# INITIAL STUDY AND MITIGATED NEGATIVE DECLARATION

# 345 SHAW ROAD AND ADDITIONAL DIGITAL BILLBOARDS PROJECT

PREPARED FOR:

**CITY OF SOUTH SAN FRANCISCO**
DEPARTMENT OF ECONOMIC AND COMMUNITY DEVELOPMENT
315 MAPLE AVENUE
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NOVEMBER 2019

# TABLE OF CONTENTS



## ATTACHMENTS

## FIGURES

# INTRODUCTION TO THIS DOCUMENT

This document serves as the Initial Study and Mitigated Negative Declaration (IS/MND) for the proposed 345 Shaw Road and Additional Digital Billboards Project, prepared in accordance with the California Environmental Quality Act (CEQA) (Public Resources Code Sections 1500 et seq.).

Per CEQA Guidelines (Section 15070), a Mitigated Negative Declaration can be prepared to meet the requirements of CEQA review when the Initial Study identifies potentially significant environmental effects, but revisions in the project and/or incorporation of mitigation measures would avoid the effects or mitigate the effects to a point where clearly no significant effects would occur.

This document is organized in three sections as follows:

- Introduction and Project Information. This section introduces the document and discusses the project description including location, setting, and specifics of the lead agency and contacts.
- Mitigated Negative Declaration. This section lists the impacts and mitigation measures identified in the Initial Study and proposes findings that would allow adoption of this document as the CEQA review document for the proposed project.
- Initial Study Checklist. This section discusses the CEQA environmental topics and checklist questions and identifies the potential for impacts and proposed mitigation measures to avoid these impacts.

# PROJECT INFORMATION

1. **Project Title:** 345 Shaw Road Billboard and Additional Digital Billboards Project

2. **Lead Agency Contact:** City of South San Francisco
Billy Gross, Senior Planner
Planning Division
City of South San Francisco
315 Maple Avenue
South San Francisco, CA 94083
650-877-8535 or Billy.Gross@ssf.net

3. **Project Location:** In the Allstore Self Storage parking lot at 345 Shaw Road (APN 015-165-050) adjacent to U.S. 101 in South San Francisco.

4. **Project Applicant's Name and Address:** Patrick Powers
Clear Channel Outdoor, Inc.
Northern California Division
555 12th Street, Suite 950
Oakland, CA 94607
(510) 835-5900 x7219

5. **General Plan Designation:** Mixed Industrial

6. **Zoning:** Freeway Commercial

7. **Site and Vicinity:**

The project involves a Zoning Code amendment that would allow additional digital billboards on parcels adjacent to the U.S. 101 corridor within South San Francisco subject to applicable location and spacing regulations. Billboards would not be allowed in residentially-zoned areas or within 1,000 feet of another digital billboard or 500 feet of a conventional billboard along the same side of the highway. **Figure 1** (on page 7) shows the areas within which new billboards could be proposed under the Zoning Code amendment.

The currently proposed billboard site is located within the paved parking area operated privately by Allstore Self Storage at 345 Shaw Road. An approximately 25-foot wide landscape strip is located between the self storage site and the highway to the east, consisting largely of ruderal (disturbance-associated) shrubs and grasses. The site is surrounded by commercial and industrial uses. The closest residential areas to the currently proposed billboard are located approximately 2,000 feet to the south, 2,100 feet to the west and 4,900 feet to the north. There are no residences in the vicinity to the east. The specific location of the currently proposed billboard is shown on **Figure 1** and **Figure 2** (on pages 7 and 9).

8. **Project Description:**

345 Shaw Road Billboard

The project involves construction and operation of one new double-sided outdoor advertising LED billboard located at 345 Shaw Road in South San Francisco, California. The billboard is proposed to reach a maximum height of 80 feet.

An “LED billboard” consists of a display surface that supports an image generated by rows of light emitting diodes (LED). The image on the billboard is static for a period of time, not less than eight

seconds, before cycling to the next image. Operational details provided by the applicant include the following:

- Each LED display would be approximately 60 feet wide by 20 feet tall (the lighted face would be 59 feet and 6 inches wide by 17 feet and 10 inches tall) mounted on a column so that the overall height is approximately 80 feet above grade. The two display faces will be oriented in a "V" shape such that the displays face the two directions of highway traffic. The design of the billboard is shown in **Figures 2** and **3** (on pages 9 and 11).
- Brightness of each digital display: Lighting levels on each face of the digital billboard will not exceed 0.3 foot candles over ambient levels, as measured using a foot candle meter at a 350' distance according to the guidelines of the Outdoor Advertising Association of America (OAAA).
- Power: Central breaker panel with a primary feed of 200 amps at 120/240 single phase or 200 amps at 208Y/120 three phase primary feed; electrical connections would be UL and IEC-approved.
- Signage would be controlled remotely and would have remote maintenance software, and the operator will immediately shut off, or go to "full black" in the event of a malfunction that affects at least 50 percent of the sign area.
- Light sensors would be installed with each face of the billboard to measure ambient light levels and to adjust light intensity to respond to such conditions.
- The billboard will be programmed for nighttime reduced (4 percent of peak power) power operation.
- LED lighting has a directional nature and the projected viewing angle values for the proposed billboard is ± 30° vertically and ± 60° horizontally. Shaders will be located above each row of LEDs to prevent light from projecting upward into the sky.

Zoning Code Amendment

The City's Zoning Code (§20.360.006.Q) currently limits the number of digital billboards along U.S. 101 within city limits to a maximum of three double-sided billboards. Three double-sided digital billboards have already been built or are in the pipeline. Because a Zoning Code amendment is required for approval of the proposed billboard, this amendment, including the following assumptions, has been included as part of the project description analyzed in this document. While the final wording of the amendment was not available at the time of drafting of this report, the City's intent is that digital billboards could be allowed on properties adjacent to U.S. 101 in conjunction with negotiated Relocation Agreements so long as they otherwise meet location constraints (such as non-residential properties not adjacent to the San Bruno Mountains) and Caltrans spacing constraints (within 1,000 feet of another digital billboard or 500 feet of a conventional billboard along the same side of the highway).

Construction of a Billboard

The following information regarding the process involved in installing a digital billboard is based on discussions with representatives of Clear Channel, and is the process typically followed. The following description of activities has been included here as general project information, and has been used as the basis for evaluating potential construction-period impacts for air quality and noise. The specifics of the procedure could be modified if recommended by the structural engineer based upon the results of a site-specific soil study. The construction would be subject to the Building Code, and a Building Permit would be required for construction activities. The construction typically proceeds as described below.

Active Day 1: On the first day at the site, a crew arrives with a drilling rig and drills a hole approximately 6' to 7' in diameter and 30' to 60' deep depending on specific soil characteristics at the site. A trench plate is placed over the hole before the crew leaves the site.

Active Day 2: The column for the billboard is delivered to the site. The column is typically 42" in diameter. The column is lifted into place in the foundation hole by a crane, and is maintained in place by I-beams that are welded to the column. A building inspection is required at this point.

Active Day 3: After the building inspection is complete, concrete is poured and allowed to cure for a minimum of three days.

Active Day 4: After the concrete cures for three days, the crew returns to the site. The I-beam welds are ground off and the I-beams removed. The upper structure components are delivered to the site and assembled on the ground by the crew (usually 4-5 persons). The crane lifts the upper structure into place atop the column.

Electrical service: Electrical service will require trenching approximately 25' from the nearest PG&E vault with subsequent re-paving of that length.

9. **Required Approvals**: Approval of the project will require a Zoning Code amendment, Relocation Agreement, Development Agreement, and Design Review from the City of South San Francisco. Additionally, the following reviews and approvals would be required:

   Appropriate clearance through Caltrans is also required for highway-oriented signs. This may require a relocation agreement if the freeway segment is determined to be classified as a "landscaped freeway" (as discussed under Regulatory Provisions).

   Construction activities will require appropriate administrative permits.

   The City and applicant may also enter into a Development Agreement.

   Tribal Contact

   Pursuant to Public Resources Code §21080.3.1, a lead agency is required to provide formal written notification within 14 days of determining a project application is complete or determining that the agency is to undertake a project to all traditionally and culturally affiliated California Native American tribes that have requested notice. To date, no tribes have requested notification/consultation pursuant to Public Resources Code §21083.3.2. That being said, South San Francisco includes local tribes on notification lists for all environmental documents.

10. **Regulatory Provisions:** The following regulations are applicable to installation of billboards and compliance has been assumed in analysis of this project.

    Federal

    The federal Highway Beautification Act of 1965 (23 U.S.C. 131) provides for control of outdoor advertising, including removal of certain types of signs, along the interstate highway system. The Act is enforced by the Federal Highway Administration (FHWA).

    As part of its enforcement effort, FHWA has entered into agreements regarding the Act with state departments of transportation. The agreements with California are described under the State provisions, below.

    State

    The California Department of Transportation (Caltrans) is involved in the control of "off-premise" displays along state highways. Such displays advertise products or services of businesses located on property other than the display. Caltrans does not regulate on-premise displays. (Caltrans Landscape Architecture Program, 2008)

California has entered into two agreements with FHWA as part of the implementation of the Highway Beautification Act: one dated May 29, 1965, and a subsequent agreement dated February 15, 1968. The agreements generally provide that the State will control the construction of all outdoor advertising signs, displays and devices within 660 feet of the interstate highway right-of-way. The agreements provide that such signs shall be erected only in commercial or industrial zones and are subject to the following restrictions:

- No signs shall imitate or resemble any official traffic sign, signal or device, nor shall signs obstruct or interfere with official signs;
- No signs shall be erected on rocks or other natural features;
- Signs shall be no larger than 25 feet in height and 60 feet in width, excluding border, trim and supports;
- Signs on the same side of the freeway must be separated by at least 500 feet; and
- Signs shall not include flashing, intermittent or moving lights, and shall not emit light that could obstruct or impair the vision of any driver.

California regulates outdoor advertising in the Outdoor Advertising Act (Business and Professions Code, Sections 5200 et seq.) and the California Code of Regulations, Title 4, Division 6 (Sections 2240 et seq.), which incorporate the Federal Highway Beautification Act by reference. Caltrans enforces the law and regulations. Caltrans requires applicants for new outdoor lighting to demonstrate that the owner of the parcel consents to the placement of the sign, that the parcel on which the sign would be located is zoned commercial or industrial, and that local building permits are obtained and complied with. A digital billboard is identified as a "message center" in the statute, which is an advertising display where the message is changed more than once every two minutes, but no more than once every four seconds. (Business and Professions Code, Section 5216.4)

In brief, off-premises changeable electronic variable message signs (CEVMS) adjacent to controlled routes shall incorporate standards pertaining to:

1. Duration of Message
2. Transition Time
3. Brightness
4. Spacing
5. Locations

Most importantly as a result of FHWA recommendations, to ensure driver safety, no billboard manufacturers presently use moving displays or less than a 4-second duration between messages.

Some freeways are classified as "landscaped freeways." A landscaped freeway is defined as one that is now, or may in the future be, improved by the planting of lawns, trees, shrubs, flowers or other ornamental vegetation requiring reasonable maintenance on one or both sides of the freeway (Government Code §5216). Off-premise displays are not allowed along landscaped freeways except when approved as part of Relocation Agreements pursuant to §5412 of the Outdoor Advertising Act. It appears the project area is within a segment of U.S. 101 that is considered a classified landscaped freeway, though such a determination would be made during the approval process with Caltrans.[1]

The Outdoor Advertising Act contains a number of provisions relating to the construction and operation of billboards:

[1] California Department of Transportation, July 13, 2011, *Classified "Landscape Freeways"*, available at http://www.dot.ca.gov/hq/LandArch/lsfwy/pdf/class_ls_fwy.pdf.

- The sign must be constructed to withstand a wind pressure of 20 pounds per square feet of exposed surface (§5401);
- No sign shall display any statements or words of an obscene, indecent or immoral character (§5402);
- No sign shall display flashing, intermittent or moving light or lights (§5403(h));
- Signs are restricted from areas within 300 feet of an intersection of highways or of highway and railroad right-of-ways, but a sign may be located at the point of interception, as long as a clear view is allowed for 300 feet, and no sign shall be installed that would prevent a traveler from obtaining a clear view of approaching vehicles for a distance of 500 feet along the highway (§5404); and
- Message center signs may not include any illumination or message change that is in motion or appears to be in motion or that change or expose a message for less than four seconds. No message center sign may be located within 500 feet of an existing billboard, or 1,000 feet of another message center display, on the same side of the highway (§5405).

Additional restrictions on outdoor signage are found in the California Vehicle Code. Section 21466.5 prohibits the placing of any light source "…of any color of such brilliance as to impair the vision of drivers upon the highway." Specific standards for measuring light sources are provided. The restrictions may be enforced by Caltrans, the California Highway Patrol or local authorities.

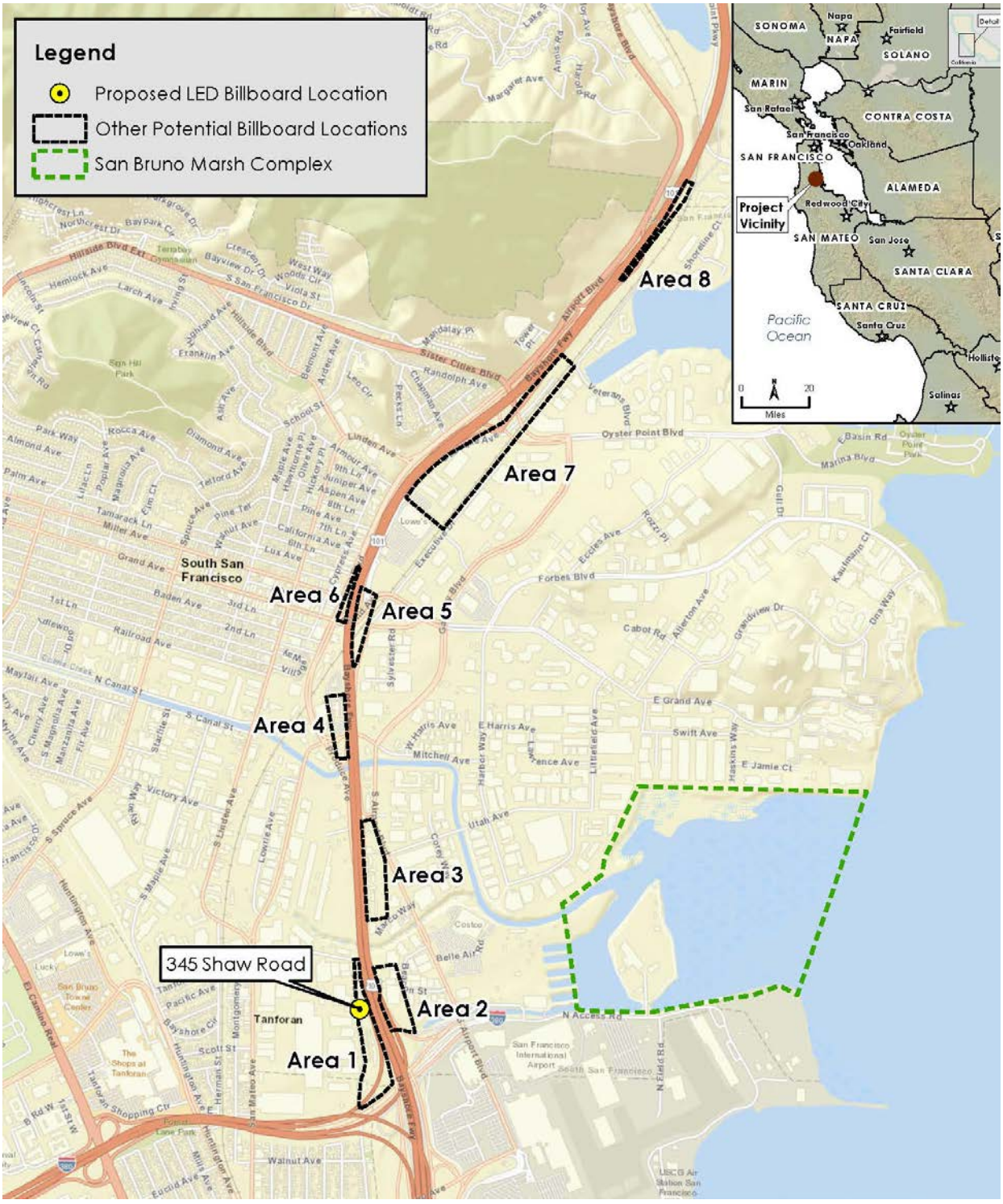


**Figure 1: Proposed 345 Shaw Road Billboard Location and Areas Where Future Billboards May be Proposed**

Source: HT Harvey, prepared for the biological analysis included as Attachment A, August 2019

Note that potential billboard "Areas" are numbered for specific biological analysis but are not otherwise used in this analysis.

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**Figure 2: Proposed 345 Shaw Road Billboard Site Plan**

Source: AMZ Engineering, for the applicant, dated April 29, 2019

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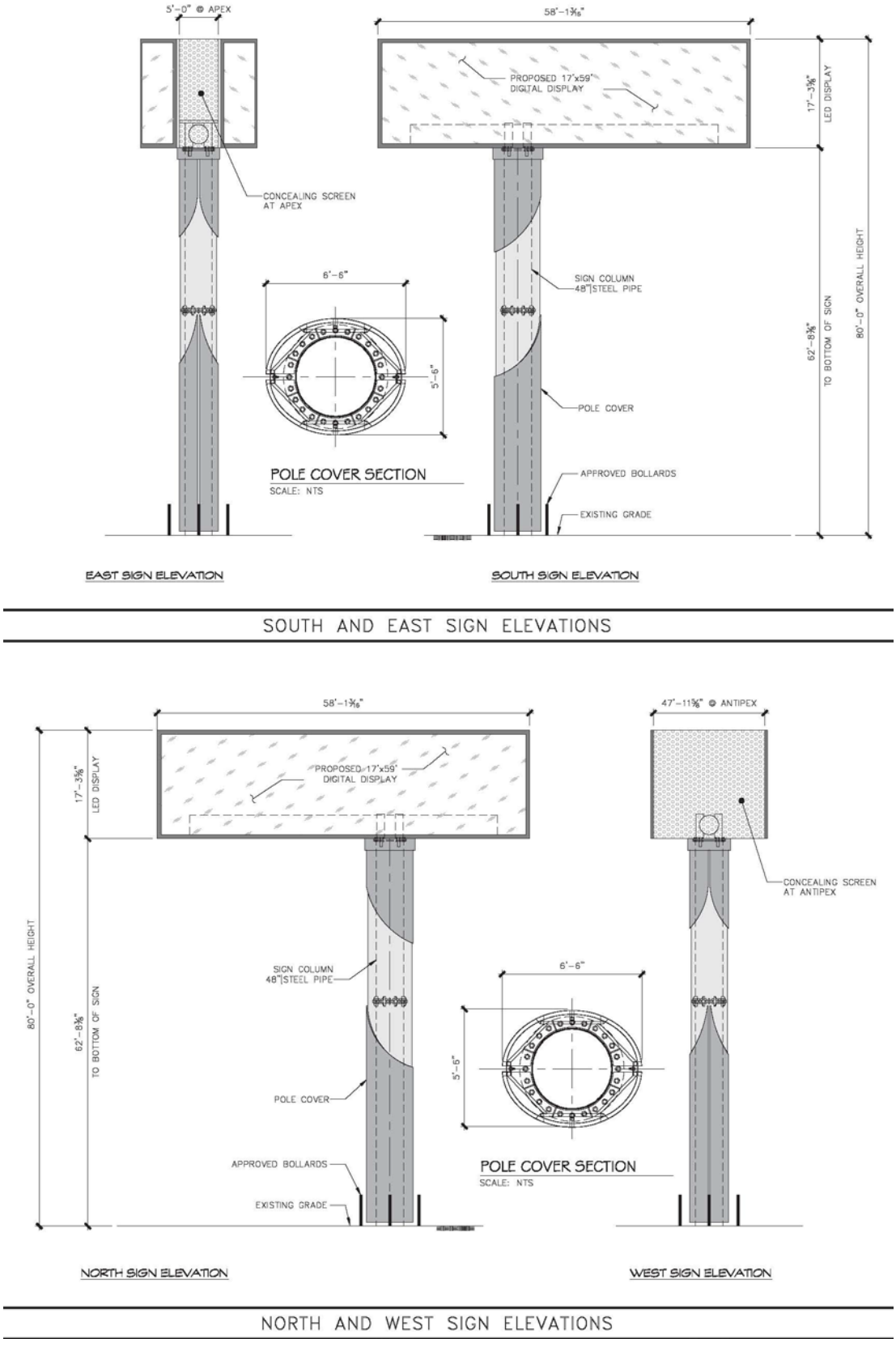


**Figure 3: Proposed 345 Shaw Road Billboard Design**

Source: AMZ Engineering, for the applicant, dated April 29, 2019

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# MITIGATED NEGATIVE DECLARATION

## PROJECT DESCRIPTION, LOCATION, AND SETTING

This Mitigated Negative Declaration has been prepared for the 345 Shaw Road and Additional Digital Billboards Project, including the related Zoning Code amendment. See the previous Project Information section of this document for details of the project.

## POTENTIALLY SIGNIFICANT IMPACTS REQUIRING MITIGATION

The following is a list of potential project impacts and the mitigation measures recommended to reduce these impacts to a less than significant level. Refer to the following Initial Study Checklist section of this document for a more detailed discussion.

**The following impacts and mitigation measures apply to both the 345 Shaw Road Billboard and future Additional Digital Billboards:**

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The digital billboard technology has the potential to operate at levels brighter than those specified as the operational limits. Impacts would remain less than significant under specified operating conditions, which are required to be tested under Mitigation Measure Visual-1, below.

**Mitigation Measure Visual-1:** **Billboard Brightness Field Testing. Applicants and future b**illboard operators shall demonstrate through field testing compliance with a 0.3 footcandle increase over ambient light at 250 feet for billboards up to 14' by 48' or at 350 feet for billboards up to 20' by 60' during nighttime conditions upon initial start-up, at 6 months of operation and at the request of the City for the life of the billboard. The operator shall fund field testing by an independent contractor or City staff trained in the use of a handheld photometer to demonstrate continued compliance. The City shall consider citizen complaints consisting of direct personal impacts as cause for requesting field testing.

If increases in ambient light are found to be above the 0.3 footcandle level at the specified distance from the billboard, the dimming level shall be adjusted until this level can be demonstrated. This must be completed and demonstrated through follow-up field testing within 24 hours or the billboard shall not be operated until the lighting levels can be brought into compliance.

If no above-threshold levels have been measured in the prior three tests, field testing shall be requested no more often than twice yearly. Otherwise, field tests can be requested up to once monthly.

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Project air quality emissions would be below applicable threshold levels. However, the local Air District, Bay Area Air Quality Management District (BAAQMD), recommends implementation of construction mitigation measures to reduce construction-related emissions and fugitive dust for all projects. These basic measures are included in Mitigation Measure Air-1, below and would ensure construction-period criteria pollutant impacts are less than significant.

**Mitigation Measure**

**Air-1:** **Basic Construction Management Practices.** The project shall demonstrate proposed compliance with all applicable regulations and operating procedures prior to issuance of demolition, building or grading permits, including implementation of the following BAAQMD "Basic Construction Mitigation Measures":

i) All exposed surfaces (e.g., parking areas, staging areas, soil piles, graded areas, and unpaved access roads) shall be watered two times per day.

ii) All haul trucks transporting soil, sand, or other loose material off-site shall be covered.

iii) 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.

iv) All vehicle speeds on unpaved roads shall be limited to 15 mph.

v) All roadways, driveways, and sidewalks to be paved shall be completed as soon as possible. Building pads shall be laid as soon as possible after grading unless seeding or soil binders are used.

vi) Idling times shall be minimized either by shutting equipment off when not in use or reducing the maximum idling time to 5 minutes (as required by the California airborne toxics control measure Title 13, Section 2485 of California Code of Regulations [CCR]). Clear signage shall be provided for construction workers at all access points.

vii) 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.

viii) Post a publicly visible sign with the telephone number and person to contact at the Lead Agency regarding dust complaints. This person shall respond and take corrective action within 48 hours. The Air District's phone number shall also be visible to ensure compliance with applicable regulations.

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Should construction of the billboard occur during the avian breeding season, birds nesting in the nearby area may be disturbed by construction activities. Native birds are protected from "take" by the federal Migratory Bird Treaty Act and the California Fish and Game Code, and the abandonment of even one active nest as a result of project construction activities could be considered take under the Fish and Game Code. Mitigation Measure Bio-1 would ensure nesting birds will not be disturbed and that the impact would be less than significant.

**Mitigation Measure**

**Bio-1:** **Nesting Birds.** If construction occurs during the breeding season (January through August), the site and a surrounding radius of not less than 1,000 feet shall be surveyed by a qualified biologist to verify the presence or absence of nesting birds protected under the Federal Migratory Bird Treaty Act and the California Fish and Wildlife Code. Pre-construction surveys shall be conducted within 15 days prior to start of work and shall be submitted to the Building Division. If the survey indicates the potential presences of nesting birds, the applicant shall comply with recommendations of the biologist regarding an appropriately sized buffer around the nest in which no work will be allowed until the young have successfully fledged. The size of the nest buffer will be based to a large extent on the nesting species and its sensitivity to disturbance.

While there are no known cultural resources at the 345 Shaw Road billboard site and specific locations of future additional digital billboards are not known, if unknown cultural resources or human remains are encountered during construction, Mitigation Measure Cultural-1 would require protection procedures to ensure impacts would be less than significant.

**Mitigation Measure**

**Cultural-1: Cultural Resource Protection Procedures.** The project sponsor / construction contractor shall provide in the construction contracts that crews involved in ground disturbance shall be required to implement the following procedures in the event that cultural resources (historic/archaeological/paleontological/Native American) or human remains are encountered during ground disturbance activities. Cultural resources in this area could include but are not limited to Native American resources including chert or obsidian flakes, projectile points, mortars, and pestles; and dark friable soil containing shell and bone dietary debris, heat-affected rock, or human burials; or Historic-period resources including stone or adobe foundations or walls; structures and remains with square nails; and refuse deposits or bottle dumps, often located in old wells or privies.

- Immediately halt or relocate excavations and contact a qualified expert to inspect the site as appropriate. If the qualified expert determines that potentially significant cultural materials or human remains are encountered, a qualified expert must record, recover, retrieve, and/or remove any such cultural materials.
- The qualified expert must study any cultural resources found on-site and publish data concerning these resources.
- If a human bone or bone of unknown origin is found during construction, all work shall stop in the vicinity of the find, and the County Coroner shall be contacted immediately. If the remains are determined to be Native American, the coroner shall notify the Native American Heritage Commission, who shall notify the person most likely believed to be a descendant. The most likely descendant shall work with the contractor to develop a program for re-internment of the human remains and any associated artifacts. No additional work is to take place within the immediate vicinity of the find until the identified appropriate actions have taken place.
- The qualified expert shall provide a copy of documentation of all recovered data and materials found on-site to the appropriate authorities for recordation.
- At the completion of work, the qualified expert will submit a summary of findings to the Planning Director for review and for the final record.

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Significant effects could occur if the proposed digital billboard did not comply with operational restrictions intended to protect driver safety. With implementation of these Mitigation Measures Traf-1and Traf-2, the City will receive accurate information from the operator regarding compliance on an ongoing basis to ensure that impacts on transportation and traffic safety would be less than significant.

**Mitigation Measure**

**Trans-1:** **Annual Report.** The operator the digital billboard shall submit to the City, within thirty days following June 30 of each year, a written report regarding operation of each digital billboard during the preceding period of July 1 to June 30. The operator may submit a combined report for all such digital billboards operated by such operator within the city limits. The report shall, when appropriate, identify incidents or facts that relate to specific digital billboards. The report shall be submitted to the

Director of the Economic and Community Development Department and shall include information relating to the following:

a. Status of the operator's license as required by California Business and Professions Code §§5300 et seq.;

b. Status of the required permit for individual digital billboards, as required by California Business and Professions Code §§5350 et seq.;

c. Compliance with the California Outdoor Advertising Act, California Business and Professions Code §§5200 and all regulations adopted pursuant to such Act;

d. Compliance with California Vehicle Code §§21466.5 and 21467;

e. Compliance with provisions of written agreements between the U.S. Department of Transportation and the California Department of Transportation pursuant to the federal Highway Beautification Act (23 U.S.C. §131);

f. Compliance with mitigation measures identified in the Mitigated Negative Declaration adopted as part of project approval;

g. Each written or oral complaint received by the operator, or conveyed to the operator by any government agency or any other person, regarding operation of each digital billboard included in the report;

h. Each malfunction or failure of each digital billboard included in the report, which shall include only those malfunctions or failures that are visible to the naked eye, including reason for the malfunction, duration and confirmation of repair; and

i. Operating status of each digital billboard included in the report, including estimated date of repair and return to normal operation of any digital billboard identified in the report as not operating in normal mode.

**Mitigation Measure Trans-2:** **Interactive Technology**. The operator shall not install or implement any technology that would allow interaction with drivers, vehicles, or any device located in vehicles, including, but not limited to a radio frequency identification device, geographic positions system, or other device without prior approval of the City, taking into consideration technical studies and Caltrans or U.S. Department of Transportation policies and guidance available at the time of the request.

**In addition to those listed above, the following impacts and mitigation measures apply to future Additional Digital Billboards:**

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The specific locations of the other billboards are not yet proposed but would need to be appropriately spaced from any light-sensitive uses in their vicinity. Mitigation Measure Visual-2 requires applicants of future additional digital billboards to demonstrate that the location of the billboard would be adequately far from light-sensitive uses to result in a less than significant impact related to light.

**Mitigation Measure Visual-2:** **Digital Billboard Distance from Light Sensitive Uses.** The location of any future proposed additional digital billboards shall be demonstrated to be at least 250 feet

away from light-sensitive uses (residential) in the direction of the lighted billboard face for billboards up to 14’ by 48’ or at least 350 feet for billboards up to 20’ by 60’.

If a future digital billboard is proposed closer than the specified distance from a light-sensitive use, additional study must be undertaken to determine the potential for lighting impacts.

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Sensitive habitats, in the form of wetlands and other waters of the U.S./State, are present within or in close proximity to portions of the U.S. 101 corridor where future additional digital billboards could be proposed. The specific locations of the other billboards are not yet proposed, but to avoid direct and indirect impacts to sensitive habitat during the construction period, future billboards would be required to avoid locations within wetlands and other waters of the U.S./State and to implement best management practices to avoid impacts on any such nearby areas as specified in Mitigation Measure Bio-2.

**Mitigation Measure Bio-2:** **Avoid Wetlands and Other Waters and Implement Best Management Practices for Water Quality.** The applicant and/or billboard operator shall implement the following measures during billboard location and installation to avoid direct and indirect impacts on wetlands and other waters (the approximate boundaries of which are shown on Figures 6 and 7):

- No billboard column shall be located within wetland habitat or other waters including Colma Creek, San Bruno Channel, San Bruno Creek or any adjacent brackish marsh habitat.
- If wetlands or other waters are present within 50 feet of billboard installation work areas, their boundaries shall be clearly indicated on project plans and in the field with flagging or fencing during construction activities. No project activities shall occur within those 20-foot setbacks.
- No construction equipment shall be fueled within 100 feet of sensitive habitats or elsewhere in an area that could drain to sensitive habitats.
- All construction equipment shall be checked for leaks (and any leaks will be prepared) before it is used for billboard installation within 100 feet of wetlands or other waters.
- During construction, standard erosion control and water quality measures such as fiver rolls, sand bag barriers and/or storm drain inlet protection shall be implemented to ensure that no soil, construction debris, or other materials will be allowed to enter any sensitive habitat areas.
- Following the completion of construction, any temporarily disturbed ground shall be restored, and any bare dirt present in temporary impact areas that could wash into wetlands or other waters during subsequent rain events will be stabilized via seeding or other means.

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Sensitive habitats, in the form of wetlands and other waters of the U.S./State, are present within or in close proximity to portions of the U.S. 101 corridor where future additional digital billboards could be proposed. The specific locations of the other billboards are not yet proposed but would need to be located/angled such that light dissipating area does not overlap sensitive habitats as specified in Mitigation Measure Bio-3 to avoid direct or indirect impacts to sensitive habitat during the operational period.

**Mitigation Measure**

**Bio-3:** **Limit Construction of Future Billboards in Specifically Defined Locations.** Billboards may be constructed within 607 feet for a 20' by 60' billboard or 500 feet for a 14' by 48' billboard of a wetland or other waters only if the billboards can be angled so that the 607-foot or 500-foot light dissipating area does not overlap any of the sensitive habitats (see Figure 6). If future billboard construction cannot meet this condition, then project-specific analysis would be needed.

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While the specific locations of future additional digital billboards are not known, there are previously-recorded archaeological resources and moderate to high potential of discovering additional historic, archaeological, and/or Native American resources within the U.S. 101 corridor where additional digital billboards could be proposed. Mitigation Measure Cultural-2 would ensure that the impact is reduced to a less than significant level for future additional billboard sites by requiring appropriate action based on the cultural sensitivity of the site, which could include protection procedures, a cultural monitoring and mitigation plan, and/or additional study.

**Mitigation Measure**

**Cultural-2:** **Site-Specific Cultural Assessment and Appropriate Action.** Any future digital billboard applicant shall conduct site-specific assessment of the potential for cultural resources, including at least a Northwest Information Center records' search or a full cultural resources assessment. The results of the assessment will determine the appropriate following action:

*No Known Resources and Low Potential for Discovery*: If site-specific assessment confirms there are no known cultural resources at the proposed billboard location and that the potential for discovery at that location are low, no additional action is required.

*No Known Resources and Moderate or High Potential for Discovery*: If the site-specific assessment determines that there are no known resources but that the potential for discovery of cultural resources at the site are moderate or high, the billboard applicant shall fund preparation and implementation of a cultural monitoring and mitigation plan by a qualified expert to address the potential for presence and disturbance of cultural resources or human remains during excavation of the billboard pole footing. This will include at a minimum monitoring during excavation of the billboard pole footing and may also include but is not limited to additional archival research, hand auger sampling, shovel test units, geoarchaeological analysis, or other common methods used to identify the presence of cultural resources to be determined per the recommendation of the qualified expert. The qualified expert and construction contractors shall follow the appropriate procedures should any cultural resources or human remains be discovered during ground disturbance.

*Known Resources*: If the site-specific assessment determines that there are known cultural resources at the proposed billboard location, then project-specific analysis would be needed.

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During the installation process for a billboard, a hole would be drilled and trenching undertaken for electrical connections and the excavated soil would be transported off-site. This could represent the potential for a significant hazard if the soil is contaminated. Mitigation Measure Haz-1 requires appropriate clearance for the impact to be less than significant.

**Mitigation Measure**

**Haz-1:** **Hazardous Site Clearance or Additional Study.** Prior to issuance of construction permits, the applicant and/or billboard operator shall be required to submit to the City of South San Francisco the following:

- A report showing the site of the proposed billboard and 1,000 foot radius are not included on a list of hazardous materials sites.
- If there are known hazardous materials sites within 1,000 feet of the proposed billboard, the applicant shall submit a Phase I and/or Phase II environmental site assessment detailing that the contamination is not within the area that could be disturbed during billboard construction.
- If contamination is believed to be present in the area to be disturbed by billboard construction, this situation is not covered by this analysis and additional study would be required.

## PROPOSED FINDINGS

The City of South San Francisco has determined that with the implementation of mitigation measures identified in this Mitigated Negative Declaration, the proposed 345 Shaw Road and Additional Digital Billboards Project, including the related Zoning Code amendment, will not have a significant effect on the environment. If this Mitigated Negative Declaration is adopted by the City of South San Francisco, the requirements of CEQA will be met by the preparation of this Mitigated Negative Declaration and the project will not require the preparation of an Environmental Impact Report. This decision is supported by the following findings:

a. The project does not have the potential to degrade the quality of the environment, substantially reduce the habitat of fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels or threaten to eliminate a plant or animal community. It does not reduce the number or restrict the range of a rare or endangered plant or animal. It does not eliminate important examples of the major periods of California history or pre-history. The project does not have any significant, unavoidable adverse impacts. Implementation of specified mitigation measures will avoid or reduce the effects of the project on the environment and thereby avoid any significant impacts.

b. The project does not involve impacts which are individually limited but cumulatively considerable, because the described project will incorporate mitigation measures to avoid significant impacts of the project in the context of continued growth and development in the City of South San Francisco.

c. The project does not have environmental effects that will cause substantial adverse effects on human beings, either directly or indirectly, because all adverse effects of the project will be mitigated to less than significant levels.

# INITIAL STUDY CHECKLIST

## ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED

Environmental factors that may be affected by the project are listed alphabetically below. Marked factors (☒) were determined to be potentially affected by the project, involving at least one impact that is potentially significant, as indicated in the Environmental Evaluation Form Checklist and related discussion that follows. Unmarked factors (☐) were determined to not be significantly affected by the project, based on discussion provided in the Checklist, including the application of mitigation measures which the applicant has agreed to implement.

| | | |
|---|---|---|
| ☐ Aesthetics | ☐ Agricultural and Forest 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/Service Systems | |
| ☐ Mandatory Findings of Significance | | |

There are no impacts that would remain significant with implementation of the identified mitigation measures.

## LEAD AGENCY DETERMINATION

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 project proponent. 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.

Signature Date

Billy Gross, Senior Planner

## EVALUATION OF ENVIRONMENTAL EFFECTS

The Checklist portion of the Initial Study begins below, with explanations of each CEQA issue topic. Four outcomes are possible, as explained below.

1. A "no impact" response indicates that no action that would have an adverse effect on the environment would occur due to the project.
2. A "less than significant" response indicates that while there may be potential for an environmental impact, there are standard procedures or regulations in place, or other features of the project as proposed, which would limit the extent of this impact to a level of "less than significant."
3. Responses that indicate that the impact of the project would be "less than significant with mitigation" indicate that mitigation measures, identified in the subsequent discussion, will be required as a condition of project approval in order to effectively reduce potential project-related environmental effects to a level of "less than significant."
4. A "potentially significant impact" response indicates that further analysis is required to determine the extent of the potential impact and identify any appropriate mitigation. If any topics are indicated with a "potentially significant impact," these topics would need to be analyzed in an Environmental Impact Report.

Note that this document does not indicate that any environmental topics would be considered to be "potentially significant" after application of mitigation measures identified in this document and as agreed to by the project applicant.

If separate discussion of the *345 Shaw Road Billboard* and *Additional Digital Billboards* is necessary under an environmental topic in the following checklist, these headers will separate the discussion. If such headers are not included, the discussion (including the singular reference to "project") applies to both the 345 Shaw Road billboard and additional digital billboards that could be allowed under the Zoning Code amendment.

| 1. AESTHETICS<br>Would the project: | Potentially Significant Impact | Less Than Significant With Mitigation | 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 public views of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage points.) If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality? | | | ☒ | |
| d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area? | | ☒ | | |

a) Scenic Vistas.

*345 Shaw Road Billboard*

The site and surrounding area is predominately developed with industrial and commercial uses and is not a scenic resource or vista. The project is located on a flat area near the highway with no substantial views of the Bay from or across the site.

Sign Hill, which contains the prominent concrete "South San Francisco The Industrial City" sign on the hillside, and San Bruno Mountain are visible from U.S. 101 across the site to the north. Distant views of the ridge along Skyline Boulevard are visible from U.S. 101 across the site to the south/southwest.

**Figures 4a** and **5a** show existing views from U.S. 101 toward the site to the north and south and **Figures 4b** and **5b** show visual models of the proposed billboard in these views. Views toward Sign Hill, San Bruno Mountain and the Skyline Boulevard ridge from U.S. 101 are already partially and intermittently obscured by existing development, signage and landscaping. As can be inferred from these figures, the proposed billboard may contribute to temporary obstruction of these views as a driver progresses toward and past the billboard.

There are no specific policies to protect views of Sign Hill from U.S. 101 and neither Sign Hill, San Bruno Mountain, nor Skyline Boulevard ridge are designated as scenic vistas or scenic views. The locations from which views are affected are not places where people would specifically gather in order to gain a view of these landmarks. Blockage of views toward San Bruno Mountain and Skyline Boulevard ridge would not be considered a potentially significant environmental impact. However, Sign Hill is identified as a national historic landmark and regional landmark that is clearly visible to travelers on nearby freeways, so is considered a scenic resource for purposes of this analysis. [2]

[2] City of South San Francisco, prepared by Dyett and Bhatia, *South San Francisco General Plan*, 1999, p. 240.

**Figure 4a: Existing View from U.S. 101 northbound**
Source: Previsualist Inc., for the applicant, dated April 14, 2019

**Figure 4b: Proposed 345 Shaw Road Billboard from U.S. 101, northbound**
Source: Previsualist Inc., for the applicant, dated April 14, 2019

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**Figure 5a: Existing View from U.S. 101, southbound**
Source: Previsualist Inc., for the applicant, dated April 14, 2019

**Figure 5b: Proposed 345 Shaw Road Billboard from U.S. 101, southbound**
Source: Previsualist Inc., for the applicant, dated April 14, 2019

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The proposed billboard would contribute to blockage of views toward Sign Hill from the point of view of a vehicle driving northbound along U.S. 101. This interruption of views would be temporary in that the billboard would only block views for a short period as the vehicle progresses toward the billboard. Signs in this area are not uncommon though cumulative blockage of views would be intermittent, as views toward Sign Hill would be available between signs as a vehicle progresses north. Therefore, the impact of the 345 Shaw Road Billboard would be ***less than significant***.

*Additional Digital Billboards*

The project also includes amending the Zoning Code to allow additional digital billboards, including this one, along the U.S. 101 corridor within the city limits pursuant to applicable location and spacing rules and Relocation Agreements. Per Caltrans regulations, billboards could be located as close together as 500 feet and digital billboards as close as 1,000 feet to each other on the same side of the highway. These spacing requirements would effectively limit the total number of billboards potentially allowed (see Project Description and Figure 1).

Additional allowable digital billboards could contribute to intermittent blockage of views toward Sign Hill. The specific proposals for additional digital billboards have not yet been submitted; however, any proposed billboards would be required to conform to Caltrans spacing regulations, which would ensure space between signs and therefore only intermittent blockage of views would result.

Taking both the regulatory and specific locational/scenic context into account, as well as the temporary and intermittent nature of the obstruction from the point of view of a moving vehicle, the project's impact on scenic vistas, including views of Sign Hill from U.S. 101, would be considered a ***less than significant*** impact.

b) Scenic Highways. U.S. 101 is not a designated or eligible State Scenic Highway corridor in the vicinity of the project nor is it identified as a scenic corridor in the South San Francisco General Plan.[3] The project would have ***no impact*** on a state scenic highway or scenic resources viewable from such a highway.

c) Visual Character.

*345 Shaw Road Billboard*

The proposed 345 Shaw Road billboard site is located along a freeway in the Lindenville area of South San Francisco, which is characterized by warehousing and distribution and light industrial uses including storage, automobile repair, manufacturing, and small business parks. The billboard site and surrounding area is anticipated in the General Plan to ultimately transition to Regional Commercial uses.

The new billboard would be visible primarily to drivers along U.S. 101 as well as adjacent and across-highway industrial, hotel, and commercial uses. It is expected the billboard would be visible in some mid- and long-range views from farther commercial and residential areas that are high enough to have views across the area. The vicinity where the billboard is proposed already supports some highway-oriented on-site signage, billboards, and roadway signage. The proposed billboard is not inconsistent with the character of the area in which it is proposed.

Additionally, City staff will review the proposed design as part of the approval process, and design parameters would be imposed by the City.

Therefore, given the context of the proposed billboard, the impact related to degrading visual character would be considered ***less than significant***.

[3] California Department of Transportation, Scenic Highways, https://dot.ca.gov/programs/design/lap-landscape-architecture-and-community-livability/lap-liv-i-scenic-highways

*Additional Digital Billboards*

Additional allowable digital billboards would be constrained by the Zoning Code to non-residential locations along the U.S. 101 corridor and Caltrans spacing requirements. There is no current proposal for the additional digital billboards, so the specific locations cannot be analyzed but the commercial or industrial areas in which additional digital billboards could be located generally already support highway-oriented on-site signage, other billboards, and roadway signage among which a new digital billboard would not have an inconsistent character.

It is also important to note that a digital billboard would only be allowed pursuant to a Relocation Agreement, which would result in the removal of one or more other billboards within the City for each proposed digital billboard. This could result in a net reduction in the total number of billboards within the City. If a billboard applicant does not have sufficient existing billboard faces to remove within the City, the Zoning Code does allow the City to enter into a development agreement that may include terms which promote the public health, safety and welfare in-lieu of removing existing billboards.

Therefore, given the context of additional digital billboards allowed under the Zoning Code amendment, the impact related to degrading visual character would be considered ***less than significant***.

d) Light and Glare. Digital billboards rely on LED technology to display messages on a lit screen. The lighting is designed to make the message displays visible to passing motorists.

The brightness of the LED display on the billboard face is subject to adjustment based on ambient conditions monitored by multiple light sensors. The display, for example, is brighter in the daytime than in darkness, and responds to changes in the ambient light conditions. Restrictions on digital billboards, imposed and enforced by Caltrans, preclude lighting that would be directed at motorists that is so directed or intense that it could blind or confuse drivers, or create conditions that make recognition of the roadway or official signage difficult.

Caltrans has imposed these restrictions for traffic safety reasons, and they are discussed in more detail in the Transportation section. The resulting controls, however, effectively regulate light and glare to ensure that the operation of any digital billboard does not create a substantial new source of light or glare.

The billboards would also comply with guidelines of the Outdoor Advertising Association of America (OAAA). These guidelines specify that lighting levels from a digital billboard will not exceed 0.3 footcandles over ambient levels, as measured using a footcandle meter at a pre-set distance based on the size of the billboard face. For the 20' by 60' billboards, this would be 350 feet and for a 14' by 48' billboard, this would be 250 feet.[4] It is anticipated that the illuminance would be negligible (less than 0.1 footcandles) beyond 607 feet for the 20' by 60' billboard or beyond 500 feet for a 14' by 48' billboard.[5]

The Illuminating Engineering Society of North America (IESNA) Lighting Handbook 10th Edition recommendations are in units of "nits," which are appropriate when light is being bounced off a surface, as is the case with a conventional billboard, but is not the case with an LED billboard. With assumptions about content, "nits" and footcandles can be converted for comparison of LED illuminance to conventional billboard luminance. Conversion of nits using conservative assumptions (80% reflectance) and IESNA Handbook recommendations for bright surrounds results in

[4] According to *OAAA Methodology to Determine Billboard Luminance Levels*, provided by Clear Channel and as specified in South San Francisco Zoning Code §20.360.006.Q.

[5] OAAA prepared by Light Sciences Inc., November 29, 2006, *Comparison of Digital and Conventional Billboards.*

recommendations of 0.256 footcandles. This is similar to digital billboard-specific recommendations of 0.3 footcandles. [6]

The value of 0.3 footcandles is utilized here because, while relatively low, it is practical to measure with a handheld photometer and therefore to verify following installation and during operation. This 0.3 footcandle level would be perceptible, but at the low end, to the human eye, over ambient light on a surface. It would be equivalent to average residential street illumination provided by low wattage street lights (i.e., similar to ambient conditions in the vicinity).

**Mitigation Measure**

**Visual-1:** **Billboard Brightness Field Testing.** Applicants and future billboard operators shall demonstrate through field testing compliance with a 0.3 footcandle increase over ambient light at 250 feet for billboards up to 14' by 48' or at 350 feet for billboards up to 20' by 60' during nighttime conditions upon initial start-up, at 6 months of operation and at the request of the City for the life of the billboard. The operator shall fund field testing by an independent contractor or City staff trained in the use of a handheld photometer to demonstrate continued compliance. The City shall consider citizen complaints consisting of direct personal impacts as cause for requesting field testing.

If increases in ambient light are found to be above the 0.3 footcandle level at the specified distance from the billboard, the dimming level shall be adjusted until this level can be demonstrated. This must be completed and demonstrated through follow-up field testing within 24 hours or the billboard shall not be operated until the lighting levels can be brought into compliance.

If no above-threshold levels have been measured in the prior three tests, field testing shall be requested no more often than twice yearly. Otherwise, field tests can be requested up to once monthly.

*345 Shaw Road Billboard*

The nearest residences are at least 2,000 feet away, substantially farther than the distance at which light increases would be negligible. Light levels would not increase at the closest residential uses and light increases at the closest off-site commercial uses would remain barely perceptible and be consistent with the existing urban conditions.

There are no residences within 607 feet of the proposed billboard, at which point the increases in illuminance would be negligible. With implementation of Mitigation Measure Visual-1, light levels from the proposed billboard will be assured to remain at low levels and potential impacts related to light and glare would be ***less than significant***.

*Additional Digital Billboards*

The additional digital billboards that could be allowed under the Zoning Code amendment could be as close as 1,000 feet to the currently proposed billboard. As noted above, the increase in illuminance is negligible at 500-607 feet and barely perceptible at 250-350 feet (depending on the size of the billboard face). The potential for multiple digital billboards in the future, as allowed under the Zoning Code amendment, would not substantially contribute to cumulative light and glare impacts and would not change the impact conclusion. The specific locations of the other billboards are not yet proposed. Billboard-specific light and glare impacts of these future billboards would need to be assessed in respect to any light-sensitive uses in their vicinity.

[6] OAAA prepared by Light Sciences Inc., November 29, 2006, *Comparison of Digital and Conventional Billboards.*

**Mitigation Measure**

**Visual-2:** **Digital Billboard Distance from Light Sensitive Uses.** The location of any future proposed additional digital billboards shall be demonstrated to be at least 250 feet away from light-sensitive uses (residential) in the direction of the lighted billboard face for billboards up to 14’ by 48’ or at least 350 feet for billboards up to 20’ by 60’.

If a future digital billboard is proposed closer than the specified distance from a light-sensitive use, additional study must be undertaken to determine the potential for lighting impacts.

With implementation of Mitigation Measures Visual-1 and Visual-2, light levels from additional digital billboards will be assured to remain at low levels and potential impacts related to light and glare would be ***less than significant***.

| **2. AGRICULTURE AND FORESTRY RESOURCES**<br>In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Dept. of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment project; and forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board. Would the project: | Potentially Significant Impact | Less Than Significant with Mitigation | 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? | | | | ☒ |

a-e) Agriculture and Forestry Resources. The proposed Shaw Road digital billboard and allowable additional locations are all located in a developed urban area adjacent to a highway. No part of this area is zoned for or currently being used for agricultural or forestry purposes or are subject to the Williamson Act. There would be ***no impact*** to agriculture and forestry resources as a result of this project.

| **3. AIR QUALITY**<br>Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations. Would the project: | Potentially Significant Impact | Less Than Significant with Mitigation | Less Than Significant Impact | No Impact |
|---|---|---|---|---|
| a) Conflict with or obstruct implementation of the applicable air quality plan? | | | ☒ | |
| b) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard? | | ☒ | | |
| c) Expose sensitive receptors to substantial pollutant concentrations? | | | ☒ | |
| d) Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people? | | | ☒ | |

a) Air Quality Plan. Projects within South San Francisco are subject to the Bay Area Clean Air Plan, first adopted by the Bay Area Air Quality Management District (BAAQMD) (in association with the Metropolitan Transportation Commission and the Association of Bay Area Governments) in 1991 to meet state requirements and those of the Federal Clean Air Act. As required by state law, updates are developed approximately every three years. The plan is meant to demonstrate progress toward meeting the ozone standards, but also includes other elements related to particulate matter, toxic air contaminants, and greenhouse gases. The latest update to the plan, adopted in April 2017, is the Bay Area 2017 Clean Air Plan.

BAAQMD recommends analyzing a project's consistency with current air quality plan primary goals and control measures. The impact would be significant if the project would conflict with or obstruct attainment of the primary goals or implementation of the control measures.

The primary goals of the Bay Area 2017 Clean Air Plan are:

- Attain all state and national air quality standards
- Eliminate disparities among Bay Area communities in cancer health risk from toxic air contaminants
- Reduce Bay Area GHG emissions 40 percent below 1990 levels by 2030, and 80 percent below 1990 levels by 2050 (This standard is addressed in Section 8: Greenhouse Gas Emissions.)

Proposed billboards would be required to comply with all applicable rules and regulations related to emissions and energy use. As a billboard project with no proposed stationary emissions sources, it would not result in a new substantial source of emissions or toxic air contaminants or otherwise conflict with the primary goals of the 2017 Clean Air Plan. Other than energy efficiency and recycling requirements (Energy Control Measure EN2 and Waste Management Control Measure WA4), with which the project would be consistent, the Clean Air Plan does not recommend measures directly applicable to this type of use.

The proposed 345 Shaw Road billboard and any additional future billboard projects, therefore, would be generally consistent with the Clean Air Plan and have a ***less than significant*** impact in this regard.

b) Criteria Pollutants. Ambient air quality standards have been established by state and federal environmental agencies for specific air pollutants most pervasive in urban environments. These pollutants are referred to as criteria air pollutants because the standards established for them were developed to meet specific health and welfare criteria set forth in the enabling legislation and include

ozone ($O_3$) precursors ($NO_x$ and ROG), carbon monoxide (CO), and suspended particulate matter ($PM_{10}$ and $PM_{2.5}$). The Bay Area is considered "attainment" for all of the standards, with the exception of ozone and particulate matter.

Past, present and future development projects contribute to the region's adverse air quality impacts on a cumulative basis. By its very nature, air pollution is largely a cumulative impact. No single project is sufficient in size to, by itself, result in nonattainment of ambient air quality standards. Instead, a project's individual emissions contribute to existing cumulatively significant adverse air quality impacts. If a project's contribution to the cumulative impact is considerable, then the project's impact on air quality would be considered significant.[7]

BAAQMD's latest May 2017 CEQA Guidelines include the following thresholds of significance. These thresholds are average daily emissions of 54 pounds per day or 10 tons per year of nitrogen oxides, reactive organic gases, or $PM_{2.5}$ and 82 pounds per day or 15 tons per year of $PM_{10}$. Both the daily and annual thresholds apply to operation and only the daily thresholds apply to construction.

Air quality impacts fall into two categories: short-term impacts that would occur during construction of a billboard and long-term impacts due to operation of a billboard.

**Construction Emissions**

BAAQMD presents screening criteria in their CEQA Guidelines that identify project sizes by type that could have the potential to result in emissions over criteria levels. For example, this table includes a construction-period criteria pollutant screening level of 114 single family dwelling units or 277,000 square feet of retail uses.[8] While construction of billboards is not specifically listed on this screening table, it can be reasonably concluded from a comparison to the entries on this table that the minimal construction activities required for this project, including only a few days of activity, would be well below threshold levels.

However, BAAQMD recommends implementation of construction mitigation measures to reduce construction-related emissions and fugitive dust for all projects, regardless of the significance level of construction-period impacts. These basic measures are included in Mitigation Measure Air-1, below and would further reduce construction-period criteria pollutant impacts.

**Mitigation Measure**

**Air-1:** **Basic Construction Management Practices.** The project shall demonstrate proposed compliance with all applicable regulations and operating procedures prior to issuance of demolition, building or grading permits, including implementation of the following BAAQMD "Basic Construction Mitigation Measures".

i) All exposed surfaces (e.g., parking areas, staging areas, soil piles, graded areas, and unpaved access roads) shall be watered two times per day.

ii) All haul trucks transporting soil, sand, or other loose material off-site shall be covered.

iii) 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.

iv) All vehicle speeds on unpaved roads shall be limited to 15 mph.

[7] BAAQMD, May 2017, *California Environmental Quality Act Air Quality Guidelines*, p. 2-1.
[8] BAAQMD, May 2017, *California Environmental Quality Act Air Quality Guidelines*, pp. 3-2 to 3-3.

v) All roadways, driveways, and sidewalks to be paved shall be completed as soon as possible. Building pads shall be laid as soon as possible after grading unless seeding or soil binders are used.

vi) Idling times shall be minimized either by shutting equipment off when not in use or reducing the maximum idling time to 5 minutes (as required by the California airborne toxics control measure Title 13, Section 2485 of California Code of Regulations [CCR]). Clear signage shall be provided for construction workers at all access points.

vii) 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.

viii) Post a publicly visible sign with the telephone number and person to contact at the Lead Agency regarding dust complaints. This person shall respond and take corrective action within 48 hours. The Air District's phone number shall also be visible to ensure compliance with applicable regulations.

With implementation of Mitigation Measure Air-1, construction period emissions from the proposed 345 Shaw Road billboard and any future additional digital billboards will be ***less than significant***.

**Operational Emissions**

Similar to the analysis for construction-period impacts above, the project was compared to BAAQMD screening criteria for operational pollutants. As it relates to operational pollutants, this table includes screening levels of 325 single family dwelling units or 99,000 square feet of regional shopping center uses.[9] These example uses would utilize over 1,000,000 kilowatt-hours per year.[10]

Based on energy usage from Clear Channel, the average annual usage is 96,000 kilowatt-hours (kWh) for a 14' by 48' double-sided digital billboard and 142,008 kWh for a 20' by 60' double-sided digital billboard. This equates to less than two tenths the emissions of a project that would be expected to have emissions above threshold levels.[11]

While operation of digital billboards is not specifically listed on this screening table, it can be reasonably concluded from a comparison to the BAAQMD screening table that operational emissions resulting from operation of a digital billboard would be well below threshold levels.

Additionally, Relocation Agreements requiring removal of other area billboards could offset increases in electricity to some degree.

BAAQMD also presents as screening criteria for carbon monoxide impacts traffic-based criteria. As operation of the proposed project would not impact traffic levels, the project would be below carbon monoxide threshold levels.

Therefore, the impact of the proposed 345 Shaw Road billboard and future additional digital billboards related to operational pollutant emissions would be ***less than significant***.

c) Sensitive Receptors. For the purpose of assessing impacts of a proposed project on exposure of sensitive receptors to risks and hazards, the threshold of significance is exceeded when the project-specific cancer risk exceeds 10 in one million or the non-cancer risk exceeds a Hazard Index of 1.0.

[9] BAAQMD, May 2017, *California Environmental Quality Act Air Quality Guidelines*, pp. 3-2 to 3-3.

[10] Calculated using energy utilization rates from BAAQMD's Greenhouse Gas Model (BGM).

[11] Anticipated energy usage is based on 2018 average energy usage for all of the applicant's existing billboards in the United States, adjusted to reflect the size of the current billboard.

Examples of sensitive receptors are places where people live, play or convalesce and include schools, hospitals, residential areas and recreation facilities.

A billboard is not considered a sensitive receptor and operation of a billboard would not be considered a source of hazardous emissions. However, construction activity that uses traditional diesel-powered equipment results in the emission of diesel particulate matter, which is considered a toxic air contaminant and potential health risk. The generation of these emissions would be temporary, confined to the construction-period of a few active days at each site.

BAAQMD provides a document titled Screening Tables for Air Toxics Evaluation during Construction to estimate the potential for significant air quality health risk impacts associated with construction activity based on general project characteristics, such as type and size, utilizing worst-case and conservative assumptions. The table is not intended to be used for projects substantially different from the described residential, commercial and industrial projects.[12] Therefore, the table cannot be used directly for this project. However, a brief comparison of the BAAQMD Screening Table to project characteristics is used to analyze the health risk impacts. The smallest projects identified in the Screening Table include construction of a 5 unit residential project on 1.7 acres and construction of a 5,000-square-foot commercial project on 0.2 acres. BAAQMD Screening Tables for Air Toxics Evaluation use a two-year construction period for screening purposes, the shortest period they recommend with the health risk modeling. While it is inappropriate to use this table to quantify an approximate risk for such a different project than those listed, it is reasonable to conclude that emissions and the resultant health risks from an exposure period of only a few days would be substantially less than emissions over a 2 year period. The health risk models and methods are not considered accurate for such short durations as the construction-period of a billboard.

Given the exposure duration would be shorter than that able to be accurately modeled as well as substantially shorter than projects in BAAQMD's Screening Table, it can reasonably be assumed that the potential health risk from construction-period emissions would be ***less than significant***.

Additionally, as recommended by the BAAQMD, standard construction Best Management Practices would be implemented to reduce emissions as outlined in mitigation measure Air-1. This would further reduce diesel and particulate matter emissions.

d) Objectionable Odors. Operation of the billboard would not result in objectionable odors or other emissions. During construction, diesel-powered vehicles and equipment would create odors that some may find objectionable. However, these odors would be temporary and not likely to be noticeable much beyond the active area. Therefore, the potential for impacts related to objectionable odors or other emissions is considered ***less than significant***.

[12] BAAQMD, May 2010, *Screening Tables for Air Toxics Evaluation During Construction*, Version 1.0.

| **4. BIOLOGICAL RESOURCES**<br>Would the project: | Potentially Significant Impact | Less Than Significant With Mitigation | 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, or regulations, or by the California Department of Fish and Game or US Fish and Wildlife Service? | | ☒ | | |
| c) Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, 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? | | | | ☒ |

a-c) Special Status Species and Habitat and Wetlands. A biological assessment was conducted by H.T. Harvey and Associates, as included in full as Attachment A. This included a pre- and post-dawn site visit on August 2, 2019.

Overall, existing site conditions in the study area along U.S. 101 consist primarily of highly developed industrial, commercial, and residential land uses, where multiple digital and traditional, non-digital billboards, as well as street signs, are currently located. Parcels where billboards may be constructed are generally separated from U.S. 101 by a strip of ruderal (i.e., disturbance-associated) vegetation at least 20 feet wide. Vegetation in these ruderal habitat areas includes non-native species and common native species and are not considered potentially sensitive habitat.

Potentially sensitive habitat along the U.S. 101 corridor where billboards may be located include those with brackish tidal marsh habitats, including Colma Creek, San Bruno Channel, San Bruno Creek and a small adjacent brackish marsh area, and a brackish marsh area near the north side of the city emptying into the bay. **Figures 6** and **7** show the location of sensitive habitat with the potential to be impacted by allowable billboards.

**Direct Effects of Billboard Installation**

Due to the highly disturbed nature of the project area and the immediately surrounding vicinity, so long as locations within brackish marsh areas are avoided, it is extremely unlikely that any special-status species would occur within the construction footprint of a billboard. The vast majority of plant and animal species occurring here are very common species associated with urban, developed, and ruderal conditions throughout the San Francisco Bay area.

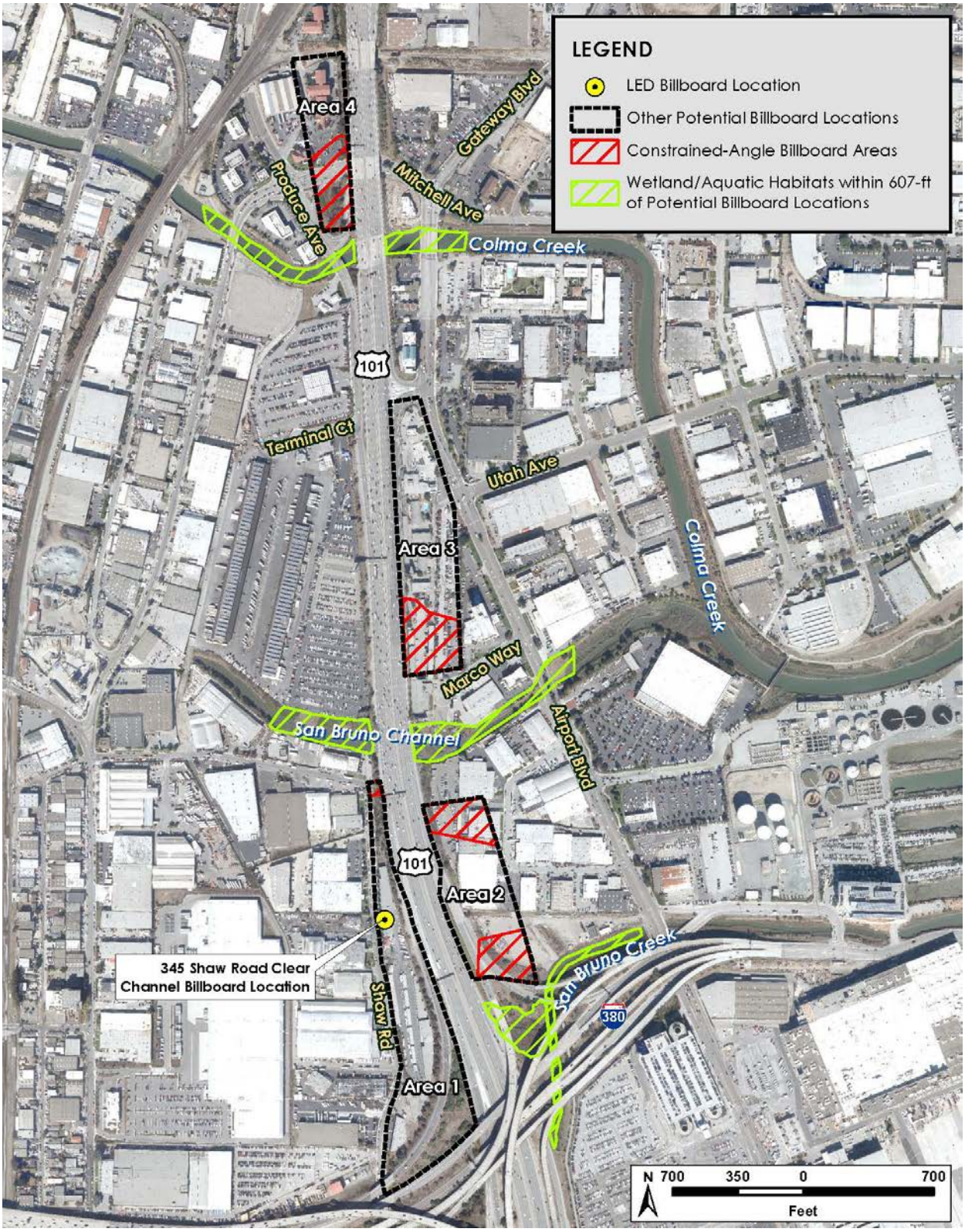


**Figure 6: Potential Billboard Locations and Habitat, U.S. 101 corridor southern / central portion**

Source: H.T. Harvey and Associates, dated August 2019

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**Figure 7: Potential Billboard Locations and Habitat, U.S. 101 corridor northern portion**

Source: H.T. Harvey and Associates, dated August 2019

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Although no special-status bird species are expected to nest close enough to the project area to be disturbed by project construction, all native bird species that occur in the project area are protected from take by the federal Migratory Bird Treaty Act and the California Fish and Game Code. Abandonment of an active nest because of project construction activities could be considered take under the Fish and Game Code.

**Mitigation Measure**

**Bio-1:** **Nesting Birds.** If construction occurs during the breeding season (January through August), the site and a surrounding radius of not less than 1,000 feet shall be surveyed by a qualified biologist to verify the presence or absence of nesting birds protected under the Federal Migratory Bird Treaty Act and the California Fish and Wildlife Code. Pre-construction surveys shall be conducted within 15 days prior to start of work and shall be submitted to the Building Division. If the survey indicates the potential presences of nesting birds, the applicant shall comply with recommendations of the biologist regarding an appropriately sized buffer around the nest in which no work will be allowed until the young have successfully fledged. The size of the nest buffer will be based to a large extent on the nesting species and its sensitivity to disturbance.

With implementation of mitigation measure Bio-1, the impact of the 345 Shaw Road billboard and future additional digital billboards related to direct effects on nesting birds would be less than significant.

*345 Shaw Road Billboard*

No wetlands, riparian habitats, or other sensitive and/or regulated habitats are present within or in proximity to the proposed billboard location at 345 Shaw Road. Thus, no sensitive or regulated habitats would be impacted by the construction of the billboard at 345 Shaw Road and the impact related to direct effects on special-status species and habitats would be ***less than significant*** with implementation of mitigation measure Bio-1 above related to nesting birds.

*Additional Digital Billboards*

Sensitive habitats, in the form of wetlands and other waters of the U.S./State, are present in close proximity to the north end of Area 1; the north, south, east ends of Area 2; the south end of Area 3; the south end of Area 4; and the eastern boundary of Area 8 (see Figures 6 and 7). Although those habitats will not be impacted directly by billboard construction, so long as it stays entirely out of those habitats, there is some potential for indirect impacts to those habitats to occur during and shortly after construction. For example, ground disturbance associated with billboard construction could loosen soil that could be washed into nearby wetlands and other waters. Given the very small footprint of billboard construction, such impacts are expected to be minimal, if they occur at all. However, fuel spills, leaks from equipment, or mobilization of sediments could adversely affect water quality in those wetlands/waters, which could then adversely affect fish and other animals that use those waterbodies. Such an impact is potentially significant given the ecological value of wetlands and other waters.

**Mitigation Measure**

**Bio-2:** **Avoid Wetlands and Other Waters and Implement Best Management Practices for Water Quality.** The applicant and/or billboard operator shall implement the following measures during billboard location and installation to avoid direct and indirect impacts on wetlands and other waters (the approximate boundaries of which are shown on Figures 6 and 7):

- No billboard column shall be located within wetland habitat or other waters including Colma Creek, San Bruno Channel, San Bruno Creek or any adjacent brackish marsh habitat.

- If wetlands or other waters are present within 50 feet of billboard installation work areas, their boundaries will be clearly indicated on project plans and in the field with flagging or fencing during construction activities. No project activities will occur within those 20-foot setbacks.
- No construction equipment shall be fueled within 100 feet of sensitive habitats or elsewhere in an area that could drain to sensitive habitats.
- All construction equipment shall be checked for leaks (and any leaks will be prepared) before it is used for billboard installation within 100 feet of wetlands or other waters.
- During construction, standard erosion control and water quality measures such as fiver rolls, sand bag barriers and/or storm drain inlet protection shall be implemented to ensure that no soil, construction debris, or other materials will be allowed to enter any sensitive habitat areas.
- Following the completion of construction, any temporarily disturbed ground shall be restored, and any bare dirt present in temporary impact areas that could wash into wetlands or other waters during subsequent rain events will be stabilized via seeding or other means.

With implementation of mitigation measure Bio-2, future additional digital billboards would be required to avoid locations within wetlands and other waters of the U.S./State and potential impacts and implement best management practices to avoid impacts on such nearby areas. The impact related to effects on special-status species and habitats from additional digital billboards would be ***less than significant*** with mitigation measure Bio-2 and mitigation measure Bio-1 above related to nesting birds.

**Indirect Effects of Illuminance on Off-Site Areas**

The potential for impacts related to illuminance of the billboard on wildlife in off-site areas was assessed. Some animals are extremely sensitive to light queues, which influence their physiology and shape their behaviors, particularly during breeding season. Artificial lighting may indirectly impact mammals and birds by increasing the nocturnal activity of predators and/or causing avoidance of well-lit areas resulting in a net loss of habitat availability and quality.

Currently, artificial illumination from a variety of sources affects the entire corridor of U.S. 101 throughout South San Francisco to a considerable extent, including the proposed 345 Shaw Road billboard location and possible locations of additional digital billboards. Existing light sources include numerous conventional lighted billboards and commercial business signs, other digital billboards, numerous streetlights and illuminated highway and street signs, and other lighting emanating from commercial and industrial buildings along the highway.

As detailed in the Aesthetics section, the 345 Shaw Road billboard and any future additional digital billboards will be operated such that lighting levels in the direction of the lighted billboard face would be minimal (0.3 footcandles, which is equivalent to existing low-level ambient light levels) at 350 feet for a 20’ by 60’ billboard, and 250 feet and for a 14’ by 48’ billboard. Illuminance in the direction of the lighted billboard face would be negligible (less than 0.1 footcandles) beyond 607 feet for a 20’ by 60’ billboard or beyond 500 feet for a 14’ by 48’ billboard.

*345 Shaw Road Billboard*

The closest sensitive habitat to the proposed 20’ by 60’ 345 Shaw Road billboard is the San Bruno Channel, located approximately 900 feet north, and the marsh located approximately 800 feet southeast of the 345 Shaw Road billboard location (see Figure 6). As this is over 607 feet from the billboard faces, light level increases would be negligible and would not substantially increase the amount of illuminance currently experienced by sensitive habitats (and the species inhabiting them).

Therefore, the impact of the billboard at 345 Shaw Road related to indirect effects of illumination on special-status species and habitats would be ***less than significant***.

*Additional Digital Billboards*

The specific locations of future additional digital billboards has not yet been identified but it is possible these billboards could be proposed in a location and orientation such that light increases on sensitive habitat areas are not negligible.

Sensitive habitats, in the form of wetlands and other waters of the U.S./State, are present in close proximity to the north end of Area 1; the north, south, east ends of Area 2; the south end of area 3; the south end of Area 4; and the eastern boundary of Area 8 (see Figures 6 and 7). Of these, because a digital billboard would be faced toward highway traffic, there is no chance of significant light increases on sensitive habitat near Area 8.

However, there is some potential for billboards constructed in portions of Areas 1, 2, 3, and 4 to result in increased illuminance of sensitive habitats due to the proximity and locations of such habitats relative to those areas and due to the possibility that billboards facing toward traffic on U.S. 101, or in the case of Area 2, possibly angled toward traffic on the I-380 on/off-ramps, could be facing sensitive habitats in nearby areas (see Figure 6). Specifically, if billboards were oriented so that they projected light toward sensitive habitats located within 607 feet of the lighted face of a 20' by 60' billboard (or 500 feet of a 14' by 48' billboard), then increased illuminance could occur, potentially reducing habitat quality and adversely affecting animal communities using those sensitive habitats. The specific locations in which billboard construction could potentially occur and result in such adverse effects on adjacent, sensitive habitats are shown in Figure 6 as "Constrained-Angle Billboard Areas".

Due to the ecological importance of wetland and aquatic habitats and the fish and wildlife communities they support, increases in illuminance of more than 0.1 footcandles could result in a potentially significant impact under CEQA.

**Mitigation Measure**

**Bio-3:** **Limit Construction of Future Billboards in Specifically Defined Locations.** Billboards may be constructed within 607 feet for a 20' by 60' billboard or 500 feet for a 14' by 48' billboard of a wetland or other waters only if the billboards can be angled so that the 607-foot or 500-foot light dissipating area does not overlap any of the sensitive habitats (see Figure 6). If future billboard construction cannot meet this condition, then project-specific analysis would be needed.

With implementation of the above mitigation measure Bio-3, future additional digital billboards would be required to avoid non-negligible light increases within wetlands and other waters of the U.S./State and impact related to indirect illumination effects on special-status species and habitats from additional digital billboards would be ***less than significant*** with mitigation.

d) Wildlife Corridors. The physical structure of the billboard itself would not impact the movement of any wildlife species. However, avian flight behavior could be impacted by artificial illuminance. The primary way in which the luminance of a digital billboard might impact the movements of birds in the project area is through the disorientation of nocturnally migrating birds. Such birds may alter their orientation upon sighting the light and become drawn toward the billboard, potentially striking objects such as buildings, adjacent power lines, or even the billboard itself.

The visibility of a digital billboard to birds in flight, and thus the risk they pose to flying birds, depends primarily on the beam angle of the billboards relative to the flightlines of birds and on the luminance (brightness) of the billboards as perceived by the birds. The directional nature of LED lighting and the projected viewing angle values of ± 30° vertically and ± 60° horizontally suggest that the viewing angle of the billboards will be narrow enough to preclude attracting migrating birds on clear nights, when they fly high enough to be outside the viewing angle of the billboard. Shaders located above each row of lights will prevent light from projecting upward into the sky. As a result,

birds flying more than 30° above the center of the billboard's beam angle will not be affected by light from the billboard. However, migrating birds are forced to fly low during foggy and rainy conditions, which may bring them into the viewing angle of the billboard.

The LED display on the billboard face can be changed every 8 seconds from a static image to a static image, resulting in a changing light source. Colors and patterns of color on the billboard would thus be changing, and birds flying near the billboard would not perceive it as a fixed, unchanging light, the type of light that appears to be most attractive to birds.

It is possible that some birds that find themselves near the center of the beam angle may be attracted to the billboard. However, this is not expected to result in long-term consequences, such as increased bird-strike mortalities or substantial interference with bird movements because the billboard will be focused on the highway, not on airspace above the highway. Thus, a relatively limited area at low altitude above U.S. 101 will be within the center of the billboard's beam angle.

Because the area surrounding the corridor in which the 345 Shaw Road billboard and additional digital billboards could be proposed is heavily urbanized and contains no habitats of value to shorebirds using the San Francisco Bay habitats to the east, large numbers of birds (especially species of conservation concern) would not be flying in a north-south direction, and at low altitudes that would be within the beam, close enough to the lighted face of a billboard for disorientation to occur at all. Therefore, it is not expected that birds moving through or around the project area to be attracted to the billboard for such a long duration that bird-strike mortality occurs or substantial interference with bird movements occurs.

Given the configuration of bird habitats in the vicinity of the project area (which does not lend itself to directed bird flights toward U.S. 101 corridor billboards), the changing images that will be displayed on an LED billboard, the narrow viewing angle, and the use of shaders to prevent light from projecting upward into the sky, the project's impacts on avian flight behavior would be ***less than significant***.

d) Local Policies and Ordinances. There are no local policies or ordinances directly applicable to this project. The landscaping on the adjacent Caltrans setback is maintained by Caltrans with billboard visibility taken into consideration and would continue to operate that way. If tree removal is proposed, it would need to comply with applicable tree removal regulations Therefore, the 345 Shaw Road billboard and future additional digital billboards would have ***no impact*** regarding conflicts with local policies and ordinances, including tree preservation.

e) Habitat Conservation Plan. There is no Habitat Conservation Plan applicable to the project area. Therefore, the project would have ***no impact*** in this regard.

| 5. CULTURAL RESOURCES<br>Would the project: | Potentially Significant Impact | Less Than Significant With Mitigation | Less Than Significant Impact | No Impact |
|---|---|---|---|---|
| a) Cause a substantial adverse change in the significance of a historical resource pursuant to Public Resources Section 15064.5? | | | ☒ | |
| b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to Public Resources Section 15064.5? | | ☒ | | |
| c) Disturb any human remains, including those interred outside of formal cemeteries? | | ☒ | | |

a–c) Historic, Archaeological and Paleontological Resources and Human Remains.

*345 Shaw Road Billboard*

The 345 Shaw Road billboard location is previously disturbed and a records search performed by the Northwest Information Center (included as Attachment B) confirmed there are no known cultural resources on the site and the potential for unrecorded resources is considered low. Construction of the project involves minimal ground disturbance, but if unknown cultural resources or human remains are encountered, there is the potential for a significant impact.

**Mitigation Measure**

**Cultural-1: Cultural Resource Protection Procedures.** The project sponsor / construction contractor shall provide in the construction contracts that crews involved in ground disturbance shall be required to implement the following procedures in the event that cultural resources (historic/archaeological/paleontological/Native American) or human remains are encountered during ground disturbance activities. Cultural resources in this area could include but are not limited to Native American resources including chert or obsidian flakes, projectile points, mortars, and pestles; and dark friable soil containing shell and bone dietary debris, heat-affected rock, or human burials; or Historic-period resources including stone or adobe foundations or walls; structures and remains with square nails; and refuse deposits or bottle dumps, often located in old wells or privies.

- Immediately halt or relocate excavations and contact a qualified expert to inspect the site as appropriate. If the qualified expert determines that potentially significant cultural materials or human remains are encountered, a qualified expert must record, recover, retrieve, and/or remove any such cultural materials.
- The qualified expert must study any cultural resources found on-site and publish data concerning these resources.
- If a human bone or bone of unknown origin is found during construction, all work shall stop in the vicinity of the find, and the County Coroner shall be contacted immediately. If the remains are determined to be Native American, the coroner shall notify the Native American Heritage Commission, who shall notify the person most likely believed to be a descendant. The most likely descendant shall work with the contractor to develop a program for re-internment of the human remains and any associated artifacts. No additional work is to take place within the immediate vicinity of the find until the identified appropriate actions have taken place.

- The qualified expert shall provide a copy of documentation of all recovered data and materials found on-site to the appropriate authorities for recordation.
- At the completion of work, the qualified expert will submit a summary of findings to the Planning Director for review and for the final record.

Compliance with the protection procedures specified in mitigation measure Cultural-1 would assure that if any previously-unknown cultural resources and/or human remains are discovered, these will be handled to ensure the impact of the 345 Shaw Road billboard would be ***less than significant*** with mitigation.

*Additional Digital Billboards*

According to the results of the records search performed by the Northwest Information Center (included as Attachment B), there are previously recorded archaeological resources and moderate to high potential of discovering additional historic, archaeological, and/or Native American resources within the U.S. 101 corridor where additional digital billboards could be proposed. While the specific location of any future additional digital billboards has not yet been proposed, the following measure will ensure that the cultural resource sensitivity of any future additional billboard locations are taken into account and handled appropriately.

**Mitigation Measure Cultural-1** would also be applicable to any future additional digital billboards in addition to mitigation measure Cultural-2 below.

**Mitigation Measure Cultural-2:** **Site-Specific Cultural Assessment and Appropriate Action.** Any future digital billboard applicant shall conduct site-specific assessment of the potential for cultural resources, including at least a Northwest Information Center records' search or a full cultural resources assessment. The results of the assessment will determine the appropriate following action:

*No Known Resources and Low Potential for Discovery*: If site-specific assessment confirms there are no known cultural resources at the proposed billboard location and that the potential for discovery at that location are low, no additional action is required.

*No Known Resources and Moderate or High Potential for Discovery*: If the site-specific assessment determines that there are no known resources but that the potential for discovery of cultural resources at the site are moderate or high, the billboard applicant shall fund preparation and implementation of a cultural monitoring and mitigation plan by a qualified expert to address the potential for presence and disturbance of cultural resources or human remains during excavation of the billboard pole footing. This will include at a minimum monitoring during excavation of the billboard pole footing and may also include but is not limited to additional archival research, hand auger sampling, shovel test units, geoarchaeological analysis, or other common methods used to identify the presence of cultural resources to be determined per the recommendation of the qualified expert. The qualified expert and construction contractors shall follow the appropriate procedures should any cultural resources or human remains be discovered during ground disturbance.

*Known Resources*: If the site-specific assessment determines that there are known cultural resources at the proposed billboard location, then project-specific analysis would be needed.

Implementation of mitigation measures Cultural-1 and Cultural-2 would ensure that proposed sites for future additional digital billboards are fully assessed for the potential to impact cultural resources and

that appropriate action is taken based on the cultural sensitivity of the site, which could include protection procedures, a cultural monitoring and mitigation plan, and/or additional study. The impact of future additional digital billboards on cultural resources would be ***less than significant*** with mitigation.

| 6. ENERGY<br>Would the project: | Potentially Significant Impact | Less Than Significant With Mitigation | Less Than Significant Impact | No Impact |
|---|---|---|---|---|
| a) Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation? | | | ☒ | |
| b) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency? | | | ☒ | |

a, b) Energy. Construction of a billboard would result in the consumption of fuel for construction vehicles and equipment, but the construction activities and related energy usage would be minimal for the few active days of construction required for each billboard.

Operation of the project would result in the consumption of electrical energy. Based on energy usage from Clear Channel, the average annual usage is 96,000 kWh for a 14' by 48' double-sided digital billboard and 142,008 kWh for a 20' by 60' double-sided digital billboard.[13] For a comparison, this equates to the annual electricity usage of approximately 15.88 to 23.48 single-family homes (calculated using BAAQMD's GHG Emissions Model rate of 6,047 kWh annual electricity usage).

A digital billboard would use electrical energy, and would be constructed pursuant to current electrical codes, including Title 24 and any additional energy efficiency requirements. These standards would ensure that electrical energy would be used efficiently. The underlying question as to whether digital billboards are a desirable use of electrical energy is a policy question that may be considered in the project review process, but does not relate to an environmental effect. The project would not conflict with or obstruct a plan for renewable energy or energy efficiency or result in wasteful, inefficient, or unnecessary consumption of energy resources and the impact in this regard is ***less than significant***.

[13] Anticipated energy usage is based on 2018 average energy usage for all of the applicant's existing billboards in the United States, adjusted to reflect the size of the current billboard.

| 7. GEOLOGY AND SOILS<br>Would the project: | Potentially Significant Impact | Less Than Significant With Mitigation | Less Than Significant Impact | No Impact |
|---|---|---|---|---|
| a) Directly or indirectly cause 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 Uniform Building Code (1994), creating substantial direct or indirect 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? | | | ☒ | |

a, c, d) Seismic Hazards and Unstable Soil. The San Francisco Bay Area is a seismically active region and the structure is likely to encounter strong seismic ground shaking during its lifetime. Additionally, the project area is in the lowland zone of South San Francisco, which can be underlain by Bay Mud and associated with shrink-swell, settlement, corrosivity and liquefaction.[14] Any billboard requires building permits and would be constructed to the current building code standards. These standards include consideration of geologic and seismic conditions. Soil conditions at the billboard site would be identified and considered as part of the required design/permitting process.

There are no active earthquake faults known to pass through the project area.[15] There would be ***no impact*** related to rupture of a known earthquake fault.

[14] City of South San Francisco, prepared by Dyett and Bhatia, *South San Francisco General Plan*, 1999, pp. 246 to 250.

[15] State of California Department of Conservation, State of California Special Studies Zones (Delineated in compliance with Alquist-Priolo Special Studies Zones Act), San Francisco South, January 1, 1982.

The project area has relatively flat topography and the possibility of landslides is considered unlikely.[16] There would be ***no impact*** related to landslides.

Therefore, the impact of the 345 Shaw Road billboard and future additional digital billboards related to seismic hazards would be ***less than significant***.

b) Soil Erosion. The 345 Shaw Road billboard and future additional digital billboards would not involve significant grading. The project applicant must obtain coverage under the General Construction Activity Storm Water Permit (General Construction Permit) issued by the State Water Resources Control Board (SWRCB), which will address any erosion potential from ground disturbance. With compliance with applicable regulations, the impact related to soil erosion would be ***less than significant***.

e) Septic Tanks. The 345 Shaw Road billboard and future additional digital billboards would not include the use of septic tanks and associated disposal facilities. Therefore, the project would have ***no impact*** in this regard.

f) Paleontological Resource or Geologic Feature. There are no unique geologic features in the project area and no known paleontological resources. However, ground disturbance associated with billboard construction could result in disturbance of previously undocumented resources, which has the potential to result in a significant impact. Implementation of mitigation measures Culture-1 and Culture-2 requires appropriate handling of any finds and the impact of the 345 Shaw Road billboard and future additional digital billboards on paleontological resources would be ***less than significant*** with mitigation.

[16] City of South San Francisco, prepared by Dyett and Bhatia, *South San Francisco General Plan*, 1999, p.250.

| 8. GREENHOUSE GAS EMISSIONS<br>Would the project: | Potentially Significant Impact | Less Than Significant With Mitigation | 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? | | | | ☒ |

a) Greenhouse Gas Emissions. BAAQMD has determined that greenhouse gas (GHG) emissions and global climate change represent cumulative impacts. BAAQMD does not have an adopted threshold of significance for construction-related GHG emissions. The operational threshold of 1,100 metric tons carbon dioxide equivalent ($CO_2e$) per year was used for both construction period and operational period for a conservative analysis.

CalEEMod's GHG Emissions Model includes a GHG emission factor of 641 pounds of $CO_2$ per megawatt-hour of electricity use.[17] (Other GHGs would have a negligible contribution to overall GHG levels from energy usage, so were not calculated here.) Based on energy usage from Clear Channel, the average annual usage is 96,000 kWh for a 14' by 48' double-sided digital billboard and 142,008 kWh for a 20' by 60' double-sided digital billboard. This results in emissions between 27.91 and 41.29 metric tons $CO_2$ per year per double-sided billboard. This is well below the threshold level of 1,100 metric tons.

BAAQMD does not suggest a threshold for assessment of construction-period GHG emissions impacts or provide a screening level at which to compare projects. However, with a construction period of only a few days, construction-period GHG emissions would be minimal and would add a negligible amount to the lifetime operational GHG emissions discussed above.

Therefore, the project impact related to GHG emissions would be ***less than significant***.

b) Greenhouse Gas Reduction Plans. While the City adopted a Climate Action Plan in 2014, this plan does not have any policies or actions directly applicable to a billboard project. The proposed 345 Shaw Road billboard and future additional digital billboards would be required to comply with any applicable adopted state or local regulations such as energy efficiency requirements. Therefore, there would be ***no impact*** in relation to consistency with GHG reduction plans.

[17] User's Guide for CalEEMod version 2016.3.2, November 2017. Appendix D, Table 1.2.

| **9. HAZARDS AND HAZARDOUS MATERIALS**<br>Would the project: | Potentially Significant Impact | Less Than Significant With Mitigation | 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) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area? | | | ☒ | |
| f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan? | | | | ☒ |
| g) Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires? | | | | ☒ |

a, b) Hazardous Materials. Digital billboards are designed to withstand wind forces as required by state law, and are subject to building permit requirements that ensure compliance with applicable building and electrical codes. Soil conditions are identified and considered in the design of such structures. No hazardous materials are emitted during operation of the billboard.

Project operations are not expected to create a significant hazard through the routine transport, use or disposal of hazardous materials. It is assumed that any materials used during construction activities or for maintenance of the billboard that would be considered hazardous would be utilized in compliance with applicable regulations. It is also noted that state and federal laws require proper handling, use and disposal of hazardous materials. These same laws and regulations require the prevention and reduction of injury to people and the environment in the event of an accidental release. Consequently, there are no reasonably foreseeable operational upset or accidental conditions that would involve a significant release of hazardous materials into the environment.

Electronic components of the billboard may contain materials that, when disposed, are considered "e-waste" due to potentially hazardous metals, flame retardants, and other chemicals. The operator is required to follow applicable regulations regarding proper disposal and/or recycling, as appropriate, as components are replaced or removed over time.

With compliance with applicable regulations, the project's impact relating to use or upset of hazardous materials would be ***less than significant***.

c) Hazardous Materials Near Schools. There are no schools located within one-quarter mile of the U.S. 101 corridor in the city. However, even if there were, a digital billboard does not emit hazardous

materials during operation and any routinely used hazardous materials during construction or disposal of components would follow applicable regulations (see topic "a, b" above). The project would represent ***no impact*** with respect to the potential exposure of students at nearby schools.

d) Hazardous Materials Site.

*345 Shaw Road Billboard*

There are no hazardous materials sites listed on or within 1,000 feet of the 345 Shaw Road billboard location.[18,19] The 345 Shaw Road Billboard project would have ***no impact*** related to a hazardous materials site.

*Additional Digital Billboards*

During the installation process for a billboard, holes would be drilled and the excavated soil would be transported off-site. This could represent the potential for a significant hazard if the soil is contaminated. There are some locations along the U.S. 101 corridor with contamination. Therefore, because the exact location of future additional digital billboards is not known, this is considered a potentially significant impact.

**Mitigation Measure**

**Haz-1:** **Hazardous Site Clearance or Additional Study.** Prior to issuance of construction permits, the applicant and/or billboard operator shall be required to submit to the City of South San Francisco the following:

- A report showing the site of the proposed billboard and 1,000 foot radius are not included on a list of hazardous materials sites.
- If there are known hazardous materials sites within 1,000 feet of the proposed billboard, the applicant shall submit a Phase I and/or Phase II environmental site assessment detailing that the contamination is not within the area that could be disturbed during billboard construction.
- If contamination is believed to be present in the area to be disturbed by billboard construction, this situation is not covered by this analysis and additional study would be required.

With implementation of mitigation measure Haz-1, which requires appropriate clearance or additional study, the impact relating to the possible presence of hazardous materials at a future additional billboard site would be ***less than significant***.

e) Airport Hazards. The closest airport is the San Francisco International Airport located between approximately 0.6 to 2.5 miles southeast from the project area. This is within the jurisdiction of the Airport Land Use Plan for the San Francisco International Airport. Federal Aviation Regulations, Part 77, limits structure heights and requires coordination with the airport if structures are above a certain height depending on the distance from the airport and relationship to a landing zone.[20] The currently proposed 345 Shaw Road billboard and any future additional digital billboards within the jurisdiction of the Airport Land Use Plan will need to coordinate with the airport as required and demonstrate compliance with applicable height restrictions. A billboard is not a noise sensitive use and would not result in exposure of people to airport noise hazards.

[18] GeoTracker database accessed September 14, 2019, at: https://geotracker.waterboards.ca.gov/map/

[19] EnviroStor database accessed September 14, 2019, at: https://www.envirostor.dtsc.ca.gov/public/map/

[20] City/County Association of Governments of San Mateo County, November 2012, *Comprehensive Airport Land Use Plan for the Environs of San Francisco International Airport*.

Additionally, a digital billboard would not be considered a hazard to air navigation as it would not generate smoke or rising columns of air, would not attract large concentrations of birds, would not generate electrical interference that would interfere with aircraft communications or aircraft instrumentation, would not reflect sunlight, and would not direct steady or flashing lights toward aircraft. [21]

There are no other airports, either public or private, within the vicinity of the project. There would be a ***less than significant*** impact related to airport hazards.

f) Emergency Response Plan. The project would not alter traffic patterns and would not impair implementation of any adopted emergency response plan or emergency evacuation plan. Therefore, the project would have ***no impact*** in this regard.

g) Wildland Fire. The project area is located in an urbanized area removed from areas typically subject to wildland fire. Therefore, the project would have ***no impact*** related to wildland fire.

[21] Ibid, p.E-14.

| **10. HYDROLOGY AND WATER QUALITY**<br>Would the project: | Potentially Significant Impact | Less Than Significant With Mitigation | Less Than Significant Impact | No Impact |
|---|---|---|---|---|
| a) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality? | | | ☒ | |
| b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin? | | | ☒ | |
| c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or through the addition of impervious surfaces, in a manner which would:<br>i) result in substantial erosion or siltation on- or off-site;<br>ii) substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site;<br>iii) 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; or | | | | ☒ |
| d) In flood hazard, tsunami or seiche zones, risk release of pollutants due to project inundation? | | | | ☒ |
| e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan? | | | | ☒ |

a, e) Water Quality and Pollutants. Operation of the project does not involve the use of water or generation of waste water. Construction activities, such as drilling a hole for the foundation and pouring concrete, have the potential to impact water quality. These activities have the potential to increase sediment loads in runoff that would enter the combined sewer system. Fuel, oil, grease, solvents, and other chemicals used in construction activities have the potential to create toxicity problems if allowed to enter a waterway. Construction activities are also a source of various other materials including trash, soap, and sanitary wastes.

Construction activities at the 345 Shaw Road or future additional billboard sites would be limited to a few days activity each for installation. Potential impacts would be minimal, and compliance with City and State regulations would reduce any potential impacts to surface water and drainage to a ***less than significant*** level.

b) Groundwater. The proposed project is not expected to involve substantial excavation that would impact groundwater. The 345 Shaw Road billboard and future additional digital billboards would involve drilling holes to a depth likely to result in groundwater being encountered. In the event that groundwater is encountered and dewatering activities are required, it would be short-term as each site installation is expected to take only a few days of activity to complete and the hole would be filled with concrete resulting in minimal effects to groundwater. Any dewatering activities associated with the proposed project must comply with the General Construction Permit and requirements established by the San Francisco Bay Regional Water Quality Control Board to ensure that such activities would not result in substantial changes in groundwater flow or quality.

Following construction, the 345 Shaw Road billboard and future additional billboard projects would not substantially change impervious surface area and would not have a substantial impact on groundwater recharge.

Therefore, the project would have a ***less than significant*** impact on groundwater.

c) Runoff and Drainage. A billboard project would not require service for water. Existing drainage at each site would be substantially maintained, and no substantial changes in stormwater would result. The project would have ***no impact*** related to runoff and drainage.

d) Pollutant Release Due to Inundation. While some portions of the U.S. 101 corridor are located in 100 year flood zones[22] and/or potential tsunami wave run up areas, a billboard does not include pollutants that could be released due to inundation. Therefore, there would be a ***no impact*** related to release of pollutants due to inundation.

[22] City of South San Francisco prepared by Dyett & Bhatia, October 199, *South San Francisco General Plan*, Figure 8-3.

| **11. LAND USE AND PLANNING**<br>Would the project: | Potentially Significant Impact | Less Than Significant With Mitigation | Less Than Significant Impact | No Impact |
|---|---|---|---|---|
| a) Physically divide an established community? | | | | ☒ |
| b) Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect? | | | ☒ | |

a) Physical Division of a Community. The 345 Shaw Road billboard and future additional digital billboards would be located on parcels adjacent to the U.S. 101 and would not involve any physical changes that would have the potential to divide the established community. Thus, the project would have ***no impact*** concerning community division.

b) Conflict with Land Use Plan. The South San Francisco Zoning Code currently includes a limit of three digital billboards; two digital billboards have already been constructed and two current digital billboard applications are in progress. Amendment of the Zoning Code as proposed with this project would remove the set number limit and instead allow digital billboards per existing location (digital billboards are not allowed in residentially-zoned areas) and spacing requirements (conventional billboards must be 500 feet from another billboard on the same side of the highway and two digital billboards must be at least 1,000 feet from each other) and in conjunction with Relocation Agreements.

The Zoning Code amendment would not increase the total number of digital and conventional billboards allowed along U.S. 101. Conversely, because of the greater spacing requirements for digital versus conventional billboards and Relocation Agreement requirements when feasible, the removal of a number limit for digital billboards is likely to result in a net decrease in the total number of billboards (digital and conventional) along the U.S. 101 corridor. The 345 Shaw Road billboard and future additional digital billboards would comply with Outdoor Advertising Association of America guidelines to minimize light (see the Aesthetics section for additional detail) and applicable highway safety regulations (see the Transportation section for additional detail) to minimize hazards. Therefore, assuming approval of the Zoning Code amendment, the project would have a ***less than significant*** impact with regard to land use plan conflicts.

| **12. MINERAL RESOURCES**<br>Would the project: | Potentially Significant Impact | Less Than Significant With Mitigation | 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? | | | | ☒ |

a, b) Mineral Resources. The U.S. 101 corridor within South San Francisco contains no known mineral resources and has not been delineated as a locally important mineral recovery site on any land use plan.[23] The project would have ***no impact*** with regard to mineral resources.

[23] U.S. Geological Survey, 2011, Mineral Resources Data System: U.S. Geological Survey, Reston, Virginia. Available through: https://mrdata.usgs.gov/mrds/map-us.html

| **13. NOISE**<br>Would the project result in: | Potentially Significant Impact | Less Than Significant With Mitigation | Less Than Significant Impact | No Impact |
|---|---|---|---|---|
| a) Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies? | | | ☒ | |
| b) Generation of excessive groundborne vibration or groundborne noise levels? | | | ☒ | |
| c) For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels? | | | | ☒ |

a-b) Excessive Noise or Vibration. Noise impacts resulting from construction depend on the noise generated by various pieces of construction equipment, the timing and duration of noise generating activities, and the distance between construction noise sources and noise sensitive receptors. Construction noise impacts primarily occur when construction activities occur during noise-sensitive times of the day (early morning, evening, or nighttime hours), the construction occurs in areas immediately adjoining noise sensitive land uses, or when construction durations last over extended periods of time (typically greater than one year).

Significant noise impacts do not normally occur when standard construction noise control measures are enforced at a construction site and when the duration of the noise generating construction period at a particular receiver or group of receivers is limited to one construction season or less. In this case, the active construction period would span only a few days. Reasonable regulation of the hours of construction, as well as regulation of the arrival and operation of heavy equipment and the delivery of construction material, are necessary to protect the health and safety of persons, promote the general welfare of the community, and maintain the quality of life.

The South San Francisco Noise Ordinance (Chapter 8.32 of the Municipal Code, Section 8.32.050) restricts construction activities to the hours of 8:00 a.m. to 8:00 p.m. on weekdays, 9:00 a.m. to 8:00 p.m. on Saturdays, and 10:00 a.m. to 6:00 p.m. on Sundays and holidays. This ordinance also limits noise generation of any individual piece of equipment to 90 dBA at 25 feet or at the property line. Construction activities are required to comply with the Noise Ordinance.

Operation of a digital billboard does not produce substantial levels of vibration or noise.

Impacts from noise and vibration generated by the construction and operation of the 345 Shaw Road billboard and future additional digital billboards are ***less than significant***.

c) Airport Noise. A billboard is not a noise sensitive use. Therefore, the project would result in ***no impact*** related to exposing people to excessive airport-related noise levels.

| **14. POPULATION AND HOUSING**<br>Would the project: | Potentially Significant Impact | Less Than Significant With Mitigation | Less Than Significant Impact | No Impact |
|---|---|---|---|---|
| a) Induce substantial unplanned 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 people or housing, necessitating the construction of replacement housing elsewhere? | | | | ☒ |

a, b) Substantial Population Growth. A billboard project would not involve housing or population and would not otherwise induce unplanned population growth or displace existing housing or people. The 345 Shaw Road billboard and future additional digital billboards project would therefore have ***no impact*** on population and housing.

| **15. PUBLIC SERVICES**<br>Would the project 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? | Potentially Significant Impact | Less Than Significant With Mitigation | Less Than Significant Impact | No Impact |
|---|---|---|---|---|
| a) Fire protection. | | | | ☒ |
| b) Police protection. | | | | ☒ |
| c) Schools. | | | | ☒ |
| d) Parks. | | | | ☒ |
| e) Other public facilities. | | | | ☒ |

a-e) Public Services. A billboard project would not involve population increases or otherwise affect demand for public services or related facilities. The 345 Shaw Road billboard and future additional digital billboards would therefore have ***no impact*** on public services.

| **16. RECREATION**<br>Would the project: | Potentially Significant Impact | Less Than Significant With Mitigation | 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. | | | | ☒ |

a, b) Recreation. A billboard project would not involve population increases or otherwise affect demand for recreation or the use, construction, or maintenance of related facilities. The 345 Shaw Road billboard and future additional digital billboards would therefore have ***no impact*** on recreation.

| **17. TRANSPORTATION**<br>Would the project: | Potentially Significant Impact | Less Than Significant With Mitigation | Less Than Significant Impact | No Impact |
|---|---|---|---|---|
| a) Conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities? | | | | ☒ |
| b) Conflict or be inconsistent with CEQA Guidelines §15064.3 subdivision (b)? | | | | ☒ |
| c) Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)? | | ☒ | | |
| d) Result in inadequate emergency access? | | | | ☒ |

a, b) Vehicle and Air Traffic and Alternative Transportation. The operation of digital billboards would not result in any increase in vehicle trips or changes in air traffic patterns or alternative transportation. Traffic generated for construction would be minimal in both level and duration. The 345 Shaw Road billboard and future additional digital billboards would be ***no impact*** in this regard.

c) Hazards. The project involves one proposed digital billboard and future additional digital billboards facing a public highways. Digital billboards employ LED technology and allow for periodic changes in display. The capability of digital billboards to present changing images has raised questions regarding the effect of such signage on traffic safety. The primary concern has been effects on driver attention and whether these effects are connected to an increased incidence of accidents. Concerns have also been raised regarding the potential for such signage to produce light of such intensity or direction that it could interfere with driver vision.

FHWA has addressed signage issues in general, and digital signs in particular. As part of its agreement with various states pursuant to the Highway Beautification Act, for example, FHWA has confirmed that no sign is allowed that imitates or resembles any official traffic sign, and that signs may not be installed in such a manner as to obstruct, or otherwise physically interfere with an official traffic sign, signal, or device, or to obstruct or physically interfere with the vision of drivers in approaching, merging or intersecting traffic. These provisions may be enforced by the FHWA, but the agreement with the State of California also requires Caltrans to enforce these provisions.

The FHWA has responded to the development of signs that present changing messages, either mechanically or digitally, with an interpretation of its agreements with the states pursuant to the Highway Beautification Act. The FHWA discusses changeable message signs in a Memorandum dated July 17, 1996, concluding that a state could reasonably interpret the provisions of its agreement with the FHWA to allow such signs and that the state should determine the frequency of message change and limitation in spacing.

On September 25, 2007, the FHWA again issued a Memorandum on the subject of off-premises changeable electronic variable message signs, or CEVMS. The Memorandum states that proposed laws, regulations, and procedures that allowed CEVMS subject to acceptable criteria would not violate the prohibition on intermittent or flashing or moving signs as used in the state agreements. The Memorandum identifies ranges of acceptability relating to such signage, as follows:

- Duration of message: Duration of display is generally between 4 and 10 seconds; 8 seconds is recommended
- Transition time: Transition between messages is generally between 1 and 4 seconds; 1 to 2 seconds is recommended
- Brightness: The sign brightness should be adjusted to respond to changes in light levels
- Spacing: Spacing between the signs should be not less than the minimum specified for other billboards, or greater if deemed required for safety
- Locations: Location criteria are the same as for other signage, unless it is determined that specific locations are inappropriate

The Memorandum also refers to other standards that have been found helpful to ensure driver safety. These include a default designed to freeze the display in one still position if a malfunction occurs; a process for modifying displays and lighting levels where directed by Caltrans to assure safety of the motoring public; and requirements that a display contain static messages without movement such as animation, flashing, scrolling, intermittent or full-motion video. Manufacturers and operators of digital billboards currently use a full-black screen in the event of a malfunction.

In addition to the provisions of the Highway Beautification Act (23 United States Code §131) and the FHWA memoranda discussed above, the State of California has adopted the Outdoor Advertising Act (Business and Professions Code §§5200 et seq.) and regulations implementing its provisions (California Code of Regulations, Title 4, Division 6, §§2240 et seq.). These include provisions that specifically address message centers, which are defined as "an advertising display where the message is changed more than once every two minutes, but no more than once every four seconds" (§5216.4).

Consistent with the memoranda executed pursuant to the Highway Beautification Act, the Outdoor Advertising Act provides that message center displays that comply with its requirements are not considered flashing, intermittent, or moving light. (§5405(d)(1)) The requirements provide that such signs must not display messages that change more than once every 4 seconds, and that no message center may be placed within 1,000 feet of another message center display on the same side of the highway.

The California Vehicle Code regulates the brightness of billboard lighting. Vehicle Code §21466.5, which identifies the applicable standard, may be enforced by Caltrans, the California Highway Patrol, or local authorities. Vehicle Code §21467 provides that each prohibited sign, signal, device, or light is a public nuisance and may be removed without notice by Caltrans, the California Highway Patrol or local authorities.

Caltrans requires that any person engaged in the outdoor advertising business must obtain a license from Caltrans and pay the required fee (§5300). No person may place any advertising display in areas subject to Caltrans authority without having a written permit from Caltrans (§5350).

These provisions of law and regulation effectively regulate sign location and brightness to ensure that digital billboards will not be located in such a manner as to create hazards due to lighting conditions themselves. Digital billboards are equipped with sensors that modify the brightness of the sign in response to ambient lighting conditions, thus ensuring that the brightness of the display in evening, nighttime, or dawn conditions does not present a traffic hazard.

As digital billboard technology has developed, the issue has been raised as to whether digital billboards themselves, regardless of compliance with such operating restrictions, present a distraction to drivers and thereby create conditions that could lead to accidents. FHWA has monitored the issue

closely, and released its report updating the agency's view of the issues and research most recently in 2012. [24,25]

The FHWA reports address the basic research question of whether operation of a CEVMS along the roadway is associated with a reduction of driving safety for the public. The reports identify three fundamental methods for answering this question: (1) whether there is an increase in crash rates in the vicinity of CEVMS, (2) whether there is an increase in near-crashes, sudden braking, sharp swerving and other such behaviors in the vicinity of CEVMS, and (3) whether there are excessive eye glances away from the roadway in the vicinity of CEVMS.

The reports discuss existing literature and reports of studies, key factors and measures relating to CEVMS, and effects on traffic. An extensive bibliography is included in the reports. The reports do not purport to provide guidance to states on the control of CEVMS. The report confirms that there have been no definitive conclusions about the presence or strength of adverse safety impacts from CEVMS. Similarly, a study performed under the National Cooperative Highway Research Program (NCHRP), Project 20-7 (256) titled "Safety Impacts of the Emerging Digital Display Technology for Outdoor Advertising Signs" (NCHRP Report) reviewed existing literature. These reports agree that digital billboards should be regulated as a means of protecting the public interest. A subsequent FWHA report confirmed through a study using an eye-tracking system that the percentage of time that drivers dedicated to the road ahead was not significantly affected by the presence of CEVMS.

Various restrictions have been identified in reports that relate to the location and operation of digital billboards that seek to reduce safety concerns. These relate to brightness, message duration and message change interval, billboard location with regard to official traffic control devices, roadway geometry, vehicle maneuver requirements at interchanges (i.e., lane drops, merges and diverges), and specific constraints on the placement and operation of such signs. Regulation of operations could include, for example, the time any single message may be displayed, the time of message transition, brightness of the sign and controls that adjust brightness based on the ambient light environment, and design and placement that ensures that the sign does not confuse drivers, or create dangerous glare.

Restrictions on digital billboards contained within the Outdoor Advertising Act and enforced by Caltrans regulate many of the conditions that have been identified as relevant to traffic safety. Caltrans regulates the location and size of each proposed digital billboard through its application process as well as the distance between such signs. California statutory provisions regulate brightness of displays. Through state law and the Vehicle Code, such signage would be prohibited from displaying flashing lights or images.

There are various studies supporting conflicting conclusions regarding the safety of digital billboards and incidence of driver distraction. The analysis in this document has been performed using state and federal published studies and adopted regulations as the best information available at this time.

Significant effects could occur if the proposed digital billboard did not comply with restrictions regarding location, intensity of light, light trespass, or other restrictions, especially those enforced by Caltrans pursuant to its authority under the agreements between the U.S. Department of Transportation under the Highway Beautification Act, and the Outdoor Advertising Act. Mitigation Measure Trans-1 requires that the City receive accurate information from the operator regarding compliance on an ongoing basis.

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[24] U.S. Department of Transportation Federal Highway Administration, *The Possible Effects of Commercial Electronic Variable Message Signs (CEVMS) on Driver Attention and Distraction: An Update*, February 2009, Publication no. FHWA-HRT-09-018. Available at https://www.fhwa.dot.gov/real_estate/oac/possible_effects/.

[25] U.S. Department of Transportation Federal Highway Administration, Driver Visual Behavior in the Presence of Commercial Electronic Variable Message Signs (CEVMS), September 2012, Publication no. FHWA-HEP-16-036. Available at https://www.fhwa.dot.gov/real_estate/oac/visual_behavior_report/final/.

**Mitigation Measure**

**Trans-1:** **Annual Report.** The operator the digital billboard shall submit to the City, within thirty days following June 30 of each year, a written report regarding operation of each digital billboard during the preceding period of July 1 to June 30. The operator may submit a combined report for all such digital billboards operated by such operator within the city limits. The report shall, when appropriate, identify incidents or facts that relate to specific digital billboards. The report shall be submitted to the Director of the Economic and Community Development Department and shall include information relating to the following:

a. Status of the operator's license as required by California Business and Professions Code §§5300 et seq.;

b. Status of the required permit for individual digital billboards, as required by California Business and Professions Code §§5350 et seq.;

c. Compliance with the California Outdoor Advertising Act, California Business and Professions Code §§5200 and all regulations adopted pursuant to such Act;

d. Compliance with California Vehicle Code §§21466.5 and 21467;

e. Compliance with provisions of written agreements between the U.S. Department of Transportation and the California Department of Transportation pursuant to the federal Highway Beautification Act (23 U.S.C. §131);

f. Compliance with mitigation measures identified in the Mitigated Negative Declaration adopted as part of project approval;

g. Each written or oral complaint received by the operator, or conveyed to the operator by any government agency or any other person, regarding operation of each digital billboard included in the report;

h. Each malfunction or failure of each digital billboard included in the report, which shall include only those malfunctions or failures that are visible to the naked eye, including reason for the malfunction, duration and confirmation of repair; and

i. Operating status of each digital billboard included in the report, including estimated date of repair and return to normal operation of any digital billboard identified in the report as not operating in normal mode.

Another area of concern is the potential development of interactive billboards that would be capable of communicating with vehicles or passenger devices. The use and development of this technology could have consequences and should be identified by the operator prior to any implementation. Mitigation Measure Trans-2 requires notice to the City in the event such features are proposed.

**Mitigation Measure**

**Trans-2:** **Interactive Technology**. The operator shall not install or implement any technology that would allow interaction with drivers, vehicles, or any device located in vehicles, including, but not limited to a radio frequency identification device, geographic positions system, or other device without prior approval of the City, taking into consideration technical studies and Caltrans or U.S. Department of Transportation policies and guidance available at the time of the request.

Implementation of mitigation measures Trans-1 and Trans-2 would ensure ongoing compliance with traffic safety regulations and control the use of driver interaction that could distract drivers. With implementation of these mitigation measures, impacts on transportation and traffic safety for the 345 Shaw Road billboard and future additional digital billboards would be ***less than significant***.

d) Inadequate Emergency Access. The proposed 345 Shaw Road billboard and future additional digital billboards would be located outside travelled portions of the roadway and would present no obstacles to emergency access. Therefore, the project would have ***no impact*** with regard to inadequate emergency access.

Additionally, digital billboards would have the capacity to display official messages regarding emergencies, and could perform as part of the emergency response system.

| **18. TRIBAL CULTURAL RESOURCES**<br>Would the project: | Potentially Significant Impact | Less Than Significant With Mitigation | Less Than Significant Impact | No Impact |
|---|---|---|---|---|
| a) Cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:<br>i) Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k), or<br>ii) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resource Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe. | | ☒ | | |

a) Tribal Cultural Resources. The project area is previously disturbed, and a search of the Sacred Lands File (included in Attachment B) did not identify any Sacred Lands that could be impacted by the 345 Shaw Road billboard or future additional digital billboards. To date, no tribes have requested consultation under AB52.

*345 Shaw Road Billboard*

As discussed in more detail under the Cultural Resources section, the 345 Shaw Road billboard location is previously disturbed and a records search performed by the Northwest Information Center (included as Attachment B) confirmed there are no known Native American resources on the site and the potential for unrecorded resources is considered low. Construction of the project involves minimal ground disturbance, but if unknown tribal cultural resources or human remains are encountered, there is the potential for a significant impact.

**Mitigation Measure Cultural-1** would also reduce the potential impact related to unknown tribal cultural resources.

Compliance with the protection procedures specified in mitigation measure Cultural-1 would assure that if any previously-unknown tribal cultural resources and/or human remains are discovered, these will be handled to ensure the impact of the 345 Shaw Road billboard would be ***less than significant*** with mitigation.

*Additional Digital Billboards*

As discussed in more detail under the Cultural Resources section, the results of the records search performed by the Northwest Information Center (included as Attachment B) indicated there are previously-recorded archaeological resources and moderate to high potential of discovering additional historic, archaeological, and/or Native American resources within the U.S. 101 corridor where additional digital billboards could be proposed. While the specific location of any future additional digital billboards has not yet been proposed, the following measure will ensure that the cultural resource sensitivity of any future additional billboard locations are taken into account and handled appropriately.

**Mitigation Measure Cultural-1** would also be applicable to future additional digital billboards to reduce the potential impact related to unknown tribal cultural resources.

**Mitigation Measure Cultural-2** would be applicable to future additional digital billboards to also reduce the potential impact related to assessment and appropriate action related to tribal cultural resources.

Implementation of mitigation measures Cultural-1 and Cultural-2 would ensure that proposed sites for future additional digital billboards are fully assessed for the potential to impact tribal cultural resources and that appropriate action is taken based on the cultural sensitivity of the site, which could include protection procedures, a cultural monitoring and mitigation plan, and/or additional study. The impact of future additional digital billboards on tribal cultural resources would be ***less than significant*** with mitigation.

| **19. UTILITIES AND SERVICE SYSTEMS**<br>Would the project | Potentially Significant Impact | Less Than Significant With Mitigation | Less Than Significant Impact | No Impact |
|---|---|---|---|---|
| a) Require or result in the relocation or construction of new or expanded water, or wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects? | | | | ☒ |
| b) Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years? | | | | ☒ |
| c) 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? | | | | ☒ |
| d) Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals? | | | | ☒ |
| e) Comply with federal, state, and local management and reduction statutes and regulations related to solid waste? | | | | ☒ |

a-e) Utilities. A digital billboard would require electrical service. Providing such service through extension of existing electrical service in the vicinity would not result in any significant environmental effects.

Operation of a billboard would not generate any wastewater or require a supply of potable water. Construction and operation of the digital billboard would not require other utility services, would not affect drainage, and would not generate an excess of solid waste.

Installation of the proposed billboard would require coordination with various other utility companies via the Underground Service Alert to prevent conflicts with subterranean utilities. There would be ***no impact*** on utility services.

| **20. WILDFIRE**<br>If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project: | Potentially Significant Impact | Less Than Significant With Mitigation | Less Than Significant Impact | No Impact |
|---|---|---|---|---|
| a) Substantially impair an adopted emergency response plan or emergency evacuation plan? | | | | ☒ |
| b) Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire? | | | | ☒ |
| c) Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment? | | | | ☒ |
| d) Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes? | | | | ☒ |

a-d) Wildfire Risk and Emergency Response. The 345 Shaw Road billboard site and the U.S. 101 corridor where future additional digital billboards could be proposed are within the developed urban area of South San Francisco, which has not been identified as a very high fire hazard severity zone.[26] The proposed 345 Shaw Road billboard and future additional digital billboards would have ***no impact*** related to wildfire risk and emergency response.

[26] Department of Forestry and Fire Protection Fire and Resource Assessment Program, *San Mateo County Very High Fire Hazard Severity Zones*, November 24, 2008, available at: https://osfm.fire.ca.gov/media/6800/fhszl_map41.pdf.

| 21. MANDATORY FINDINGS OF SIGNIFICANCE | Potentially Significant Impact | Less Than Significant With Mitigation | Less Than Significant Impact | No Impact |
|---|---|---|---|---|
| a) Does the project have the potential to substantially 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? | | | ☒ | |

a) Environmental Quality. As discussed under previous topic areas, the only biological resources with the potential to be significantly impacted are nearby brackish marsh areas and nesting birds, and mitigation has been identified that would reduce the impact to less than significant levels. And in any case, the project would not have the potential to have a large enough impact to substantially 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, or reduce the number or restrict the range of a rare or endangered plant or animal.

There are no known cultural or tribal cultural resources that would be impacted and mitigation has been identified that would reduce the impact to less than significant levels in the event of accidental discovery of such resources. And in any case, the project only involves minimal ground disturbance for billboard footings and electrical trenching through developed areas and does not have the potential to eliminate important examples of the major periods of California history or prehistory.

b) Cumulative Impacts and Adverse Effects on Human Beings. The project includes amendment of the Zoning Code to allow additional digital billboards along U.S. 101 in South San Francisco subject to location, spacing requirements, and Relocation Agreements. Per Caltrans regulations, billboards could be located as close together as 500 feet and digital billboards as close as 1,000 feet to each other on the same side of the highway. These spacing requirements would effectively limit the total number of billboards potentially allowed. The potential for cumulative impacts of billboards has been assessed for all topic areas throughout this document. The project does not have individually limited but cumulatively considerable adverse impacts, including effects for which project-level mitigation were identified to reduce impacts to less than significant levels. These include impacts related to the discovery of unknown cultural resources, avoidance of direct or indirect impacts of brackish marsh areas and nesting birds, and traffic hazards. These potential effects would be less than significant with implementation of mitigation measures identified in this document and would not contribute in considerable levels to cumulative impacts. As discussed in the relevant topic areas, all of the impacts identified in this document would be less than significant or mitigated to that level and would not combine to become considerable when considered cumulatively.

That being said, due to the greater spacing distance required for digital billboards and requirement for other billboard removals through Relocation Agreements when feasible, it is possible that the allowance of additional digital billboards could result in the net decrease in the total number of billboards in the city.

c) Adverse Effects on Human Beings. The project would not result in physical harm to human beings or otherwise cause substantial adverse effects on human beings. Any additional digital billboards, whether digital or conventional, would be required to undergo design review and City approval processes, which consider factors such as design preferences.

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## SOURCES


1. Bay Area Air Quality Management District, May 2017, California Environmental Quality Act Air Quality Guidelines.
2. California Air Pollution Control Officers Association, November 2017, User's Guide for CalEEMod version 2016.3.2, Appendix D, Table 1.2.
3. California Department of Transportation, Outdoor Advertising Act and Regulations, 2011 Edition.
4. California Department of Transportation, State Scenic Highway Mapping System, http://www.dot.ca.gov/hq/LandArch/scenic_highways/index.htm
5. California Department of Toxic Substances Control, EnviroStor database.
6. California State Water Resources Control Board, GeoTracker database.
7. City of South San Francisco, prepared by Dyett and Bhatia, South San Francisco General Plan, 1999.
8. Federal Highway Administration- Highway Beautification Act (HBA) codified as Title 23 United States Code 131, September 25, 2007, Guidance on Off-Premise Changeable Message Signs.
9. Illuminating Engineering Society of North America (IESNA), Lighting Handbook 9th Edition and 10th Edition.
10. Outdoor Advertising Association of America, prepared by Light Sciences Inc., November 29, 2006, Comparison of Digital and Conventional Billboards.
11. U.S. Geological Survey, 2005, Mineral Resources Data System: U.S. Geological Survey, Reston, Virginia. Available through: http://tin.er.usgs.gov/mrds/
12. U.S. Department of Transportation, Federal Highway Administration, February 2009: The Effects of Commercial Electronic Variable Message Signs (CEVMS) on Driver Attention and Distraction: An Update. Publication No. FHWA-HRT-09-018.
13. U.S. Department of Transportation, Federal Highway Administration, March 2011: Driver Visual Behavior in the Presence of Commercial Electronic Variable Message Signs (CEVMS), Publication no. FHWA-HEP-11-014.

# ATTACHMENT A

## Biological Impacts Assessment

August 27, 2019

Rebecca Auld
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Subject: 345 Shaw Road/South San Francisco Highway 101 Clear Channel Billboard Project – Biological Impacts Assessment (HTH #4356-01)

Dear Ms. Auld:

Per your request, H. T. Harvey & Associates has performed a biological impacts assessment for the construction of a new Clear Channel LED billboard at 345 Shaw Road in South San Francisco, California, as well as other areas located along U.S. Highway 101 (Hwy 101) from the Interstate 380 (I-380)/Hwy 101 interchange north to the Sierra Point Parkway intersection, where an unspecified number of additional billboards may be constructed. We assessed eight general areas along Hwy 101, based upon the map that you provided on June 25[1]. Those areas have been identified as Areas 1 through 8, moving south to north along an approximately 2.88-mile (mi) corridor along Hwy 101 (Figure 1). Area 1 includes the proposed project site at 345 Shaw Road, where the new billboard would have an overall height of 80 feet above existing grade and a width of 59 ft with back-to-back 17 ft by 59 ft LED display screens, facing north and south toward Hwy 101. Hereafter, we refer to the 345 Shaw Road location as the "project site" and the remainder of Areas 1 through 8, where other billboards may be constructed, as the "study area". Concealing screens would be installed on the west and east sides of any billboard constructed. The proposed billboard model to be installed at 345 Shaw Road and at other potential project areas along Hwy 101 would be the Daktronics DB-6400 LED display, which we understand is the same billboard technology as that utilized for the proposed Clear Channel LED billboard at 3893 East Castro Valley Boulevard in Castro Valley, which we analyzed in July 2019. Therefore, we have made the same assumptions regarding illuminance that we made in our analysis of the East Castro Valley Boulevard billboard.

## Methods

Prior to conducting a field visit, we reviewed the California Natural Diversity Database (CNDDB 2019) to determine whether there were known occurrences of special-status species in the vicinity of the project site along Hwy 101, so that the potential effects of billboard construction and operation could be assessed in the context of these species' distributions. I then conducted a site visit on August 2, 2019 to provide a basis for determining the potential direct and indirect effects of the billboard's lighting on wildlife. The site visit was

[1] Per our conversation on August 13, 2019, we revised the original boundaries of proposed project Areas 2 and 8 to exclude sensitive marsh habitat found in those areas.


N:\Projects4300\4356-01\Reports\Figure 1 Vicinity Map.mxd mlagarde

H. T. HARVEY & ASSOCIATES
Ecological Consultants

**Figure 1. Vicinity Map and Proposed Project Areas**
345 Shaw Road/South San Francisco Highway 101 Clear Channel Billboard Project – Biological Impacts Assessment of Potential Billboard Locations (4356-01)
August 2019

conducted in the predawn hours to observe qualitatively the existing ambient lighting in the project vicinity. I remained on site until after sunrise, at which time I inspected habitat conditions in areas immediately surrounding all proposed project locations and in adjacent areas. Following the completion of the survey, we determined the potential for installation and operation of new billboards to impact biological resources, such as special-status species and sensitive/regulated habitats, based on the conditions at proposed project locations.

## Existing Site Conditions

Overall existing site conditions in the study area along Hwy 101 consist primarily of highly developed industrial, commercial, and residential land uses, where multiple digital and traditional, non-digital billboards, as well as street signs, are currently located. Below, we describe all eight areas individually or collectively, given their location, differing or similar site condition characteristics, and the probability of special-status species or sensitive/regulated habitats occurring near any given proposed project location.

### Area 1 / 345 Shaw Road

Area 1 is located on the west side of Hwy 101, bounded to the south by the I-380 West on-ramp, and extends north approximately 0.36 mi. The proposed project site at 345 Shaw Road is located in Area 1, within an area currently occupied by Allstore Center Self Storage and Parking (Photo 1). It is bordered to the west by Shaw Road, to the east by Hwy 101, and to the north and south by storage facility buildings and infrastructure. A chain-link fence separates the project site from an approximately 25-ft wide strip of ruderal (i.e., disturbance-associated) vegetation between the project site and Hwy 101 (Photo 2).


**Photo 1**. Looking south from the proposed project site at 345 Shaw Road. Note the Clear Channel sign at the top of the chain link fence.

Dominant vegetation within this ruderal habitat includes nonnative species such as fennel (*Foeniculum vulgare*), bristly ox-tongue (*Helminthotheca echioides*), wild oat (*Avena fatua*), and privet trees (*Ligustrum* sp.). Native species include panicled willow herb (*Epilobium brachycarpum*) and Canada horseweed (*Erigeron canadensis*), both of which are common in disturbed ruderal habitats.

The southern end of Area 1, bordered by the I-380 West on-ramp, consists of the same ruderal habitat found at 345 Shaw Road, with the addition of native coyote brush (*Baccharis pilularis*) and nonnative shrubs and trees, such as privet trees.

**Photo 2.** Looking north along the ruderal vegetation strip that separates the project site from U.S. Hwy 101.

The western extent of the San Bruno Channel is located approximately 900 ft north of the site and terminates approximately 1,768 ft northwest of the project site (Photo 3). The channel flows west to east under Hwy 101, acting as a flood control outlet slough for Colma Creek, with which it connects approximately 0.43 mi northeast of the project site, eventually emptying into the San Francisco Bay approximately 1 mi east of the project site. San Bruno Creek is located approximately 900 ft east of the project site, where it connects with the San Bruno Channel, emptying into the Bay east of the project site. The San Bruno Channel is tidally influenced and supports typical aquatic vegetation associated with brackish, tidal marsh conditions including saltgrass (*Distichlis spicata*), pickleweed (*Salicornia pacifica*), gumplant (*Grindelia* sp.), and fat-hen (*Atriplex prostrata*). However, no part of either creek or the channel are located within the boundaries of Area 1, or the proposed project site at 345 Shaw Road. Land uses within Area 1 and surrounding the project site at 345 Shaw Road, consist of industrial, commercial, and residential properties, and extensive roadway systems, including the Hwy 101/I-380 interchange.

**Photo 3.** Looking north toward the western extent of the San Bruno Channel, which runs east to west under U.S. Hwy 101.

The vast majority of plant and animal species occurring within Area 1 and on or immediately adjacent to the proposed project site at 345 Shaw Road, are very common species associated with urban, developed, and ruderal

conditions found throughout the Bay Area. Common bird species expected to occur here include the Anna's hummingbird (*Calypte anna*), mourning dove (*Zenaida macroura*), black phoebe (*Sayornis nigricans*), American crow (*Corvus brachyrhynchos*), California towhee (*Melozone crissalis*), and house finch (*Haemorhous mexicanus*). Common bird species expected to occur along the San Bruno Channel include the snowy egret (*Egretta thula*), great blue heron (*Ardea herodias*), mallard (*Anas platyrhynchos*), American coot (*Fulica americana*), and western gull (*Larus occidentalis*), all of which are expected to forage along the channel.

## Area 2

Area 2 is located on the east side of Hwy 101, across from the proposed project site at 345 Shaw Road. It is bounded to the south by the Hwy 101/I-380 interchange and extends north 0.20 mi (Photo 4). San Bruno Creek is located approximately 70 ft east, and San Bruno Channel is located approximately 230 ft of Area 2. Land uses, ruderal habitat conditions, and common bird species within Area 2 are similar to those of Area 1.

**Photo 4.** Looking north toward Hwy 101, from the south end of Area 2, on the east side of the Hwy 101 on-ramp.

A brackish marsh area is located approximately 200 ft south of the southern boundary of Area 2 (Photo 5). A small wetted channel runs through the marsh and originates from an old culvert that connects to San Bruno Creek, which runs east of the marsh. The channel terminates at the edge of the on-ramp to Hwy 101 North. The water within the marsh channel is fairly fresh to somewhat brackish, and the soils are most likely highly alkaline, given the wide-spread presence of fat-hen and pickleweed. Other dominant vegetation within the marsh consists of gumplant, alkali Russian thistle (*Salsola soda*), cut leaf plantain (*Plantago coronopus*), three-square bulrush (*Schoenoplectus americanus*), and lollypop tree (*Myoporum laetum*). Just north of the marsh is a small upslope where the habitat transitions to a ruderal habitat area consisting of nonnative fennel, wild oat, bristly ox-tongue, eucalyptus trees (*Eucalyptus* sp.), and native coyote brush.

Common wildlife species expected to occur in the marsh include the Pacific tree frog (*Hyliola regilla*), snowy egret, great egret (*Ardea alba*), Canada goose (*Branta canadensis*), and spotted sandpiper (*Actitis macularius*). Other common bird species expected to occur in the marsh include the cliff swallow (*Petrochelidon pyrrhonota*), black phoebe, and American crow.

**Photo 5.** Looking west toward Hwy 101 from the brackish marsh area.

### Areas 3, 4, 5, 6, and 7

Areas 3-7 are described together because their habitat conditions are very similar. Area 3 is located on the east side of Hwy 101, bordered to the south by Marco Way, and extends approximately 0.28 mi north to Exit 424 for South Airport Boulevard. San Bruno Channel is located approximately 428 ft south of Area 3.

Area 4 is located on the west side of Hwy 101, bordered to the south by the intersection of San Mateo Avenue and Airport Boulevard and extends approximately 0.18 mi. north. Colma Creek is located approximately 100 ft south of the southern boundary of Area 4 and runs west to east, passing under Hwy 101, where it eventually connects with the San Bruno Channel and then empties into the Bay (Photo 6).

**Photo 6.** Looking northeast toward Hwy 101 and the Colma Creek channel near the southern end of Area 4.

Area 5 is located on the east side of Hwy 101, its southern extent located at Exit 425A for Grand Avenue, and extends north for approximately 0.23 mi. Area 6 is located on the west side of Hwy 101, bordered to the south by the intersection of Grand Avenue and Airport Boulevard, and extends north for approximately 0.16 mi.

Area 7 is located on the east side of Hwy 101, bordered to the south by a Lowes Home Improvement Center building, just east of Dubuque Avenue, which runs parallel to Hwy 101, and extends north approximately 0.62 mi to Veterans Boulevard. Oyster Point Marina, which is connected to the Bay, is located approximately 145 ft east of the northeastern boundary of Area 7.

The vast majority of plant and animal species occurring within Areas 3, 4, 5, 6, and 7 are the same common species associated with urban, developed, and ruderal conditions as described above. However, a variety of taller nonnative eucalyptus trees are found within these areas, particularly along the western border of Area 7, whereas such trees are absent from Areas 1 and 2.

## Area 8

Area 8 is located on the east side of Hwy 101, is bordered to the south by Exit 426B for Sierra Point Parkway, and extends north for approximately 0.33 mi.

Dominant vegetation found along Area 8 includes a mix of ruderal habitat species, as described above, interspersed with a variety of nonnative shrubs and trees including rosemary (*Rosmarinus officinalis*), showy honey-myrtle (*Melaleuca nesophila*), eucalyptus, privet tree, and Peruvian pepper tree (*Schinus molle*), as well as native coyote brush and arroyo willow (*Salix lasiolepis*).

**Photo 7.** Looking south toward a brackish marsh area found east of Area 8, east of the Sierra Point Parkway exit.

We would expect the same common bird species associated with urban, developed, and ruderal conditions as described above, to occur in Area 8.

A brackish marsh is located approximately 50 ft east of the eastern boundary of Area 8, and is surrounded by a mix of large fennel patches, arroyo willow, and coyote brush (Photo 7). The marsh itself is characterized by pickleweed, gumplant, and alkali Russian thistle. A small channel on the south end of the marsh runs north to south, connecting with a flood control channel which empties into the Bay, approximately 600 ft south of the marsh. Active train tracks run directly east of the marsh. The same common wildlife species as described in the brackish marsh located south of Area 2 are expected to occur in this marsh as well.

## Special-Status Species and Sensitive Habitats

We collected and reviewed information from several sources, including the California Natural Diversity Database (CNDDB 2019), to determine whether there were known occurrences of special-status species, and if they could potentially occur in the vicinity of the 2.88-mi corridor of Hwy 101 that composes the study area.

### Special-Status Plant Species

A list of 36 special-status plants with some potential for occurrence in the project region was compiled using CNDDB records (CNDDB 2019) and reviewed for each species potential to occur on the project site, or more widely in the study area. Based on an analysis of the documented habitat requirements and occurrence records associated with these species, all were determined to be absent from the project site/study area due to at least one of the following reasons: (1) lack of suitable habitat types; (2) absence of specific microhabitat or edaphic requirements; (3) the species is presumed extirpated or is not expected to occur in the project vicinity due to range; and/or (4) the project site and study area are too disturbed to be expected to support the species.

### Special-Status Animal Species

A number of special-status animal species are known to occur in the study area vicinity (CNDDB 2019). However, all of these species have been determined to be absent from the project site and study area because they lack suitable habitat, are outside the known range of the species, and/or are isolated from the nearest known extant populations by development or otherwise unsuitable habitat. Animal species considered for occurrence but rejected, as well as the reasons for their rejection, include the following (among others):

- The state and federally endangered California Ridgway's rail (*Rallus obsoletus obsoletus*) and the Alameda song sparrow (*Melospiza melodia pusillula*), a California species of special concern, have both been recorded in the San Bruno Marsh Complex, located approximately 0.45 mi east of Area 2, where the San Bruno Creek and Channel empties into the Bay (CNDDB 2019). California Ridgway's rails have also been detected along San Bruno Channel, approximately 900 ft east of the southern end of Area 3 (Avocet Research Associates 2007). However, given the lack of suitable marsh or Bay shoreline habitat, we do not expect either species to occur on the project site or study area. Furthermore, no habitat for either species is present in areas adjacent to any portions of the study area, close enough for construction of a billboard in the study area to adversely affect these marsh species.
- The California red-legged frog (*Rana draytonii*), federally listed as threatened and a California species of concern, is known to occur in the project vicinity (CNDDB 2019). Its preferred breeding habitat consists of deep perennial pools with emergent vegetation for attaching egg clusters (Fellers 2005), as well as shallow benches to act as nurseries for juveniles (Jennings and Hayes 1994). The proposed project site lacks aquatic habitat for this species. Moreover, critical habitat, which was designated in March 2010 (USFWS 2010), is not present on the project site. The nearest known record of the California red-legged frog is approximately 0.92 mi south of proposed project Area 1, from a canal just northwest of the San Francisco International Airport. This is within known dispersal distance for this species (2.0 mi). However, this and all other known California red-legged frog locations are isolated

from the project site, and from all portions of the study area, by substantial urbanization and infrastructure, including Hwy 101 and I-380, which are both barriers to overland dispersal of California red-legged frogs to the project site. Thus, based on the lack of breeding habitat on the project site and the isolation of the project site from all known or potential breeding locations by intensive development, California red-legged frogs are not expected to occur within the project site.

- Likewise, the San Francisco garter snake (*Thamnophis sirtalis tetrataenia*), federal and state listed as endangered and a fully protected species, is determined to be absent from the project site/study area. The San Francisco garter snake is closely associated with the California red-legged frog; adult snakes feed primarily on adult frogs and occur in the same habitat. The project site and study area are isolated from known San Francisco garter snake populations by impediments to dispersal such as Hwy 101, I-380, city streets, and commercial development; lacks suitable aquatic habitat and dense vegetative cover such as willows (*Salix* spp.), bulrushes (*Schoenoplectus* spp.), and cattails (*Typha* spp.); and lacks breeding habitat for California red-legged frogs, its primary prey species. Thus, San Francisco garter snakes are not expected to occur on the project site or elsewhere within the study area.

- Although historically present within Colma Creek (south of Area 4), the federally listed Central California Coast steelhead (*Oncorhynchus mykiss*) has not been observed in Colma Creek since 1981, nor does any suitable habitat exist for steelhead within the creek due to the highly-modified nature of the creek's channel (HWE 2016). However, due to Colma Creek being tidally influenced, steelhead may stray into the creek, typically during the migration period of December to March (HWE 2016). In addition to the steelhead, two other special-status fish species, the green sturgeon (*Acipenser medirostris*; federally threatened) and longfin smelt (*Spirinchus thaleichthys*; state threatened), have the potential to occur in low numbers in the Colma Creek channel during high tide. However, given that there is no suitable breeding habitat for either species within the reach of Colma Creek located south of Area 4 the potential for them to occur is low (HWE 2016). Furthermore, billboard construction would have no impacts on any fish present in tidal waters in Colma Creek or elsewhere in the vicinity of the study area due to intervening distance between billboard sites and these waters.

- No suitable habitat is present in the study area for any of the rare butterflies associated with natural habitats on San Bruno Mountain west of Area 8, such as the Bay checkerspot (*Euphydryas editha bayensis*), Callipe silverspot (*Speyeria callipe callipe*), San Bruno elfin (*Callophrys mossii bayensis*), and Mission blue (*Plebejus icarioides missionensis*).

## Sensitive/Regulated Habitats

No sensitive or regulated habitats (i.e., riparian, wetland or other waters of the U.S./State) occur on the project site or within the study area (e.g., Areas 2 and 8 have been designed specifically to avoid adjacent wetlands and other waters). However, sensitive marsh, tidal channel, and San Francisco Bay habitats are located close enough to some portions of the study area that they are worth considering from the perspective of potential impacts. Such sensitive habitats include San Bruno Creek and adjacent marsh areas located as close as 70 ft east and south of the south end of Area 2; the San Bruno Channel and associated marsh, located 155 ft north of the

north end of Area 1 and 280 ft south of the south end of Area 3; Colma Creek, located 100 ft south of Area 4; Oyster Point Bay, located 150 ft east of the north end of Area 7; and open water/marsh areas located within 45 ft east of Area 8. All of these off-site wetlands and other waters would be considered waters of the U.S./State and thus would be regulated by the U.S. Army Corps of Engineers under Section 404 of the Clean Water Act (and, in the case of tidal waters, under Section 10 of the Rivers and Harbors Act) and by the San Francisco Bay Regional Water Quality Control Board under Section 401 of the Clean Water Act and the Porter-Cologne Water Quality Control Act.

## Biological Impacts Assessment

Potential project impacts on biological resources were evaluated from three different perspectives:

- the direct and indirect effects of the installation of a digital billboard on biological resources (e.g., habitat impacts or disturbance during construction);
- the indirect effects of illuminance from a digital billboard (i.e., the amount of light from the billboard that lands on a certain area) on sensitive species in adjacent areas; and
- the potential effects of a digital billboard's luminance (i.e., the amount of light leaving the billboard's surface in a particular direction, or brightness of the digital billboard's surface as seen by the eye) on the behavior of birds flying in the site vicinity.

In each case, the standards against which we measured the significance of potential impacts were the California Environmental Quality Act (CEQA) significance criteria.

### Direct and Indirect Effects of Billboard Construction

All activity associated with the construction of a new LED billboard at the proposed project site at 345 Shaw Road, within Area 1, is presumed to take place within the property boundaries of Allstore Center Self Storage and Parking on existing pavement. As described above, no wetlands, riparian habitats, or other sensitive and/or regulated habitats are present within the boundaries of the proposed project site at 345 Shaw Road. Thus, no sensitive or regulated habitats would be impacted by the construction of the billboard at 345 Shaw Road.

Sensitive habitats, in the form of wetlands and other waters of the U.S./State, are present in close proximity to the south and east end of Area 2, the south end of Area 4, and the eastern boundary of Area 8. Although those habitats will not be impacted directly by billboard construction, which would stay entirely out of those habitats, there is some potential for indirect impacts to those habitats to occur during and shortly after construction. For example, ground disturbance associated with billboard construction could loosen soil that could be washed into nearby wetlands and other waters. Given the very small footprint of billboard construction, such impacts are expected to be minimal, if they occur at all. However, fuel spills, leaks from equipment, or mobilization of sediments could adversely affect water quality in those wetlands/waters, which could then adversely affect fish and other animals that use those waterbodies. Such an impact is potentially significant given the ecological value of wetlands and other waters. However, implementation of the following measure (which may be considered a

CEQA mitigation measure, or which may be incorporated into the project as Best Management Practices (BMPs), would reduce indirect impacts on water quality to less-than-significant levels.

Measure BIO-1: Implement Best Management Practices for Water Quality. The following measures shall be implemented during billboard installation to avoid indirect impacts on water quality in adjacent wetlands and other waters:

- No construction equipment shall be fueled within 100 feet of sensitive habitats shown on Figures 4a and 4b.
- All construction equipment shall be checked for leaks (and any leaks will be prepared) before it is used for billboard installation within 100 feet of wetlands or other waters shown on Figures 4a and 4b.
- During construction, standard erosion control and water quality measures such as fiber rolls, sand bag barriers, or storm drain inlet protection will be implemented to ensure that no soil, construction debris, or other materials shall be allowed to enter any sensitive habitat areas.
- Following the completion of construction, any temporarily disturbed ground shall be restored, and any bare dirt present in temporary impact areas that could wash into wetlands or other waters during subsequent rain events will be stabilized via seeding or other means.

As described above, no special-status plant or animal species are expected to occur within or immediately adjacent to any portion of the study area, and wildlife species that may occur are common species that are locally and regionally abundant. Billboard installation at 345 Shaw Road would not result in the modification of any naturally occurring habitat. However, given that we are unaware of specific locations within the other portions of the study area where billboards may be constructed in the future, we assume that future project footprints would be limited in size, and future projects could result in modification of habitat used by a very low number of individuals. As a result, only a very small proportion of regional populations of these species would be affected, and project effects on these species would not be significant under CEQA. Further, no special-status bird species are expected to nest close enough to the proposed and future project areas to be disturbed by project construction.

However, all native bird species that occur within the project site are protected from take by the federal Migratory Bird Treaty Act (MBTA) and the California Fish and Game Code. Direct destruction of an active nest would violate the MBTA and Fish and Game Code, and abandonment of an active nest because of project construction activities could be considered take under the Fish and Game Code. The bird species that could nest close enough to potential billboard construction areas are all regionally common, mostly urban-adapted species. As a result, impacts to small numbers of these species' nests would not result in regional declines in their populations. For this reason, impacts to nesting birds during billboard installation would not meet the CEQA threshold of a *substantial* adverse effect, and we consider impacts to nesting birds less than significant. However, to comply with the MBTA and Fish and Game Code, we recommend that construction of all billboards take place during the nonbreeding season (September 1 – January 31) if feasible. If construction during the nonbreeding season is not feasible, preconstruction surveys should be conducted to determine

whether nests of protected birds are present in areas where they may be disturbed, and a biologist should determine the buffer around each nest necessary to avoid nest abandonment during construction.

### Indirect Effects of Illuminance of Adjacent Areas

The intensity, spectral quality (i.e., the distribution of blue, green, red, and other portions of the light spectrum emitted by a light source), duration, and periodicity of exposure to light affect the biochemistry, physiology, and behavior of organisms (The Royal Commission on Environmental Pollution 2009). Many animals are extremely sensitive to light cues, having evolved behavioral and/or physiological responses to natural variations in light levels resulting from the day–night cycle, the cycle of the moon, and the seasonal light cycle. Responses can affect processes as diverse as growth, metabolism, patterns of movement (e.g. migration), feeding, breeding behavior, molting, and hibernation (Ringer 1972, de Molenaar et al. 2006). This holds true for birds (Longcore and Rich 2004, Miller 2006, de Molenaar et al. 2006, Da Silva et al. 2015), mammals (Beier 2006, De Molenaar et al. 2003 as cited in Longcore et al. 2016, Voigt et al. 2017), and other taxa as well, suggesting that increases in ambient light may interfere with these processes across a wide range of species, resulting in impacts on wildlife populations.

Artificial lighting may also indirectly affect birds and mammals. For example, artificial lighting has been shown to increase the nocturnal activity of predators like owls, hawks, and mammalian predators (Negro et al 2000, Longcore and Rich 2004, DeCandido and Allen 2006, Beier 2006). In addition, it has been found to affect the composition of the invertebrate community present in the area (Davies et al. 2012), and some bat species have been found to congregate around artificial light sources because of the high numbers of flying insects they attract (Frank 1988, Eisenbeis 2006). The presence of artificial light may also influence habitat use by rodents such as the salt marsh harvest mouse (Beier 2006), and by breeding birds (Rogers et al. 2006, de Molenaar et al. 2006), by causing avoidance of well-lit areas, resulting in a net loss of habitat availability and quality.

Light from currently existing sources illuminates areas throughout the project area to a considerable extent. Thus, our assessment of the impact of illuminance of adjacent areas by proposed future LED billboards took into account the existing conditions as well as any expected changes in illuminance that would result from construction of an LED billboard at 345 Shaw Road, as well as an unknown number of other LED billboards to be constructed in the study area in the future. Currently, artificial illumination from a variety of sources affects the entire 2.88 mile corridor of Hwy 101, and the areas surrounding all eight sections of the study area, as well as the proposed project site at 345 Shaw Road. There are numerous conventional lighted billboards and commercial business signs on both the east and west side of Hwy 101. At least two digital LED billboards are located along the 2.88 mi. corridor of Hwy 101 – in the Park N Fly lot, west of Area 3, and west of the Oyster Point Boulevard Exit off of Hwy 101. In addition, numerous streetlights and illuminated highway and street signs are present along Hwy 101, and other lighting emanating from commercial and industrial buildings is found along all eight sections of the study area.

All proposed LED billboards are expected to provide a maximum of 3.675-foot candles (fc) of illuminance (above and beyond ambient light conditions) at 100 ft (R. Auld pers. comm.) within its viewing angle.

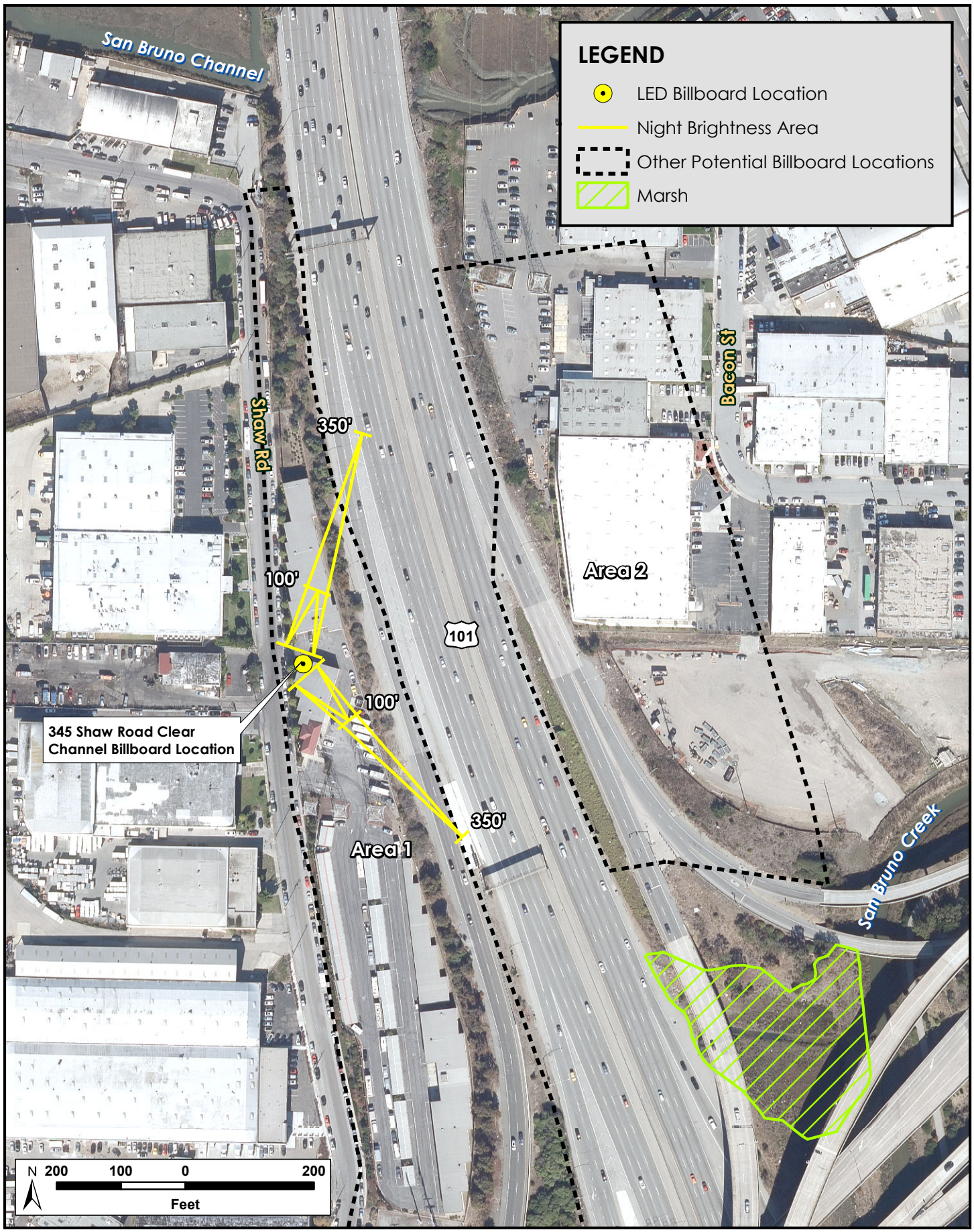
Illuminance would decrease with lateral distance from the center of the viewing angle, so that areas 100 ft from the billboard on either side of the center of the viewing angle would experience even less illuminance. The viewing angle of the proposed LED billboard would be ±30° vertically and ±60° horizontally on each side (R. Hatton, pers. comm.).

All proposed LED billboards would be angled in such a way as to maximize the amount of visibility from specific portions of Hwy 101, so the area of brightest night illuminance projected by the proposed billboard would form a narrow cone directed at oncoming traffic. Figure 2 illustrates the illuminance of the billboard from the 345 Shaw Road project site. The illuminance would dissipate from 3.675 fc at 100 ft to 0.3 fc at 350 ft. At 607 ft, illuminance would be at 0.1 fc and considered negligible (Figure 3) (R. Auld pers. comm., LSI 2006). Therefore, the LED billboard to be constructed at 345 Shaw Road is not expected to substantially increase the amount of illuminance currently experienced by sensitive habitats (and the species inhabiting them), such as San Bruno Channel, located approximately 900 ft north, and the marsh located approximately 800 ft southeast of the 345 Shaw Road project site.

The amount of increased illuminance experienced by sensitive habitats (such as wetlands, creeks, and sloughs) near other future billboard locations in the study area would be dependent upon (a) the proximity of the billboard to sensitive habitats, and (b) the direction in which the billboard would be angled relative to the sensitive habitats. As described above, new billboards would be angled to maximize visibility to oncoming traffic on specific portions of Hwy 101. This angle would generally be a northeast and southeast alignment for billboards located on the west side of Hwy 101, and would generally be a northwest and southwest alignment for billboards located on the east side of Hwy 101.

We would not expect increased illuminance on sensitive habitats near Areas 5 and 6, given that those areas are far from sensitive habitats. We also do not expect future billboards in Areas 7 and 8 to result in increased illuminance of sensitive habitats; although Oyster Point Bay is approximately 150 ft east of Area 7, and wetlands are present just to the east of Area 8, any billboards installed in Areas 7 and 8 would be angled toward Hwy 101, directly away from Oyster Point Bay and wetlands (Figure 4b).

However, there is some potential for billboards constructed in portions of Areas 1, 2, 3, and 4 to result in increased illuminance of sensitive habitats due to the proximity and locations of such habitats relative to those areas and due to the possibility that billboards facing toward traffic on Hwy 101, or in the case of Area 2 possibly angled toward traffic on the I-380 on/off-ramps, could be facing sensitive habitats in nearby areas (Figure 4a). Specifically, if billboards were oriented so that they projected light toward sensitive habitats located within 607 ft (the extent of billboard light dissipation; see Figure 3) of the billboards, then increased illuminance could occur, potentially reducing habitat quality and adversely affecting animal communities using those sensitive habitats. The specific locations in which billboard construction could potentially occur and result in such adverse effects on adjacent, sensitive habitats are shown in Figure 4a as "Constrained-Angle Billboard Areas" and are described below:



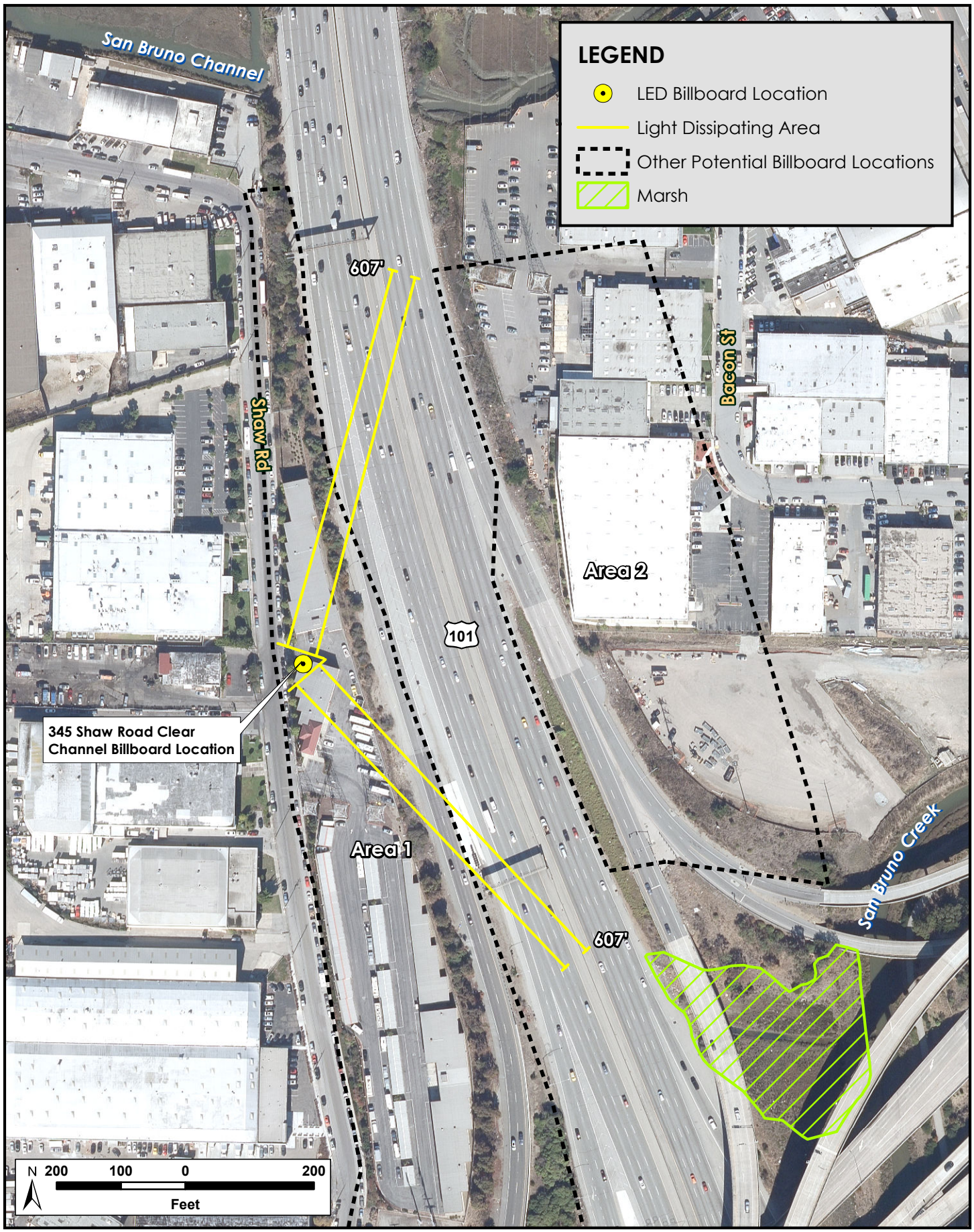

N:\Projects4300\4356-01\Reports\Figure 2 Brightest Area.mxd

H. T. HARVEY & ASSOCIATES
Ecological Consultants

**Figure 2. Brightest area provided by the proposed Clear Channel LED billboard at night**

345 Shaw Road/South San Francisco Highway 101 Clear Channel Billboard Project – Biological Impacts Assessment of Potential Billboard Locations (4356-01)

August 2019



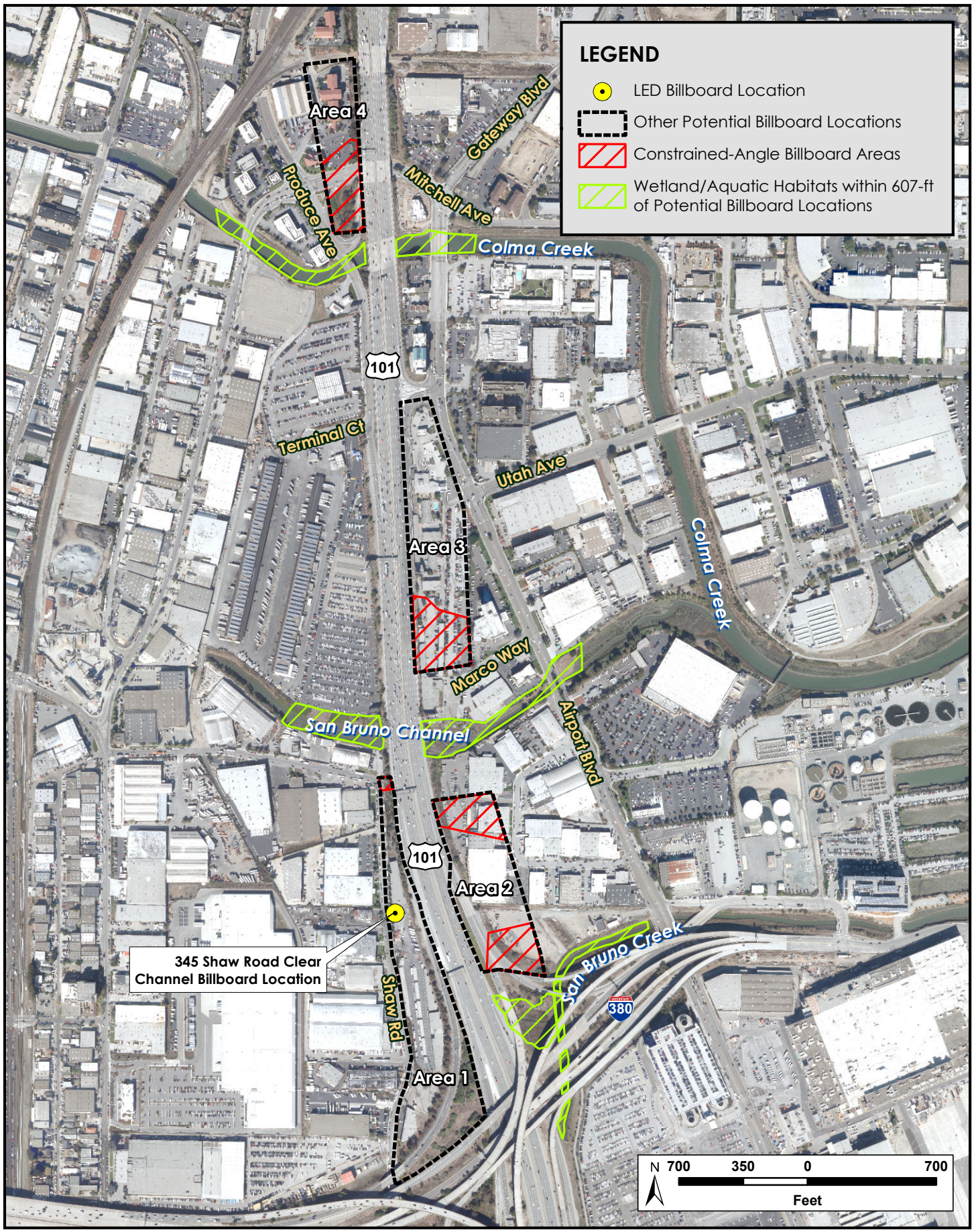

N:\Projects4300\4356-01\Reports\Figure 3 Light Dissipation.mxd

H. T. HARVEY & ASSOCIATES
Ecological Consultants

**Figure 3. Area over which light from the proposed Clear Channel LED billboard will dissipate**

345 Shaw Road/South San Francisco Highway 101 Clear Channel Billboard Project – Biological Impacts Assessment of Potential Billboard Locations (4356-01)

August 2019




N:\Projects4300\4356-01\Reports\Figure 4a Locations of Sensitive Habitats.mxd

H. T. HARVEY & ASSOCIATES
Ecological Consultants

**Figure 4a. Locations of Sensitive Habitats Near Proposed Project Areas 1, 2, 3, and 4**

345 Shaw Road/South San Francisco Highway 101 Clear Channel Billboard Project – Biological Impacts Assessment of Potential Billboard Locations (4356-01)

August 2019


N:\Projects4300\4356-01\Reports\Figure 4b Locations of Sensitive Habitats.mxd

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**Figure 4b. Locations of Sensitive Habitats Near Proposed Project Areas 7 and 8**

345 Shaw Road/South San Francisco Highway 101 Clear Channel Billboard Project – Biological Impacts Assessment of Potential Billboard Locations (4356-01)

August 2019

- Area 1 (northern end): If future billboard construction is located in the far northern end of Area 1, with billboard alignment angled toward the north or northeast, we would expect increased illuminance of San Bruno Channel and its associated brackish marsh habitat, located approximately 155 ft north of the north end of Area 1.
- Area 2 (south end): If future billboard construction is located in the far south end of Area 2, with billboard alignment angled toward the southwest or toward the south or southeast (e.g., toward the I-380 ramps), we would expect increased illuminance of the brackish marsh area and San Bruno Creek, located as close as 70 ft south and east of the southeast corner of Area 2.
- Area 2 (north end): If future billboard construction is located in the north end of Area 2, with billboard alignment angled toward the north or northwest, we would expect increased illuminance of San Bruno Channel and its associated brackish marsh habitat, located approximately 300 ft northeast of the northeast corner of Area 2.
- Area 3 (south end): If future billboard construction is located in the south end of Area 3, with billboard alignment angled toward the south or southwest, we would expect increased illuminance of San Bruno Channel and its associated brackish marsh habitat, located as close as 280 ft southwest of the south end of Area 3.
- Area 4 (south end): If future billboard construction is located in the south end of Area 4, with billboard alignment angled toward the south or southeast, we would expect increased illuminance of Colma Creek, located as close as 100 ft south of the south end of Area 4.

If future billboards were to be constructed in the areas as described above, and they were angled toward sensitive aquatic and wetland habitats located within 607 ft of the billboards (the extent of billboard light dissipation; see Figure 3), then increased illuminance of sensitive habitats could adversely affect fish and wildlife species that use those habitats. Due to the ecological importance of wetland and aquatic habitats and the fish and wildlife communities they support, increases in illuminance of more than 0.1 fc would result in a potentially significant impact under CEQA. Implementation of the following mitigation measure would reduce indirect impacts from increased illuminance on sensitive habitats and their associated fish and wildlife communities to less-than-significant levels.

Measure BIO-2: Limit Construction of Future Billboards in Specifically Defined Locations. Billboards may be constructed in portions of Areas 1, 2, 3, and 4 identified on Figure 4a as "Constrained-Angle Billboard Areas" only if the billboards can be angled so that the 607-ft light dissipating area does not overlap any of the sensitive habitats mapped on Figure 4a. If future billboard construction cannot meet this condition, then project-specific analysis would be needed.

### Potential Effects of LED Billboard's Luminance on Avian Flight Behavior

**Migrating Birds.** The primary way in which the luminance of an LED billboard might affect the movements of birds in the project area is through the disorientation of nocturnally migrating birds. Hundreds of bird species migrate nocturnally in order to avoid diurnal predators and to minimize energy expenditures. Evidence that

migrating birds are attracted to artificial light sources is abundant in the literature as early as the late 1800s (Gauthreaux and Belser 2006). Although the mechanism causing the attraction is unknown, the attraction is well documented (Longcore and Rich 2004, Gauthreaux and Belser 2006). Migrating birds may alter their orientation upon sighting an artificial light source, such as a billboard, and become drawn toward it. Once a bird is within a lighted zone at night, it may become "trapped" and not leave the lighted area (Herbert 1970, Longcore and Rich 2004). The disorienting effects of artificial lights directly affect migratory birds by causing collisions with light structures, buildings, communication and power structures, or even the ground (Gauthreaux and Belser 2006). Indirect effects might include orientation mistakes and increased length of migration due to light-driven detours. Migrating birds are much more likely to be impacted by a billboard's luminance during foggy or rainy weather, when visibility is poor (Longcore and Rich 2004, Gauthreaux and Belser 2006). Research also suggests that the color of the light may play a significant role in determining whether birds become disoriented. Birds are able to orient to the Earth's magnetic field under monochromatic blue or green light, but apparently cannot do so under red or white light (van de Laar 2007, Poot et al. 2008, Longcore and DelBusso 2016).

**Local Birds.** Seabirds may be especially vulnerable to artificial lights because many species are nocturnal foragers that have evolved to search out bioluminescent prey (Imber 1975, Reed et al. 1985, Montevecchi 2006), and thus are strongly attracted to bright light sources. Seabirds that use the San Francisco Bay and various inland bodies of water on the Peninsula include primarily gulls, terns, and cormorants, none of which is generally a nocturnal forager; however, they may still forage to some extent during the night. As described above for migrating birds, when seabirds approach an artificial light, they seem unwilling to leave it and may become "trapped" within the sphere of the light source for hours or even days, often flying themselves to exhaustion or death (Montevecchi 2006).

In addition to seabirds, the San Francisco Bay complex hosts hundreds of thousands of breeding, migrant, and wintering shorebirds. Approximately 0.45 mi east of the 345 Shaw Road project site, where the San Bruno Creek and Channel empty into the Bay, high-quality foraging habitat is found in the San Bruno Marsh Complex, for a large number and diversity of waterbirds and shorebirds. A review of the eBird database, which has been established by the Cornell University Laboratory of Ornithology to archive records of birds seen worldwide, indicated that nearly 160 species of birds have been recorded in the San Bruno Marsh Complex, including at the mouth of Colma Creek and the SamTrans Marsh (Cornell Lab of Ornithology 2019). Thousands of shorebirds forage along the exposed mudflats in the Bay nocturnally as well as diurnally, and move frequently between foraging locations in response to tide levels and prey availability. Biologists and hunters have long used sudden bright light as a means of blinding and trapping shorebirds (Gerstenberg and Harris 1976, Potts and Sordahl 1979), so evidence that shorebirds are affected by bright light is well established, though impacts of a consistent bright light are undocumented. Nevertheless, based on the above studies, it is reasonable to conclude that shorebirds, like other bird species, may be disoriented by a very bright light in their flight path.

Some seabirds such as gulls, terns, and cormorants move back and forth over the project site, between the Bay approximately 0.45 mi east of the study area and the shores of the Pacific Ocean, approximately 4.6 mi west of

the study area. However, the majority of seabirds and large numbers of shorebirds that move in the vicinity of the study area move and forage primarily along the shoreline of the Bay east of the study area. These birds forage in open waters of the Bay and in areas such as the San Bruno Marsh Complex (shown on Figure 1); Oyster Point Marina, located 250 ft east of Area 8 and 145 ft east of Area 7; Brisbane Lagoon, located 0.37 mi north of Area 8; and Coyote Point, located 5.5 mi south of Area 1. With the exception of higher-altitude flights by some birds moving between the Bay and Ocean, movement of waterbirds perpendicular to Hwy 101 (and thus in and out of the study area) would be limited due to the absence of suitable foraging or breeding habitat for these birds in the areas immediately west of Hwy 101. Thus, we would not expect large numbers of seabirds and shorebirds to move through the study area, within areas of increased luminance from future billboard lights.

Although the study area does not provide high-quality habitat for a large number or diversity of passerine birds, a few common, urban-adapted species are expected to occur in the project vicinity, as described above. Passerine birds have been documented responding to increased illumination in their habitats with nocturnal foraging and territorial defense behaviors (Longcore and Rich 2004, Miller 2006, de Molenaar et al 2006), but absent significant illumination, they typically do not forage at night, leaving them less susceptible to the attraction and disorientation caused by luminance when they are not migrating.

**Effects of Future LED Billboards on Flight Behavior.** The visibility of proposed future LED billboards to birds in flight, and thus the risk they pose to flying birds, depends primarily on the beam angles of the sign relative to the flight lines of birds and on the luminance (brightness) of the sign as perceived by the birds. The directional nature of LED lighting and the projected viewing angle values of ±30° vertically and ±60° horizontally suggest that the viewing angle of the sign will be narrow enough to preclude attracting migrating birds on clear nights, when they fly high enough to be outside the viewing angle of the sign. Louvers that shade the LED lights from above, creating a sharper image, assist in reducing reflection and help diffuse light – concurrently preventing light from projecting upward into the sky; such louvers will be incorporated into the proposed billboards. As a result, birds flying more than 30° above the center of the sign's beam angle (i.e., north and south) will not be able to see light from the sign at all. However, migrating birds are forced to fly low during foggy and rainy conditions, which may bring them into the viewing angle of the billboard.

The proposed billboards could produce a peak value of approximately 641 candelas[2] (cd)/ft[2] of luminance (LSI 2006). However, in practice, the LED billboards will be operated so that their peak luminance would be approximately 46 cd/ft[2] in the center of the beam angle (R. Hatton, pers. comm.). For comparison, a full moon at its brightest point produces approximately 232 cd/ft[2] (LRC 2006). The proposed billboards would be equipped with a light sensor that adjusts the brilliance of the billboard in response to available ambient light, dimming the luminance as ambient light lessens. Further, the peak luminosity for an LED billboard cited above assumes that the display on the billboard is solid white. In practice, the display on the planned LED billboards

[2] The 'candela' is a unit of luminous intensity in the International System of Units, defined as the luminous intensity in a given direction of a source that emits monochromatic radiation of frequency 540 × 1012 hertz and has a radiant intensity in that same direction of 1/683 watt per steradian (unit solid angle). The candela has replaced the standard candle as a unit of luminous intensity in calculations involving artificial light.

would contain a variety of colors, which would substantially reduce the amount of luminance produced and reduce the potential for the light to disorient birds.

Additionally, the LED display on the billboards can be changed every 8 seconds from a static image to a static image, resulting in a changing light source. Colors and patterns of color on the billboards would thus be changing, and birds flying near the sign would not perceive it as a fixed, unchanging light, the type of light that appears to be most attractive to birds (Jones and Francis 2003, Gauthreaux and Belser 2006, Gehring et al. 2009).

As described above, the light beams from the proposed billboards would be angled in such a way as to maximize the amount of visibility from specific portions of Hwy 101 (Figure 2). Because the area immediately surrounding the project site/study area is heavily urbanized, we do not expect large numbers of birds (including species of conservation concern) to be flying through the study area in locations, and at altitudes, where they would be at risk of confusion by or attraction to the luminance of the billboards.

It is possible that some birds that find themselves near the center of a sign's beam angle may be attracted to the sign. However, we do not expect this effect to result in long-term consequences, such as substantial numbers of bird-strike mortalities or substantial interference with bird movements, because a relatively limited area at low altitude above Hwy 101 would be within the center of the sign's beam angle.

Further, we do not expect the operation of the LED billboards to have a significant impact on seabirds or shorebirds. We also do not expect that the billboards would impact substantial numbers of roosting birds because the developed habitat on and immediately adjacent to the study area does not provide high quality roosting habitat.

Given the configuration of bird habitats in the vicinity of the study area (which does not lend itself to directed bird flights toward the sign), the changing images that will be displayed on the LED billboard, the narrow viewing angle, and the use of overhead louvers and concealment screens to prevent light from projecting upward into the sky and out to the west and east, we expect the sign's impacts on avian flight behavior and avian roosting behavior to be less than significant.

## Summary

Based on the information provided by Clear Channel Outdoor concerning the LED billboard, our review of literature concerning lighting effects on wildlife, our reconnaissance-level surveys of the project site/study area, and our knowledge of likely avian flight lines in the vicinity of the project site/study area, we do not expect the construction of new LED billboards to result in significant impacts on wildlife as a result of increased luminance.

Best Management Practices to avoid significant impacts on water quality during billboard construction should be implemented if billboards will be constructed at the south end of Areas 2, 4 or in Area 8 adjacent to an existing marsh.

All future billboards that may be constructed in Areas 1, 2, 3, and 4 should be located outside of "Constrained-Angle Billboard Areas" (as indicated on Figure 4a) or angled so that the 607-ft light dissipating area does not overlap any of the sensitive habitats mapped on Figure 4a to avoid a significant increase in illuminance of nearby sensitive habitats. If billboards can comply with these conditions, impacts from increased illuminance of sensitive habitats located near proposed billboard locations would be less than significant. If billboards cannot comply with these conditions, then site-specific impact assessment would be needed, once the precise location and orientation of the billboard are proposed, to determine whether measures can be implemented to reduce impacts to less than significant levels.

If the assumptions made in our analysis concerning the LED billboard's characteristics (e.g., illuminance, luminance, or beam angle) differ from actual characteristics of the billboard, additional analysis may be necessary to determine whether impacts are significant.

Please feel free to contact me at speterson@harveyecology.com or (408) 458-3230 if you have any questions regarding our report. Thank you very much for contacting H. T. Harvey & Associates regarding this project.

Sincerely,

Stephen L. Peterson, M.S.
Project Manager, Senior Wildlife Ecologist

## Literature Cited


Avocet Research Associates. 2007. Surveys of selected marshlands in the San Francisco Estuary California Clapper Rail (*Rallus longirostris obsoletus*): Invasive Spartina Project, 2007. Prepared for Olofson Environmental, Inc. Berkeley, California.

Beier, P. 2006. Effects of artificial night lighting on mammals. Pages 19-42 in Rich, C., and T. Longcore, editors. Ecological Consequences of Artificial Night Lighting. Covelo, CA: Island Press.

[CNDDB] California Natural Diversity Database. 2019. Rarefind Version 5. California Department of Fish and Game, Biogeographic Data Branch.

Cornell Lab of Ornithology 2019. eBird: An online database of bird distribution and abundance [web application]. eBird, Cornell Lab of Ornithology, Ithaca, New York. Available: http://www.ebird.org. (Accessed: August 2019).

Da Silva, A., M. Valcu, and B. Kempenaers. 2015. Light pollution alters the phenology of dawn and dusk singing in common European songbirds. Phil. Trans. R. Soc. B 370: 20140126.

Davies, T. W., J. Bennie, and K. J. Gaston. 2012. Street lighting changes the composition of invertebrate communities. Biol. Lett. 8, 764-767.

DeCandido R., and D. Allen. 2006. Nocturnal hunting by peregrine falcons at the Empire State Building, New York City. Wilson J. Ornithol. 118(1):53-58.

de Molenaar, J. G., R. J. H. G. Henkens, C. ter Braak, C. van Duyne, G. Hoefsloot, and D. A. Jonkers. 2003. Road illumination and nature, IV. Effects of road lights on the spatial behaviour of mammals. Alterra, Green World Research, Wageningen, The Netherlands.

de Molenaar, J. G., M. E. Sanders, and D. A. Jonkers. 2006. Road lighting and grassland birds: Local influence of road lighting on a black-tailed godwit population. Pages 114-136 in Rich, C., and T. Longcore, editors. Ecological Consequences of Artificial Night Lighting. Covelo, CA: Island Press.

Eisenbeis, G. 2006. Artificial night lighting and insects: Attraction of insects to streetlamps in a rural setting in Germany. Pages 67-93 in Rich, C., and T. Longcore, editors. Ecological Consequences of Artificial Night Lighting. Covelo, CA: Island Press.

Fellers, G. M. 2005. *Rana draytonii* California red-legged frog. In M. Lannoo, ed. Amphibian Declines: The Conservation Status of United States Species. University of California Press. CA: Berkeley. Pp 552-554.

Frank, K. 1988. Impact of outdoor lighting on moths: An Assessment. Journal of the Lepidopterists' Society 42(2) 63-93.

Gauthreaux, S. A., and C. G. Belser. 2006. Effects of artificial night lighting on migrating birds. Pages 67-93 in Rich, C., and T. Longcore, editors. Ecological Consequences of Artificial Night Lighting. Covelo, CA: Island Press.

Gehring, J., P. Kerlinger, and A. Manville II. 2009. Communication towers, lights, and birds: Successful methods of reducing the frequency of avian collisions. Ecological Applications, 19(2):505-514.

Gerstenberg, R. H., and S. W. Harris. 1976. Trapping and marking of shorebirds at Humboldt Bay, California. Bird Banding 47(1): 1-7.

Herbert, A. D. 1970. Spatial disorientation in birds. Wilson Bull. 82(4): 400-419.

[HWE] Horizon Water and Environment. 2016. Colma Creek Flood Control Channel Maintenance Project - Initial Study/Mitigated Negative Declaration. June 2016. (HWE 15.037) Oakland, CA. Prepared for County of San Mateo, Department of Public Works, Redwood City, CA.

Imber, M. J. 1975. Behavior of petrels in relation to the moon and artificial lights. Notornis 22: 302-306.

Jennings, M. R., and M. P. Hayes. 1994. Amphibian and reptile species of special concern in California. California Department of Fish and Game, Inland Fisheries Division, Rancho Cordova, California.

Jones, J., and C. M. Francis. 2003. The effects of light characteristics on avian mortality at lighthouses. J. Avian Biol. 34(4): 328-333.

Longcore, T., C. Rich, and L. DelBusso. 2016. Artificial Night Lighting and Protected Lands. Natural Resource Report NPS/NRSS/NSNS/NRR-2016/1213.

Longcore, T., and C. Rich. 2004. Ecological light pollution. Front. Ecol. Environ. 2(4): 191-198.

[LRC] Lighting Research Center. 2006. Illumination fundamentals. Pasadena, CA: Optical Research Associates. 48 pp.

[LSI] Light Sciences Inc. 2006. Comparison of Digital and Conventional Billboards. Report prepared for the Outdoor Advertising Association of America. November 29, 2006.

Miller, M. W. 2006. Apparent effects of light pollution on singing behavior of American robins. Condor 108(1): 130-139.

Montevecchi, W. A. 2006. Influences of Artificial Light on Marine Birds in Rich, C., and T. Longcore, editors.

Negro, J. J., J. Bustamante, C. Melguizo, J. L. Ruiz, and J. M. Grande. 2000. Nocturnal activity of lesser kestrels under artificial lighting conditions in Seville, Spain. J. Raptor Res. 34(4): 327-329.

Poot, H., B. Ens, H. de Vries, M. Donners, M. Wernand, and J. Marquenie. 2008. Green light for nocturnally migrating birds. Ecology and Society 13(2): 47.

Potts, W. K. and T. A. Sordahl. 1979. The gong method for capturing shorebirds and other ground-roosting species. North Amer. Bird Band. 4(3): 106-107.

Reed, J. R., J. L. Sincock, and J. P. Hailman. 1985. Light attraction in endangered Procellariform birds: Reduction by shielding upward radiation. Auk 102(2): 377-383.

Ringer, R. K. 1972. Effect of light and behavior on nutrition. J. Anim. Sci. 35: 642-647.

Rogers, D. I., T. Piersma, and C. J. Hassell. 2006. Roost availability may constrain shorebird distribution: Exploring the energetic costs of roosting and disturbance around a tropical bay. Biol. Conserv. 33(4): 225-235.

The Royal Commission on Environmental Pollution. 2009. Artificial Light in the Environment.

van de Laar, F. J. T. 2007. Green light to birds: investigation into the effect of bird-friendly lighting. NAM Locatie L15-FA-1, Assen, The Netherlands.

Voigt, C. C., M. Roeleke, L. Marggraf, G. Petersons, and S. Voigt-Heucke. 2017. Migratory bats respond to artificial green light with positive phototaxis. PLOS One 12(5): e0177748.

[USFWS] U.S. Fish and Wildlife Service. 2010. Endangered and Threatened Wildlife and Plants; Revised Designation of Critical Habitat for California Red-legged Frog; Final Rule. Federal Register 75:12815-12959.

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**ATTACHMENT B**

**Northwest Information Center Records Search Results**
**and Native American Heritage Commission Sacred Lands Search Results**

CALIFORNIA HISTORICAL RESOURCES INFORMATION SYSTEM

ALAMEDA
COLUSA
CONTRA COSTA
DEL NORTE
HUMBOLDT
LAKE
MARIN
MENDOCINO
MONTEREY
NAPA
SAN BENITO
SAN FRANCISCO
SAN MATEO
SANTA CLATA
SANTA CRUZ
SOLANO
SONOMA
YOLO

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August 16, 2019 NWIC File No.: 19-0289

Rebecca Auld
Lamphier-Gregory, Inc.
1944 Embarcadero
Oakland, CA 94606

Re: Record search results for the proposed 345 Shaw Road Billboard project.

Dear Rebecca Auld:

Per your request received by our office on 8/12/19, a records search was conducted for the above referenced project by reviewing pertinent Northwest Information Center (NWIC) base maps that reference cultural resources records and reports, historic-period maps, and literature for San Mateo County. Please note that use of the term cultural resources includes both archaeological resources and historical buildings and/or structures.

Review of this information indicates that there have been two cultural resource studies that cover approximately 100% of the 345 Shaw Road Billboard project area: S-23551 (George McKale and Sara E.P. Gillies 2000) and S-27930 (Kyle Brown, Adam Marlow, James Allan, and William Self 2003). This project area contains no recorded archaeological resources. The State Office of Historic Preservation Historic Property Directory (OHP HPD) (which includes listings of the California Register of Historical Resources, California State Historical Landmarks, California State Points of Historical Interest, and the National Register of Historic Places) lists no recorded buildings or structures within or adjacent to the proposed project area. In addition to these inventories, the NWIC base maps show no recorded buildings or structures within the proposed project area.

For the broader areas of proposed rezoning and potential billboard construction, there have been seventeen cultural resource studies that cover approximately 80% of the potential project areas, outlined in the table below:

| Study No. | Author(s) | Date |
|---|---|---|
| S-006529 | Robert Cartier | 1984 |
| S-010402 | Rebecca Loveland Anastasio, Donna M. Garaventa, Stuart A. Guedon, Robert M. Harmon, and John W. Schoenfelder | 1988 |
| S-017993 | Brian Hatoff, Barb Voss, Sharon Waechter, Stephen Wee, and Vance Bente | 1995 |
| S-022986 | N/A | 2000 |
| S-023551 | George McKale and Sara E.P. Gillies | 2000 |
| S-026045 | Richard Carrico, Theodore Cooley, and William Eckhardt | 2000 |
| S-027930 | Kyle Brown, Adam Marlow, James Allan, and William Self | 2003 |
| S-029657 | Wendy J. Nelson, Tammara Norton, Larry Chiea, and Reinhard Pribish | 2002 |
| S-030760 | Laura Leach-Palm and Brian F. Byrd | 2005 |
| S-030887 | Matthew R. Clark | 2005 |
| S-031824 | Laura Leach-Palm and Brian F. Byrd | 2006 |
| S-035458 | Matthew R. Clark | 2008 |
| S-036747 | Rand Herbert, Christopher Morris, and Cynthia Toffelier | 2006 |
| S-039033 | Sunshine Psota | 2012 |
| S-043525 | N/A | 2002 |
| S-048738 | Denise Jurich and Amber Grady | 2011 |
| S-049125 | Michael Meloy and Kathleen Kubal | 2017 |

This project area contains two previously recorded archaeological resources: P-41-000045 (CA-SMA-000041, Nelson 380) and P-41-000047 (CA-SMA-000043, Nelson 382). The State Office of Historic Preservation Historic Property Directory (OHP HPD) (which includes listings of the California Register of Historical Resources, California State Historical Landmarks, California State Points of Historical Interest, and the National Register of Historic Places) lists three recorded buildings and structures which may be within or adjacent to the proposed project area: South San Francisco Freight Spur A (Dubuque Avenue, Prop. No. 176516, Proj. Revw. FTA040913A, status code 6Y – determined ineligible for National Register by consensus through Section 106 process, not evaluated for California Register or Local Listing); the San Bruno Spur (Prop. No. 176521, Proj. Revw. FTA040913A, status code 6Y); and the Southern Pacific Railroad Depot at Airport Road and US-101 (P-41-001011, Prop. No. 005641, Hist. Surv. 4080-0137-0000, status code 3S – appears eligible for National Register through as an individual property

through survey evaluation). In addition to these inventories, the NWIC base maps show one recorded structure adjacent to the proposed project area: P-41-002435 (MP 09.40, Bridge #35-0094R).

At the time of Euroamerican contact the Native Americans that lived in the area were speakers of the Ramaytush language, part of the Costanoan language family (Levy 1978: 485). There are two Native American resources in or adjacent to the proposed project area referenced in the ethnographic literature: two shellmounds placed in the vicinity of San Bruno Point, also called Nelson 380 (P-41-000045) and Nelson 382 (P-41-000047) (Nelson 1909: 350). According to recent field studies of these resources, their precise location, status, and nature remains unknown, and the current locations as understood by this office may not be accurate (S-49125, Meloy and Kubal 2017: 6-4/254).

Based on an evaluation of the environmental setting and features associated with known sites, Native American resources in this part of San Mateo County have been found in Holocene alluvial deposits, near intermittent or perennial watercourses, and in particular concentration near bay shores. The 345 Shaw Road Billboard project area contains artificial fill over bay mud; in addition, according to a review of historic maps, this project area is located in an area that was once wetlands or salt marshes. Given the dissimilarity of one or more of these environmental factors, there is a low potential for unrecorded Native American resources in the proposed 345 Shaw Road Billboard project area. In contrast, for the broader areas of proposed rezoning and potential billboard construction, there is a much greater degree of environmental sensitivity.

Review of historical literature and maps gave no indication of historic-period activity within the 345 Shaw Road Billboard project area. With this in mind, there is a low potential for unrecorded historic-period archaeological resources in the proposed 345 Shaw Road Billboard project area. However, for the broader areas of proposed rezoning and potential billboard construction, the 1896 USGS San Mateo 15-minute topographic quadrangle depicts at least three buildings within or adjacent to various portions of the proposed project area; this depiction is consistent in the 1899 and 1915 USGS San Mateo 15-minute topographic quadrangles. These depictions contribute to a heightened sensitivity for unrecorded historic-period archaeological resources.

The 1956 (photorevised 1980) USGS South San Francisco 7.5-minute topographic quadrangle fails to depict any buildings or structures within the 345 Shaw Road Billboard project area. Therefore, there is a low possibility of identifying any buildings or structures 45 years or older within the 345 Shaw Road Billboard project area.

**RECOMMENDATIONS:**

1) There is a low possibility of identifying Native American and historic-period archaeological resources within the proposed 345 Shaw Road Billboard project area. Further study within this project area is not recommended at this time.

2) There are two previously recorded archaeological resources within the broader areas of proposed rezoning and potential billboard construction (P-41-000045 and P-41-000047). In the event of future development or ground-disturbing activities, it is recommended that a professional archaeologist assess the status of these resources and provide project-specific recommendations. Please refer to the list of consultants who meet the Secretary of Interior's Standards at http://www.chrisinfo.org.

3) Within certain areas of the proposed rezoning and potential billboard construction locations, there is a moderate to high potential of identifying Native American archaeological resources and a moderate to high potential of identifying historic-period archaeological resources in the project area. In the event of future development or ground-disturbing activities, we recommend further review for the possibility of identifying Native American and historic-period archaeological resources on a project-to-project basis prior to the commencement of project activities.

4) We recommend the lead agency contact the local Native American tribe(s) regarding traditional, cultural, and religious heritage values. For a complete listing of tribes in the vicinity of the project, please contact the Native American Heritage Commission at 916/373-3710.

5) The broader proposed project area is adjacent to one recorded structure (P-41-002435) and may contain or be adjacent to one recorded building (P-41-001011) and two recorded structures (the San Bruno Spur and South San Francisco Freight Spur A). Therefore, prior to commencement of project activities, it is recommended that a professional familiar with the architecture and history of San Mateo County assess these resources, determine any possible project-related effects, and provide project-specific

recommendations. Please refer to the list of consultants who meet the Secretary of Interior's Standards at http://www.chrisinfo.org.

6) If the proposed 345 Shaw Road Billboard project area contains buildings or structures that meet the minimum age requirement, prior to commencement of project activities, it is recommended that this resource be assessed by a professional familiar with the architecture and history of San Mateo County. Please refer to the list of consultants who meet the Secretary of Interior's Standards at http://www.chrisinfo.org.

7) Review for possible historic-period buildings or structures has included only those sources listed in the attached bibliography and should not be considered comprehensive.

8) If archaeological resources are encountered **during construction,** work should be temporarily halted in the vicinity of the discovered materials and workers should avoid altering the materials and their context until a qualified professional archaeologist has evaluated the situation and provided appropriate recommendations. Project personnel should not collect cultural resources. Native American resources include chert or obsidian flakes, projectile points, mortars, and pestles; and dark friable soil containing shell and bone dietary debris, heat-affected rock, or human burials. Historic-period resources include stone or adobe foundations or walls; structures and remains with square nails; and refuse deposits or bottle dumps, often located in old wells or privies.

9) It is recommended that any identified cultural resources be recorded on DPR 523 historic resource recordation forms, available online from the Office of Historic Preservation's website: http://ohp.parks.ca.gov/default.asp?page_id=1069

Due to processing delays and other factors, not all of the historical resource reports and resource records that have been submitted to the Office of Historic Preservation are available via this records search. Additional information may be available through the federal, state, and local agencies that produced or paid for historical resource management work in the search area. Additionally, Native American tribes have historical resource information not in the California Historical Resources Information System (CHRIS)

Inventory, and you should contact the California Native American Heritage Commission for information on local/regional tribal contacts.

The California Office of Historic Preservation (OHP) contracts with the California Historical Resources Information System's (CHRIS) regional Information Centers (ICs) to maintain information in the CHRIS inventory and make it available to local, state, and federal agencies, cultural resource professionals, Native American tribes, researchers, and the public. Recommendations made by IC coordinators or their staff regarding the interpretation and application of this information are advisory only. Such recommendations do not necessarily represent the evaluation or opinion of the State Historic Preservation Officer in carrying out the OHP's regulatory authority under federal and state law.

Thank you for using our services. Please contact this office if you have any questions, (707) 588-8455.

Sincerely,

Cameron Felt
Researcher

**LITERATURE REVIEWED**

In addition to archaeological maps and site records on file at the Northwest Information Center of the Historical Resources Information System, the following literature was reviewed:


Barrows, Henry D., and Luther A. Ingersoll
2005 *Memorial and Biographical History of the Coast Counties of Central California*. Three Rocks Research, Santa Cruz (Digital Reproduction of The Lewis Publishing Company, Chicago: 1893.)

Beck, Karin G., Kathleen Kubal, and Jay Rehor (AECOM)
2017 Archaeological Survey Report and Extended Phase I Study, US 101 High-Occupancy Vehicle/Express (Managed) Lanes Project, San Francisco, San Mateo, and Santa Clara Counties, California, EA 04-1J5600.
NWIC Report S-049125b

Bowman, J.N.
1951 *Adobe Houses in the San Francisco Bay Region*. In Geologic Guidebook of the San Francisco Bay Counties, Bulletin 154. California Division of Mines, Ferry Building, San Francisco, CA.

Brabb, Earl E., Fred A. Taylor, and George P. Miller
1982 *Geologic, Scenic, and Historic Points of Interest in San Mateo County, California*. Miscellaneous Investigations Series, Map I-1257-B, 1:62,500. Department of the Interior, United States Geological Survey, Washington, D.C.

Bromfield, Davenport
1894 Official Map of San Mateo County, California

Brown, Kyle, Adam Marlow, James Allan, and William Self (William Self Associates, Inc.)
2003 Cultural Resource Assessment of Alternative Routes for PG&E's Jefferson-Martin Transmission Line, San Mateo County, California.
NWIC Report S-027930

Department of Environmental Management
1980 Coastside Cultural Resources. Planning Division, San Mateo County, Redwood City, CA.

Fickewirth, Alvin A.
1992 *California Railroads*. Golden West Books, San Marino, CA.

General Land Office
1858 Survey Plat for Buri Buri Rancho.

1864 Survey Plat for Canada de Guadalupe la Visitacion Rancho.

Gudde, Erwin G.
1969 *California Place Names: The Origin and Etymology of Current Geographical Names*. Third Edition. University of California Press, Berkeley and Los Angeles.

Hamman, Rick
1980 *California Central Coast Railways*. Pruett Publishing Company, Boulder, CO.

Hart, James D.
1987 *A Companion to California*. University of California Press, Berkeley and Los Angeles.

Heizer, Robert F., editor
1974 *Local History Studies*, Vol. 18., "The Costanoan Indians." California History Center, DeAnza College, Cupertino, CA.

Helley, E.J., K.R. Lajoie, W.E. Spangle, and M.L. Blair
1979 *Flatland Deposits of the San Francisco Bay Region - Their Geology and Engineering Properties, and Their Importance to Comprehensive Planning*. Geological Survey Professional Paper 943. United States Geological Survey and Department of Housing and Urban Development.

Hoover, Mildred Brooke, Hero Eugene Rensch, and Ethel Rensch, revised by William N. Abeloe
1966 *Historic Spots in California*. Third Edition. Stanford University Press, Stanford, CA.

Hoover, Mildred Brooke, Hero Eugene Rensch, and Ethel Rensch, William N. Abeloe, revised by Douglas E. Kyle
1990 *Historic Spots in California*. Fourth Edition. Stanford University Press, Stanford, CA.

Hope, Andrew
2005 *Caltrans Statewide Historic Bridge Inventory Update*. Caltrans, Division of Environmental Analysis, Sacramento, CA.

Hynding, Alan
1984 *From Frontier to Suburb: The Story of San Mateo Penninsula*. Star Publishing Company, San Mateo, CA.

Kroeber, A.L.
1925 *Handbook of the Indians of California*. Bureau of American Ethnology, Bulletin 78, Smithsonian Institution, Washington, D.C. (Reprint by Dover Publications, Inc., New York, 1976)

Levy, Richard
1978 Costanoan. In *California*, edited by Robert F. Heizer, pp. 485-495. Handbook of North American Indians, vol. 8, William C. Sturtevant, general editor. Smithsonian Institution, Washington, D.C.

McKale, George and Sara E.P. Gillies (LSA Associates, Inc.)
2000 Cultural Resources Assessment Golden Gate Power Project, San Francisco International Airport, San Mateo County, California.
NWIC Report S-023551

Meloy, Michael and Kathleen Kubal (California Department of Transportation, District 4; AECOM)

2017 Historic Property Survey Report for the US 101 Managed Lanes Project, EA 04-1J560.
NWIC Report S-049125

Milliken, Randall
1995 *A Time of Little Choice: The Disintegration of Tribal Culture in the San Francisco Bay Area 1769-1810*. Ballena Press Anthropological Papers No. 43, Menlo Park, CA.

Myers, William A. (editor)
1977 *Historic Civil Engineering Landmarks of San Francisco and Northern California*. Prepared by The History and Heritage Committee, San Francisco Section, American Society of Civil Engineers. Pacific Gas and Electric Company, San Francisco, CA.

Nelson, N.C.
1909 *Shellmounds of the San Francisco Bay Region*. University of California Publications in American Archaeology and Ethnology 7(4):309-356. Berkeley. (Reprint by Kraus Reprint Corporation, New York, 1964)

Nichols, Donald R., and Nancy A. Wright
1971 Preliminary Map of Historic Margins of Marshland, San Francisco Bay, California. U.S. Geological Survey Open File Map. U.S. Department of the Interior, Geological Survey in cooperation with the U.S. Department of Housing and Urban Development, Washington, D.C.

Postel, Mitchell P.
1994 *San Mateo, A Centennial History.* Scottwall Associates, San Francisco, CA.

Roberts, George, and Jan Roberts
1988 *Discover Historic California*. Gem Guides Book Co., Pico Rivera, CA.

San Mateo County Historic Resources Advisory Board
*1984 San Mateo County: Its History and Heritage*. Second Edition. Division of Planning and Development Department of Environmental Management.

San Mateo County Planning and Development Department
n.d. "Historical and Archaeological Resources, Section 5" from the *San Mateo CountyGeneral Plan*.

State of California Department of Parks and Recreation
1976 *California Inventory of Historic Resources*. State of California Department of Parks and Recreation, Sacramento.

State of California Department of Parks and Recreation and Office of Historic Preservation
1988 *Five Views: An Ethnic Sites Survey for California*. State of California Department of Parks and Recreation and Office of Historic Preservation, Sacramento.

State of California Office of Historic Preservation **
2012 *Historic Properties Directory*. Listing by City (through April 2012). State of California Office of Historic Preservation, Sacramento.

Thornton, Mark V.
1993 An Inventory and Historical Significance Evaluation of CDF Fire Lookout Stations. CDF Archaeological Reports No. 12.

VanderWerf, Barbara
1992 Granada: A Synonym for Paradise, The Ocean Shore Railroad Years. Gum Tree Lane Books, El Granada, CA.

Williams, James C.
1997 *Energy and the Making of Modern California*. The University of Akron Press, Akron, OH.

Woodbridge, Sally B.
1988 *California Architecture: Historic American Buildings Survey*. Chronicle Books, San Francisco, CA.

Works Progress Administration
1984 *The WPA Guide to California*. Reprint by Pantheon Books, New York. (Originally published as California: A Guide to the Golden State in 1939 by Books, Inc., distributed by Hastings House Publishers, New York.)

Yamada, Gayle K. and Dianne Fukami
2003 *Building a Community: The Story of Japanese Americans in San Mateo County.* AACP, Inc., San Mateo, CA.

**Note that the Office of Historic Preservation's *Historic Properties Directory* includes National Register, State Registered Landmarks, California Points of Historical Interest, and the California Register of Historical Resources as well as Certified Local Government surveys that have undergone Section 106 review.

**NATIVE AMERICAN HERITAGE COMMISSION**
**Cultural and Environmental Department**
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**West Sacramento, CA 95691**
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August 16, 2019

Rebecca Auld, CEQA Consultant
City of South San Francisco

VIA Email to: rauld@lamphier-gregory.com

RE: 345 Shaw Road and Additional US 101 Corridor Billboards Project, San Mateo County

Dear Ms. Auld:

A record search of the Native American Heritage Commission (NAHC) Sacred Lands File (SLF) was completed for the information you have submitted for the above referenced project. The results were negative. However, the absence of specific site information in the SLF does not indicate the absence of cultural resources in any project area. Other sources of cultural resources should also be contacted for information regarding known and recorded sites.

Attached is a list of Native American tribes who may also have knowledge of cultural resources in the project area. This list should provide a starting place in locating areas of potential adverse impact within the proposed project area. I suggest you contact all of those indicated; if they cannot supply information, they might recommend others with specific knowledge. By contacting all those listed, your organization will be better able to respond to claims of failure to consult with the appropriate tribe. If a response has not been received within two weeks of notification, the Commission requests that you follow-up with a telephone call or email to ensure that the project information has been received.

If you receive notification of change of addresses and phone numbers from tribes, please notify the NAHC. With your assistance, we can assure that our lists contain current information. If you have any questions or need additional information, please contact me at my email address: Nancy.Gonzalez-Lopez@nahc.ca.gov.

Sincerely,

Nancy Gonzalez-Lopez
Staff Services Analyst

Attatchment