**	**9.0000e-005**	**0.0000**	**0.2943**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	5.0000e-005	1.8800e-003	5.3000e-004	0.0000	8.0000e-005	1.0000e-005	9.0000e-005	2.0000e-005	1.0000e-005	3.0000e-005	0.0000	0.4537	0.4537	8.0000e-005	0.0000	0.4557
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.0000e-004	1.4000e-004	1.4800e-003	1.0000e-005	4.7000e-004	0.0000	4.8000e-004	1.3000e-004	0.0000	1.3000e-004	0.0000	0.4655	0.4655	1.0000e-005	0.0000	0.4658
Total	**2.5000e-004**	**2.0200e-003**	**2.0100e-003**	**1.0000e-005**	**5.5000e-004**	**1.0000e-005**	**5.7000e-004**	**1.5000e-004**	**1.0000e-005**	**1.6000e-004**	**0.0000**	**0.9192**	**0.9192**	**9.0000e-005**	**0.0000**	**0.9215**

3.3 Demolition - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					1.3000e-004	0.0000	1.3000e-004	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	9.5500e-003	0.0801	0.0814	1.3000e-004		5.2000e-003	5.2000e-003		5.0600e-003	5.0600e-003	0.0000	11.2036	11.2036	1.5600e-003	0.0000	11.2426
Total	**9.5500e-003**	**0.0801**	**0.0814**	**1.3000e-004**	**1.3000e-004**	**5.2000e-003**	**5.3300e-003**	**2.0000e-005**	**5.0600e-003**	**5.0800e-003**	**0.0000**	**11.2036**	**11.2036**	**1.5600e-003**	**0.0000**	**11.2426**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.2000e-004	4.7400e-003	1.4200e-003	1.0000e-005	2.5000e-004	2.0000e-005	2.7000e-004	7.0000e-005	2.0000e-005	9.0000e-005	0.0000	1.2977	1.2977	2.2000e-004	0.0000	1.3032
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.1800e-003	8.2000e-004	8.8700e-003	3.0000e-005	2.8400e-003	2.0000e-005	2.8700e-003	7.6000e-004	2.0000e-005	7.8000e-004	0.0000	2.7931	2.7931	7.0000e-005	0.0000	2.7948
Total	**1.3000e-003**	**5.5600e-003**	**0.0103**	**4.0000e-005**	**3.0900e-003**	**4.0000e-005**	**3.1400e-003**	**8.3000e-004**	**4.0000e-005**	**8.7000e-004**	**0.0000**	**4.0909**	**4.0909**	**2.9000e-004**	**0.0000**	**4.0980**

3.3 Demolition - 2019

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					1.3000e-004	0.0000	1.3000e-004	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	9.5500e-003	0.0801	0.0814	1.3000e-004		5.2000e-003	5.2000e-003		5.0600e-003	5.0600e-003	0.0000	11.2036	11.2036	1.5600e-003	0.0000	11.2426
Total	**9.5500e-003**	**0.0801**	**0.0814**	**1.3000e-004**	**1.3000e-004**	**5.2000e-003**	**5.3300e-003**	**2.0000e-005**	**5.0600e-003**	**5.0800e-003**	**0.0000**	**11.2036**	**11.2036**	**1.5600e-003**	**0.0000**	**11.2426**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.2000e-004	4.7400e-003	1.4200e-003	1.0000e-005	2.5000e-004	2.0000e-005	2.7000e-004	7.0000e-005	2.0000e-005	9.0000e-005	0.0000	1.2977	1.2977	2.2000e-004	0.0000	1.3032
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.1800e-003	8.2000e-004	8.8700e-003	3.0000e-005	2.8400e-003	2.0000e-005	2.8700e-003	7.6000e-004	2.0000e-005	7.8000e-004	0.0000	2.7931	2.7931	7.0000e-005	0.0000	2.7948
Total	**1.3000e-003**	**5.5600e-003**	**0.0103**	**4.0000e-005**	**3.0900e-003**	**4.0000e-005**	**3.1400e-003**	**8.3000e-004**	**4.0000e-005**	**8.7000e-004**	**0.0000**	**4.0909**	**4.0909**	**2.9000e-004**	**0.0000**	**4.0980**

3.4 Trenching Utilities - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	1.2200e-003	0.0123	0.0121	2.0000e-005		8.2000e-004	8.2000e-004		7.5000e-004	7.5000e-004	0.0000	1.4647	1.4647	4.6000e-004	0.0000	1.4763
Total	**1.2200e-003**	**0.0123**	**0.0121**	**2.0000e-005**		**8.2000e-004**	**8.2000e-004**		**7.5000e-004**	**7.5000e-004**	**0.0000**	**1.4647**	**1.4647**	**4.6000e-004**	**0.0000**	**1.4763**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	8.3000e-004	5.7000e-004	6.2100e-003	2.0000e-005	1.9900e-003	2.0000e-005	2.0100e-003	5.3000e-004	1.0000e-005	5.4000e-004	0.0000	1.9552	1.9552	5.0000e-005	0.0000	1.9564
Total	**8.3000e-004**	**5.7000e-004**	**6.2100e-003**	**2.0000e-005**	**1.9900e-003**	**2.0000e-005**	**2.0100e-003**	**5.3000e-004**	**1.0000e-005**	**5.4000e-004**	**0.0000**	**1.9552**	**1.9552**	**5.0000e-005**	**0.0000**	**1.9564**

3.4 Trenching Utilities - 2019

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	1.2200e-003	0.0123	0.0121	2.0000e-005		8.2000e-004	8.2000e-004		7.5000e-004	7.5000e-004	0.0000	1.4647	1.4647	4.6000e-004	0.0000	1.4763
Total	**1.2200e-003**	**0.0123**	**0.0121**	**2.0000e-005**		**8.2000e-004**	**8.2000e-004**		**7.5000e-004**	**7.5000e-004**	**0.0000**	**1.4647**	**1.4647**	**4.6000e-004**	**0.0000**	**1.4763**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	8.3000e-004	5.7000e-004	6.2100e-003	2.0000e-005	1.9900e-003	2.0000e-005	2.0100e-003	5.3000e-004	1.0000e-005	5.4000e-004	0.0000	1.9552	1.9552	5.0000e-005	0.0000	1.9564
Total	**8.3000e-004**	**5.7000e-004**	**6.2100e-003**	**2.0000e-005**	**1.9900e-003**	**2.0000e-005**	**2.0100e-003**	**5.3000e-004**	**1.0000e-005**	**5.4000e-004**	**0.0000**	**1.9552**	**1.9552**	**5.0000e-005**	**0.0000**	**1.9564**

3.5 Building Construction - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0185	0.1994	0.1053	2.0000e-004		0.0107	0.0107		9.8500e-003	9.8500e-003	0.0000	17.8368	17.8368	5.6400e-003	0.0000	17.9778
Total	**0.0185**	**0.1994**	**0.1053**	**2.0000e-004**		**0.0107**	**0.0107**		**9.8500e-003**	**9.8500e-003**	**0.0000**	**17.8368**	**17.8368**	**5.6400e-003**	**0.0000**	**17.9778**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	3.0000e-005	1.1500e-003	3.5000e-004	0.0000	6.0000e-005	1.0000e-005	7.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.3251	0.3251	5.0000e-005	0.0000	0.3265
Vendor	1.2200e-003	0.0325	9.8600e-003	9.0000e-005	2.4100e-003	2.9000e-004	2.7000e-003	7.0000e-004	2.8000e-004	9.7000e-004	0.0000	9.2659	9.2659	1.0600e-003	0.0000	9.2925
Worker	3.5400e-003	2.4500e-003	0.0266	9.0000e-005	8.5300e-003	7.0000e-005	8.6000e-003	2.2700e-003	6.0000e-005	2.3300e-003	0.0000	8.3794	8.3794	2.0000e-004	0.0000	8.3844
Total	**4.7900e-003**	**0.0361**	**0.0368**	**1.8000e-004**	**0.0110**	**3.7000e-004**	**0.0114**	**2.9900e-003**	**3.4000e-004**	**3.3200e-003**	**0.0000**	**17.9704**	**17.9704**	**1.3100e-003**	**0.0000**	**18.0034**

3.5 Building Construction - 2019

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0185	0.1994	0.1053	2.0000e-004		0.0107	0.0107		9.8500e-003	9.8500e-003	0.0000	17.8367	17.8367	5.6400e-003	0.0000	17.9778
Total	**0.0185**	**0.1994**	**0.1053**	**2.0000e-004**		**0.0107**	**0.0107**		**9.8500e-003**	**9.8500e-003**	**0.0000**	**17.8367**	**17.8367**	**5.6400e-003**	**0.0000**	**17.9778**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	3.0000e-005	1.1500e-003	3.5000e-004	0.0000	6.0000e-005	1.0000e-005	7.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.3251	0.3251	5.0000e-005	0.0000	0.3265
Vendor	1.2200e-003	0.0325	9.8600e-003	9.0000e-005	2.4100e-003	2.9000e-004	2.7000e-003	7.0000e-004	2.8000e-004	9.7000e-004	0.0000	9.2659	9.2659	1.0600e-003	0.0000	9.2925
Worker	3.5400e-003	2.4500e-003	0.0266	9.0000e-005	8.5300e-003	7.0000e-005	8.6000e-003	2.2700e-003	6.0000e-005	2.3300e-003	0.0000	8.3794	8.3794	2.0000e-004	0.0000	8.3844
Total	**4.7900e-003**	**0.0361**	**0.0368**	**1.8000e-004**	**0.0110**	**3.7000e-004**	**0.0114**	**2.9900e-003**	**3.4000e-004**	**3.3200e-003**	**0.0000**	**17.9704**	**17.9704**	**1.3100e-003**	**0.0000**	**18.0034**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
User Defined Industrial	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
User Defined Industrial	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
User Defined Industrial	0.607015	0.041018	0.191033	0.087570	0.015386	0.004865	0.027149	0.008727	0.004280	0.004624	0.006947	0.000926	0.000460

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Mitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Unmitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005
Unmitigated	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005
Total	**0.0000**	**0.0000**	**1.0000e-005**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**2.0000e-005**	**2.0000e-005**	**0.0000**	**0.0000**	**2.0000e-005**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005
Total	**0.0000**	**0.0000**	**1.0000e-005**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**2.0000e-005**	**2.0000e-005**	**0.0000**	**0.0000**	**2.0000e-005**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
User Defined Industrial	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
User Defined Industrial	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

APPENDIX B

SPECIES LIST AND CNDDB REPORT

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: November 14, 2017
Consultation Code: 08ESMF00-2018-SLI-0428
Event Code: 08ESMF00-2018-E-01134
Project Name: BART Market St. Canopies

Subject: List of threatened and endangered species that may occur in your proposed project location, and/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, under the jurisdiction of the U.S. Fish and Wildlife Service (Service) 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 Service under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 et seq.).

Please follow the link below to see if your proposed project has the potential to affect other species or their habitats under the jurisdiction of the National Marine Fisheries Service:

http://www.nwr.noaa.gov/protected_species/species_list/species_lists.html

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 ECOS-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 ECOS-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:

http://www.fws.gov/endangered/esa-library/pdf/TOC-GLOS.PDF

Please be aware that bald and golden eagles are protected under the Bald and Golden Eagle Protection Act (16 U.S.C. 668 et seq.), and projects affecting these species may require development of an eagle conservation plan (http://www.fws.gov/windenergy/eagle_guidance.html). Additionally, wind energy projects should follow the wind energy guidelines (http://www.fws.gov/windenergy/) for minimizing impacts to migratory birds and bats.

Guidance for minimizing impacts to migratory birds for projects including communications towers (e.g., cellular, digital television, radio, and emergency broadcast) can be found at: http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/towers.htm; http://www.towerkill.com; and http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/comtow.html.

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 Tracking Number in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List

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

Project Summary

Consultation Code: 08ESMF00-2018-SLI-0428

Event Code: 08ESMF00-2018-E-01134

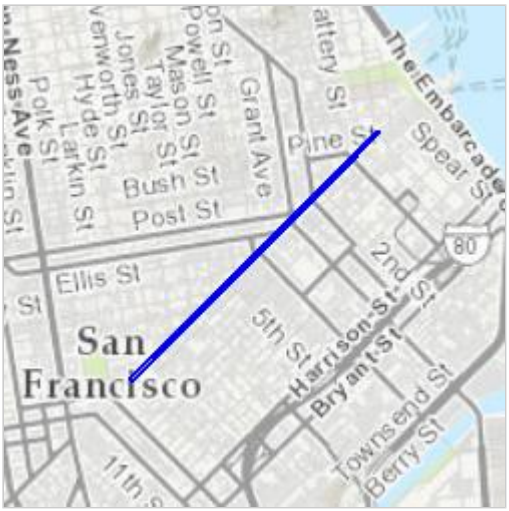
Project Name: BART Market St. Canopies

Project Type: TRANSPORTATION

Project Description: Installation of escalator canopies.

Project Location:

Approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/place/37.78551616046221N122.4061330099338W



Counties: San Francisco, CA

Endangered Species Act Species

There is a total of 20 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. 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.

Mammals

NAME	STATUS
Salt Marsh Harvest Mouse *Reithrodontomys raviventris* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/613	Endangered
Southern Sea Otter *Enhydra lutris nereis* No critical habitat has been designated for this species. ***This species is also protected by the Marine Mammal Protection Act, and may have additional consultation requirements.*** Species profile: https://ecos.fws.gov/ecp/species/8560	Threatened

Birds

NAME	STATUS
California Least Tern *Sterna antillarum browni* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/8104	Endangered
Short-tailed Albatross *Phoebastria (=Diomedea) albatrus* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/433	Endangered
Western Snowy Plover *Charadrius alexandrinus nivosus* 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 is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/8035	Threatened

Reptiles

NAME	STATUS
Green Sea Turtle *Chelonia mydas* Population: East Pacific DPS No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/6199	Threatened

Amphibians

NAME	STATUS
California Red-legged Frog *Rana draytonii* There is **final** critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/2891	Threatened

Fishes

NAME	STATUS
Delta Smelt *Hypomesus transpacificus* There is **final** critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/321	Threatened
Tidewater Goby *Eucyclogobius newberryi* There is **final** critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/57	Endangered

Insects

NAME	STATUS
Bay Checkerspot Butterfly *Euphydryas editha bayensis* There is **final** critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/2320	Threatened
Callippe Silverspot Butterfly *Speyeria callippe callippe* There is **proposed** critical habitat for this species. The location of the critical habitat is not available. Species profile: https://ecos.fws.gov/ecp/species/3779	Endangered
Mission Blue Butterfly *Icaricia icarioides missionensis* There is **proposed** critical habitat for this species. The location of the critical habitat is not available. Species profile: https://ecos.fws.gov/ecp/species/6928	Endangered
San Bruno Elfin Butterfly *Callophrys mossii bayensis* There is **proposed** critical habitat for this species. The location of the critical habitat is not available. Species profile: https://ecos.fws.gov/ecp/species/3394	Endangered

Flowering Plants

NAME	STATUS
Franciscan Manzanita *Arctostaphylos franciscana*	Endangered
There is **final** critical habitat for this species. Your location is outside the critical habitat.	
Species profile: https://ecos.fws.gov/ecp/species/5350	
Marin Dwarf-flax *Hesperolinon congestum*	Threatened
No critical habitat has been designated for this species.	
Species profile: https://ecos.fws.gov/ecp/species/5363	
Marsh Sandwort *Arenaria paludicola*	Endangered
No critical habitat has been designated for this species.	
Species profile: https://ecos.fws.gov/ecp/species/2229	
Presidio Clarkia *Clarkia franciscana*	Endangered
No critical habitat has been designated for this species.	
Species profile: https://ecos.fws.gov/ecp/species/3890	
Presidio Manzanita *Arctostaphylos hookeri var. ravenii*	Endangered
No critical habitat has been designated for this species.	
Species profile: https://ecos.fws.gov/ecp/species/7216	
San Francisco Lessingia *Lessingia germanorum (=L.g. var. germanorum)*	Endangered
No critical habitat has been designated for this species.	
Species profile: https://ecos.fws.gov/ecp/species/8174	
White-rayed Pentachaeta *Pentachaeta bellidiflora*	Endangered
No critical habitat has been designated for this species.	
Species profile: https://ecos.fws.gov/ecp/species/7782	

Critical habitats

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

Selected Elements by Scientific Name

California Department of Fish and Wildlife

California Natural Diversity Database

Query Criteria: Quad IS (San Francisco North (3712274))

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
Arctostaphylos franciscana Franciscan manzanita	PDERI040J3	Endangered	None	G1	S1	1B.1
Arctostaphylos montana ssp. ravenii Presidio manzanita	PDERI040J2	Endangered	Endangered	G3T1	S1	1B.1
Arenaria paludicola marsh sandwort	PDCAR040L0	Endangered	Endangered	G1	S1	1B.1
Astragalus tener var. tener alkali milk-vetch	PDFAB0F8R1	None	None	G2T2	S2	1B.2
Bombus caliginosus obscure bumble bee	IIHYM24380	None	None	G4?	S1S2	
Bombus occidentalis western bumble bee	IIHYM24250	None	None	G2G3	S1	
Carex comosa bristly sedge	PMCYP032Y0	None	None	G5	S2	2B.1
Carex praticola northern meadow sedge	PMCYP03B20	None	None	G5	S2	2B.2
Chloropyron maritimum ssp. palustre Point Reyes salty bird's-beak	PDSCR0J0C3	None	None	G4?T2	S2	1B.2
Chorizanthe cuspidata var. cuspidata San Francisco Bay spineflower	PDPGN04081	None	None	G2T1	S1	1B.2
Cicindela hirticollis gravida sandy beach tiger beetle	IICOL02101	None	None	G5T2	S2	
Cirsium andrewsii Franciscan thistle	PDAST2E050	None	None	G3	S3	1B.2
Cirsium hydrophilum var. vaseyi Mt. Tamalpais thistle	PDAST2E1G2	None	None	G2T1	S1	1B.2
Clarkia franciscana Presidio clarkia	PDONA050H0	Endangered	Endangered	G1	S1	1B.1
Collinsia corymbosa round-headed Chinese-houses	PDSCR0H060	None	None	G1	S1	1B.2
Collinsia multicolor San Francisco collinsia	PDSCR0H0B0	None	None	G2	S2	1B.2
Corynorhinus townsendii Townsend's big-eared bat	AMACC08010	None	None	G3G4	S2	SSC
Danaus plexippus pop. 1 monarch - California overwintering population	IILEPP2012	None	None	G4T2T3	S2S3	
Dicamptodon ensatus California giant salamander	AAAAH01020	None	None	G3	S2S3	SSC
Emys marmorata western pond turtle	ARAAD02030	None	None	G3G4	S3	SSC

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
Enhydra lutris nereis southern sea otter	AMAJF09012	Threatened	None	G4T2	S2	FP
Erethizon dorsatum North American porcupine	AMAFJ01010	None	None	G5	S3	
Euphydryas editha bayensis Bay checkerspot butterfly	IILEPK4055	Threatened	None	G5T1	S1	
Falco peregrinus anatum American peregrine falcon	ABNKD06071	Delisted	Delisted	G4T4	S3S4	FP
Fritillaria liliacea fragrant fritillary	PMLIL0V0C0	None	None	G2	S2	1B.2
Gilia capitata ssp. chamissonis blue coast gilia	PDPLM040B3	None	None	G5T2	S2	1B.1
Gilia millefoliata dark-eyed gilia	PDPLM04130	None	None	G2	S2	1B.2
Grindelia hirsutula var. maritima San Francisco gumplant	PDAST470D3	None	None	G5T1Q	S1	3.2
Hemizonia congesta ssp. congesta congested-headed hayfield tarplant	PDAST4R065	None	None	G5T1T2	S1S2	1B.2
Hesperolinon congestum Marin western flax	PDLIN01060	Threatened	Threatened	G1	S1	1B.1
Heteranthera dubia water star-grass	PMPON03010	None	None	G5	S2	2B.2
Horkelia cuneata var. sericea Kellogg's horkelia	PDROS0W043	None	None	G4T1?	S1?	1B.1
Lasiurus blossevillii western red bat	AMACC05060	None	None	G5	S3	SSC
Lasiurus cinereus hoary bat	AMACC05030	None	None	G5	S4	
Laterallus jamaicensis coturniculus California black rail	ABNME03041	None	Threatened	G3G4T1	S1	FP
Layia carnosa beach layia	PDAST5N010	Endangered	Endangered	G2	S2	1B.1
Leptosiphon rosaceus rose leptosiphon	PDPLM09180	None	None	G1	S1	1B.1
Lessingia germanorum San Francisco lessingia	PDAST5S010	Endangered	Endangered	G1	S1	1B.1
Lichnanthe ursina bumblebee scarab beetle	IICOL67020	None	None	G2	S2	
Melospiza melodia samuelis San Pablo song sparrow	ABPBXA301W	None	None	G5T2	S2	SSC
Microseris paludosa marsh microseris	PDAST6E0D0	None	None	G2	S2	1B.2

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
Pentachaeta bellidiflora white-rayed pentachaeta	PDAST6X030	Endangered	Endangered	G1	S1	1B.1
Phalacrocorax auritus double-crested cormorant	ABNFD01020	None	None	G5	S4	WL
Plagiobothrys chorisianus var. chorisianus Choris' popcornflower	PDBOR0V061	None	None	G3T2Q	S2	1B.2
Plagiobothrys diffusus San Francisco popcornflower	PDBOR0V080	None	Endangered	G1Q	S1	1B.1
Plagiobothrys glaber hairless popcornflower	PDBOR0V0B0	None	None	GH	SH	1A
Plebejus icarioides missionensis Mission blue butterfly	IILEPG801A	Endangered	None	G5T1	S1	
Polemonium carneum Oregon polemonium	PDPLM0E050	None	None	G3G4	S2	2B.2
Rana draytonii California red-legged frog	AAABH01022	Threatened	None	G2G3	S2S3	SSC
Riparia riparia bank swallow	ABPAU08010	None	Threatened	G5	S2	
Sanicula maritima adobe sanicle	PDAPI1Z0D0	None	Rare	G2	S2	1B.1
Scapanus latimanus insularis Angel Island mole	AMABB02032	None	None	G5THQ	SH	
Silene verecunda ssp. verecunda San Francisco campion	PDCAR0U213	None	None	G5T1	S1	1B.2
Speyeria callippe callippe callippe silverspot butterfly	IILEPJ6091	Endangered	None	G5T1	S1	
Spirinchus thaleichthys longfin smelt	AFCHB03010	Candidate	Threatened	G5	S1	SSC
Stebbinsoseris decipiens Santa Cruz microseris	PDAST6E050	None	None	G2	S2	1B.2
Taxidea taxus American badger	AMAJF04010	None	None	G5	S3	SSC
Trachusa gummifera San Francisco Bay Area leaf-cutter bee	IIHYM80010	None	None	G1	S1	
Triphysaria floribunda San Francisco owl's-clover	PDSCR2T010	None	None	G2?	S2?	1B.2
Triquetrella californica coastal triquetrella	NBMUS7S010	None	None	G2	S2	1B.2
Vespericola marinensis Marin hesperian	IMGASA4140	None	None	G2	S2	
Zapus trinotatus orarius Point Reyes jumping mouse	AMAFH01031	None	None	G5T1T3Q	S1S3	SSC

Record Count: 62

APPENDIX C

ENVIRONMENTAL DATA RESOURCES REPORT

(Bound Separately)

APPENDIX D

CONSTRUCTION NOISE

Project-Generated Construction Source Noise Prediction Model

60541916 - WP 38 BART Market St. Canopies

Location	Distance to Nearest Receiver in feet	Combined Predicted Noise Level (L_{eq} dBA)
Threshold*	281	60
	50	75
Noise Receptor	50	75

Assumptions:	Reference Emission Noise Levels (L_{max}) at 50 feet[1]	Usage Factor[1]
Excavator	85	0.1

Ground Type	Hard
Ground Factor	0.00

Predicted Noise Level [2]	L_{eq} dBA at 50 feet[2]
Excavator	75.0

Combined Predicted Noise Level (L_{eq} dBA at 50 feet)
75.0

Sources:

[1] Obtained from the FHWA Roadway Construction Noise Model, Janua

[2] Based on the following from the Federal Transit Noise and Vibration I

L_{eq}(equip) = E.L.+10*log (U.F.) - 20*log (D/50) - 10*G*log (D/50)

Where: E.L. = Emission Level;

U.F.= Usage Factor;

G = Constant that accounts for topography and ground effects; and

D = Distance from source to receiver.

*Project specific threshold

Project-Generated Construction Source Noise Prediction Model

60541916 - WP 38 BART Market St. Canopies

Location	Distance to Nearest Receiver in feet	Combined Predicted Noise Level (L_{eq} dBA)
Threshold*	281	60
	50	75
ST-01	50	75

Assumptions:	Reference Emission Noise Levels (L_{max}) at 50 feet[1]	Usage Factor[1]
Crane	85	0.1

Ground Type	Hard
Ground Factor	0.00

Predicted Noise Level [2]	L_{eq} dBA at 50 feet[2]
Crane	75.0

Combined Predicted Noise Level (L_{eq} dBA at 50 feet)
75.0

Sources:

[1] Obtained from the FHWA Roadway Construction Noise Model, Janua

[2] Based on the following from the Federal Transit Noise and Vibration I

L_{eq}(equip) = E.L.+10*log (U.F.) - 20*log (D/50) - 10*G*log (D/50)

Where: E.L. = Emission Level;

U.F.= Usage Factor;

G = Constant that accounts for topography and ground effects; and

D = Distance from source to receiver.

*Project specific threshold

Project-Generated Construction Source Noise Prediction Model

60541916 - WP 38 BART Market St. Canopies

Location	Distance to Nearest Receiver in feet	Combined Predicted Noise Level (L_{eq} dBA)
Threshold*	377	60
	50	78
ST-01	50	78

Assumptions:	Reference Emission Noise Levels (L_{max}) at 50 feet[1]	Usage Factor[1]
Dump Truck	84	0.1
Excavator	85	0.1

Ground Type	Hard
Ground Factor	0.00

Predicted Noise Level [2]	L_{eq} dBA at 50 feet[2]
Dump Truck	74.0
Excavator	75.0

Combined Predicted Noise Level (L_{eq} dBA at 50 feet)
77.5

Sources:

[1] Obtained from the FHWA Roadway Construction Noise Model, Janua

[2] Based on the following from the Federal Transit Noise and Vibration I

L_{eq}(equip) = E.L.+10*log (U.F.) - 20*log (D/50) - 10*G*log (D/50)

Where: E.L. = Emission Level;

U.F.= Usage Factor;

G = Constant that accounts for topography and ground effects; and

D = Distance from source to receiver.

*Project specific threshold

APPENDIX E

CUMULATIVE PROJECTS

Appendix E: Cumulative Projects List
BART Market Street Canopies and Escalators Modernization Project

Project Name/Address	Residential (number of units)	Non-Residential (square feet or number of rooms)	Non-Residential Uses	Status
The Mexican Museum and Residential Tower Project 706 Mission Street	Approx. 146 condominium units	12,000 sf (Aronson Building) 60,000 sf (Mexican Museum) 4,800 sf (retail/restaurant)	Rehabilitation of historic Aronson Building; core and shell for new home of the Mexican Museum, Ground level retail/restaurant shell space, construction of an adjacent new 43-story residential tower with 146 condominium units	Under Construction
Central Subway	--	--	1.7-Mile Extension of T Third LRT Line including new stations at 4th Street/Brannan Street, 4th Street/Folsom Street, Stockton Street at Union Square, and Stockton Street/Washington Street.	Under Construction
Ritz-Carlton Club and Residences 690 Market Street	113 dwelling units (mix of hotel and residential units)	6,875 gsf of retail use 30,360 gsf of garage space 30,965 gsf of circulation/lobby/storage/mechanical service space	Retail Use; garage space; independently accessible parking spaces; valet service and vehicle lifts; bicycle spaces; circulation/lobby/storage/mechanical service space	Complete
Asian Art Museum Expansion and Improvements 45 Hyde Street	--	Phase 2 - approx. 20,500 sf Phase 3 - approx. 20,000 sf	Phase 2 - addition atop the lower level expansion to contain 400-seat auditorium and two levels of museum gallery/office space/service space for the auditorium Phase 3 - extend the existing building's north wing (including galleries, museum office space, work rooms, storage, and other service space)	Unknown
450-474 O'Farrell Street/ 532 Jones Street	176 dwelling units (187,640 sf)	6,200 sf of restaurant/retail space 13,595 sf for religious institution use 8,398 sf of open space 21,070 sf of below-grade parking	Restaurant and/or retail space; replacement church; open space; below-grade parking	Proposed
300 Grant	--	68,000 gsf	Construct new building with retail uses from basement level through the 2nd floor; retail or office uses on the 3rd floor; office uses on floors 4 through 6.	Building Permit Approved
222 Second Street	--	430,650 sf	430,650 sf of office space 4,600 sf of retail space 8,750 sf of enclosed publicly accessible "indoor park" space	Unknown
75 Howard Street	186 units	5,658 gsf	Retail use (restaurant, a café, the residential lobby, and services and amenities for residents)	Building Permit Approved
1979 Mission Street Mixed-Use Project 1979 Mission Street	331 dwelling units (291,027 gsf)	34,198 gsf (commercial) 68,697 gsf (parking)	34,198 gsf of commercial use (within multiple tenant spaces) 68,697 gsf of parking and building services	Proposed
101 Hyde Street	85 dwelling units	4,923 sf	Approx. 4,923 sf of ground-floor retail space One below-grade level of parking and bicycle parking spaces	Planning Entitled

Project Name/Address	Residential (number of units)	Non-Residential (square feet or number of rooms)	Non-Residential Uses	Status
1500-1580 Mission Street	550 dwelling units (559,190 gsf)	60,000 gsf (retail) 26,400 gsf (open space) 553,900 (office component)	Residential and retail (712,790 gsf) including 60,000 gsf of retail space and 26,400 gsf of common residential open space. Office component (553,000 total gsf) which would include 87,000 sf permit center for City Departments	Building Permit Approved
Commonwealth Club 110 Embarcadero/ 115 Steuart Street	--	23,819 sf of floor space (11,964 sf for assembly/circulation; 6,770 sf would be for storage; 5,085 for office use)	Interior improvements, rehabilitation and the vertical addition of a 3rd story (5,085 sf), circulation penthouse, and roof deck for use as offices	Unknown
Mason and Turk Residential Mixed-Use Project 19-25 Mason Street and Turk Street	155 dwelling units	2,825 sf	2,825 sf (ground-floor retail spaces along both street frontages)	Unknown
Affordable Housing with Ground Floor Retail Project 200-214 6th Street	67 affordable rental housing units (47,710 sf)	2,845 sf (commercial) 1,215 sf (community room) 2,589 sf (private open space) 3,691 sf (common open space)	2,845 sf (ground-floor commercial space) 1,215 sf (community room) 2,589 sf (private open space) and 3,691 sf (common open space) including a rear yard and roof terrace	Unknown
465 Tehama/ 468 Clementina Street	13 dwelling units (9,762 sf)	--	--	Unknown
248 9th Street and 252 9th Street	15 dwelling units	2,858 sf (restaurant) 1,200 sf (roof top deck) 750 sf (common deck) 1,130 sf (common deck)	2,858 sf (ground floor restaurant space) 1,200 sf (roof top deck/common open space) 750 sf (common deck on the 5th floor) 1,130 sf (common deck on the 2nd floor)	Unknown
Better Market Street Project	--	--	Redesign and provide various transportation and streetscape improvements	Unknown
2 New Montgomery Street	Convert 25 hotel rooms to residential use and construct new 125 dwelling units	--	--	Unknown
First and Mission 50 1st Street	124 dwelling units	Unknown	New 61-story, 850-foot-tall building with 34 stories of office and a potential 5-story street-level urban room or atrium	Unknown
1145 Mission Street	25 units	4,125 sf	Common roof deck, ground floor retail and basement parking	Proposed
1540 Market Street	180 units	Unknown	Construction of two buildings connected by pedestrian bridge at the third floor.	Proposed
5M Project 925 Mission Street	688 units	574,800 sf	Substantial development of office, retail, residential, cultural, educational, and open space uses	Planning Entitled
119 7th Street	39 dwelling units	Unknown	Ground-floor retail	Unknown
1546-1564 Market Street	109 dwelling units	5,010 sf	5,010 square feet of ground-floor retail.	Building Permit Approved
361 Turk Street/ 145 Leavenworth Street	234 group housing rooms	Unknown	Construction of two 8-story, 80-foot-tall, group housing building	Unknown
Moscone Center Expansion	--	Unknown	Increase in size of Moscone Center from about 945,200 gross square feet to 1,156,300 gross square feet.	Unknown
350 Mission Street	--	420,000 sf	New 30-story, 455-foot-tall building; 420,000 square feet of office space, plus retail and parking	Unknown

Project Name/Address	Residential (number of units)	Non-Residential (square feet or number of rooms)	Non-Residential Uses	Status
1125 Market Street	164 units	3,005 sf	3,005 sf of ground floor retail and 47 parking spaces	Proposed
22 Franklin Street	24 dwelling units	2,120 gsf	Demolition of existing auto body shop and construction of 8-story, 85-foot-tall mixed-use building with ground floor retail along Franklin	Under Construction
950 Market Street	316 residential units	24,000 square feet of convention office space, and 15,000 square feet of ground floor retail space.	Demolition of five structures and construction of 180-foot tall mixed-use building with a 310-room hotel with banquet, meeting, and sky lounge facilities, 24,000 square feet of convention office space, and 15,000 square feet of ground floor retail space.	Building Permit Approved
1700 Market Street	48 dwelling units	Unknown	Construction of 8-story, 85-foot-tall residential building and ground-floor commercial.	Building Permit Approved
1075 Market Street	99 units	7,500 sf	Demolition of existing commercial building and construction of 8-story, 90-foot-tall mixed-use building with 7,500 square feet of retail space.	Under Construction
Shorenstein Residential 1066 Market Street	330 dwelling units	1,885 sf	Replace 2-story building and parking lot with 14-story, 120-foot-tall building containing 1,885 square feet of retail space.	Planning Entitled
1028 Market Street	186 dwelling units	Unknown	Replace 2-story commercial building with 13-story, 120-foot-tall mixed-use building with ground-floor retail.	Planning Entitled
1053 - 1055 Market Street	--	--	Replace existing commercial building with 10-story, 90-foot-tall, 155-room tourist hotel.	Proposed
1740 Market Street	110 dwelling units	Unknown	Replace existing commercial building with 9-story, 85-foot-tall building with ground floor retail.	Planning Entitled
Urban Communities, LLC 1699 Market Street	160 dwelling units	4,500 sf	Replace 2-story industrial/commercial building with 9-story, 85-foot-tall building with 4,500 square feet of ground-floor retail.	Building Permit Approved
AGI Avant, Inc. 1270 Mission Street	199 dwelling units	Unknown	Replace single-story commercial building and surface parking lot with 13-story, 120-foot-tall mixed-use building	Planning Entitled
Trumark Urban 1601 Mission Street	200 dwelling units	10,400 sf	Replace gas station and car wash with 11-story, 120-foot-tall mixed-use building with 10,400 square feet of retail space.	Building Permit Approved
1500 – 1580 Mission Street	550 units	463,300 sf	Partial demo of two commercial buildings and construction of a 380-foot-tall residential building and a 260-foot-tall tower with approximately 463,300 square feet of office/permit center space for City and County of San Francisco.	Building Permit Approved
Crescent Heights 10 South Van Ness Avenue	767 dwelling units	20,600 gsf	Replacement of an auto dealership with 40-story, 400-foot tall building with 20,600 gross square feet of retail/commercial space.	Proposed
220 Battery Street	2 Net Units	Unknown	An addition of 3 stories configured as two town house units with roof decks on top of an existing 2 story office building.	Proposed

Project Name/Address	Residential (number of units)	Non-Residential (square feet or number of rooms)	Non-Residential Uses	Status
417 Montgomery Street	--	5,629 sf	Conditional Use authorization to permit office use at the ground floor.	Proposed
1 Montgomery Street	--	--	Unknown	Proposed
146 Geary Street	--	--	Change of Use of from retail sales to office on floors 2, 3, and 4.	Proposed
181 Fremont Street	140 units residential	Unknown	66-story office mixed-use high-rise project, 796,933 total gsf, 878-ft, with class A office space (floors 2-44), 140 units residential (floors 47-65), with sky lobby, and auto lift-accessed 241-space 4-level underground parking	Under construction
524 Howard Street	334 Net Units	7,800 sf	Replace the existing surface parking lot at 524 Howard Street (Block 3721, Lot 013) with a 48-story, 495-foot tall residential tower with 300,052 square feet of residential uses over 1,470 square feet of ground floor retail uses	Planning Entitled
79 New Montgomery Street	--	--	--	Proposed
180 New Montgomery Street	--	--	--	Proposed
72 Ellis Street	--	79,054 sf	Demolition of an existing surface parking lot and construction of an 11-story, 156 room hotel with ground floor retail.	Planning Entitled
5 3rd Street	--	--	Change of use of existing Hearst Building to include hotel, roof deck, office, and retail.	Proposed
425 Mason Street	--	--	Convert a vacant office building into a tourist hotel with ground-level bar.	Proposed
231 Ellis Street	400 Net Units	22,000 sf	Demolition of seven buildings containing a mixture of commercial, residential and retail uses	Proposed
168-186 Eddy Street	113 Net Units	5,297 sf	Change of use from a parking lot to an 8 story mixed-use residential/retail development. 100% affordable housing project proposing 113 Units.	Under construction
436 O'Farrell Street	9 Net Units	Unknown	Conversion of nine offices into nine residential units.	Under construction
555 O'Farrell Street	7 Net Units	Unknown	--	Proposed
181 Turk Street/ 180 Jones Street	37 Net Units	3,060 sf	Ground floor commercial space and 8 off-street parking spaces	Building Permit Approved
57 Taylor Street	78 Net Units	Unknown	Subdivision of parcel containing a mixed-use residential and retail building and a surface parking lot.	Proposed
430 Eddy Street	23 Net Units	1,594 sf	Proposed new construction of eight story over basement building with residential condo units, and two commercial unit at street level.	Planning Entitled
469 Eddy Street	28 Net Units	2,600 sf	8-story building with residential units, 2,600 sf of ground floor retail, and below-grade vehicle parking spaces.	Planning Entitled
135 Hyde Street	72 Net Units	1,060 sf	Residential and commercial space	Proposed
1100 Market Street	--	1,440 sf	Renovation of existing hotel - interior renovation and top floor addition	Under construction

Project Name/Address	Residential (number of units)	Non-Residential (square feet or number of rooms)	Non-Residential Uses	Status
996 Mission Street	--	38,947 sf	New 8-story hotel (2 floors residential hotel units, 5 floors tourist hotel) with ground floor retail.	Proposed
475 Minna Street	15 Net Units	--	Construct a 9-story residential apartment building with 25% open space in rear yard.	Planning Entitled
498 Natoma Street	--	--	Conditional Use Authorization to permit the change of use from PDR to Community Facility.	Proposed
445 Natoma Street	--	--	Renovation of building	Under construction
960 Howard Street	--	--	Change of use only	Proposed
534-536 Natoma Street	1 Net Unit	--	Replacement and reconfiguration of a rear stair and the creation of a new dwelling unit within the existing building envelope.	Building Permit Approved
1076 Howard Street	--	--	Change of use from PDR to Office and a vertical addition of 1 additional story.	Proposed
1088 Howard Street	--	--	Change of use	Proposed
1036-1040 Mission Street	83 Net Units	963 sf	A 9 story mid-rise residential building, housing 83 affordable units ranging from studios (junior one-bedrooms to three bedroom flats.	Under construction
1095 Market Street	--	18,188 sf	Change of use from office to hotel with 202 hotel rooms with roof deck and 3,992 square feet of ground floor retail.	Under construction
1169 Market Street	--	--	--	Building Permit Approved
150 7th Street	--	10,808 sf	--	Proposed
630 Natoma Street	3 Net Units	Unknown	Demolition of existing 1-story over basement office/storage building and construction of a 4-story, 3-unit condominium over 2-car parking garage.	Under construction
1112 Howard Street	--	--	--	Building Permit Approved
727-731 Natoma Street	6 Net Units	--	--	Proposed
1298 Howard Street	130 Net Units	Unknown	The proposed project would contain residential units, 10,050 sf of flex office/retail space. Also proposed is a pedestrian alley connecting Howard and Natoma Streets.	Planning Entitled

Note: All projects are within 0.25 mile of project site.
-- = not applicable