Oakland Roots/Soul Temporary Stadium Project at Malibu Site, Oakland

CEQA Analysis/Addendum to the 2015 Coliseum Area Specific Plan EIR (State Clearinghouse #2013042066)

June 2024

Prepared for:

City of Oakland
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Project Information

1. Project Title:	Oakland Roots/Soul Temporary Stadium Case File # PLN24043
2. Lead Agency Name and Address:	City of Oakland Planning & Building Department, Bureau of Planning 250 Frank Ogawa Plaza, Suite 2114 Oakland, CA 94612
3. Case Planner:	Malinda Lim, Contract City Planner mlim@interwestgrp.com
4. Project Location:	8000 South Coliseum Way Oakland, CA Assessor's Parcel Number 042-4328-001-124
5. Owner:	City of Oakland/ County of Alameda
6. Project Sponsor:	Oakland Pro Soccer LLC Lydia Tan, Chief Real Estate Officer (510) 967-8978
6. Existing General Plan Designation:	Regional Commercial
7. Existing Zoning:	Coliseum District 2 (D-CO-2)
8. Requested Permits:	Conditional Use Permit (CUP) for a Civic Extensive Impact use (sports stadium) in the D-CO-2 zone Design Review Creek Permit

The Project will also require subsequent approvals from the following additional agencies:

City of Oakland – Final lease agreement
Alameda County - Final lease agreement
Bay Conservation and Development Commission (BCDC) - Development Permit for construction within 100-feet of a waterway subject to tidal action
Alameda County Department of Environmental Health – Review and approval of a Site Conceptual Model and Data Gap Analysis, a Corrective Action Plan, and a detailed Remedial Excavation and Specifications Plan
EBMUD, PG&E and other agencies and utility providers - Administrative approvals for utility connections and service

I - Executive Summary

This CEQA Analysis document provides the required environmental review of a proposed temporary soccer stadium to be used by the Oakland Roots (men's) and Oakland Soul (women's) professional soccer teams. This proposed temporary soccer stadium is proposed to be located at 8000 South Coliseum Way, on a property known as the Malibu Site (the Project site). The Project site is jointly owned by the City of Oakland and the County of Alameda, each with a 50 percent-undivided interest in the property. Pursuant to the California Environmental Quality Act (CEQA), the intent of this document is to determine whether the Project's potential environmental effects have been adequately examined in an earlier EIR prepared for a community plan, general plan or zoning action, pursuant to CEQA Guidelines Section 15183. The intent of this document is also to determine if the Project qualifies for CEQA streamlining and/or tiering provisions of CEQA Guidelines Section 15168, and to determine whether the additional details as now represented by the Project qualify for an Addendum to a previously prepared EIR pursuant to CEQA Guidelines Section 15164.

The Project site is located within Sub-Area A of the Coliseum Area Specific Plan (CASP) planning area. The Coliseum Area Specific Plan Environmental Impact Report (CASP EIR) was certified in April of 2015. That prior EIR analyzed the environmental impacts associated with implementation of the CASP. The Project is generally consistent with the land use assumptions for construction of new sports venues that were adopted as part of the CASP and its subsequent zoning actions, and which were fully analyzed in the CASP EIR. Accordingly, the Project qualifies for CEQA streamlining pursuant to CEQA Guidelines Section 15183. The Project is also within the impact envelope of the reasonably foreseeable development program as analyzed in the CASP EIR, providing the basis for use of an Addendum to document the minor changes to that prior EIR attributed to the Project's details, per CEQA Guidelines Section 15164.

This document includes the following information

- The Project Description describes the proposed temporary soccer stadium (the Project) in detail.
- The document analyzes the Project's consistency with the CASP, the City's General Plan Land Use and Transportation Element (LUTE), and applicable zoning regulations.
- The Environmental Checklist identifies the potential environmental impacts of the Project in comparison to the impact findings of the CASP EIR. This chapter also cites the relevant City of Oakland Standard Conditions of Approval (SCAs) and any mitigation measures from the CASP EIR that apply to the Project and provides substantial evidence to demonstrate that the Project would not cause new or more significant environmental impacts as compared to those impacts previously identified in the CASP EIR.
- The CEQA Determination provides an overview of the conclusions of the environmental analysis of the Project. It also provides the City's determination as to the applicability of CEQA exemptions pursuant to CEQA Guidelines Section 15183, the applicability of streamlining and/or tiering provisions of CEQA Guidelines Section 15168, and the availability of an Addendum to the CASP EIR per CEQA Guidelines Section 15164 to describe and analyze the additional technical details and minor changes to the CASP EIR as represented by the Project.

This CEQA document finds that the Project would not result in any significant impacts not previously identified in the CASP EIR, as further described below.

II - Purpose of this CEQA Document

The City of Oakland has determined that the temporary Roots/Soul soccer stadium project at 8000 South Coliseum Way (the Project) requires consideration of discretionary actions or approvals. These discretionary actions include but are not limited to City approvals for a lease of the City's undivided interest in the property, a Conditional Use Permit (CUP) for an Extensive Impact Civic Activity per Oakland Planning Code section 17.10.240 (R), and Design Review. As such, the Project is subject to CEQA.

One of the purposes of this CEQA document is to evaluate the potential environmental effects of the proposed temporary professional soccer stadium (the Project), and to determine whether such impacts were adequately addressed within a prior Program EIR such that CEQA exemptions, streamlining and/or tiering provisions can be applied, and whether minor technical changes or additions to a prior Program EIR via an addendum to that prior EIR is appropriate for the Project. This CEQA document incorporates information from the Coliseum Area Specific Plan EIR (CASP EIR) as the applicable prior Program EIR. This document's CEQA Checklist and supporting documentation provides comprehensive review and public information for the basis of CEQA determinations for the Project.

Based on the environmental evaluation as provided in this CEQA Checklist, the Project qualifies for multiple CEQA exemptions, streamlining and/or tiering provisions, and for an addendum to the prior CASP EIR, each of which separately and independently provides a basis for CEQA compliance. These exemptions and applicable provisions of CEQA related to streamlining, tiering and/or an addendum to a prior EIR are described below.

Community Plan Exemption

Public Resources Code Section 21083.3 and CEQA Guidelines Section 15183 (Projects Consistent with a Community Plan or Zoning) allow streamlined environmental review for projects that are "*consistent with the development density established by existing zoning, community plan or general plan policies for which an EIR was certified, except as might be necessary to examine whether there are project specific significant effects which are peculiar to the project or its site*." Section 15183(c) specifies that "*if an impact is not peculiar to the parcel or to the project, has been addressed as a significant effect in the prior EIR, or can be substantially mitigated by the imposition of uniformly applied development policies or standards…, then an EIR need not be prepared for the project solely on the basis of that impact.*"

This analysis considers the applicability of the environmental evaluation prepared in the 2015 Coliseum Area Specific Plan Program EIR (CASP EIR) for the Project. This CEQA document concludes that the Project would not result in significant impacts that; 1) are peculiar to the Project or Project site; 2) were not identified as significant project-level, cumulative or off-site effects in the CASP EIR; or 3) were previously identified as significant effects but are determined to have a more severe adverse impact than discussed in the prior CASP EIR. Findings regarding the Project's consistency with applicable General Plan and zoning provisions are included in this document. The Project meets the requirements for a Community Plan Exemption pursuant to CEQA Guidelines Section 15183. The Project is permitted in the zoning district where the Project site is located and is consistent with the land uses as envisioned in the General Plan and the Coliseum Area Specific Plan. Based on the analysis conducted in this CEQA document and pursuant to CEQA Guidelines Section 15183, the Project qualifies for a Community Plan Exemption.

Program EIRs

CEQA Guidelines Section 15168 (Program EIRs) provides that a prior Program EIR can be used in support of streamlining and/or tiering provisions under CEQA. A Program EIR is an EIR prepared on a series of actions that can be characterized as one large project and that are related geographically and by other shared characteristics. The CASP EIR is a Program EIR, which can be relied on for streamlining and/or tiering under the provisions of CEQA Guidelines Section 15168, which provides that "*subsequent activities in a Program EIR must be examined in the light of the Program EIR to determine whether an additional environmental document must be prepared*." If the lead agency finds that, pursuant to CEQA Guidelines Section 15162, no new effects could occur or no new mitigation measures would be required, the lead agency can approve the activity as being within the scope of the project covered by the Program EIR and no new environmental document would be required.

Based on an examination of the analysis, findings and conclusions of the prior CASP EIR as summarized in this CEQA Checklist, the potential environmental impacts associated with the Project have been adequately analyzed and covered in that prior Program EIR. This CEQA Checklist demonstrates that the Project would not result in substantial changes or involve new information that would warrant preparation of a subsequent EIR per CEQA Guidelines Section 15162, because the level of development now proposed for the Project site is within the broader development assumptions analyzed in that Program EIR.

Addendum to a Prior EIR

Section 15164 of the CEQA Guidelines provides that, "*an addendum to an adopted negative declaration or certified EIR may be prepared if only minor technical changes or additions are necessary, and none of the conditions described in Section 15162 calling for the preparation of a subsequent EIR or negative declaration has occurred.*" CEQA Guidelines section 15162 provides that, for a project covered by a previously certified EIR, preparation of a subsequent EIR or negative declaration (rather than an Addendum) is required only if one or more of the following conditions occur:

- substantial changes are proposed in the project which will require major revisions of the previous EIR or negative declaration due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects
- substantial changes occur with respect to the circumstances under which the project is undertaken which will require major revisions of the previous EIR or negative declaration due to the involvement of new significant environmental effects or a substantial increase in the severity of the previously identified significant effects, or
- new information of substantial importance, which was not known and could not have been known with the exercise of reasonable diligence at the time of the previous EIR was certified as complete or the negative declaration was adopted, shows any of the following:
    - the project will have one or more significant effects not discussed in the previous EIR or negative declaration;
    - significant effects previously examined will be substantially more severe than shown in the previous EIR or negative declaration;
    - mitigation measures or alternatives previously found not to be feasible would in fact be feasible and would substantially reduce one or more significant effects of the project, but the project proponents decline to adopt the mitigation measure or alternative; or
    - mitigation measures or alternatives which are considerably different from those analyzed in the previous EIR or negative declaration would substantially reduce one or more significant effects on the environment, but the project proponents decline to adopt the mitigation measures or alternative.

An additional purpose of this CEQA document is to update the CASP EIR with the additional technical details and minor changes to the CASP EIR as represented by the Project, and as fully described in the Project Description. The analysis presented in this CEQA document is intended to enable the City to determine whether an Addendum to the CASP EIR, in accordance with CEQA Guidelines section 15164, is the appropriate CEQA document to address the more detailed information specific to the Project. This CEQA document provides information to the lead agency (City of Oakland) to aid in the City's determination of whether any of the conditions described in CEQA Guidelines section 15162 calling for the preparation of a subsequent EIR or Negative Declaration have occurred. This CEQA document references and relies on the analyses completed in the CASP EIR and incorporates the conclusions of the CASP EIR by reference, as appropriate.

No Additional Environmental Review Required

The CEQA Checklist included in this document fully analyzes the environmental impacts of the Project to determine the most appropriate approach for its CEQA documentation. This analysis concludes that the Project is eligible for a Community Plan exemption under CEQA Guidelines Section 15183. The analysis also uses CEQA streamlining and/or tiering provisions under CEQA Guidelines Section 15168 to tier from the analyses completed in the City of Oakland's 2015 CASP EIR. Per CEQA Guidelines Sections 15162 and 15164, the Project is also eligible for the use of an Addendum to the CASP EIR. The following CEQA Checklist also includes more detailed information specific to the Project that demonstrates that only minor technical changes or additions to the CASP EIR are necessary to address the Project, such that this document also serves as an Addendum to the CASP EIR.

The 2015 CASP EIR serves as the previous CEQA document considered in this CEQA Analysis, and that prior EIR is hereby incorporated by reference and can be obtained from the City of Oakland Bureau of Planning at 250 Frank H. Ogawa Plaza, Suite 2114, in Oakland, California 94612. The CASP EIR can also be viewed and downloaded from the City's website at:

https://www.oaklandca.gov/documents/coliseum-area-specific-plan-environmental-impact-report

Previous Mitigation Measures and Current Standard Conditions of Approval

This CEQA Checklist's analysis assumes implementation of all applicable City of Oakland Standard Conditions of Approval (SCAs), which are included as **Attachment A**. The Project would be required to implement these uniformly applied SCAs to avoid or reduce potential impacts.

This CEQA Analysis evaluates the potential Project-specific environmental effects of the Project and evaluates whether such impacts were adequately covered by the 2015 CASP EIR, to allow the provisions afforded by CEQA Guidelines Sections 15183, 15168 and 15164 to apply. The analysis incorporates by reference the information contained in the previous CEQA document. The Project is legally required to incorporate and/or comply with the applicable requirements and mitigation measures identified in the 2015 CASP EIR. Therefore, the mitigation measures identified in the CASP EIR are assumed included as part of the Project, including those that have been modified to reflect the City's current standard language and requirements.

SCAs in General

The City established its Standard Conditions of Approval and Uniformly Applied Development Standards (SCAs) in 2008, and they have since been amended and revised several times. This document relies on the most recent version of the City of Oakland's Standard Conditions of Approval as revised in February 2024. The City's SCAs are incorporated into new and changed projects as conditions of approval, regardless of a project's environmental determination. The SCAs incorporate policies and standards from various adopted plans, policies, and ordinances, which have been found to mitigate environmental effects to a substantial degree. When a project is approved by the City, all applicable SCAs are adopted as conditions of approval and required, as applicable, to be implemented during project construction and operation. The SCAs are adopted as enforceable conditions of approval and are incorporated and required as part of a project, so they are not listed as mitigation measures.

Prior Mitigations and SCA Application in this CEQA Checklist

Mitigation measures identified in the 2015 CASP EIR that would apply to the Project are also listed in **Attachment A** (SCAMMRP) to this document, which is incorporated by reference into this CEQA Analysis. In addition, SCAs identified in the 2015 CASP EIR, as updated and that would apply to the Project, are also listed in Attachment A to this document. Because the SCAs are mandatory City requirements, the impact analysis for the Project assumes that they will be imposed and implemented, and that the Project Applicant has agreed to do or ensure as part of the Project. The Project is required to comply with all applicable mitigation measures and SCA, even if inadvertently omitted from this CEQA document.

Most of the SCAs that are identified for the Project were identified in the 2015 CASP EIR. As specifically addressed in the SCAMMRP (Attachment A), following certification of the 2015 CASP EIR the City of Oakland has revised and updated its SCAs, and the most current SCAs are identified in this CEQA Checklist.

III - Project Description

This section describes the proposed temporary soccer stadium intended for interim use by the Oakland Roots and Oakland Soul professional soccer clubs (the Project), as evaluated in this CEQA Analysis. The following includes a brief background regarding the need for the Project, a description of the Project site and surroundings, existing site conditions, the proposed use of the site, and required Project approvals.

Background

The Oakland Roots are Oakland's professional men's soccer team. The Roots are part of the United Soccer League (USL), which is North America's largest professional men's soccer organization and just below Major League Soccer (MLS - Division I) in the men's professional soccer hierarchy. The Oakland Soul is currently part of the USL W league (a pre-professional women's soccer league) and has recently been named as one of the teams that will make up the new USL Super League, a new women's professional soccer league making world-class professional women's soccer accessible for more players, more fans, and more communities across the United States. Both teams are owned by an ownership group known as the Oakland Roots and Soul Sports Club (Sports Club). The Oakland Roots and Soul Sports Club has formed an affiliated entity known as Oakland Pro Soccer LLC, which is the formal Project applicant.

The Roots have been playing their home games at either Laney College stadium in Oakland or at Cal State East Bay's Pioneer Stadium in Hayward, both of which have a capacity of only about 5,000 fans. The Roots typically sell as many tickets as the stadium can accommodate and are able to attract substantially more spectators. It is no longer possible for the Roots to play at Laney College because of other facility changes. The Sports Club seeks a new stadium in Oakland, of adequate size to meet the 5,000 seat capacity standards for USL (Men's Division II) teams, and that can accommodate both the new temporary stadium, fan experiences and parking, for the 2024 soccer season.

Currently, the Soul play their home games at the Merritt College soccer stadium, which holds about 3,500 fans. The Soul's upcoming participation in USL Super League and professional women's soccer is contingent on a bigger venue that can also accommodate the 5,000 seat capacity standards for USL Super League (Women's Division I) teams. The USL Super League is set to kick off in August 2024, and the Oakland Soul are identified as part of the new League's initial markets for the subsequent (2025) season, pending completion of a stadium project. [1]

As stated by the Sports Club's President Lindsay Barenz, "we will continue to push our stadium efforts forward with the City of Oakland and County of Alameda, as this effort cannot happen without a stadium in Oakland of our own."

The ultimate goal of the Sports Club is to find a permanent location to build a new soccer stadium, but the immediate goal is to find an interim location in Oakland that can accommodate a temporary, modular soccer stadium with a fan capacity of up to a 10,000 people, twice the current capacity of Laney and about three times the capacity of the stadium at Merritt. The temporary venue will employ modular structures such as movable bleachers, portable toilets and shipping containers. The Sports Club also seeks the ability to schedule alternating Roots and Soul home games at an accessible location with available parking. The Sports Club is targeting a year 2025 opening, so a site needs to be appropriately zoned for this type of use, or the planning and permit process may take too long to achieve the necessary opening date. As likely an interim use until a more permanent

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[1] Per League rules, each team shall have a lease for at least one full season with its home stadium, not later than 180 days prior to the start of each season (US Soccer Federation, *Pro League Standards*, March 2023)

stadium solution, the Sports Club intends for the interim stadium's structures to be capable of being relocated when the site is no longer needed for this use, to have a minimum impact on the land, and to leave the site in good shape for a future use once a permanent stadium solution is achieved.

After assessing multiple locations throughout Oakland and adjacent communities, Oakland Pro Soccer LLC (the Project applicant) has submitted a proposal to enter into up to a 10-year lease of a vacant site adjacent to the Oakland Coliseum/Arena in East Oakland, known as the Malibu Lot. Based on their timeframe for completion, the Sports Club finds that the Malibu Lot best meets its requirements for an interim stadium and has concluded that this is the most suitable site in Oakland for the proposed use. If accepted, the proposal would allow the Oakland Roots and Soul to play their home matches at the Malibu Lot for up to ten years and could accommodate other community events as well.

Site Description

Project Site

The Project site involves a property of 380,534 square feet (or approximately 8.74 acres), known as the Malibu Lot (see **Figure 1**). The Project site is a triangular-shaped property located at 8000 South Coliseum Way consisting of two legal lots (including a small lot at the end of Collins Drive), and identified as one Assessor's Parcel Number (APN) 042-4328-124. The Project site is jointly owned by the City of Oakland and Alameda County, each with a 50 percent, undivided interest.

The Project site is bounded by South Coliseum Way to the southwest, the City-owned Homebase property to the east, and Elmhurst Creek and the Coliseum Complex to the northwest. Access is available from South Coliseum Way and Collins Drive. The adjacent Homebase site is being used for emergency housing programs.

The Project site was previously used from the 1970s to the mid-1990s as Malibu Grand Prix, a miniature Indy car racing track (hence, the Malibu Lot name). It has since been used primarily as an asphalt and gravel-surface overflow parking lot for events at the adjacent Oakland-Alameda County Coliseum Complex.

The Project site is subject to two open environmental cases due to the presence of environmental hazardous materials related to its prior use and is under the regulatory oversight of the Alameda County Department of Environmental Health (ACDEH). The City and County submitted a Risk Management Plan (RMP) to ACDEH in June 2023 to help close these cases. ACDEH is anticipated to require a land use covenant to be recorded against the property's title that would allow commercial activities such as the Project, subject to approval and implementation of a Corrective Action Plan and detailed Remedial Excavation and Specifications Plan.

There are no known historic resources within the Project site. Per the CASP EIR, the adjacent Oakland Coliseum complex (which includes the Coliseum and Arena, associated ancillary buildings, landscaping, fencing, and signage) is a historical resource pursuant to CEQA. Vegetation on the Project site is sparse, and generally limited to a scattering of non-native trees and low brush along Elmhurst Creek.

There are five public utility easements encumbering the site:

- An approximately 125-foot-wide easement runs along the easterly boundary adjacent to the Homebase property for a set of two large PG&E overhead electrical power transmission lines.

Figure 1
Project Site

Source: BKF Engineers, Existing Conditions Exhibit, September 2023

- An approximately 25-foot-wide easement runs diagonally across the site, generally north-to-south, for an underground East Bay Municipal Utility District (EBMUD) sewer interceptor transmission line. [2]
- An approximately 20-foot-wide easement runs along the southeast side of Elmhurst Creek, for PG&E underground utilities.
- An approximately 10-foot-wide easement runs along South Coliseum Way for PG&E underground utilities, with an above ground transformer pad and bollards located near where south Coliseum Way bridges over Elmhurst Creek.
- A relatively short (approximately 140-foot long), 20-foot-wide easement is located at the existing terminus of Collins Drive for a City of Oakland sanitary sewer and storm drain easement toward South Coliseum Way.

In September of 2024, the Oakland City Council authorized the City Administrator to enter into an Exclusive Negotiation Agreement (ENA) with the Project applicant and Alameda County, with the intent to better understand the proposed Project and to negotiate the terms of a proposed lease. The Alameda County Board of Supervisors has also authorized a similar ENA with the Project applicant and the City.[3] If the Project is ultimately approved, the Oakland City Council and Alameda County Board of Supervisors would then consider authorization of a lease of the Project site between the City and County (jointly as lessor), and the Project applicant as the tenant.[4]

Surrounding Land Uses

Lands that surround the Project site include a broad mix of existing uses, as described below and shown in **Figure 2**.

Elmhurst Creek separates the Project site from the adjacent 112-acre Coliseum Complex to the north. The Coliseum Complex consists of the Coliseum stadium and the neighboring Arena, as well as their associated surface parking lots. These facilities are jointly owned by the City of Oakland and Alameda County, governed by the Oakland-Alameda County Coliseum Authority. The Coliseum is an approximately 1.4 million square-foot stadium that can seat up to 63,000 attendees for special events. It was the shared home stadium for both the Oakland Raiders professional football team and the Oakland A’s professional baseball team but is now only used by the Oakland A’s (and the A’s have announced their relocation to a new home stadium in Las Vegas). The Arena is a 615,000 square-foot event facility that can seat up to 19,600 attendees. The Arena was used to host Warriors home games (approximately 41 games/year) before the Warriors moved to San Francisco, and now continues to host special events such as concerts. These facilities are served by approximately 10,000 parking spaces in surface parking lots both north and south of the stadium and arena.

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2 The Project applicants are in process to negotiate a license agreement with EBMUD that would allow the temporary stadium to be constructed over the easement, but in a manner such that the turf can be rolled-up to provide access if EBMUD needs to access the pipe at any time. EBMUD anticipates making upgrades to the sewer interceptor pipe in late 2024 or early 2025, and has indicated to the applicant that they do not anticipate needing to access the pipe after that upgrade/repair is completed.

3 Alameda County General Services Agency, *Staff Report to Board of Supervisors*, September 13, 2023.

4 In May 2024 the City of Oakland City Council authorized the City Administrator to negotiate and execute a purchase and sale agreement with the County of Alameda to acquire the County’s undivided fifty percent interest in the Malibu Property. Under this arrangement, the Project site would be leased by the City as the sole owner.

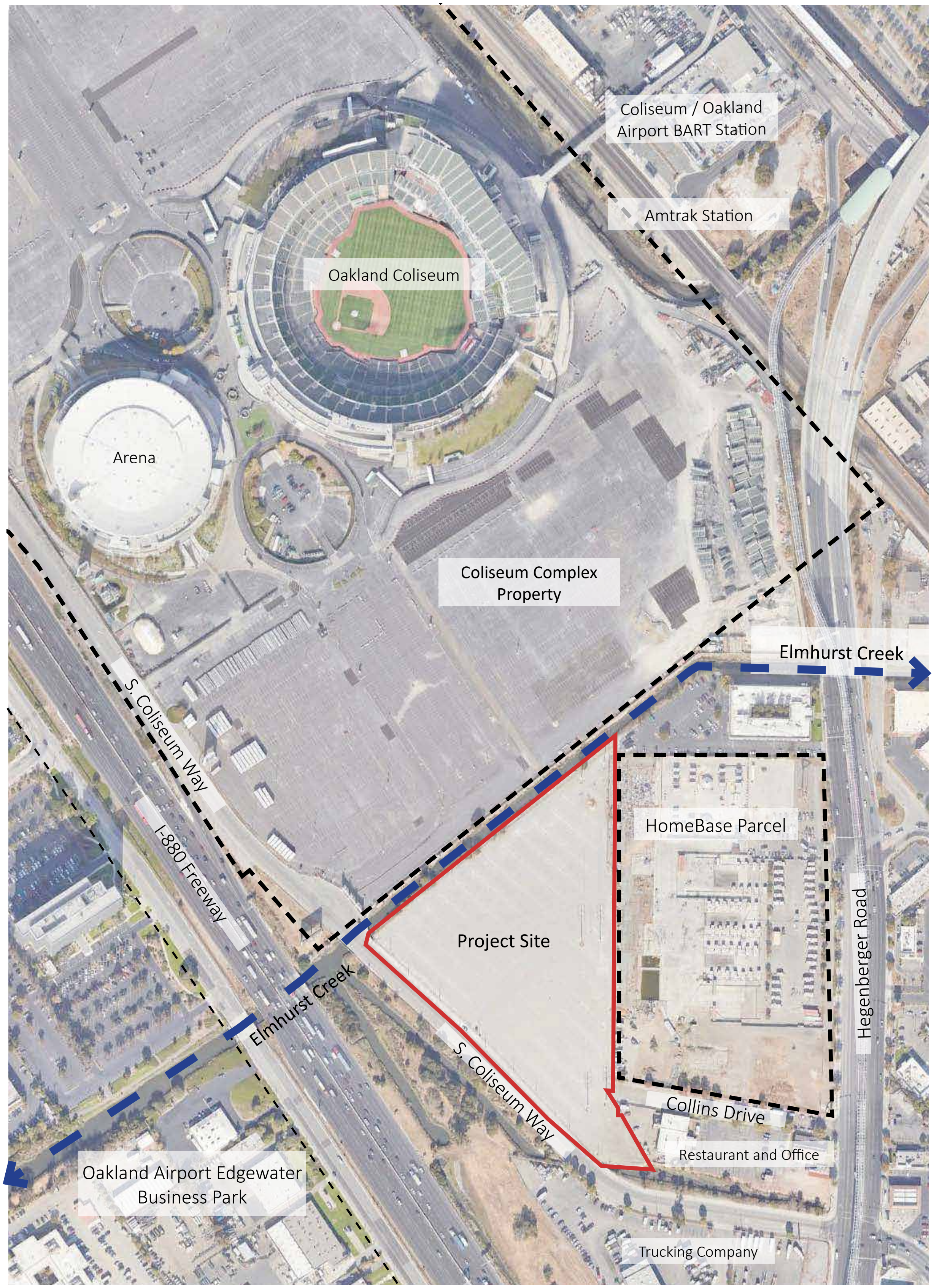

Figure 2
Project Site Location and Surrounding Land Uses

Further to the north at a direct distance of about 1,700 feet is the Coliseum/Oakland Airport BART station, which is served by three of the five BART lines. Amtrak's Capitol Corridor train service stops at the Coliseum station, which is adjacent to the BART station, with connections to Santa Clara, San Jose and Sacramento. The BART and Amtrak stations also each have surface parking lots. The BART Station provides about 950 parking spaces in a surface lot located on the east side of the BART station, and the Amtrak Station provides a 35-space surface parking lot.

Immediately to the east of the Project site is an approximately 12.2-acre parcel known as the HomeBase site. This City-owned site was previously occupied by a large floor-plate home goods and hardware store that ceased operations approximately 25 years ago. The prior store was demolished, and the site remained vacant until 2020, when the City of Oakland established a trailer park with 67 trailers to be used as a public health-driven intervention during the pandemic, providing a safe place for high-risk people to self-isolate and maintain their safety and health. This site was intended to serve beyond the health crisis and is currently serving as an Oakland emergency housing program for the homeless. A portion of the HomeBase site is not currently being used, other than as an overflow parking opportunity. Just south of the HomeBase site and immediately south of Collins Drive is a small restaurant and office space.

Further to the east, on the east side of Hegenberger Road, land uses are primarily retail commercial, light industrial/warehouse uses, and auto-oriented commercial and parking.

To the south is a commercial trucking and equipment center that is located on an isolated property separated on all sides by South Coliseum Way, Hegenberger Road and I-880.

I-880 is directly to the west of the Project site, separated by a distance of about 225 feet at it nearest point by a small drainage channel along the freeway frontage, which flows into Elmhurst Creek. The Oakland Airport Edgewater Business Park is located further to the west, on the opposite side of I-880. This business park is within the Port of Oakland's jurisdiction and contains approximately 1.45 million square feet of primarily light industrial, office, science and technology space and auto dealerships, as well as the City of Oakland Public Works Department's corporation yard, and a portion of the Martin Luther King Regional Shoreline Park.

Site Access

Vehicle access to the Project site is provided from I-880 via the northbound Hegenberger Road/Edes Avenue interchange, to South Coliseum Way. At the Coliseum's southerly vehicle entrance to parking Lot "C", South Coliseum Way converts to a one-way street in the northbound direction (see **Figure 3**). Vehicles leaving the Project site can use South Coliseum Way northbound to 66th Avenue or southbound to Hegenberger Road, but South Coliseum Way cannot be used to access the Project site from 66th Avenue.

Transit service to the site vicinity is available via the Coliseum/Oakland Airport BART station, which is served by three of the five BART lines. This BART station provides direct connections to almost the entire BART system including Downtown Oakland, San Francisco, Millbrae, Berkeley, Richmond, Fremont and Dublin/Pleasanton.

Train service to the site vicinity is available via the Amtrak Capitol Corridor train stop at the Coliseum station, which is adjacent to the BART station. The Capitol Corridor train stop at the Coliseum has connections to Santa Clara County, San Jose and Sacramento. The Coliseum Amtrak/Capitol Corridor Station is about 0.6 miles from the Project site, and the Coliseum BART Station is about 0.7 miles from the Project site if walking through the Coliseum Complex, and over 1.0 mile if walking along the public sidewalks along San Leandro Street and Hegenberger Road.

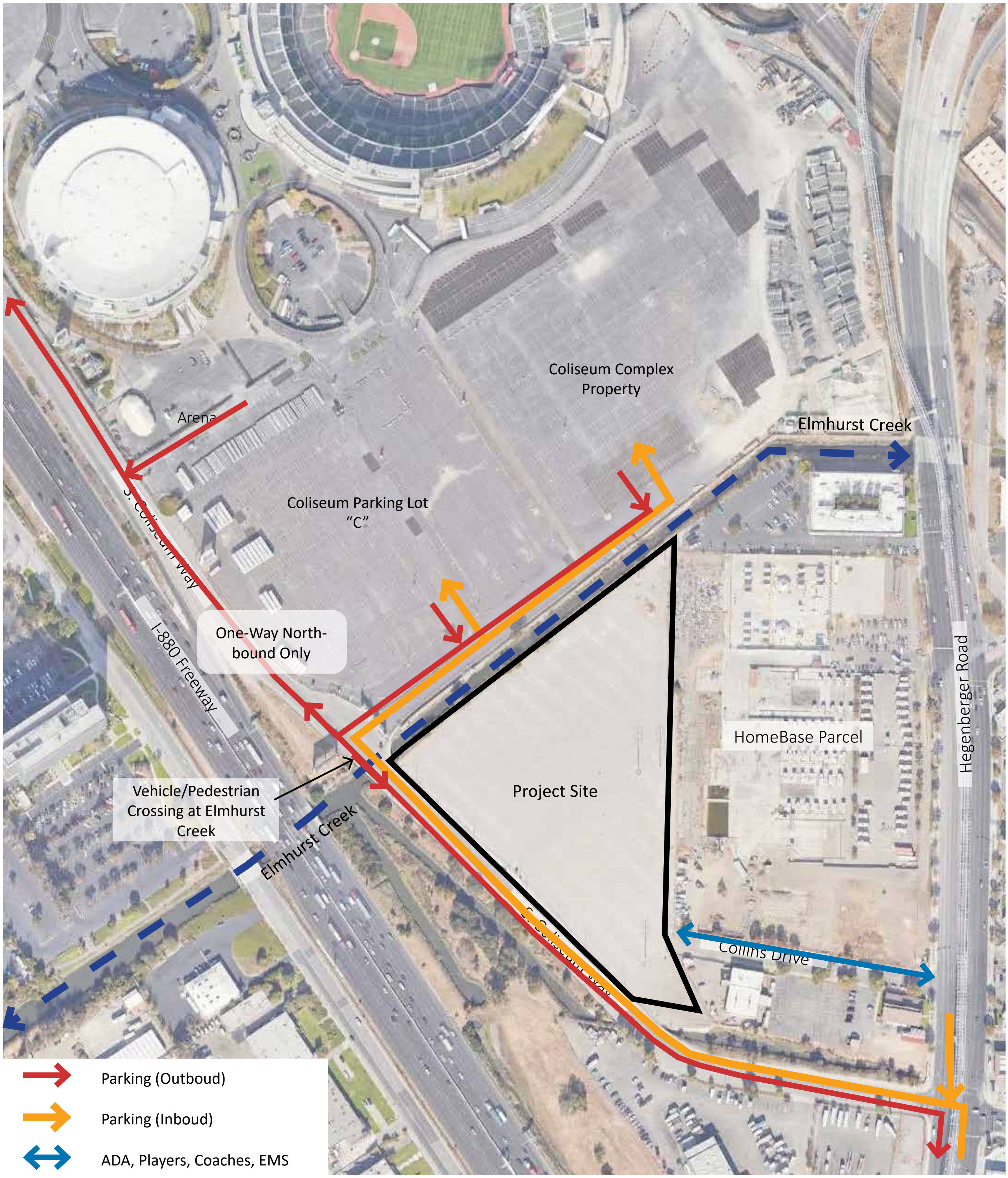

Figure 3
Automobile Access to Project Site

Source: Fehr & Peers, Roots TMP, May 2024

AC Transit provides bus service to the Project site via two bus routes including the 73 Line, which provides connections between the Eastmont Transit Center and the Oakland Airport with headways of between 10 and 15 minutes, and the 45 Line which provides connections between the Eastmont Transit Center and Foothill Square with headways of 15 to 30 minutes. Both bus routes have bus stops at Hegenberger Road/Collins Drive, which is less than ¼ mile from the Project site.

Pedestrian Access

From the Coliseum BART Station and the Amtrak station, there is a pedestrian bridge across the rail tracks and into the Coliseum Complex. The Coliseum Complex and Project site are separated by Elmhurst Creek, and there is one only one connection between the two sites, which is the sidewalk on the vehicle bridge of South Coliseum Way that spans the creek. Use of the Coliseum site for pedestrian access (and/or for parking, shuttles and ride sourcing) is dependent on agreements between the Roots and the Oakland-Alameda County Coliseum Authority for the Coliseum Complex.

The Project applicant seek to secure the rights to pedestrian access from the BART Station concourse and pedestrian bridge landing, through the Coliseum site, and connecting to the Project site. Permission to traverse the Coliseum Complex will need to be negotiated with the property owner.[5] Without access from the BART pedestrian bridge and through the Coliseum Complex, pedestrians would need to access the Project site from the Coliseum BART station or the Amtrak station via Hegenberger Road, which is nearly a one-mile walk, and the sidewalk along the Hegenberger down-ramp is narrow (at about 3 feet in width) with no separation from the travel lane. Alternatively, attendees at events at the Project can board an AC Transit bus for 2 stops to the AC Transit bus stop at Collins Drive.

South Coliseum Way has a sidewalk of approximately 10 feet in width along its easterly (Project site) side, from Hegenberger Road to the bridge at Elmhurst Creek at the parking entrance to the Coliseum Complex.

General Plan Designation and Zoning

General Plan

The Project site has a General Plan land use classification of Regional Commercial (see **Figure 4**). The Regional Commercial classification is intended to maintain, support and create areas of the City that serve as region-drawing centers of activity. The desired uses are a mix of commercial, office, entertainment, arts, recreation, sports and visitor serving activities, residential, mixed-use development, and other uses of similar character or supportive of regional drawing power. The maximum FAR for this classification is 4.0. The maximum residential density is 125 units per gross acre in a mixed-use project.

As a commercial sports and visitor-serving activity, the Project would be consistent with this General Plan classification.

Zoning

The Project site is zoned as a special Coliseum District, D-CO-2 (see also Figure 4). The D-CO-2 zoning district mirrors much of the City's Regional Commercial-2 (CR-2) zoning district, with an intent to create, maintain and enhance areas that allow a broad mixture of retail, commercial, office, and light industrial uses, and serve as region-drawing centers of sports, entertainment, and business activities.

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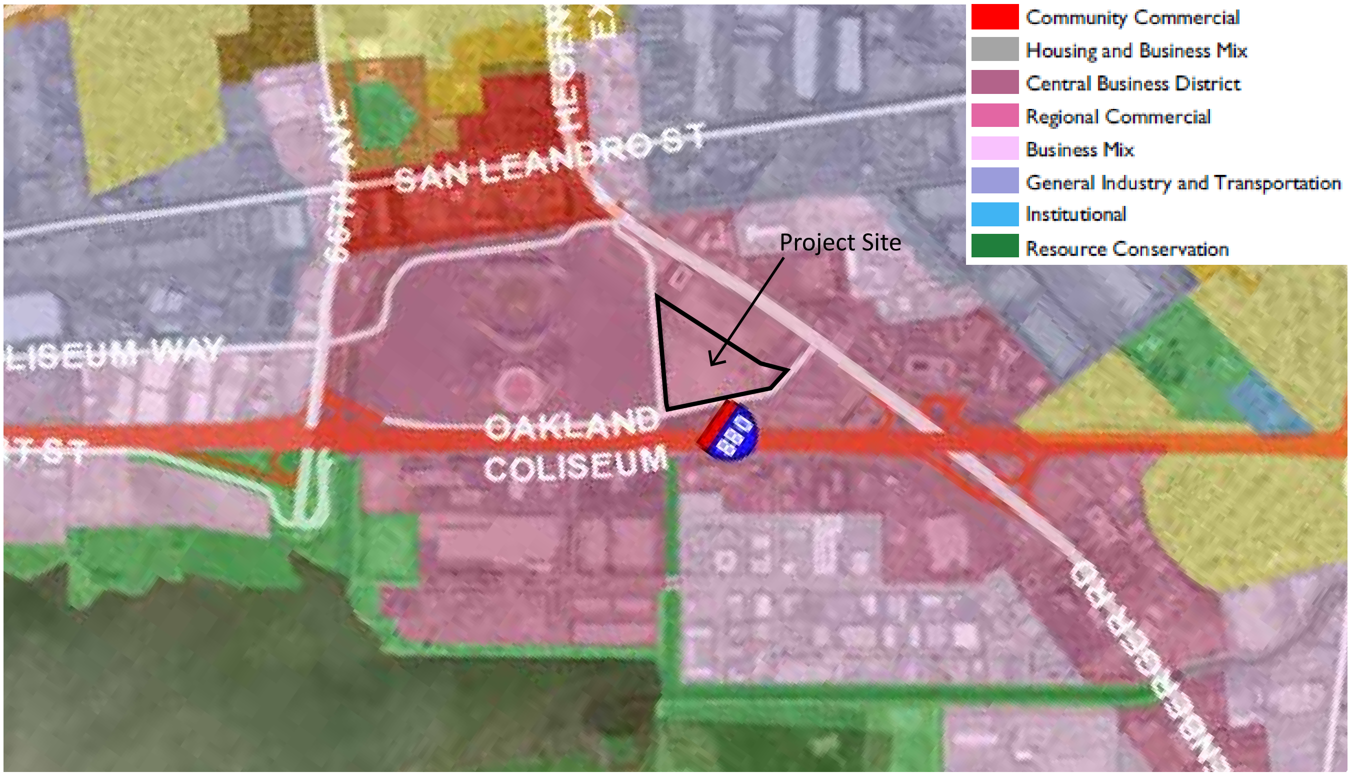
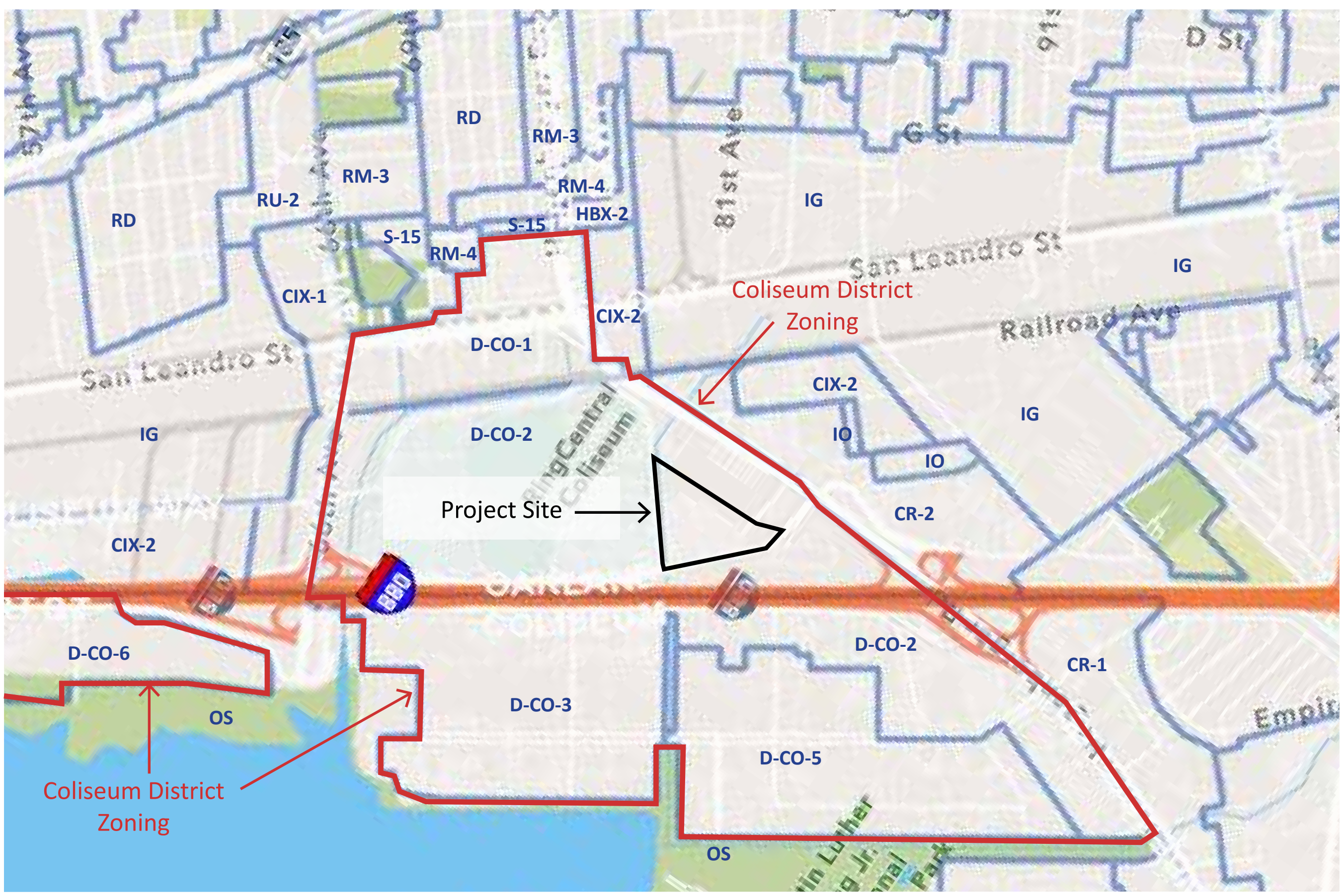
5 Alameda County has an undivided 50 percent share in ownership of the Coliseum Complex, but has entered into a purchase agreement with the Oakland A's for their ownership share. Similarly, the City of Oakland has the other undivided 50 percent share in ownership of the Coliseum Complex, but has entered into an ENA with the African American Sport & Entertainment Group for their ownership share.



Oakland General Plan Land Use Diagram



Oakland Zoning Map

Figure 4
City of Oakland General Plan and Zoning

Source: City of Oakland Planing and Zoning Map, accessed at: https://oakgis.maps.arcgis.com/apps/webappviewer/index.html?id=3676148ea4924fc7b75e7350903c7224

Applicable zoning standards of the D-CO-2 district include the following:

- minimum lot area of 5,000 square feet
- no minimum front, side or rear setbacks, unless adjacent to residential facilities
- a maximum non-residential floor-area-ratio (FAR) of 8.0
- a maximum height limit of 159 feet above mean sea level (structures may be allowed to exceed the maximum height as established by the applicable Federal Aviation Administration (FAA) regulation surfaces as provided in the Oakland International Airport Land Use Compatibility Plan if the proposed structure has been reviewed by the FAA and receives an FAA finding that the structure is "No Hazard To Air Navigation" and receives approval pursuant to the City's conditional use permit procedure).

As a professional sports venue, the Project would be consistent with the land use intent of the D-CO-2 zone, as a region-drawing center of sports, entertainment and business activities. Pursuant to the Oakland Planning Code, a sports stadium is considered a Civic Extensive Impact use requiring approval of a Conditional Use Permit (CUP) in the D-CO-2 zone.

Design Review

Except for projects that are exempt from Design Review as set forth in Sections 17.136.020 & 17.136.025, no building, facility or other associated structure shall be constructed, established or altered in exterior appearance unless plans for the proposal have been approved pursuant to the City's Design Review procedure of Chapter 17.136 of the Oakland Planning Code.

Detailed Project Description

Project Overview

Oakland Pro Soccer LLC (the Project applicant) seeks to secure a temporary lease of the Project site from the City and County for a term not to exceed 10 years, for the installation and use of a temporary, outdoor professional soccer venue, assembled from modular components (see **Figure 5**). The facility would function as a temporary home field for the Oakland Roots men's and Oakland Soul women's professional soccer teams, until Oakland Pro Soccer secures a site and completes plans for a permanent stadium. As proposed, the Project would not involve any demolition or permanent development. The contemplated lease would allow the City and County to enter into separate negotiations to dispose of their respective interests in the Project site during the lease term.

Figure 5
Project Rendering

Source: HOK, Project Description 9/05/23

The following provides a description of the Project, including site preparation and construction activities, the proposed temporary improvements, and circulation and parking. The Project is summarized in **Table 1**.

Table 1: Project Summary		
Project Site	379,846 SF (8.72 acres)	
Project Component	**Impervious Surface Area**	**Pervious Site Coverage**
Sports Field (artificial turf)		90,946 SF (30%)
Play Zone (artificial turf)		15,225 SF
Bleachers (up to 10,000 seats, over asphalt)	50,080 SF	
Rooftops (Team Lockers, Operations Center, Club 510, concessions, tickets, restrooms, etc.)	13,899 SF	
Concourse, Drive Aisle and Parking (pervious asphalt)		189,065 SF
Loading, Truck-Turnaround (concrete)	7,580 SF	
Landscape Grass Buffer at Creek		4,204 SF (6%)
Setback at HomeBase property (pervious grid paving)		8,855 SF (2%)
Total Impervious/Pervious Surface	**71,560 SF (5%)**	**308,287 SF (95%)**
	Height	
Maximum Bleacher Height	45 feet (top of Press Box)	
Maximum Light Standard Height	110 feet (approx. 120' AMSL)	

Source: HOK and BKF Engineers, 02/16/24

Temporary Site Improvements

As shown on the Project site plan (**Figure 6**), the proposed temporary soccer stadium can fit on the 8.72-acre triangular-shaped Malibu Lot, with true north-south orientation of the field.

Sports Field

Consistent with the U.S. Soccer Federation's standards for minimum field dimensions of 210 feet (65 meters) by 330 feet (100 meters), the Project's proposed soccer field (or pitch) has a playing surface dimension of 219 feet by 345 feet, with additional area on all outside dimensions for an out-of-bounds area and player benches.

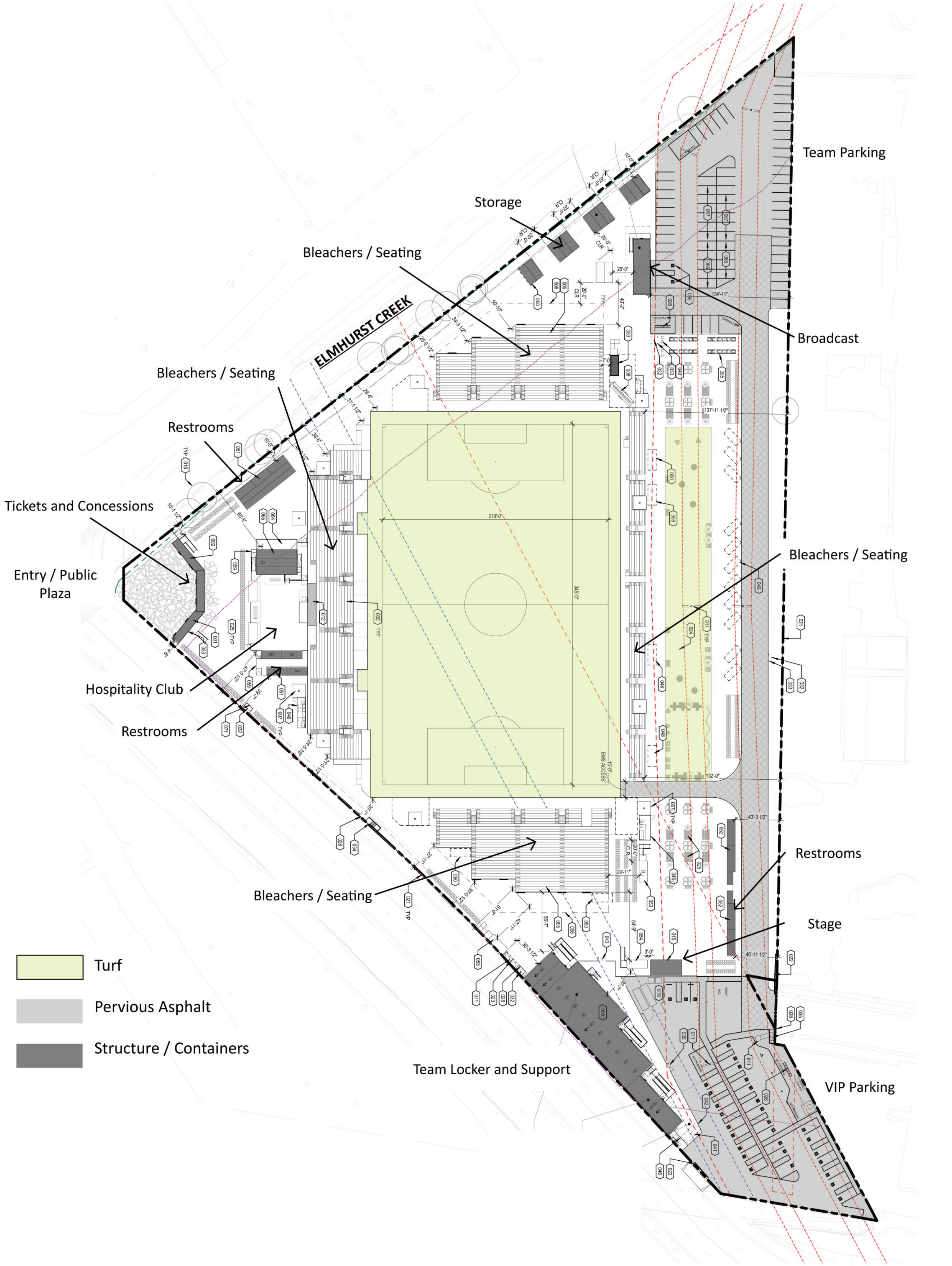


Figure 6
Project Site Plan

Source: HOK, Site Plan - Sheet A100, 3/16/24

The playing surface of the soccer pitch will be an International Federation of Football Association (FIFA)-approved artificial grass field. FIFA has established a "FIFA Quality Pro" standard for professional-level soccer stadiums, intended to ensure the highest playing performance. To meet this standard, the playing surface is required to meet a number of minimum standards that are laboratory and field tested to ensure the highest safety for players, the most realistic interaction between the ball and the surface, and high standards for product composition, weather resistance, seam strength and surface durability. Installation of the playing surface will involve fine grading to create a flat playing surface; laying drainage pipes for removal of stormwater; filling the underlay area with compressed gravels and sand for a perfectly smooth and level surface; laying out and splicing the synthetic turf; and then infilling the turf with a mixture of sand and crumb-rubber infill. The installed turf must then meet FIFA standards after installation is complete.

Field Lights

The sport field will also include eight light standards to provide lighting of the soccer pitch that achieves FIFA standards for nighttime play. Each light standard will have multiple 1,500-watt luminaires mounted to the pole, delivering a uniform LED light pattern directly onto the playing field, with minimal light spill and no overhead or ambient "glow". The field light luminaires will be mounted on 110-foot-tall poles supported by above-grade concrete blocks, with 4 poles each on the easterly and westerly sides of the field. The light poles will also have additional lower-light 500-watt luminaires that are direct toward the bleacher/stadium seats.

Passageways between the bleachers will also be lighted with multiple 4-foot linear, 54-watt LED luminaires to provide safe and well-lighted pedestrian spaces.

Modular Buildings / Modified Containers

As a temporary facility, the Project applicant intends that all of the building spaces needed for the Project would consist of pre-fabricated modular units and/or modified shipping containers that are manufactured/modified off-site, trucked to the site, and then placed on above-grade concrete slabs and footings. The Project includes nearly 13,000 square feet of modular buildings for Project-related activities and occupancies, and over 2,500 square feet of modified shipping container space for storage, concessions and merchandise, as shown on **Table 2**. This results in approximately 15,400 square feet of total on-site temporary building space.

Table 2: On-Site Temporary Buildings		
Building Use	**Size**	**Construction Type**
Modular Construction		
Locker Room/Operations HQ	7,512 SF	Off-site modular construction
Club 510 (Kitchen and Restrooms)	1,600 SF	Off-site modular construction
Merchandise/Tickets/Concessions	640 SF	Off-site modular construction
VIP Seating	1,760 SF	Off-site modular construction
Ticket Booth	320 SF	Off-site modular construction
Broadcast	880 SF	Off-site modular construction
Restrooms	480 SF	Off-site modular construction
Subtotal:	**12,875 SF**	
Container Spaces		
Concessions/Merchandise	640 SF	Modified shipping containers
Storage	1,920 SF	Modified shipping containers
Subtotal:	**2,560 SF**	
Seating		
Bleachers	39,425 SF	Prefabricated, assembled on-site
Other Seating	9,926 SF	Prefabricated, assembled on-site
Subtotal:	**49,351 SF**	
Total:	**64,786 SF**	

Source: HOK, Ground Floor Plan, 09-01-2023

- The Locker Room/Operations HQ building would include administrative/coaches office and team lockers and restrooms for the home and away teams, as well as an operations support office and maintenance center
- The 510 Club would provide a kitchen and restrooms, with an outdoor venue for game-day “block party” events and other amenities and spectator services, as well as a welcome center and way-finding signage to the bleachers/seating areas

At the end of the lease period with the City of Oakland and Alameda County, all of these facilities could be easily removed and used for other purposes, leaving other long-term plans for the Malibu Lot to proceed without demolition or site disruption.

Bleachers/Seating Areas

According to the US Soccer Federation’s Professional League Standards, all men’s USL teams (i.e., Division II Men’s Outdoor League teams) must have stadiums with a minimum seating capacity of 5,000 attendees. Similarly, all USL Super League teams (i.e., Division I Women’s Outdoor League teams) must have stadiums with a minimum seating capacity of 5,000 attendees. The Project applicant believes that these soccer teams have spectator demand that exceeds this minimum 5,000-seat capacity and seeks to construct a temporary stadium with a seating capacity of 8,370 attendees, and with the opportunity to expand to 10,000 seats in the near future. The maximum potential of 10,000 seats would be comprised of a mixture of the following types of seating arrangements, as shown in **Table** 3 (see also **Figure 7**):

Table 3: Bleachers and Seating Areas

Seating Type	Number of Seats
Bench Seats	3,708
Chair-Back Seat	3,992
Field Seats	470
Suites	150
Wheelchair Positions	104
Flexible Group Seats	104
	8,528
Standing Room Only	178
Subtotal, Attendees:	**8,706**
Potential Expansion (Bleachers)	1,294
Total:	**10,000**

Source: HOK, Seating Bowl Plan, Sheet A203, 02/16/2024

A Press Box would be located at the top of the westerly bleachers and would include a broadcasting booth for PA broadcast and media personnel, as well as audio-visual equipment.

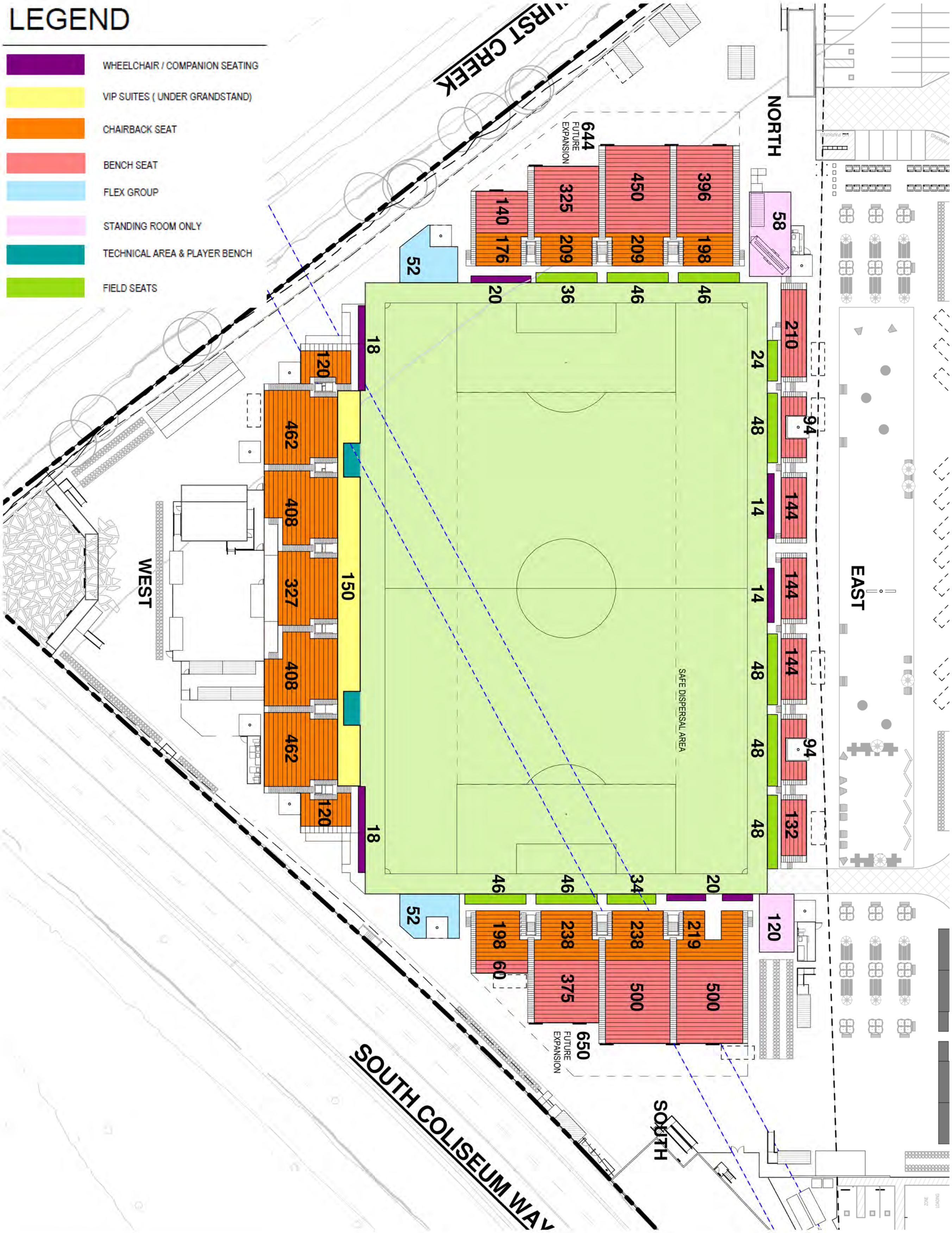


Figure 7
Field and Bleacher/Seating Layout

Source: HOK, Seating Bowl Plan, Sheet A203, 3/16/24

Parking and Circulation

The following information related to the Project's off-site and on-site transportation plans is derived from the Transportation Management Plan (TMP) for the Project prepared by Fehr & Peers (see **Appendix J**). The primary purpose of the TMP is to outline improvements and operational strategies to optimize access to and from the Project, while minimizing disruption to existing land uses and the surrounding community.

Off-Site Parking

The 8.74-acre Malibu Lot is large enough to accommodate the proposed temporary soccer stadium but is not large enough to accommodate anticipated game-day (or event-day) parking demand. There are currently several thousand parking spaces located at the Coliseum Complex (parking area known as Lots B, C and G), adjacent to the Project site that the Project applicants intend to lease from the Coliseum Authority. There is also a shuttle/ride-sourcing zone within the Coliseum Complex that the Project applicants intend to lease for use during Project events (see **Figure 8**). The Coliseum Complex and the Project site are separated by a waterway, such that there is one sidewalk connecting the two sites. Use of the Coliseum site for parking, shuttles, ridesourcing and pedestrians is dependent on agreements between the Project applicants and the Oakland-Alameda County Coliseum Authority for the Coliseum Complex.

Should parking at the Coliseum Complex prove to be insufficient to handle event parking demands, the Project applicant has also identified an undeveloped area immediately to the east of the Malibu Lot, within the City-owned HomeBase property. This area is not a part of the HomeBase housing project, but is between the HomeBase trailers and Collins Drive. Pursuant to a potential future agreement from the City, and with minor surfacing improvement and vehicle access from Collins Drive and/or Hegenberger Road, this site could also supply a portion of game-day parking demand, if needed.

Off-Site Transportation Network Company

To manage taxis and ride sourcing (also referred to as transportation network companies or TNCs), there is an existing designated pick-up/drop-off area within the Coliseum Complex and adjacent to parking lots B and G. This TNC drop-off and pick-up area is accessed from Baldwin Street, and is about 1,800 feet from the Project's entry. The Project applicants intend to use the TNC drop-off/pick-up area within the Coliseum Complex to serve TNC attendees for Project events. Attendees arriving by TNC would be dropped off at the designated area and walk across the Coliseum Complex parking lots to the main entrance of the Project site.

BART and BART Shuttles

The Project applicant will coordinate with BART, as the Coliseum Complex currently does for ballgames and events at the Coliseum and Arena, by communicating about event schedules. BART can, if necessary, augment post-event service with additional measures as needed to manage expected crowds.

To make using BART more attractive and convenient, shuttles between the Coliseum BART station and the TNC drop-off/pick-up area will be provided before and after large Project events (see **Figure 9**). A 3-bus shuttle system serving BART would serve about 180 riders per hour at each loading/unloading zone. This is based on a 10-minute shuttle headway, 25-minute round trip travel time, and 30-passenger shuttles. Waiting areas will be designed to accommodate peak-period passengers waiting for the shuttle.

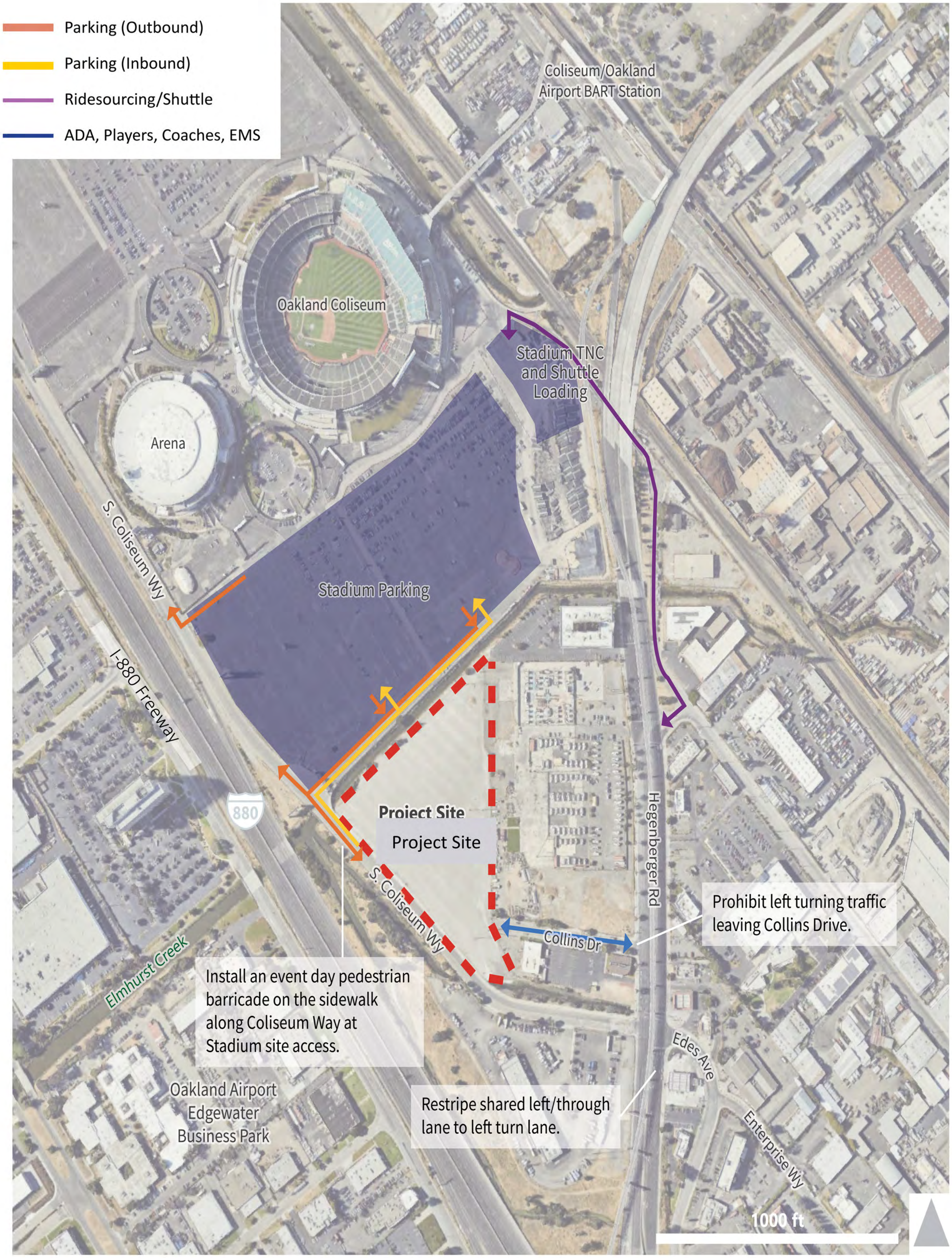


Figure 8
Expected Automobile Access for the Stadium

Source: Fehr & Peers, Roots TMP, May 2024

Figure 9
Shuttle Services to the Stadium

Source: Fehr & Peers, Roots TMP, May 2024

AC Transit Bus Stops

A sellout game at the Project could attract up to 10,000 attendees, and 100 weekend to 300 weekday attendees could arrive by AC Transit. Riders would be geographically dispersed, with some riders accessing the bus stops on Hegenberger Road at either Collins Drive or Baldwin Street and walking to the Stadium along Coliseum Way; while some riders may access the bus stops at the Coliseum BART station and walk through the Coliseum Complex via the pedestrian bridge to the Stadium. Additional resources may be required to guide attendees between the bus stops and the Project site, particularly at Collins Drive where the street extends into the Project site. The Project applicant and AC Transit will coordinate to provide ambassadors as needed before and after major events.

Off-Site Bicycle Parking

The Project also intends to provide primary bicycle parking within the adjacent Coliseum Complex, near the TNC/Shuttle stop (see **Figure 10**). It is expected that this bike parking area will primarily be used by bike riders who walk/carry their bikes across the pedestrian bridge connecting the Coliseum Complex and the BART station, and this routing would be communicated through the Project's website. This location for bicycle parking enables bicyclists traveling to or from the Project site to do so without using either Hegenberger Road or Coliseum Way, which do not have bicycle facilities and have high-speed motor vehicle traffic. The bicycle parking will be conveniently located within a short walk to the Stadium without having to cross public streets. Depending on demand, up to 200 attended, free and secure bicycle parking spaces will be provided on event days. The temporary outdoor bike parking facility will be staffed, and can be sized to accommodate demand.

Off-Site Pedestrian Access

The Coliseum Complex's parking Lot C is immediately adjacent to the Project site but separated by Elmhurst Creek. The existing vehicle entrance from South Coliseum Way into Lot C is on the northerly side of Elmhurst Creek, and South Coliseum Way provides a vehicle bridge across the Creek. A full sidewalk exists from Lot C, across the bridge, and along the Project site's full frontage along South Coliseum Way. This sidewalk would provide an immediate pedestrian path from the Lot C parking lot, directly to the main entry of the proposed stadium. Attendees who arrive via ride sourcing or shuttles/buses are also expected to walk through the Coliseum Complex to access the Project. In total, the following pedestrian demands are expected for a typical 10,000-attendee event (inclusive of a 20 percent reduction in vehicle trip generation per the Project's TDM Plan):

- about 7,800 attendees will walk between the Coliseum Complex parking lots B, C and G, and the Project site
- about 1,400 attendees will walk between the Coliseum BART Station and the Project site
- up to 600 attendees will walk between the TNC/shuttle area and the Project site
- about 200 attendees will walk between the bike corral and the Project site, and
- up to 300 attendees will walk between bus stops on Hegenberger Road and the Project site

Figure 11 shows the expected pedestrian paths of travel to the Project site.

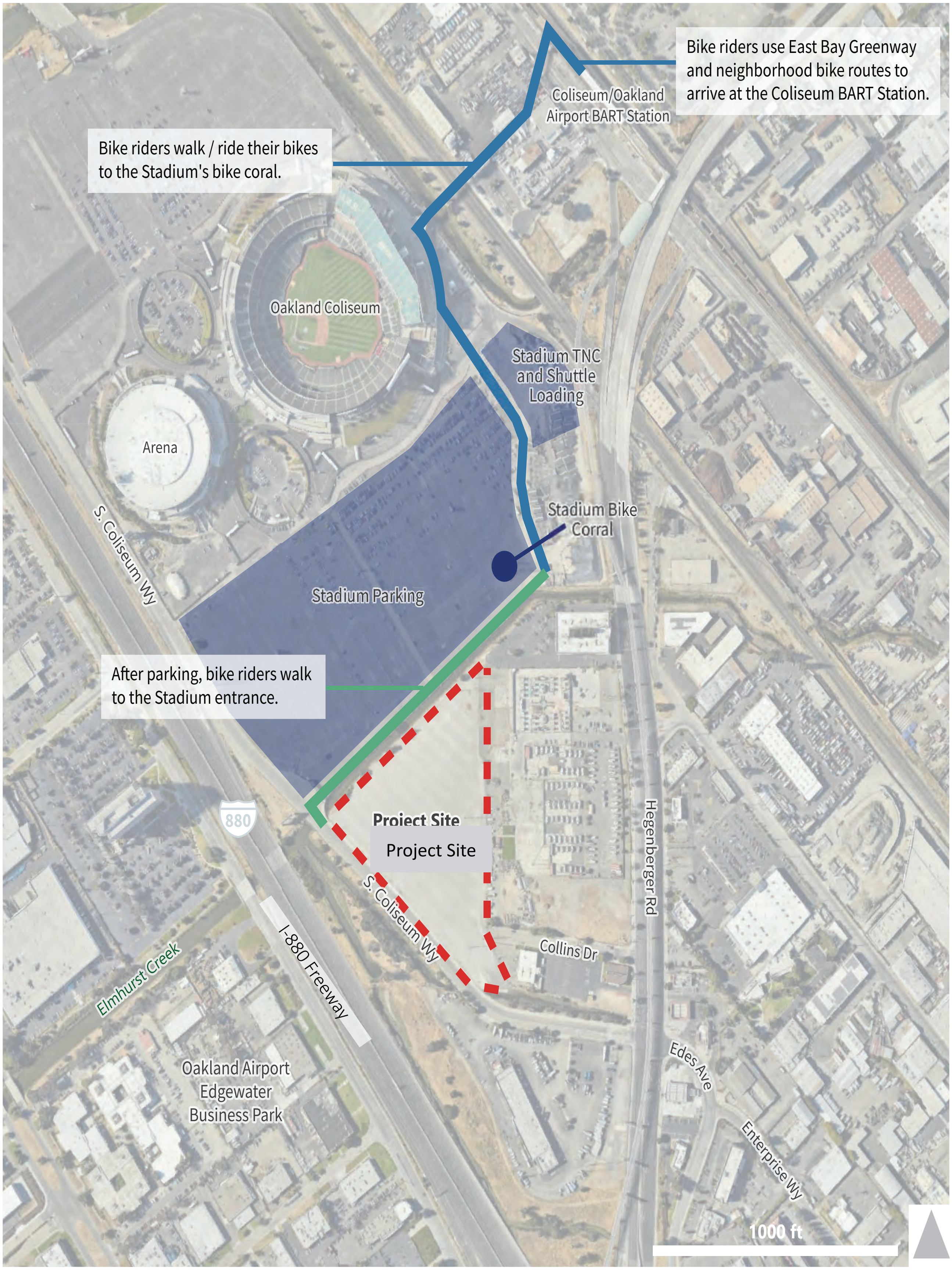


Figure 10
Bike Rider Path of Travel to the Stadium

Source: Fehr & Peers, Roots TMP, May 2024

Figure 11
Pedestrian Paths of Travel to the Stadium

Source: Fehr & Peers, Roots TMP, May 2024

Given the Project's pedestrian demands through the Coliseum Complex, a pedestrian route with wayfinding through the Coliseum Complex will be provided pursuant to agreements with the Coliseum Complex property ownership interests.[6] Pedestrian improvements through the Coliseum Complex need to be flexible, since the Coliseum Complex is an active event space and there may be events at the Coliseum Complex and at the Project at the same time. Therefore, pedestrian corridor features through the Coliseum Complex may include wider spaces for walking, high-visibility crosswalks, and fencing/barriers to separate walking space from motor vehicle space.

The existing sidewalk system on Collins Drive, South Coliseum Way and Hegenberger Road has sufficient width to handle the anticipated pedestrian demand of walking from AC Transit bus stops to the Project.

On-Site Parking and Circulation

On-site vehicle circulation is limited to a proposed narrow drive-aisle beginning at the current terminus of Collins Way. This drive would be located along the easterly Project site boundary adjacent to the HomeBase site. The approximately 24-foot-wide drive-aisle would provide vehicle access from Collins Way to on-site parking supplies for the players, coaches and visiting team, the Roots' front office personnel, and ADA parking.

On-site parking includes a relatively small, 73-stall parking area (70 standard spaces, 2 ADA accessible spaces and 1 van-accessible space) intended for front office personnel and players and located at the northerly portion of the site. The drive-aisle would also connect to a separate smaller 39-stall parking area at the southerly portion of the site nearest the Collins Drive entry (35 standard spaces, 2 compact spaces, 1 ADA accessible spaces and 1 van-accessible space) intended for VIP parking and back-of-house operations/turn-around space. Truck/van parking is intended to accommodate two media trucks and space for one Emergency Medical Service vehicle.

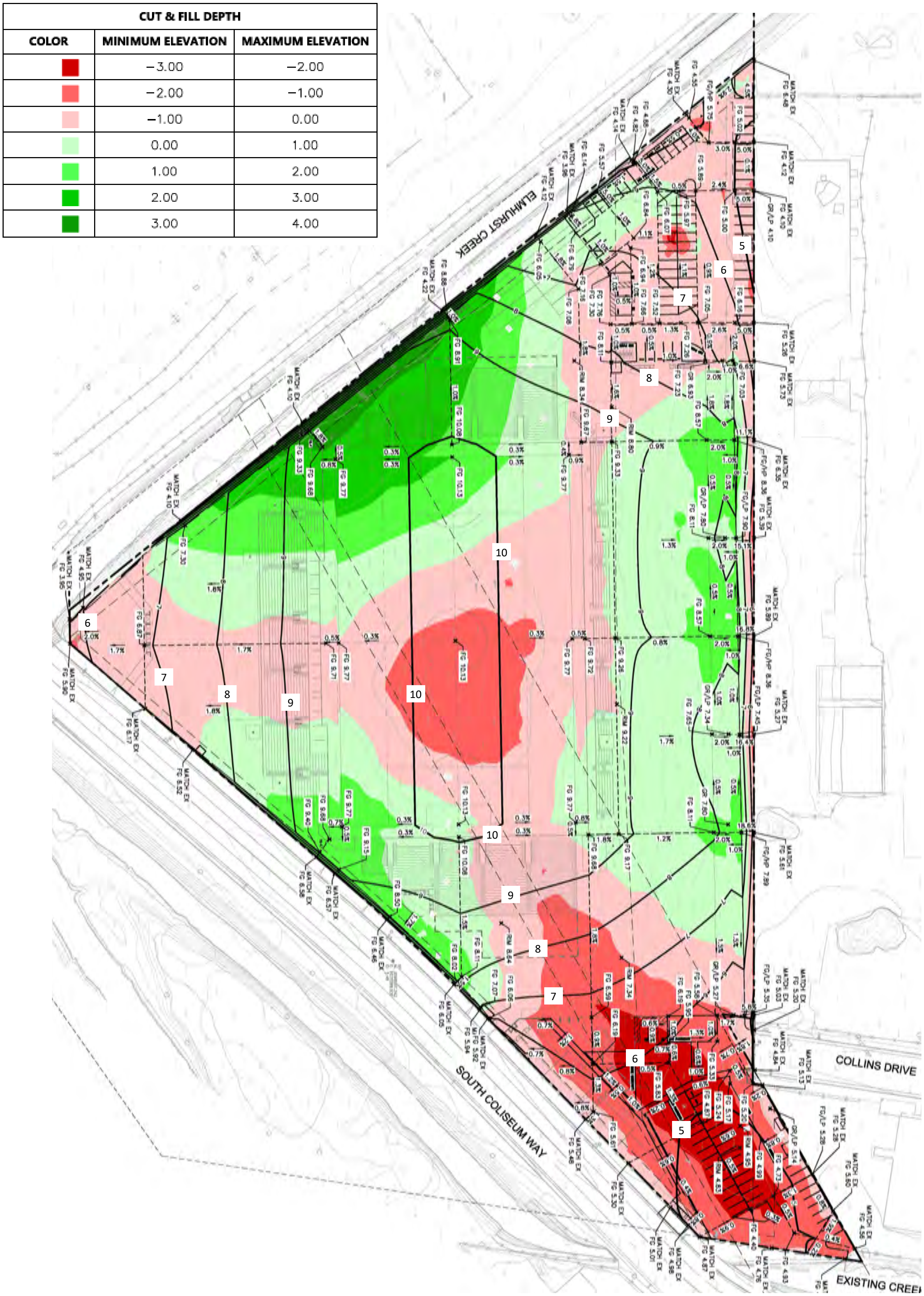
On-site parking spaces will be designated for 11 charging stations for electric vehicles, equivalent to 10% of the total 109 parking spaces. An additional 11 on-site parking spaces will be designated for future electric vehicle charging stations, equivalent to an additional 10% of the total parking spaces. Preferred parking spaces will be designated for fuel-efficient vehicles, car share vehicles, carpools and electric vehicles.

A limited amount of secure bicycle parking will also be provided via lockers or other secure means for players or employees who may arrive early or leave late, when the off-site temporary outdoor bike parking is unavailable.

<u>Grading</u>

The Project's proposed grading plan (see **Figure 12**) provides for minimal cuts (of 1 to 2 feet) into the existing artificial fill in the more central portions of the site, and minor fill (of 2 to 3 feet) along the outside edges of the site, to provide a generally flat surface for the soccer field and surrounding site improvements. The earthwork quantities assumed pursuant to the grading plan estimate approximately 5,863 cubic yards (CY) of cut and 6,373 CY of fill, with a net import of only about 510 CY of fill. These assumed earthwork quantities are based on assumed cut of 8 inches for the soccer field section, and 1 foot of cut for all other paved areas. Once site grading is complete, the Project will import approximately 4,200 CY of sand and gravel to provide a sub-base for site improvements (i.e., underlay base for the artificial turf, building slabs and grandstand supports, and pervious and impervious concrete and asphalt).

[6] See prior footnotes 4 and 5 regarding property ownerships and purchase agreements



CUT & FILL DEPTH		
COLOR	MINIMUM ELEVATION	MAXIMUM ELEVATION
	−3.00	−2.00
	−2.00	−1.00
	−1.00	0.00
	0.00	1.00
	1.00	2.00
	2.00	3.00
	3.00	4.00

Figure 12
Project Grading Plan

Source: BKF Engineers, Cut/Fill Exhibit, Octoer 2023

Utilities

The Project's utility plans are relatively simple, and include new domestic and fire flow water service, sanitary sewer service, storm drainage and electrical service.

- There is an existing 8-inch domestic water line within the Collins Drive right-of-way, which stubs out immediately adjacent to the Project site at its southerly point. The Project would include a new connection to this existing water line with a separate meter. The meter would connect to two new domestic water lines. One water line would run northward along the easterly side of the stadium, and the other water line would run northwest adjacent to South Coliseum Way to serve the Locker Room/Operations HQ and the 510 Club/Hospitality Club.
- The Project would also include an additional water meter with a detector assembly connection to the same existing water line within the Collins Drive right-of-way. This meter would connect to two new water lines providing fire flows. One water line would run northward along the easterly side of the stadium, and the other fire water line would run northwest adjacent to South Coliseum Way. Four new fire hydrants would be installed along these fire flow lines to provide appropriate fire service to the site.
- There is an existing sanitary sewer manhole near South Coliseum Way, at the very southerly tip of the Project site. This manhole connects with existing sewer lines at an inverse elevation of approximately -6 feet (or 12 feet below surface). The Project would include a new connection at this existing manhole with a new sanitary sewer line. The new sewer line would run northwest adjacent to South Coliseum Way to serve the Locker Room/Operations HQ, the 510 Club/Hospitality Club and on-site portable restrooms. The Project's proposed portable restrooms would be connected with a quick-connect coupler to these sewer lines and/or would be serviced (pumped) by a service provider and hauled to the EBMUD wastewater treatment plant.
- There is also an existing stormdrain manhole near South Coliseum Way at the very southerly tip of the Project site. This manhole connects with existing 12-inch and 18-ich stormdrain lines at an inverse elevation of approximately 2 feet (or 4 feet below the surface). The Project would include a new connection at this existing manhole with a new stormdrain line. The new stormdrain line would follow along the easterly side of the site, and runoff from the site (including from the soccer pitch) would be directed to inlets along this stormdrain.
- The Project proposes to construct a new electrical transformer at the southerly end of the site, receiving electrical power from the existing underground power line near the terminus of Collins Drive. From this transformer, electrical service would be provided to the new buildings, the stadium and the stadium lights via underground electrical lines.

The deepest trenching for installation stormdrain and sewer lines will be at an approximate depth of eight feet below finish grade.

Landscaping

Consistent with the stadium's tenancy at the site, the Project's landscape program (see **Figure 13**) is intended to be temporary installations. The landscape theme is also intended to provide for a pleasant fan experience at the stadium and incorporates the mosaic color theme of the Roots and Soul brand.

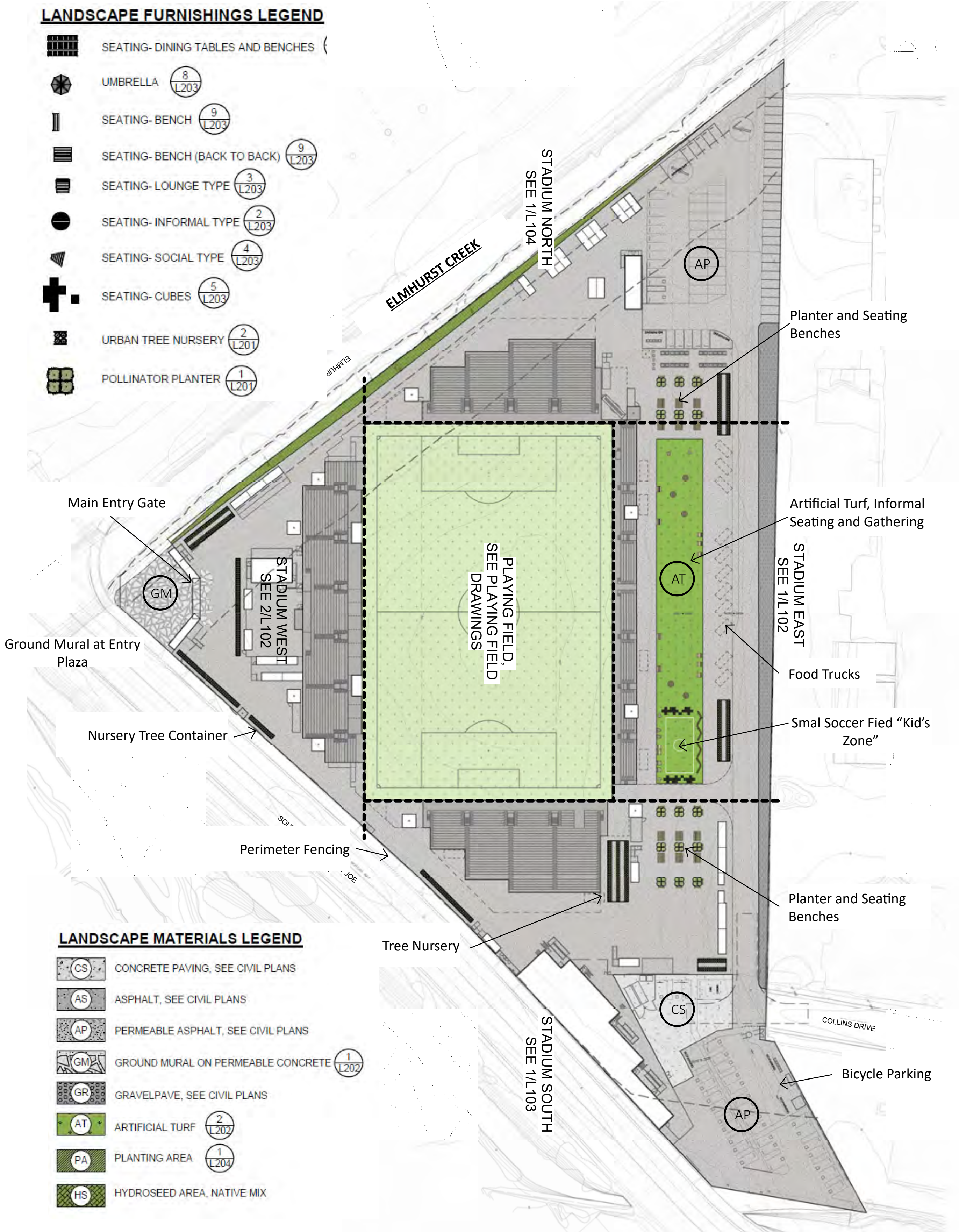


Figure 13
Project Landscape Plan

Source: HOK, Landscape Site Plan - Sheet L101, 2/16/24

Accordingly, the major elements of the landscape and hardscape plan include the following:

- Adjacent to the stadium is a large artificial turf area for informal seating and gathering, embedded with graphics that recognize the ‘deepest roots’ of the native Ohlone peoples that inhabited the area
- Picnic tables and informal seating furniture is arranged along the sides of the turf area
- Food trucks are located at the outside edge of the turfed seating area, brought in for game-day and event schedule only
- The permeable concrete concourse is painted or stained with decorative patterns that also assist with on-site wayfinding
- Roll-off mobile planters are used throughout the site, planted with low to tall shrubs and groundcover that meet low water use demands
- Young climate-resistant oak trees are planted in oversized nursery boxes, and placed throughout the site, and these trees are intended to be transplanted for use in neighborhood parks and as street trees at the end of the stadium’s tenancy

An irrigation system will be installed to provide the minimum amount of water necessary to sustain good plant health, consistent with Oakland water efficient landscape requirement and the California Water-Efficient Landscape Ordinance (WELO)

Other elements of the Project’s design include ‘skinning” the exterior vertical surfaces of the bleachers with large-scale mesh material decorated with print graphics, free-standing landmark columns with color-changing Led lights, and painting the metal shipping containers used on site with the teams’ mosaic color scheme.

<u>Operational Schedule of Events</u>

The current men’s USL league schedules 34 matches per year, 17 away games and 17 home games. For teams that make the playoffs, there are additional post-season games, increasing the potential for up to 23 home games per season. The schedule generally runs from March through October.

The current women’s USL Super League will start in the 2024 season and will include 10 to 12 teams, with additional teams (including the Oakland Soul) set to join in subsequent seasons pending completion of each team’s new individual stadium projects. It is anticipated that the women’s Super League schedule may eventually expand to include up to 23 home games, including post-season play.

At these anticipated schedules, the Project is expected to accommodate as many as 46 professional soccer matches a year. With field lights, it will be possible to schedule both day and night games on the same day to avoid scheduling conflicts between the teams.

In addition, the Project applicants intend to make the temporary stadium available for the Roots’ development team (Project 510), other sports and community events such as high school sports events and concerts, a farmers' market, pop-up events, etc. The schedule for such additional events will depend on outside interest in the new stadium but may include as many events as is shown in **Table 4**.

Table 4: Anticipated Annual Events Schedule					
Event Type	**Annual Events**	**Attendance**	**Total Attendees/Yr**	**Season**	**Time of Day**
Roots and Soul Home Games	46	8,500 – 10,000	460,000	March through October	12-4 pm, and 6-10 pm
Project 510 home games	40	1,500 – 5,000	200,000	March through October	12-4 pm, and 6-10 pm
Other Professional Sports Events	12 (est.)	8,500 – 10,000	120,000	Year long	12-4 pm, and 6-10 pm
Entertainment Events	12 (est.)	7,500 – 10,000	120,000	Year long, Thursday thru Sat.	12-4 pm, and 6-10 pm
Corporate or Community Events	50 (est.)	300 – 5,000	250,000	Year long, variable	12-4 pm, and 6-10 pm
Total (Annual)	**160**		**1,150,000**		

Source: Oakland Pro Soccer LLC, *City of Oakland Supplemental Questionnaire for Proposed Activities/Uses*, October 10, 2023

Construction Schedule

Assuming the Project receives City approvals by summer of 2024 and BCDC approvals shortly thereafter, the Project applicant intends to have already initiated concurrent processing of necessary building and grading permits. Assuming those building and grading permits are also administratively approved during 2024 or early 2025, the Project's construction schedule would follow as generally indicated below, and last for a duration of less than one year:

- April, May and June 2025 - Site mobilization, demolition and grading
- June, July and August 2025 - Installation of site utilities
- July, August and September 2025 – Prep and installation of artificial turf
- August and September 2025 - Pouring of concrete and asphalt, and installation of light standards
- October and November 2025 – Installation of grandstands, modular buildings and containers
- December 2025 – Inspections
- January 2026 – Opening Day target date

Grading is expected to be limited to minor cuts and fill of 2 to 3 feet as needed to create a level site, with minor import of approximately 510 CY of soil. Grading operations would involve graders, scrapers and perhaps rubber-tired dozers.

Trenching is for underground dry utilities and water/sewer service to the modular buildings (i.e., the Office, team locker rooms, building maintenance, the Operations Center and the Hospitality Club). The portable restrooms will not require on-site sewer, as they will be serviced by a portable restroom service provider.

Fabrication of stock and custom grandstands, modular buildings and modified containers would all occur at an off-site location and be delivered by truck to the Project site for installation.

Buildings are expected to be placed on at-grade concrete slab foundations with footers as required for structural support. Field lights are all to be mounted on poles supported by above-grade concrete blocks. The placement of modular buildings and containers is anticipated to require a forklift and boom lift (or cherry picker), placement of the press box at the top of the bleachers may require use of a crane for one day only, and container assembly may require welders. Paving would include pavers and paving equipment, rollers and air compressors.

List of Project Approvals Required

City of Oakland

The Project requires the following discretionary actions and approvals from the City of Oakland prior to implementation:

- Conditional Use Permit (CUP) for an Extensive Impact Civic Activity (per Oakland Planning Code section 17.10.240[R], stadiums, sports arenas, auditoriums and bandstands are all considered Extensive Impact Civic Activities)
- Conditional Use Permit for Alcohol Sales
- Regular Design Review
- Tree Preservation or Removal Permit
- Creek Protection Permit

The Project will also require subsequent administrative permits for the following:

- Work within and close to the public right-of-way
- Grading, stormwater control and building permits

Other Agency Approvals

The Project will also require subsequent approvals from the following additional agencies:

- Lease agreement between the City of Oakland and Alameda County, and the Project applicant
- Development Permit from BCDC for construction within 100 feet of waterways that are subject to tidal action (i.e., Elmhurst Creek)
- US Army Corps of Engineers staff review and approval of an Aquatic Resource (Wetlands) Delineation of Elmhurst Creek
- Alameda County Department of Environmental Health’s review and approval of a Site Conceptual Model and Data Gap Analysis, a Corrective Action Plan, and a detailed Remedial Excavation and Specifications Plan
- Other administrative approvals from other agencies and utility providers such as EBMUD and PG&E

IV - Project's Consistency with the General Plan and Zoning

The following analysis has been conducted to determine whether the proposed Project is consistent with the land use and development assumptions and improvement strategies of the Coliseum Area Specific Plan (CASP), the City General Plan Land Use and Transportation Element (LUTE), and development standards of the Oakland Planning Code, Title 17.

To be considered eligible for CEQA streamlining as a Project Consistent with a Community Plan or Zoning per CEQA Guidelines Section 15183, the Project must be consistent with the development density established by existing zoning, community plan (i.e., the CASP), or general plan policies for which an EIR was certified (i.e., the CASP EIR).

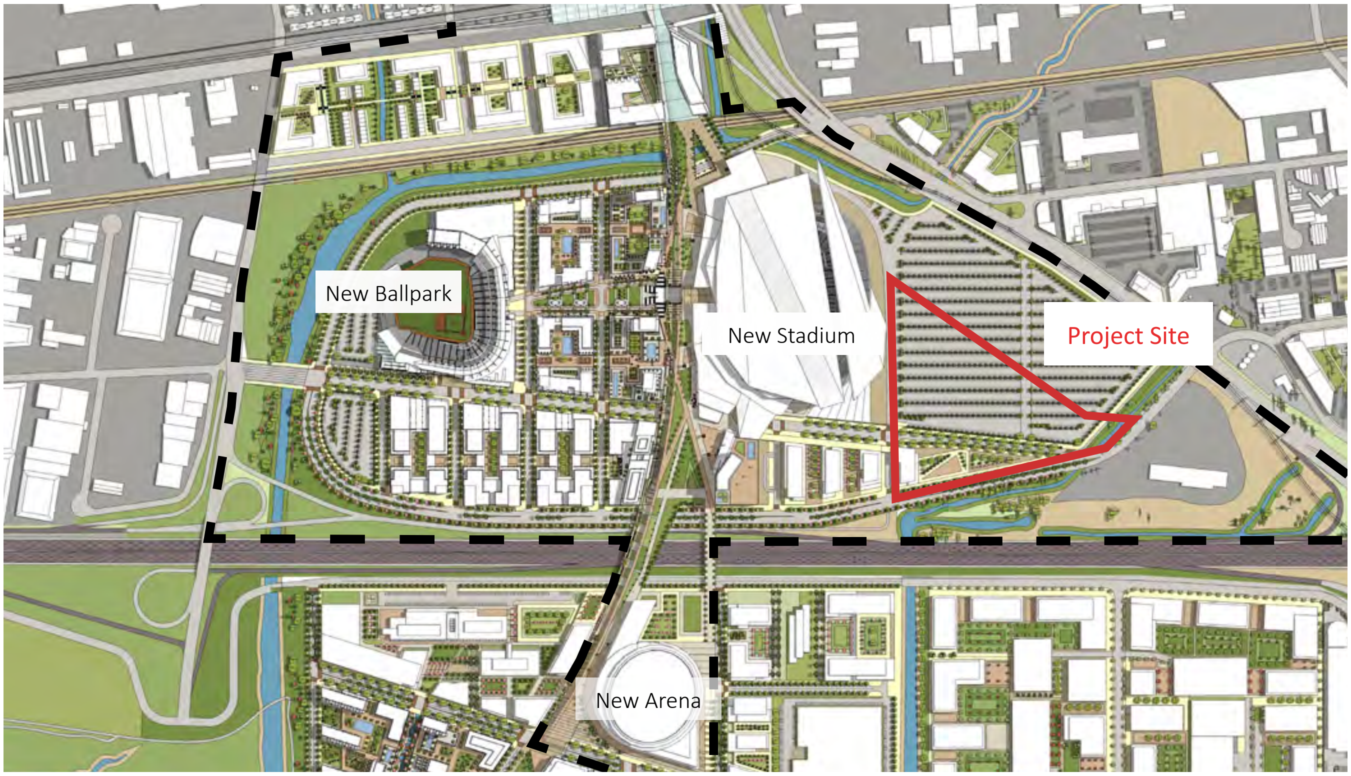
Planning Context, per the Coliseum Area Specific Plan

The Coliseum Area Specific Plan (CASP) was adopted in April of 2015. The CASP was intended to provide a guiding framework for reinventing the City of Oakland's Coliseum area as a major center for sports, entertainment, residential mixed use, and economic growth.

The Coliseum Area Specific Plan includes an approximately 800-acre planning area divided into five Sub-Areas. Sub-Area A (also known as the Coliseum District) includes the 112-acre Oakland-Alameda County Coliseum Complex (the Coliseum stadium and the neighboring Arena, and associated surface parking lots), other City/County-owned land (including the Malibu Lot – or Project site), additional private properties to the east along both sides of San Leandro Street, and the existing Coliseum BART station and associated parking lot.

The CASP and its associated CASP EIR include a detailed development program, defined as the Coliseum City Master Plan (Master Plan). The Master Plan provides one clearly articulated vision as to how the CASP might be implemented within the Coliseum District. The Master Plan served as the Project Description for detailed analysis in the CASP EIR and represents the maximum development potential that could occur within the Coliseum District pursuant to the urban design and planning principles of the CASP. However, the CASP allows for a flexible and adaptable approach to future development within the Coliseum District, specifically to recognize the uncertainties that surrounded the future decisions of Oakland's sports franchises at the time, as well as the potential for a variety of development visions for the remaining property within the Coliseum District. The CASP is purposefully a flexible, adaptable policy and regulatory planning tool that provides an overall framework or "development envelope" for the Coliseum District, within which future development applications may be considered. Rather than prescribing a rigid or fixed land use mix, the CASP's approach for the Coliseum District identifies the desired mix of future land use types with a maximum development capacity.

A major element of this flexible approach included the assumption that all three sports franchises (at that time, the Oakland Raiders, the A's and the Warriors) would make independent business decisions to remain in Oakland and within the Coliseum District, and that each of the sports franchises would have new, separate venues for their games (see **Figure 14**).



CASP, Three New Sports Venues Scenario

CASP, No New Sports Venue Scenario

Figure 14
Coliseum Area Specific Plan - Master Plan Options (Three and No Sports Venues)

Source: City of Oakland, CASP Figures 3-4 and 3-6, JRVD International, August 2014

The CASP identified potential locations for construction of three new sports venues:

- A new professional football Stadium with a permanent seating capacity of up to 68,000 seats and designed to expand to approximately 72,000 seats for special events
- A new professional baseball Ballpark with a permanent seating capacity of up to 35,000 seats and designed to expand to approximately 39,000 seats for special occasions or large game day crowds
- A new professional basketball/multi-purpose event Arena with a permanent seating capacity of up to 20,000 seats

The CASP also assumed that each of these sports venues would be used by other non-sports-related events and attractions. The CASP and its EIR also acknowledged that any or all of these sports franchises might make other locational decisions (as has proven to be the case), and so provides the flexibility for development scenarios that include fewer than three sports venues (i.e., 2 venues, 1 venue and no sports venues), as also shown on Figure 14.

The CASP also establishes a list of other acceptable and desirable future land uses to be accommodated within the Coliseum District, in addition to the three new sports venues. This list of additional land uses includes a number of open space amenities; three new hotels; 525,000 square feet of new event-based retail space; 190,000 square feet of neighborhood-serving and convenience retail space; and up to 1.5 million square feet of new science and technology-oriented building space. Residential development was assumed to include up to 340 new residential units in low- to mid-rise townhome-types buildings, and 3,660 new residential units in high-rise residential towers.

Consistency: Since 2015 when the CASP EIR was certified, the Warriors basketball team has relocated to San Francisco, the Raiders football team has relocated to Las Vegas, and the Oakland A's have stated their intentions to relocate out of Oakland. The CASP EIR's Project Description is clear that, "while the proposed Project [the CASP] presents one vision for how the Coliseum Area might ultimately be developed, it also provides flexibility for other potential land use outcomes." The CASP EIR provides that, "while the Coliseum City Master Plan provides one clearly defined vision of development potential, it represents only one of a number of other possible development scenarios for these properties".

<u>Land Use</u>: Although construction of a new professional soccer stadium (temporary or permanent) was not specifically articulated as an expected use pursuant to the CASP and the CASP EIR's Project Description, the Project represents the same type of land use as those sports venues that were anticipated. The CASP and its associated EIR recognized that its specific development assumptions for new land uses were only one scenario, and that a different development scenario was possible and even expected. Establishment of a different type of new sports venue (i.e., a new professional soccer stadium as opposed to a professional football, baseball or basketball venue) is not an inherently different circumstance. The proposed Roots/Soul soccer stadium is a "sports arena and entertainment" land use that is fully consistent with the CASP and its EIR Project Description.

<u>Location</u>: The CASP and its EIR assumed new sports venues at different locations than now proposed, and assumed the Malibu Lot would provide a likely parking area for a new stadium venue as well as a portion of future office/R&D use. However, the Malibu Lot (or Project site) was designated under a General Plan amendment and re-zoning with the same land use as the remainder of the Coliseum District. The General Plan and zoning of the Malibu Lot provides for the same permitted and conditionally permitted land uses for this site as it does for the remainder of the Coliseum District, including a new professional soccer sports venue. The proposed Roots/Soul soccer stadium (as a new sports venue) is not precisely anticipated at the Malibu Lot pursuant to the CASP and its EIR, but use of this site for a sports venue does not represent a substantial change to the CASP or its EIR Project Description.

Overall Planning Goal: The proposed Roots/Soul soccer stadium does have the potential to contribute to the CASP's primary goal to, "*revitalize what is currently one of California's largest underdeveloped inner-urban, transit-served areas and create significant long-term value for Oakland and Alameda County*."

Further, as a temporary venue, the Project does not preclude a more comprehensive master planned development for the entire Coliseum District, including the Malibu site, in the future.

Consistency with General Plan Land Use Provisions

Per the Oakland General Plan's LUTE, the Regional Commercial land use classification is, "*used to enable Oakland to capitalize on potential large-scale retail and commercial development opportunities. These types of commercial operations usually require significant parking areas and are generally located adjacent to regional transportation facilities where they benefit from good access and visibility and are able to attract patrons from within and outside of the City limits*".[7]

Consistency: The Project is a large-scale commercial development opportunity, even if it is not as large a professional football stadium or professional baseball ballpark. It will require a significant parking area, but is located adjacent to regional transportation facilities, including both the I-880 freeway and the Coliseum BART station, where it benefits from good access and visibility. It is also a professional sports venue, which will attract patrons from within and outside of the City limits.

Intent: The Regional Commercial classification is intended to maintain, support and create areas of the City that serve as region-drawing centers of activity. The desired character and uses in the Regional Commercial classification include a mix of commercial, office, entertainment, arts, recreation, sports and visitor serving activities, residential, mixed-use development and other uses of similar character or supportive of regional drawing power.

Consistency: The Project represents a new venue for entertainment, sports and visitor serving activities, with a citywide and regional drawing power. As a professional sports venue, the Project is fully consistent with the intent of the Regional Commercial land use classification.

Intensity/Density: The maximum FAR for the Regional Commercial land use classification is 4.0, but increased to an FAR of 8.0 within the CASP's Coliseum District D-CO-2 Zoning.

Consistency: The Project site is 380,534 square feet (or approximately 8.74 acres). The Project's proposed temporary modular buildings, modified shipping containers and the bleachers/seating area comprise 43,240 square feet of building footprint, and the storage space and portable restrooms add another 12,480 square feet of building footprint, for a total of 55,720 square feet of building footprint, with a resulting FAR of only 0.15. Conservatively adding the sports field's playing surface (artificial turf) at 115,270 square feet, the resulting total would only be an FAR 0.45, or still well below the maximum permissible FAR. The proposed intensity of development pursuant to the Project is fully within with the maximum intensity established for the Regional Commercial land use classification.

Consistency with Zoning Regulations

The Coliseum Area District - 2 Commercial Zone (the D-CO-2 zone) is intended to create, maintain and enhance areas that allow a broad mixture of residential, retail, commercial, office, and light industrial uses, and serve as region-drawing centers of sports, entertainment, and business activities. The specific development standards and regulations of the D-CO-2 zone are addressed below.

[7] City of Oakland, LUTE (1998), page151

Permitted and Conditionally Permitted Facilities: Table 17.101H.01 and Table 17.101H.02 of the Oakland Planning Code list the permitted, conditionally permitted, and prohibited activities and facilities within the D-CO-2 Zone. According to these tables, Extensive Impact Civic Activities are conditionally permitted activities within this zoning district. Per Planning Code section 17.10.240, Extensive Impact Civic Activities include stadiums, sports arenas, auditoriums and bandstands.

Consistency: The proposed Project is a sports stadium, and clearly falls within the Planning Code's definitions of an Extensive Impact Civic Activity. Accordingly, the Project's application materials include a requested approval of a Conditional Use Permit (CUP). If the CUP is approved, the Project would be consistent with this standard for conditionally permitted activities/facilities.

Property Development Standards: Table 17.101H.03 of the Oakland Planning Code prescribes development standards specific to the D-CO-2 Zone.

Consistency: The individual elements of the proposed Project are compared to the development standards of the D-CO-2 zone in **Table 5**, below. The Project is fully consistent with these development standards.

Table 5: D-CO-2 Zoning Standards

Development Standard	D-CO-2 Requirement	Project Site	Consistency
Lot width (mean)	25 feet	440 feet	Consistent
Frontage	25 feet	875 feet (along S. Coliseum Way)	Consistent
Lot area	4,000 sf.	380,534 square feet	Consistent
Minimum front, rear and interior side setback	0 feet	0' at S. Coliseum Way 32' at Elmhurst Creek 45' at HomeBase parcel	Consistent
Maximum height	159 feet	Light Standards = 110 feet (approx. 120' AMSL)	Consistent
Max Fence height at Open Space zones	8 feet	8-foot fence at Elmhurst Creek	Consistent
Maximum non-residential FAR	8.0	Not incl. sports field as built floor area, FAR = 0.15, with sports field as built floor area, FAR = 0.45	Consistent

Source: Oakland Planning Code, Table 17.101H.03

Special Regulations for Large-Scale Developments: Pursuant to OPC section 17.101H.080, no development that involves more than 100,000 square feet of new floor area shall be permitted, except upon the granting of a conditional use permit (CUP) or a planned unit development approval. A CUP is also required to address certain activities at the Project, including accessory welding, a public utility yard, group assembly and sign facilities.

Consistency: Not including the sports field surface as floor area, the Project has 55,720 square feet of built floor area (temporary modular buildings, modified shipping containers, portable restrooms and the bleachers/ stadium seats), and does not exceed 100,000 square feet of new building space. The Project will not require a CUP pursuant to this standard.

Conclusions

A finding of Project consistency with applicable zoning, community plan (Coliseum Area Specific Plan) or General Plan policies as evaluated in a prior program EIR (i.e., the CASP EIR) is required for the Project to qualify for CEQA streamlining per CEQA Guidelines Section 15183. As demonstrated above, the Project is consistent with the General Plan land use designation for the site, and its proposed intensity of development is consistent with the CASP's desired mix of future land use types and is proposed at a development intensity that is lower than the maximum 4.0 FAR for the Regional Commercial classification and the 8.0 maximum FAR as additionally permitted within the CASP's Coliseum District D-CO-2 Zoning. Other than the land use type for which the Project applicant requests consideration of a CUP, the Project is consistent with applicable D-CO-2 zoning standards that apply to the site. As such, the Project qualifies as a Project that is consistent with a Community Plan, General Plan and/or zoning, pursuant to CEQA Guidelines Section 15183.

V - Reliance on a Prior Program EIR

Whereas the prior section of this CEQA Analysis provides substantial evidence to demonstrate the Project is consistent with the development assumptions of the CASP and its associated EIR, the General Plan and zoning, the Project is therefore eligible for consideration of CEQA streamlining pursuant to CEQA Guidelines Section 15183. The City of Oakland prepared an EIR for the Coliseum Area Specific Plan (the CASP EIR) that is applicable to the Project and its site, and that EIR provides programmatic environmental review of subsequent development, such as the Project. The CASP EIR presented an analysis of the environmental impacts associated with adoption and implementation of the CASP. Specifically, it evaluated the physical and land use changes from potential development that could occur pursuant to the CASP, and impacts were described at a level of detail that was consistent with the level of detail provided in the CASP.

CASP EIR as a Program EIR

One of the purposes of the CASP EIR was to comprehensively assess the entirety of potential environmental impacts of the proposed CASP. This environmental review was used to analyze the series of actions pursuant to the CASP characterized as one large project, and focused on broad policy alternatives and mitigation measures that apply to the CASP as a whole, consistent with CEQA Guidelines Section 15168 as a program EIR. This approach provided the City and other responsible agencies with the ability to consider program-wide mitigation measures and cumulative impacts that might be slighted in a case-by-case analysis approach. Preparation of this broader-level document was intended to simplify the task of preparing subsequent project-level environmental documents for future projects pursuant to the CASP, for which the details were not known at that time.

CASP EIR as a Project-Level EIR

Where feasible and where an adequate level of detail was available, the CASP EIR also provided a project-level analysis to eliminate or minimize the need for subsequent CEQA review of subsequent projects that could occur pursuant to the CASP. Project-level impacts of reasonably foreseeable development were analyzed to the extent that the details of such impacts could be assessed. The analysis of potential physical environmental impacts was based on reasonable assumptions about future development that could occur within the CASP planning area.

Assumed Development Plans

The assumed future development pursuant to the CASP was described in the CASP EIR Project Description. The CASP EIR included the following major development assumptions for individual sub-Areas of the CASP planning area.

Coliseum District

New development within the Coliseum District was anticipated to include a new Stadium, a new Ballpark and a new Arena. It also assumed an accompanying mixed-use development that included three new hotels, 525,000 square feet of new event-based retail space, 190,000 square feet of neighborhood-serving and convenience retail space, up to 1.5 million square feet of new science and technology-oriented building space. Residential development was assumed to include up to 340 new residential units in low- to mid-rise townhome-types buildings and 3,660 new residential units in high-rise residential towers.

Project Buildout within Sub-Areas B, C and D

Buildout of the remaining portions of the CASP planning area was less defined than the buildout of the Coliseum District. The CASP EIR's buildout scenario included the following additional major development program elements:

- Within a portion of Sub-Area B, the CASP EIR considered a mixed-use waterfront residential district of 10 acres, with 1,750 new residential units and 59,000 square feet of neighborhood-serving retail uses, all adjacent to a new 12-acre inlet of San Leandro Bay.
- For the remaining majority of Sub-Area B, the CASP EIR assumed an "Innovation Gateway" science and technology district that would accommodate a total buildout of up to approximately 3.5 million square feet of technology and office uses.
- Private redevelopment was assumed in the CASP EIR within Sub-Area C, with 5.1 million square feet of new uses that would be supportive of institutional science and technology uses. Such uses were assumed to include advanced technology and other manufacturing, research and development and test product design, and sales and finance uses supporting technology businesses.
- Redevelopment of Sub-Area D was assumed to include approximately 2 million square feet of non-residential development space that was supportive of airport-related economic development, including larger logistics and distribution businesses.
- Redevelopment of Sub-Area E assumed that the vacant lot fronting Oakport Street at 66th Avenue would be re-zoned as a Commercial Mix District- 6 Industrial Zone (D-CO-6), and "utilized in a manner that creates and maintains an attractive frontage along Oakport Street". [8]

Summary of CASP EIR's Identified Impacts and Mitigation Measures

Table 2-1 of the CASP EIR provides a summary of potential environmental impacts, applicable Standard Conditions of Approval, recommended mitigation measures, and the resulting level of significance after implementation of all mitigation measures.

For the majority of potential impacts (70 of the CEQA threshold criteria), the CASP EIR found less than significant effects, or effects that would be less than significant with implementation of required City of Oakland SCAs.

For some of the environmental criteria under the topics of aesthetics, air quality, biological resources, cultural resources, land use, and multiple traffic-related criteria, the CASP EIR found these impacts to be reduced to levels of less than significant with implementation of additional mitigation measures. Of these mitigation measures identified in the CASP EIR, only those identified in the list below as "**applicable**", apply to the Project for the reasons cited below.

- MM Aesthetics 5A-1: Avoid casting Winter Shadows – not applicable because any shadows cast by the Project would not extend as far as the photovoltaic panels at Lion Creek Crossings apartments
- MM Aesthetics 7: Wind Study - not applicable because the Project does not meet the criteria of having structures within 100 feet of San Leandro Bay that would exceed 100 feet in height)
- MM Air 6A-1: Reduced Construction Emissions – **applicable** (now incorporated into SCA Air-2 (#21))
- MM Air 6A-2: Construction Emission Exposure – not applicable because does not include any demolition activity or on-site crushing operations, and does not include any new on-site residences
- MM Bio 1A-1: Pre-construction Nesting Bird Surveys and Buffers – not applicable because the Project does not propose to remove any trees
- MM Bio 1A-2: In-water Work Restrictions – not applicable because the Project does not propose any in-water work

[8] City of Oakland, *Final Coliseum Area Specific Plan*, page 73

- MM Bio 1A-3: Salt Marsh Protection - not applicable because the Project does not propose development within or near pickleweed-dominated salt marsh habitat within Damon Marsh or Arrowhead Marsh
- MM Bio 1B-1: In-Bay Dredge Requirements – not applicable because the Project does not propose any in-Bay dredge
- MM Bio 1B-2: Seasonal Wetland Restoration Plan - not applicable because the Project would not impact wetlands and associated habitat for special status species at the Edgewater Seasonal Wetland
- MM Bio 2A-1: Vegetation Plan for Coliseum District Sensitive Communities – not required because the Project will not result in any direct disturbance to sensitive natural communities (i.e., wetlands or riparian areas)
- MM Bio 2A-2: Damon Slough Bridge Structure Placement – not applicable because the Project will not place any new bridge pilings or abutments at Damon Slough
- MM Bio 2A-3: Elmhurst Creek Bridge Structure Placements – not applicable because the Project will not place any bridge pilings or abutments for bridges over Elmhurst Creek
- MM Bio 2A-4: Coastal Scrub Restoration – not applicable because the Project does not include installation of pedestrian or vehicular bridges across Elmhurst Creek, does not propose pilings or abutments on creek banks, and would not result in removal of coastal scrub vegetation associated with Elmhurst Creek
- MM Bio 2A-5: Realigned Portion of Elmhurst Creek – not applicable because the Project does not propose any realignment or daylighting of any portion of Elmhurst Creek
- MM Bio 2A-6: “Cruise America” Tidal Wetland – not applicable because the Project does not propose any realignment of Elmhurst Creek
- MM Bio 3-1: Boat Docks – not applicable because the Project does not propose any new boat docks
- MM Bio 3-2: Herbicide / Pesticide Control – not applicable because the Project is not along the Bay shoreline
- MM Cultural 1A-1: Site Recordation – not applicable because the Project would not result in demolition or physical changes to the Oakland Coliseum, the Arena or the Coliseum Complex
- MM Cultural 1A-2: Public Interpretation Program - not applicable because the Project would not result in demolition or physical changes to the Oakland Coliseum, the Arena or the Coliseum Complex
- MM Cultural 1A-3: Financial Contribution - not applicable because the Project would not result in demolition or physical changes to the Oakland Coliseum, the Arena or the Coliseum Complex
- MM Land-7A: FAA Part 77 Surfaces – not applicable because none of the Project’s structures exceed 159.3 feet above mean sea level or otherwise exceed the applicable Part 77 surfaces of the Oakland International Airport Land Use Compatibility Plan, or exceed 200 feet above the ground level of the site
- MM Land-7B: Oakland Airport Influence Area Disclosure - **applicable**
- MM Land-8A: BCDC Issuance of Major Permit(s) – **applicable** (now included in SCA Land Use-1 (#65))
- MM Land-8B: Compliance with Bay Plan Dredging Policies – not applicable because the Project does not propose any excavation or dredging within the Bay, Damon Slough or Elmhurst Creek
- MM Land-9: Tidelands Trust – not applicable because the Project site is not owned by the Port of Oakland or subject to the Port’s Tidelands Trust Land Grant obligations

- MM Trans-81A: Implement an Event Traffic Management Plan through the TPMA to reduce the automobile trips generated by special events and better manage the traffic traveling to and from the site – **applicable** (now required as part of a Project-specific Transportation Management Plan pursuant to the City's non-CEQA Transportation Impact Review Guidelines)
- MM Trans-81B: Reconfigure E Street – not applicable because the Project does not propose to construct any new streets
- MM Trans-86: Rail Crossings – not applicable because the Project does not involve pedestrian rail crossings at 66th Avenue (west), at 66th Avenue/San Leandro Street, at 69th Avenue/San Leandro Street, or at 75th Avenue/San Leandro Street /Snell Street
- The CASP EIR also identified numerous traffic-related mitigation measures attributable to the CASP buildout scenarios, all based on level-of-service (LOS) or other measures of traffic congestion or delay. These LOS-based mitigation measures are no longer applicable pursuant to CEQA.

For 5 different environmental criteria under the topics of air quality, biological resources, cultural resources, noise, plus multiple traffic-related criteria, the CASP EIR found these impacts could not be reduced to levels of less than significant even with implementation of reasonable and feasible mitigation measures, and these impacts were found to be significant and unavoidable. Due to the potential for the following significant unavoidable impacts, a Statement of Overriding Consideration was adopted as part of the City's certification of the 2015 CASP EIR and approval of the CASP.

Construction Emissions

Construction activities pursuant to the CASP buildout were found to generate regional ozone precursor emissions and regional particulate matter emissions. For most individual development projects, construction emissions will be effectively reduced to a level of less than significant with implementation of required City of Oakland Standard Conditions of Approval. However, larger individual construction projects may generate emissions of criteria air pollutants that would exceed the City's thresholds of significance. Even with implementation of additional mitigation (MM Air 6A-1: Reduced Construction Emissions), the CASP EIR could not find with certainty that emissions of reactive organic gases (ROG) and nitrogen oxides (NOx) could be reduced to below threshold levels, and this impact was conservatively deemed to be significant and unavoidable.

Operational Emissions

New development pursuant to the CASP would result in operational average daily emissions of criteria pollutants that would exceed applicable threshold criteria. Even with implementation of SCAs (specifically SCA Trans-1: TDM Program), the CASP EIR found this impact to be significant and unavoidable.

Habitat Modifications

Future development pursuant to the CASP, particularly development related to the proposed Bay Inlet cut, and proposed fill of the Edgewater Freshwater Marsh, were found to have a substantial adverse effect on habitat for candidate, sensitive or special status species. The CASP EIR determined that the details of these elements of the CASP were not fully identified, permits from responsible agencies had not been sought, and the requirements and conditions of responsible regulatory were unknown at the time. The efficacy of any recommended mitigation measures could also not be fully determined, and this impact was deemed significant and unavoidable.

Demolition of the Oakland Coliseum

The CASP EIR determined that future development of the Coliseum District would result in ultimate demolition of the Oakland Coliseum and potentially the Arena, causing a substantial adverse change in the significance of the Oakland Coliseum and Arena Complex, a historical resource as defined in CEQA Guidelines. Demolition of the Oakland Coliseum was identified as the only feasible option to move forward with development within the Coliseum District. Even with identified mitigation, this impact was found to be significant and unavoidable.

Noise Exposure

The CASP EIR found that future development of new sports and special events venues in the Coliseum District would generate operational noise that would exceed the City of Oakland Noise Ordinance at new, on-site sensitive receivers. No feasible mitigation was found capable of reducing game-day and special event noise from the new stadium and ballpark, and this impact was found significant and unavoidable.

Traffic

The CASP EIR found numerous traffic-related impacts attributable to the CASP buildout scenarios, all based on level-of-service (LOS) or other measures of traffic congestion or delay. These LOS-based thresholds are no longer applicable as CEQA criteria. Although the CASP EIR found multiple traffic congestion impacts to be significant and unavoidable, these impacts are no longer relevant to CEQA and not considered significant and unavoidable impacts.

Intended Use of the CASP EIR

<u>Adoption of the Specific Plan</u>

The City of Oakland was the Lead Agency for CEQA review of the proposed CASP and relied on the CASP EIR to serve as the CEQA-required environmental documentation for consideration of approval of the CASP. The City certified that it had reviewed and considered the information in the CASP EIR prior to approval of the CASP, and that the CASP EIR has been completed in conformity with the requirements of CEQA. The CASP EIR also provided the environmental review necessary for City decision-makers to consider and approve certain General Plan amendments and re-zoning actions, including rezoning the Project site to D-CO-2.

<u>Individual Projects</u>

The CASP EIR was also intended to provide sufficient detail to enable the City to make informed site-specific decisions on development within the CASP planning area. The CASP EIR indicates the City's intent to, "use the streamlining and tiering provisions of CEQA to the maximum feasible extent so that future environmental review of specific private development projects and public improvement projects carried out in furtherance of the CASP are expeditiously undertaken, without the need for repetition and redundancy".[9] Specifically, the CASP EIR indicates that, pursuant to CEQA Guidelines Sections 15164, 15168, 15183 and 15183.3, future environmental analyses for individual project may be tiered from the CASP EIR:

- CEQA Guidelines Section 15183 provides those projects consistent with the development density established by existing zoning, community plan, or general plan policies for which an EIR was certified shall not require additional environmental review, except as might be necessary to examine whether there are project-specific significant effects which are peculiar to the project or its site. This streamlines the review of such projects and reduces the need to prepare repetitive environmental studies.
- CEQA Guidelines Sections 15164 allows for the preparation of an Addendum to a certified EIR when certain conditions are satisfied

As indicated in the CASP EIR, "this EIR is intended to provide for the streamlined environmental review necessary for subsequent consideration of project-level approvals necessary for individual project types, including each of the three new sports and event venues (the Stadium, the Ballpark and the new Arena) as

9 City of Oakland, CASP Draft EIR, page 1-7

contemplated in the Specific Plan". "In some cases, the formulation of site-specific issues will not be known until subsequent design occurs, leading to the preparation of later, project-level environmental documentation. When considering the applicability of the streamlining provisions of CEQA, the City of Oakland intends to limit the examination of environmental effects of these later projects to those effects that are peculiar to the project or parcel on which the project would be located, whether subsequent projects may result in impacts that were not analyzed as significant effects in this EIR, or which may result in impacts that are identified in this EIR but which may be determined to have a more severe adverse effect than discussed in this EIR (per CEQA Guidelines, section 15183). At such time as individual actions (i.e., development proposals and public infrastructure and transportation improvements) contemplated under the proposed Project are proposed for implementation, the City will consider whether the action's environmental effects were fully disclosed, analyzed, and as needed, mitigated within this EIR; whether the action is exempt from CEQA; whether the action warrants preparation of a subsequent or supplemental environmental document; or whether the action warrants preparation of focused environmental review limited to certain site-specific issues." [10]

[10] City of Oakland, CASP EIR, beginning at page 1-8

VI - CEQA Checklist

Introduction

This CEQA Analysis document provides the following Checklist prepared by the City of Oakland (as Lead Agency), intended to provide the City of Oakland's decision-making body (i.e., the Oakland Planning Commission) with information as to the potential environmental effects of the proposed Project. Consistent with CEQA Guidelines, this Checklist contains an identification of potential environmental effects of the Project, using a checklist method that includes adequate explanation and evidence to support the Checklist entries. This Checklist includes information to determine whether the Project would result in significant effects that are peculiar to the Project or its site or would result in impacts that were not analyzed as significant effects in an earlier Program EIR (i.e., the 2015 CASP EIR).

Specifically, the analysis contained in the following CEQA Checklist provides an assessment of whether the Project qualifies for an exemption as a Project Consistent with a Community Plan and its EIR pursuant to CEQA Guidelines 15183, and whether it qualifies for tiering and streamlined environmental review as a Project Consistent with a prior Program EIR pursuant to CEQA Guidelines Section 15168. The following Checklist evaluates the potential environmental impacts of the Project in relation to the impacts identified in the 2015 CASP EIR. The analysis determines whether the potential impacts of the Project were fully evaluated and disclosed in the CASP EIR, and whether uniformly applied development policies or standards (i.e., SCAs) as identified in the CASP EIR would apply to the Project. It also determines whether the Project would have significant effects on the environment that may be peculiar to the Project or to the site. This CEQA Checklist incorporates by reference the discussion and analysis of all potential environmental impact topics as presented in the CASP EIR, and references to this prior EIR include citations to the page or pages where this information is found. This CEQA Checklist provides a determination of whether the Project would result in an equal or less severe impact than previously identified in the 2015 CASP EIR, or if the Project would result in a new impact or a substantial increase in the severity of a significant impact as disclosed in the prior CASP EIR.

If the severity of a potential impact of the Project would be the same as or less than the severity of the impact as described in the CASP EIR, the checkbox for "Equal or Less Severe" is checked. If the checkbox is marked as "New or Substantial Increase in Severity", that would indicate that the Project's impacts are either:

- peculiar to the Project or the Project site, per CEQA Guidelines Section 15183
- not identified in the CASP EIR (the prior Program EIR), including off-site and cumulative impacts, per CEQA Guidelines Section 15183
- due to substantial changes in the project, per CEQA Guidelines Section 16162 and 15168
- due to substantial changes in circumstances under which the project will be undertaken, per CEQA Guidelines Section 15162
- due to substantial new information that was not known at the time the CASP EIR was certified, per CEQA Guidelines Sections 15162 and 15183

In such a circumstance, a new EIR would be required for the Project, focused on those topics that might be indicated as new or substantially more severe effects.

The analysis contained in the following CEQA Checklist also provides an assessment of whether the Project qualifies for an Addendum to the 2015 CASP EIR, in accordance with CEQA Guidelines section 15164. This Checklist evaluates whether any of the new and/or more detailed information specific to the Project and its site may have one or more significant effects that were not discussed in the prior CASP EIR, or may result in significant effects previously examined but that will be substantially more severe than was shown in the prior

CASP EIR. This Checklist also considers whether mitigation measures that are considerably different from those analyzed in the previous CASP EIR would substantially reduce one or more significant effects of the Project, but the Project applicant declines to adopt such measures. If none of the circumstances identified above occur, the environmental review for the Project may be accomplished with an Addendum to the CASP EIR, in accordance with CEQA Guidelines section 15164. This document serves as that Addendum to the CASP EIR, specific to the Project.

The CEQA Checklist references and relies on the analyses completed in the CASP EIR, and incorporates the conclusions of the CASP EIR by reference, as appropriate.

This CEQA Checklist identifies potential environmental effects of the Project using a checklist method, with adequate explanation and evidence to support the Checklist entries and conclusions. These explanations include narrative analysis of the Project. The CEQA Checklist uses the following acronyms for CEQA conclusions:

- No Impact - for environmental factors that would not be affected in any manner
- LTS - for less than significant impacts
- LTS w/SCAs or LTS w/MM - for impacts that would be reduced to LTS with implementation of identified City of Oakland Standard Conditions of Approval (or SCAs) and/or mitigation measures (MMs) as identified in an applicable prior program EIR (i.e., the CASP EIR), and
- SU - for significant and unavoidable impacts

This CEQA Checklist relies on the most recent version of the City of Oakland's Standard Conditions of Approval as revised in February 2024. The City's SCAs are incorporated into projects as conditions of approval, regardless of a project's environmental determination. The SCAs incorporate policies and standards from various adopted plans, policies and ordinances that have been found to mitigate environmental effects to a substantial degree. When a project is approved by the City, all applicable SCAs are adopted as conditions of approval and, as applicable, required to be implemented during project construction and operation. The SCAs are adopted as enforceable conditions of approval and are incorporated and required as part of a project, so they are not listed as mitigation measures. For clarity, SCAs applicable to the Project are noted by CEQA topic (i.e., SCA Air-1), and are also referenced to the numeric listing of SCAs per the February 2024 Standard Conditions of Approval document (e.g., SCA Air-1[23], Dust Controls – Construction Related). Given the timespan between preparation of the CASP EIR and preparation of this CEQA Checklist there have been updates to these SCAs, and this CEQA Checklist relies on the most current February 2024 versions. These current and updated SCA's are functionally equivalent to, or more protective of the environment than those SCAs in place at the time of adoption of the CASP EIR.

Given the timespan between preparation of the CASP EIR and preparation of this CEQA Checklist, there are variations in the specific environmental topics addressed, and the significance criteria applied. Any significant differences are noted. The CASP EIR's significance criteria have been consolidated and abbreviated in this CEQA Checklist for administrative purposes. Where appropriate, the significance criteria have been updated to reflect current City of Oakland significance criteria established after the 2015 CASP EIR was prepared and that now apply to the Project. Current CEQA topics that were not addressed in the 2015 CASP EIR are now applicable to the Project, and fully addressed in this CEQA Checklist. These topics include:

- vehicle miles travelled (rather than operational level of service) for transportation impacts
- energy
- tribal cultural resources, as a separate topic rather than under the cultural resource category
- wildland fires

Aesthetics

Would the Project:	CASP EIR Findings	Relationship to CASP EIR Findings: Equal or Less Severe	Relationship to CASP EIR Findings: New or Substantial Increase in Severity	Project Conclusions: Applicable Mitigation, Standards and Requirements	Project Conclusions: Resulting Level of Significance
a) Have a substantial adverse effect on a public scenic vista?	LTS	■	☐	-	LTS
b) Substantially damage scenic resources, including but not limited to trees, rock outcroppings, and historic buildings within a state scenic highway? c) Substantially degrade the existing visual character or quality of the site and its surroundings?	LTS	■	☐	-	LTS
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area? e) Require an exception (variance) to the policies and regulations in the General Plan, Planning Code or Uniform Building Code, and the exception causes a fundamental conflict with policies and regulations in the General Plan, Planning Code, and Uniform Building Code addressing the provision of adequate light related to appropriate uses?	LTS with SCA	■	☐	SCA Aesthetics-1 (21): Lighting Plan	LTS with SCA
f) Introduce landscape that would now or in the future cast substantial shadows on existing solar collectors?	No Impact	■	☐	-	No Impact

The CASP EIR included additional CEQA thresholds addressing shadows and wind, but these thresholds are no longer included in the City's current February 2024 Thresholds of Significance Guidelines

a): Scenic Vistas

CASP EIR Conclusions [11]

The CASP EIR (Impact Aesthetics 1A) found that new development of the Coliseum District would not have a substantial adverse effect on a public scenic vista. New development within the Coliseum District could block existing expansive views of the Oakland hills from portions of I-880, but since existing views from I-880 incorporate billboards, a large parking lot and streetlights, the new development would generally not result in a worsened view.

[11] City of Oakland, CASP Draft EIR, beginning at page 4.1-13

Project Analysis

The Oakland General Plan identifies significant public scenic vistas as views of the Oakland hills from the flatlands, views of downtown and Lake Merritt, views of the shoreline, and panoramic views from Skyline Boulevard, Grizzly Peak Boulevard and other hillside locations. Based on the Project's location, relatively low profile (56 feet at the tallest structure) the narrow profile of its eight 100-foot tall light stands, and other surrounding development, the Project would not adversely affect views of the Oakland hills. Views of downtown, Lake Merritt, panoramic views from hillside locations, or views of the Bay and Bay shoreline would not be affected by the Project.

Consistent with the conclusions of the CASP EIR, the Project would not have a substantial adverse effect on a scenic vista.

b) and c): Scenic Resources and Visual Character

CASP EIR Conclusions [12]

The CASP EIR (Impact Aesthetics 2) found that future development pursuant to the CASP would not substantially damage scenic resources, including but not limited to trees, rock outcroppings, and historic buildings located within a state or locally designated scenic highway. The CASP EIR found no designated or eligible scenic highways in or adjacent to the CASP planning area.

The CASP EIR (Impact Aesthetics 3) found that future development pursuant to the CASP would not substantially degrade the existing visual character or quality of the planning area or its surroundings. The CASP planning area was found to contain a mix of land uses that range from industrial and asphalt dominated, to modest landscaped office parks, and open space along the Bay shoreline. Views into the CASP planning area would look upon new buildings and landscaping, rather than parking lots. Consequently, this impact was found to be less than significant, and no mitigation measures were needed.

Project Analysis

The Project site is currently undeveloped and there are no significant scenic resources such as rock outcroppings or historic buildings on the site. The Project site does contain several non-native trees adjacent to Elmhurst Creek but has no visually significant landscape features. The visual character of the Project site and its immediate surroundings is that of a large parking lot associated with the Oakland Coliseum Complex, and is visually unremarkable (see **Figure 15**). The Project would not substantially conflict with the visual character of its surroundings.

Consistent with the conclusions of the CASP EIR, the Project would not substantially damage scenic resources. The Project is located in an urbanized area, with other existing sports and entertainment venues and large parking areas. The Project would not conflict with applicable zoning and other regulations governing scenic quality and would be subject to the City Design Review process pertaining to the overall aesthetics of the proposed development.

[12] City of Oakland, CASP Draft EIR, beginning at page 4.1-15

View from South Coliseum Way

View from End of Collins Drive

View Across Site toward Coliseum

View of Elmhurst Creek and Across to Project Site

Source: HOK, *Sheet G005, Site Photographs*, Octoer 2023

Figure 15
Views of Project Site

d) and e): Light & Glare

CASP EIR Conclusions [13]

The CASP EIR (Impact Aesthetics 4) found that future development pursuant to the CASP could create new sources of substantial light or glare that could adversely affect day or nighttime views in the area, but these new light sources would be generally consistent with the existing light and glare conditions in the area. The CASP EIR determined that the planning area is already an urbanized environment with associated light and glare. New tall structures would introduce light from upper story office and residential uses, as well as ground level lighting associated with commercial uses and office or residential entryways. Individual developments would not be expected to change or affect day or nighttime views from increased light or glare to a significant extent. Such projects would be subject to standard project review and approval processes, including City SCAs. The CASP EIR concluded that SCAs requiring a Lighting Plan would minimize potential impacts resulting from lighting and will ensure that lighting and glare effects remain less than significant. No mitigation measures were found necessary.

Project Analysis

The primary sources of new lighting associated with the Project are eight new 110-foot-tall light standard poles intended to provide lighting of the soccer pitch and surrounding bleachers. Each of the eight light standards will have multiple 1,500-watt luminaires mounted to the pole, delivering a uniform LED light pattern directly onto the playing field. The light poles will also have lower light, 550-watt luminaires that are directed toward the bleacher/stadium seats. Passageways between the bleachers will also be lighted with twenty-one 4-foot linear, 54-watt LED luminaires to provide safe and well-lighted pedestrian spaces.

The Project's lighting plan generally provides for the following light levels within the Project site, as indicated in **Table 6**.

Table 6: Light Level Summary within the Project

	Illumination Levels (horizontal foot-candles)		
Illuminated Area	**Average**	**Minimum**	**Maximum**
Soccer Pitch	139	121	179
North Bleachers	50	9	112
East Bleachers	82	48	104
South Bleachers	49	7	114
West (home team) Bleachers	79	29	127
Egress Areas	13-53	4 - 13	37 - 136

Source: Musco Lighting, *Project Summary*, October 2023

A photometric analysis of the lighting plan (see **Figure 16**) demonstrates that illumination at ground level at off-site locations drops to less than 1 horizontal foot-candle at the following off-site locations: [14]

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[13] City of Oakland, CASP Draft EIR, beginning at page 4.1-15

[14] One horizontal foot-candle is the defined as the horizontal illumination on a square foot of surface generated by 1 candle held one foot above the ground surface, or generally regarded as equivalent to twilight.

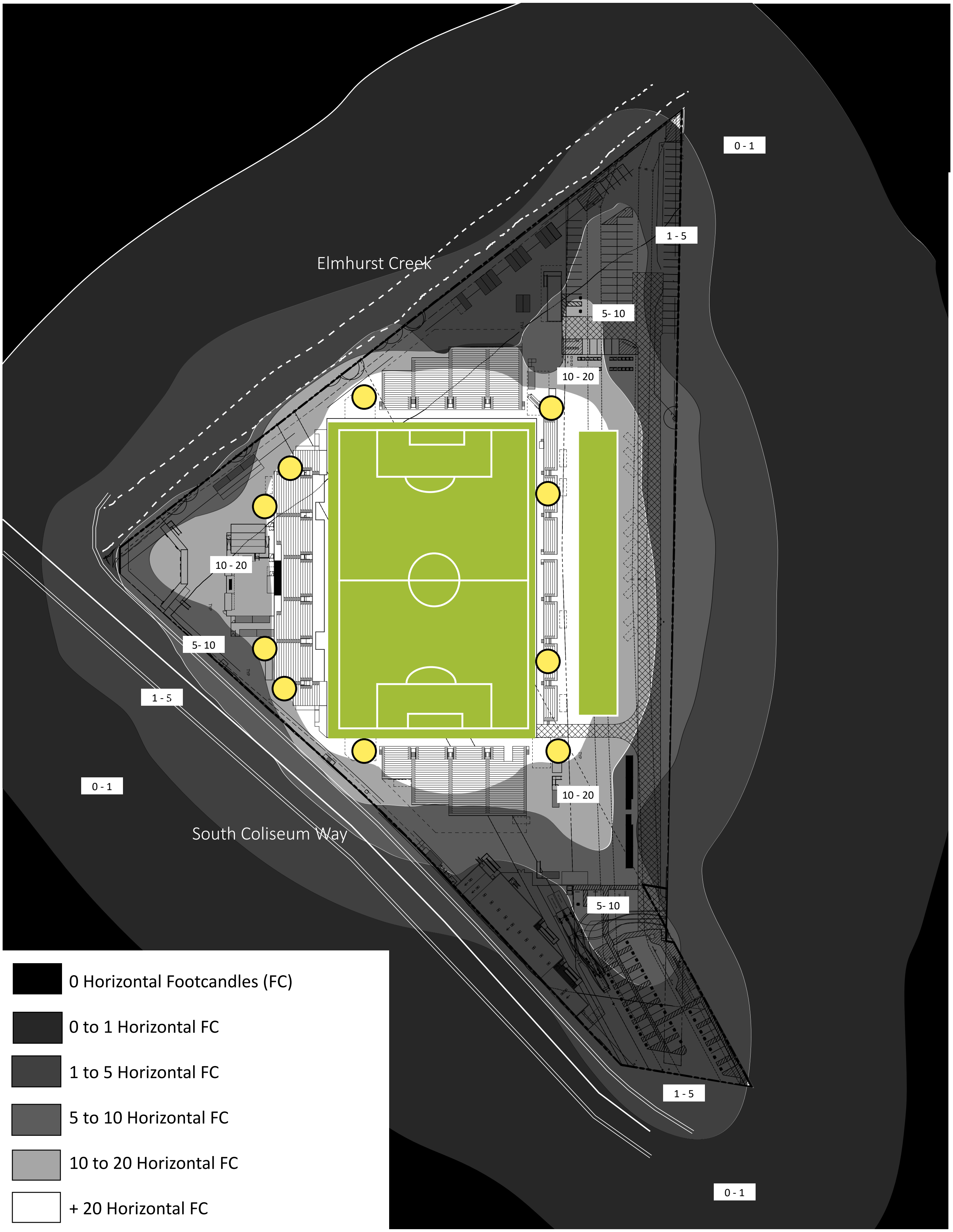

Figure 16
Photometric of Project Lighting Plan

Source: Musco Lighting, *Blanket Spill and Site Lighting with Stadium Lights*, February 14, 2024

- just northeast of Elmhurst Creek
- midway between South Coliseum Way and I-880 to the southwest, and
- well to the west of the RV trailers at the adjacent HomeBase property

The maximum off-site light spill occurs at the northwest corner of the soccer field where illumination at ground level reaches 10 foot-candles between the Project boundary and Elmhurst Creek, and along the westerly project boundary where illumination at ground level reaches 10 foot-candles across a portion of South Coliseum Way. The LED-type luminaires used by the Project are designed as directional light, with significant reductions in glare and light spill as compared to similarly rated incandescent bulbs. The properties surrounding the Project site are already subject to nighttime lights from the Coliseum, the Arena and their associated parking areas. The Project would introduce new light sources but would not result in significant off-site light spill or glare at adjacent properties.

There is nothing about the Project or its site that would require an exception to any policies or regulations in the General Plan, Planning Code or Uniform Building Code addressing the provision of adequate light related to appropriate uses.

Applicable Standard Conditions of Approval

The following City of Oakland SCA is cited in the CASP EIR as an effective means for addressing light and glare and would apply to the Project.

❖ ***SCA Aesthetics-1 (21), Lighting Plan***: Proposed new exterior lighting fixtures shall be adequately shielded to a point below the light bulb and reflector to prevent unnecessary glare onto adjacent properties.

Consistent with the conclusions of the CASP EIR, the Project’s effects related to light and glare impacts will be fully addressed through implementation of City SCAs, and this impact would be reduced to less than significant.

f): Shadows

CASP EIR Conclusions [15]

The CASP EIR (Impact Aesthetics 5) found that future development pursuant to the CASP could introduce additional new buildings and landscape in the planning area, but this new development would not cast substantial shadows on existing solar collectors. It would not cast shadows that substantially impair the function of a building using passive solar heat collection, solar collectors for hot water heating, or photovoltaic solar collectors. New buildings would not cast shadows that substantially impair the beneficial use of a public park, lawn, garden, or open space; and would not cast shadows that materially impair the significance of an historic resource.

Project Analysis

Consistent with the conclusions of the CASP EIR, the Project would not cast substantial shadows on existing solar collectors, as no such solar collectors are within the Project vicinity. The Project would not cast shadows that substantially impair the function of a building using passive solar heat collection, solar collectors for hot water heating, or photovoltaic solar collectors. The Project’s new structures would not cast shadows that substantially impair the beneficial use of a public park or open space and would not cast shadows that materially impair the significance of an historic resource. The Project would not have a shadow related CEQA impact.

[15] City of Oakland, CASP Draft EIR, beginning at page 4.1-16

Wind

CASP EIR Conclusions [16]

The CASP EIR (Impact Aesthetics 7) found that the threshold of significance for wind does not apply to development in the Coliseum District, as it is neither located adjacent to a substantial water body (it is ¾ miles away from the Bay shore), nor is it located in Downtown.

Project Analysis

The City of Oakland no longer includes wind as a CEQA threshold topic. For informational purposes, the Project site is not within 100 feet of San Leandro Bay, and the Project does not include any structures that would exceed 100 feet in height (the tallest Project structure is the press box at the top of the grandstand at a height of 56 feet). No wind thresholds apply to the Project.

CEQA Conclusions Pertaining to Aesthetics

The analysis presented above examines whether there are any Project-specific significant effects related to aesthetics that are peculiar to the Project or its site, finding none. The Project would have no aesthetic impacts that were not previously analyzed in the CASP EIR, would have no off-site or cumulative aesthetic impacts not discussed in the prior CASP EIR, and would not result in any aesthetic impacts that are more severe than as discussed in the prior CASP EIR. There are no aesthetics-related impacts that would otherwise invalidate the applicability of CEQA Guidelines Section 15183 for the Project.

None of the conditions described in CEQA Guidelines Sections 15162 or 15163 calling for preparation of a subsequent or supplemental EIR are met as pertains to aesthetic resources. Only minor technical additions related to the specifics of the Project and its site have been identified, and these minor additions to the CASP EIR are appropriately disclosed in this Addendum to the CASP EIR.

[16] City of Oakland, CASP Draft EIR, at page 4.1-21

Agriculture and Forestry Resources

Would the Project:	CASP EIR Findings	Relationship to CASP EIR Findings: Equal or Less Severe	Relationship to CASP EIR Findings: New or Substantial Increase in Severity	Project Conclusions: Applicable Standards and Requirements	Project Conclusions: Resulting Level of Significance
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?	No Impact	■	☐	-	No Impact
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	No Impact	■	☐	-	No Impact
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))?	No Impact	■	☐	-	No Impact
d) Result in the loss of forestland or conversion of forestland to non-forest use?	No Impact	■	☐	-	No Impact
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 forestland to non-forest use?	No Impact	■	☐	-	No Impact

a) through e): Agriculture and Forest Resources

The CASP EIR found that implementation of the CASP would not have significant environmental impacts on agriculture or forest resources, as no such resources exist within the CASP planning area. [17]

There is no new information or evidence to suggest that agricultural or forest resources now exist within the CASP planning area. The California Department of Conservation's Farmland Mapping and Monitoring Program

[17] City of Oakland, CASP Draft EIR, page 2-2

identifies the Project site as urban, and not an area of agricultural or forest resource importance. The Project would have no impact on these resource types. [18]

CEQA Conclusions Pertaining to Agriculture

The analysis presented above examines whether there are any Project-specific significant effects related to agriculture or forest resources that are peculiar to the Project or its site, finding none. The Project would have no agricultural or forest resource impacts that were not previously analyzed in the CASP EIR, would have no off-site or cumulative agriculture or forest impacts not discussed in the prior CASP EIR, and would not result in any agriculture or forest impacts that are more severe than as discussed in the prior CASP EIR. There are no agricultural or forest related impacts that would otherwise invalidate the applicability of CEQA Guidelines Section 15183 for the Project.

None of the conditions described in CEQA Guidelines Sections 15162 or 15163 calling for preparation of a subsequent or supplemental EIR are met as related to agricultural or forest resources.

[18] California, State of, Department of Conservation, *Farmland Mapping and Monitoring Program*, accessed November 2022 at: https://maps.conservation.ca.gov/DLRP/CIFF/

Air Quality

Would the Project:	CASP EIR Findings	Relationship to CASP EIR Findings: Equal or Less Severe	Relationship to CASP EIR Findings: New or Substantial Increase in Severity	Project Conclusions: Applicable Standards and Requirements	Project Conclusions: Resulting Level of Significance
Plan-Level Impacts a) Fundamentally conflict with or obstruct implementation of the applicable air quality plan, not include special overlay zones containing goals, policies, and objectives to minimize potential Toxic Air Contaminant (TAC) impacts, or not identify existing and planned sources of odors with policies to reduce potential odor impacts?	LTS	■	☐	-	NA
Project-level Impacts b) During project construction, result in average daily emissions of 54 pounds per day of ROG, NOx, or PM2.5 or 82 pounds per day of PM10?	SU	■	☐	SCA Air-1, Dust Controls – Construction Related CA Air-2, Criteria Air Pollutant Controls - Construction Related	LTS
c) During construction, expose sensitive receptors to substantial pollutant concentrations, resulting in an increase in cancer risk level greater than 10 in one million, a non-cancer risk (chronic or acute) hazard index greater than 1.0, or an increase of annual average PM2.5 of greater than 0.3 micrograms per cubic meter, or d) Under cumulative conditions, result in a cancer risk level greater than 100 in a million, a non-cancer risk (chronic or acute) hazard index greater than 10.0, or annual average PM2.5 of greater than 0.8 micrograms per cubic meter?	LTS with SCA	■	☐	SCA Air-3, Toxic Air Contaminant Controls- Construction Related SCA Air-1, Dust Controls – Construction and Operations Related SCA Air-2, Criteria Air Pollutant Controls - Construction Related	LTS
e) During operation, result in average daily emissions of 54 pounds per day of ROG, NOx, or PM2.5 or 82 pounds per day of PM10), or result in maximum annual emissions of 10 tons per year of ROG, NOx, or PM2.5 or 15 tons per year of PM10?	SU	■	☐	City SCAs pertaining to required TDM, energy efficiency, water conservation and waste generation	LTS
f) For new sources of Toxic Air Contaminants (TACs), during either project construction or project operation, expose sensitive receptors to substantial levels of TACs under project conditions resulting in	LTS with SCA	■	☐	-	LTS

an increase in cancer risk level greater than 10 in one million, a non-cancer risk (chronic or acute) hazard index greater than 1.0, or an increase of annual average PM2.5 of greater than 0.3 micrograms per cubic meter? g) Under cumulative conditions, result in a cancer risk level greater than 100 in a million, a non-cancer risk (chronic or acute) hazard index greater than 10.0, or annual average PM2.5 of greater than 0.8 micrograms per cubic meter?					
h) Frequently and for a substantial duration, create or expose sensitive receptors to substantial objectionable odors affecting a substantial number of people?	LTS	■	□	-	No Impact
i) Contribute to carbon monoxide (CO) concentrations exceeding the California Ambient Air Quality Standards (CAAQS) of nine parts per million (ppm) averaged over eight hours and 20 ppm for one hour?	LTS	■	□	-	LTS

The CASP EIR included additional CEQA thresholds addressing visible dust during construction, but this threshold is no longer included in the City's current February 2024 Thresholds of Significance Guidelines.

a): Consistency with the Applicable Air Quality Plan

CASP EIR Conclusions [19]

The CASP EIR (Impact Air-1) found that adoption and implementation of the CASP would not fundamentally conflict with or obstruct implementation of any control measures of the applicable Clean Air Plan, and that the CASP demonstrates reasonable efforts to implement Clean Air Plan control measures.

The CASP EIR (Impact Air-2) also concluded that new development pursuant to the CASP would be located near existing and planned sources of toxic air contaminants and within 500 feet of freeways and high-volume roadways containing 100,000 or more average daily vehicle trips. The CASP EIR cited then-applicable City SCAs related to exposure to air pollution and toxic air contaminants that apply to any new residential development located near sources of PM2.5 and DPM, and within 1,000 feet of stationary and mobile sources of TACs. These SCAs require evaluation of potential health risks to new project residents using BAAQMD-recommended screening criteria and/or project-specific health risk analyses that include recommendations to reduce potential health risks. The CASP EIR concluded that implementation of project-specific health risk recommendations in new residential development near the freeway would reduce exposure to TACs and their associated health risks. This impact was found to be less than significant with implementation of then-applicable City of Oakland SCAs.[20]

[19] City of Oakland, CASP Draft EIR, beginning at page 4.2-42

[20] City of Oakland, CASP Draft EIR, beginning at page 4.2-44

Project Analysis

Pursuant to the BAAQMD's CEQA Guidelines, proposed plans (such as the CASP) must analyze the Plan's consistency with the applicable Clean Air Plan, including consistency with current control measures, and projected VMT or vehicle trips increase relative to its projected population increase. However, individual projects are subject to project-level analysis pursuant to separate BAAQMD CEQA Guidelines addressing project-specific effects related to construction and operational-related criteria air pollutant emissions, construction and operational-related emissions of TACs or fine particulate matter, and odors. Those analyses are provided below. Whereas this document supports the conclusion that the Project is consistent with the CASP, and the CASP was determined to be consistent with the then-applicable Clean Air Plan, the Project is similarly consistent with the now-current Clean Air Plan.

The Project does not include any residential development, and as such is not subject to SCAs related to the exposure of sensitive receptors to toxic air contaminants or SCA requirements to implement project-specific measures to reduce potential health risks.

b): Construction Period Criteria Pollutant Emissions

CASP EIR Conclusions

Fugitive Dust [21]

The CASP EIR (Impact Air-4) concluded that during construction, individual development projects pursuant to the CASP will generate short-term emissions of fugitive dust from demolition, grading, hauling and construction activities. Construction-related fugitive dust emissions would vary from day to day depending on the level and type of activity, silt content of the soil, and the weather. In the absence of mitigation, construction activities may result in significant quantities of dust, and local visibility and PM10 and PM2.5 concentrations may be adversely affected on a temporary and intermittent basis.

The CASP EIR concluded that if a project complies with specified dust control measures, it will not result in a significant impact related to construction period dust emissions. In order to be protective of the health of nearby residences, as well as to reduce dust emissions that could affect regional air quality, all future development pursuant to the CASP is required to implement BAAQMD-recommended construction period dust control measures pursuant to the City's SCAs, and to comply with the requirements found under the City Municipal Code (Section 15.36.100; Dust Control Measures). The City's SCAs include both "Basic" and "Enhanced" measures. The CASP EIR concluded that if a project complied with specified dust control measures, it would not result in a significant impact related to construction period dust emissions. With implementation of these SCAs, temporary construction-period fugitive dust emissions were found to be controlled to a less than significant level.

Criteria Pollutants [22]

The CASP EIR (Impact Air-5A) determined that during construction, the cumulative subsequent development as anticipated within the Coliseum District will generate regional ozone precursor emissions and regional particulate matter emissions from construction equipment exhaust that, even with implementation of City of Oakland SCAs, would exceed the City's thresholds of significance. This impact was found to be significant and unavoidable (SU).

[21] City of Oakland, CASP Draft EIR, beginning at page 4.2-47

[22] City of Oakland, CASP Draft EIR, beginning at page 4.2-48

The CASP EIR's analysis of criteria pollutants included a calculation of total construction emissions from a construction period assumed as being continuous over a 15-year period, with multiple overlapping construction phases throughout the Coliseum District, such as demolition and mass grading occurring over the entire Coliseum District during the first couple of years. The purpose of this approach was to provide a conservative (i.e., worst-case) analysis for human health impacts associated with construction activity. The CASP EIR acknowledged that, "In reality, demolition and future construction at the Coliseum District will likely be built out in incremental stages", and that "the emissions estimates presented in this analysis result in higher emissions of criteria air pollutants and air toxics". [23]

Based on this "worst-case" conservative estimate of emissions associated with construction activity at the Coliseum District, the CASP EIR concluded that then-applicable SCAs requiring emission reduction technologies and best practices at construction sites could not demonstrate adequate reductions in ROG and NOx emissions to below threshold levels.

<u>CASP EIR Mitigation Measures</u>

To further address this issue, the CASP EIR included Mitigation Measure Air 6A-1, which requires that individual construction projects implement measures in addition to the City's then-applicable SCAs to further reduce criteria pollutant emissions. The intent of this Mitigation Measure was to further reduce construction-period criteria pollutants beyond the emission reductions anticipated from implementation of the standard construction-related best management practices of then-applicable SCAs (these additional emission reduction measures are now included in the City's current SCAs). These additional emission reduction strategies of CASP EIR Mitigation Measure Air 6A-1 included but were not limited to requiring on-site construction equipment to include emission reduction technologies such as low emission diesel products, alternative fuels, engine retrofit technology, after-treatment products, and/or add-on devices such as particulate filters. Although such strategies are generally designed to reduce emissions of DPM and PM2.5, they would also result in reductions in ROG and NOx mass emissions. However, even with these additional measures, the CASP EIR could not conclude that emission of ROG and NOx would be reduced to below threshold levels, and this impact was found to be significant and unavoidable.

Project Analysis

Short-term emissions of fugitive dust associated with construction of the Project would occur primarily during grading and site preparation activities. The Project's proposed grading plan anticipates leveling the Project site with cuts of 1 to 3 feet within the center of the site, and 1 to 4 feet of fill at the perimeter of the site, with approximately 12,240 CY of total grading (5,863 CY of cut and 6,373 CY of fill, with a minor import of approximately 510 CY of fill. These grading activities are a source of construction-period dust emissions.

The Project's construction-period criteria pollutant emissions have been calculated using the CalEEMod emissions calculator (version 2022.1). CalEEMod computes annual emissions for construction that are based on the project type, size and acreage. The model provides emission estimates for both on-site and off-site construction activities. On-site activities are primarily made up of construction equipment emissions, while off-site activity includes worker, hauling and vendor traffic. Project-specific information was entered into the CalEEMod calculator, including the following:

- the Project site's precise location
- grading operations conducted across the entire 8.74-acre site, including 5,863 cubic yards (CY) of cut and 6, 373 CY of fill, resulting in import of 510 CY of fill soil

[23] CASP Draft EIR, pages 4.2-49 and 4.2-50

- trenching of approximately 4,000 linear feet for installation of new utilities
- the import of surface and subsurface materials, including gravel sub-base (2,900 CY or 290 truckloads), sand sub-base for below the soccer field (1,280 CY or 128 truckloads), concrete for building slabs (1,185 CY or 119 truckloads), porous concrete for the Concourse (1,560 CY or 156 truckloads), and porous asphalt for the drive aisle and parking areas (936 CY or 94 truckloads)
- installation of the grandstands, assuming up to 12 trucks to haul the modular grandstand components to the site and use of forklifts, lulls (cherry-pickers) and a crane to erect the grandstand
- installation of modular buildings and containers, including as many as 25 haul trucks and pilot cars to bring these structures to the site, and forklifts and elders to assemble the structures and place them on slab foundations

Construction would produce traffic in the form of worker trips and truck traffic. Traffic-related emissions are based on worker and vendor trip estimates produced by CalEEMod and haul trips that were computed based on Project-specific information listed above. Deliveries were converted to total one-way trips, assuming two trips per delivery. On-site trip lengths for on-road vehicles were assumed at 1 mile per day.

CalEEMod default values were used for all calculations related to on-road vehicle emission factors, off-road equipment emission factors, worker and vendor trip length, ROG emission values from architectural coatings, and electricity consumption.

The Project's construction emissions were calculated assuming an approximately 8 to 9 month construction period.[24] The CalEEMod results for construction emissions are included in **Appendix B** and summarized below in **Table 7**.

Table 7: Regional Air Pollutant Emissions during Construction

	Reactive Organic Gases	Nitrogen Oxides	PM10, Exhaust	PM2.5, Exhaust
Daily Maximum	1.84 lbs/day	17.4 ls/day	0.81 lbs/day	0.75 lbs/day
Average Daily Emissions, 2024	0.45 lbs/day	4.12 lbs/day	0.19 lbs/day	0.17 lbs/day
Annual Emissions, 2024	0.08 tons/yr	0.75 tons/yr	0.03 tons/yr	0.03 tons/yr
Thresholds:				
Average Daily Threshold	54 lbs/day	54 lbs/day	82 lbs/day	54 lbs/day
Annual Threshold	10 tons/yr	10 tons/yr	15 tons/yr	10 tons/yr
Exceed Threshold?	**No/No**	**No/No**	**No/No**	**No/No**

Source: Illingworth & Rodkin, CalEEMod results included as Appendix B

As shown, the Project's construction-period emissions of criteria pollutants would not exceed threshold levels, and this impact would be less than significant. This conclusion is reached prior to including any construction-period emission reductions.

24 The construction schedule as analyzed in the CalEEMod analysis relies on a construction period of a similar duration, but with an earlier start date than is currently anticipated. The earlier start date, but with the same construction phase durations as assumed in CalEEMod, has no material effect on the calculation of construction emissions.

Applicable Standard Conditions of Approval

Since 2015 when the CASP EIR was certified, the City of Oakland has updated its SCAs to be even more protective of air quality. The following current City of Oakland SCAs provide an effective means for addressing fugitive dust emissions from all construction projects within the City and would apply to the Project.

- ***SCA Air-1 (22), Dust Controls – Construction Related***: The project applicant shall implement all of the following applicable Basic dust control measures during construction of the project:

    a) Water all exposed surfaces of active construction areas at least twice daily. Watering should be sufficient to prevent airborne dust from leaving the site. Increased watering frequency may be necessary whenever wind speeds exceed 15 miles per hour. Reclaimed water should be used whenever feasible.

    b) Cover all trucks hauling soil, sand, and other loose materials or require all trucks to maintain at least two feet of freeboard (i.e., the minimum required space between the top of the load and the top of the trailer).

    c) 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.

    d) Limit vehicle speeds on unpaved roads to 15 miles per hour.

    e) All excavation, grading and/or demolition activities (if any) shall be suspended when average wind speeds exceed 20 mph.

    f) All trucks and equipment, including tires, shall be washed off prior to leaving the site.

    g) Unpaved roads providing access to sites located 100 feet or further from a paved road shall be treated with a 6-to-12-inch compacted layer of wood chips, mulch, or gravel.

    h) 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.

Because the Project involves extensive site preparation (the construction site is more than four acres in size), the following additional Enhanced dust control measures shall be implemented during construction of the Project:

i) Limit the simultaneous occurrence of excavation, grading, and ground-disturbing construction activities.

j) Apply and maintain vegetative ground cover (e.g., hydro-seed) or non-toxic soil stabilizers to disturbed areas of soil that will be inactive for more than 10 days. Enclose, cover, water twice daily, or apply (non-toxic) soil stabilizers to exposed stockpiles (dirt, sand, etc.).

k) Designate a person or persons to monitor the dust control program and to order increased watering, as necessary, to prevent transport of dust offsite. Their duties shall include holidays and weekend periods when work may not be in progress.

l) When working at a site, install appropriate windbreaks (e.g., trees, fences) on the windward side(s) of the site, to minimize wind-blown dust. Windbreaks must have a maximum 50 percent air porosity.

m) Post a publicly visible large on-site sign that includes the contact name and phone number for the project complaint manager responsible for responding to dust complaints and the telephone numbers of the City's Code Enforcement unit and the Bay Area Air Quality Management District. When contacted, the project complaint manager shall respond and take corrective action within 48 hours.

n) All exposed surfaces shall be watered at a frequency adequate to maintain minimum soil moisture of 12 percent. Moisture content can be verified by lab samples or moisture probe.

o) Install sandbags or other erosion control measures to prevent silt runoff to public roadways from sites with a slope greater than one percent.

p) Plant vegetation in areas designated for landscaping as soon as possible and water appropriately until vegetation is established.

Regardless of comparison to construction-period criteria pollutant thresholds, the following City of Oakland SCAs (as have been updated) provide an effective means for further addressing cumulative construction-period criteria pollutants from all construction projects within the City and would apply to the Project.

- ***SCA Air-2 (23 a-f), Criteria Air Pollutant Controls - Construction and Operation Related***: The project applicant shall implement all of the following control measures for criteria air pollutants during construction of the project, as applicable:

  a) Idling times on all diesel-fueled commercial vehicles over 10,000 lbs. shall be minimized either by shutting equipment off when not in use, or reducing the maximum idling time to two minutes (as required by the California airborne toxics control measure Title 13, Section 2485, of the California Code of Regulations). Clear signage to this effect shall be provided for construction workers at all access points.

  b) Idling times on all diesel-fueled off-road vehicles over 25 horsepower shall be minimized either by shutting equipment off when not in use or reducing the maximum idling time to two minutes and fleet operators must develop a written policy as required by Title 23, Section 2449, of the California Code of Regulations ("California Air Resources Board Off-Road Diesel Regulations").

  c) All construction equipment shall be maintained and properly tuned in accordance with the manufacturer's specifications. All equipment shall be checked by a certified mechanic and determined to be running in proper condition prior to operation. Equipment check documentation should be kept at the construction site and be available for review by the City and the Bay Area Air Quality District as needed.

  d) Portable equipment shall be powered by grid electricity if available. If electricity is not available, propane or natural gas generators shall be used if feasible. Diesel engines shall only be used if grid electricity is not available and propane or natural gas generators cannot meet the electrical demand.

  e) Low VOC (i.e., ROG) coatings shall be used that comply with BAAQMD Regulation 8, Rule 3: Architectural Coatings.

  f) All equipment to be used on the construction site shall comply with the requirements of Title 13, Section 2449, of the California Code of Regulations ("California Air Resources Board Off-Road Diesel Regulations") and upon request by the City (and the Air District if specifically requested), the project applicant shall provide written documentation that fleet requirements have been met.

Since the Project-specific analysis of construction-period criteria air pollutant emissions presented above demonstrates that the Project would not exceed City significance thresholds, the additional current City SCAs requiring Enhanced Criteria Air Pollutant Reduction Measures (SCA 21 g-h) or preparation of a Construction Emissions Minimization Plan (SCA 22) do not apply). Similarly, the requirements of CASP EIR Mitigation Measure Air 6A-1 have now been effectively incorporated into the current SCA Air-2 (#21), such that CASP EIR Mitigation Measure Air 6A-1 is no longer required or applicable.

Consistent with the conclusions of the CASP EIR, the Project's effects related to fugitive dust emissions during construction will be fully addressed through implementation of City SCAs and existing regulations, and this impact would be reduced to less than significant. The Project's effects related to criteria pollutant emissions during construction will be fully addressed through implementation of City SCAs, and this impact would be less than significant. This conclusion is different than was analyzed in the CASP EIR. The CASP EIR analyzed all subsequent development anticipated within the Coliseum District, finding that this cumulative construction would generate regional ozone precursor emissions and regional particulate matter emissions that would exceed the City's thresholds of significance, even with implementation of City of Oakland SCAs.

c and d): Construction Period Toxic Air Contaminant (TAC) Emissions

CASP EIR Conclusions [25]

The CASP EIR (Impact Air-6A) determined that new sources of construction-related TAC emissions at the Coliseum District would result in an increase in cancer risk level for the maximum exposed individual of greater than 10 in one million. Construction activities at the Coliseum District would result in DPM and PM2.5 emissions due to exhaust emissions from equipment such as loaders, backhoes and cranes, as well as haul truck and vendor trips. These emissions could result in elevated concentrations of DPM and PM2.5 at nearby receptors (both new and existing residences). These elevated concentrations could lead to an increase in the risk of cancer or other health impacts.

The CASP EIR found that health risks exceeding threshold levels could occur at points located outside of the Coliseum District, primarily to the east and north. Sensitive receptors located at Lion's Creek Crossings, along 70th and 71st Avenues nearest to the BART parking lot, and along Hawley Street between 71st and 73rd Avenues, could be exposed to construction emissions resulting in increased cancer risks of between 10 and 12 in one million, compared to the threshold level of 10 in one million. The impact on future new residents within the Coliseum District from construction activities was also evaluated under various scenarios, concluding that construction activity associated with Coliseum District development could adversely affect new residential receptors if closer than 200 meters from the construction activity.

The CASP EIR found that implementation of SCAs requiring construction-related best management practices (BMPs) would substantially reduce construction-related emissions. However, the demolition of large structures (e.g., the existing Oakland Coliseum) would result in emissions from hauling demolition debris that would result in an increase in cancer risk greater than the threshold of 10 in one million. To further reduce construction period toxic air contaminant emissions, the CASP EIR included Mitigation Measure Air 6A-1: Reduced Construction Emissions. This measure requires further reductions of toxic air contaminant emissions from construction activities at the Coliseum District (especially DPM and PM2.5) to ensure a resulting cancer risk level of less than 10 in a million. Strategies to achieve this health risk standard may include, but are not limited to requiring on-site construction equipment to include emission reduction technologies that are capable of further reducing toxic air contaminants (especially DPM and PM2.5) beyond the reductions as required in then-applicable SCAs, such that construction emissions result in cancer risks of less than 10 in a million for off-site sensitive receptors.

To even further reduce toxic air contaminant exposure risk to on-site sensitive receptors, the CASP EIR included Mitigation Measure Air 6A-2: Construction Emission Exposure. This mitigation measure includes additional risk reduction strategies with a performance standard of reducing resulting cancer risk levels to less than 10 in one million. Additional risk reduction strategies include, but are not limited to, successful combinations of the following:

- Require that all demolition activity and any on-site crushing operation (if conducted) be completed prior to the construction of new housing units on the Coliseum District within 200 meters of the demolition or construction activity.

[25] City of Oakland, CASP Draft EIR, beginning at page 4.2-53

- Installation of MERV-13 filters at any new on-site residences at the Coliseum District that will be exposed to subsequent on-site construction activity within 100 meters.

With successful implementation of these measures, health risks associated with construction-period toxic air contaminants at the Coliseum District were found to be reduced to a less than significant level.

Project Analysis

Construction-Related Health Risks

The Project's construction activities, including the Project's proposed grading plan, would generate diesel particulate matter (DPM) and fine particles of dust at 2.5 microns or less in diameter (PM2.5), both of which are considered toxic air contaminants (TACs) by BAAQMD and the City of Oakland. The California Emissions Estimator Model (CalEEMod, version 2022.1.1.20) was used to estimate TAC emissions from on-site construction activity and construction vehicle trips, using the same Project-specific construction assumptions as presented in the Project Analysis subsection of section b) above.

Total uncontrolled DPM emissions from on-site construction activities were estimated by CalEEMod to be 0.04 tons (79.8 pounds). Uncontrolled fugitive dust (PM2.5) emissions were calculated by CalEEMod as 0.04 tons (74.3 pounds) for the Project.

Applicable Standard Conditions of Approval

The City of Oakland has updated its SCAs to be even more protective of human health risks associated with construction-period TAC emissions. The following current City of Oakland SCA provides an effective means for controlling TAC emissions from all construction projects and reducing potential health risks to sensitive receptors within the City, and would apply to the Project.

❖ ***SCA Air-3 (24): Toxic Air Contaminant Controls-Construction Related]:***

a) *Diesel Particulate Matter Reduction Measures*: The project applicant shall implement appropriate measures during construction to reduce potential health risks to sensitive receptors due to exposure to diesel particulate matter (DPM) and particulate matter less than 2.5 microns in diameter (PM2.5) in exhaust and fugitive emissions from construction activities. The project applicant shall choose to implement i), or both ii) and iii):

   i. The project applicant shall retain a qualified air quality consultant to prepare a Health Risk Assessment (HRA) in accordance with current guidance from the California Air Resources Board (CARB), the Office of Environmental Health and Hazard Assessment, and the Bay Area Air Quality Management District (BAAQMD) to determine the health risk to sensitive receptors exposed to DPM and PM2.5 from exhaust and fugitive emissions from project construction. The HRA shall be based on project-specific construction schedule, equipment, and activity data. Estimated project-level health risks shall be compared to the City's health risk significance thresholds for projects. The HRA shall be submitted to the City (and the Air District if specifically requested) for review and approval. If the HRA concludes that the health risk is at or below the City's health risk significance thresholds for projects, then DPM and PM2.5 reduction measures are not required. If the HRA concludes that the health risk exceeds the City's health risk significance thresholds for projects, DPM and PM2.5 reduction measures shall be identified to reduce the health risk to below the City's health risk significance thresholds as set forth under subsection b below. Identified DPM and PM2.5 reduction measures shall be submitted to the City for review and approval prior to the issuance of building permits and the approved DPM and PM2.5 reduction measures shall be implemented during construction.

-or-

ii. The project applicant shall incorporate the following health risk reduction measures into the project to reduce TAC emissions from construction equipment. These features shall be submitted to the City for review and approval and be included on the project drawings submitted for the construction-related permit or on other documentation submitted to the City:

All off-road diesel equipment shall be equipped with the most effective Verified Diesel Emission Control Strategies (VDECS) available for the engine type (Tier 4 engines automatically meet this requirement) as certified by CARB. The equipment shall be properly maintained and tuned in accordance with manufacturer specifications. This shall be verified through an equipment inventory submittal and Certification Statement that the Contractor agrees to compliance and acknowledges that a significant violation of this requirement shall constitute a material breach of contract.

- Where access to grid-powered electricity is available, portable diesel engines shall be prohibited and electric engines shall be used for concrete/industrial saws, sweepers/scrubbers, aerial lifts, welders, air compressors, fixed cranes, forklifts, cement and mortar mixers, pressure washers, and pumps.
- Any other best available technology that reduces emissions offered at the time that future projects are reviewed may be included in the construction emissions minimization plan (e.g., alternative fuel sources, etc.).

-and-

iii. The project applicant shall implement all enhanced control measures included in SCA 22 (Dust Controls – Construction Related).

b. *Construction Emissions Minimization Plan* (if required by a] above): The project applicant shall prepare a Construction Emissions Minimization Plan (Emissions Plan) for all identified DPM reduction measures (if any). The Emissions Plan shall be submitted to the City (and the Bay Area Air Quality District if specifically requested) for review and approval prior to the issuance of building permits. The Emissions Plan shall include the following:

i. An equipment inventory summarizing the type of off-road equipment required for each phase of construction, including the equipment manufacturer, equipment identification number, engine model year, engine certification (tier rating), horsepower, and engine serial number. For all VDECS, the equipment inventory shall also include the technology type, serial number, make, model, manufacturer, CARB verification number level, and installation date.

ii A Certification Statement that the Contractor agrees to comply fully with the Emissions Plan and acknowledges that a significant violation of the Emissions Plan shall constitute a material breach of contract.

Health Risk Assessment

The Project applicant and the City have choose to retain a qualified air quality consultant to prepare a Health Risk Assessment for the Project to determine the health risk to sensitive receptors exposed to DPM and PM2.5 from exhaust and fugitive emissions from project construction (see **Appendix B**). The following provides a summary of the methodology and results of that HRA.

Sensitive Receptors

Sensitive receptors are defined as places where sensitive population groups, such as children, the elderly, the acutely ill, and the chronically ill are likely to live or spend a significant amount of time. These land uses include residences, schools, playgrounds, childcare centers, retirement homes, convalescent homes, hospitals, and medical clinics. Immediately to the east of the Project site is an approximately 12.2-acre parcel known as the

HomeBase site. This site is currently serving as a City of Oakland emergency housing location for homeless persons, with 67 trailers and approximately 30 cabins. HomeBase residents are the closest sensitive receptors to the Project site. The site serves two programs with different eligibility criteria. Under the first program located on the southern end of the parcel, participants must be either 60 years of age or older and/or have underlying medical conditions. The second program serves transitional aged youth (ages 18-24). For purposes of this analysis, it was assumed none of the HomeBase sites would house infants or children. [26]

No other sensitive receptors are within 1,000 feet of the Project site (see **Figure 17**).

Dispersion Modeling

The U.S. EPA AERMOD dispersion model was used to predict DPM and PM2.5 concentrations at sensitive receptors (i.e., residences) at the HomeBase site. The AERMOD dispersion model is a BAAQMD-recommended model for use in modeling analysis of these types of emission activities for CEQA projects.[27] Emission sources for the construction site were grouped into two categories: exhaust emissions of DPM and fugitive PM2.5 dust emissions.

Both equipment exhaust emissions and fugitive dust emissions were modeled as area sources to represent the on-site construction emissions. The area source representing construction equipment exhaust emissions has a release height of 19.7 feet (6 meters) to reflect the height of the equipment exhaust pipes, plus an additional distance above the exhaust pipe to account for plume rise of the exhaust gases. Emissions from the construction equipment, on-site, and off-site vehicle travel were distributed throughout the modeled area sources.

Fugitive dust emissions at the Project construction site come from a variety of sources including truck and equipment travel, grading activities, truck loading (with loaders) and unloading (rear or bottom dumping), loaders and excavators moving and transferring soil and other materials, etc. All of these activities result in fugitive dust emissions at various heights at the point(s) of generation. Once generated, the dust plume will tend to rise as it moves downwind across the site and exits the site at a higher elevation than when it was generated. Emissions from the Project's construction equipment and on-road vehicle travel were distributed throughout the modeled area sources.

Annual DPM and PM2.5 concentrations from construction activities were estimated using AERMOD. A five-year data set (2013 – 2017) of hourly meteorological data from Oakland Airport prepared for use with the AERMOD model by BAAQMD was used. Construction emissions were modeled as occurring ten hours per day, between 7:00 a.m. to 5:00 p.m., when the majority of construction activity is expected to occur. DPM and PM2.5 concentrations were calculated at the sensitive receptor locations identified above.

[26] Age-sensitivity factors reflect a greater sensitivity of infants and small children to cancer causing TACs. It is possible that someone in the transitional youth category could be or become pregnant. The exposure time for a third-trimester fetus would be short (4 months) as compared to a 30-year exposure period as used for the HRA per BAAQMD guidance, and the Project's construction emissions are not so large as to affect such a short exposure period. According to the current operations of the transitional aged youth program, individuals who become pregnant would transition to another program before the third trimester. If an infant is allowed to live at the HomeBase site (which is not expected) the health risks to that infant would increase beyond the 10 in a million threshold.

[27] BAAQMD, 2022, *BAAQMD CEQA Air Quality Guidelines Appendix E*, April 2023

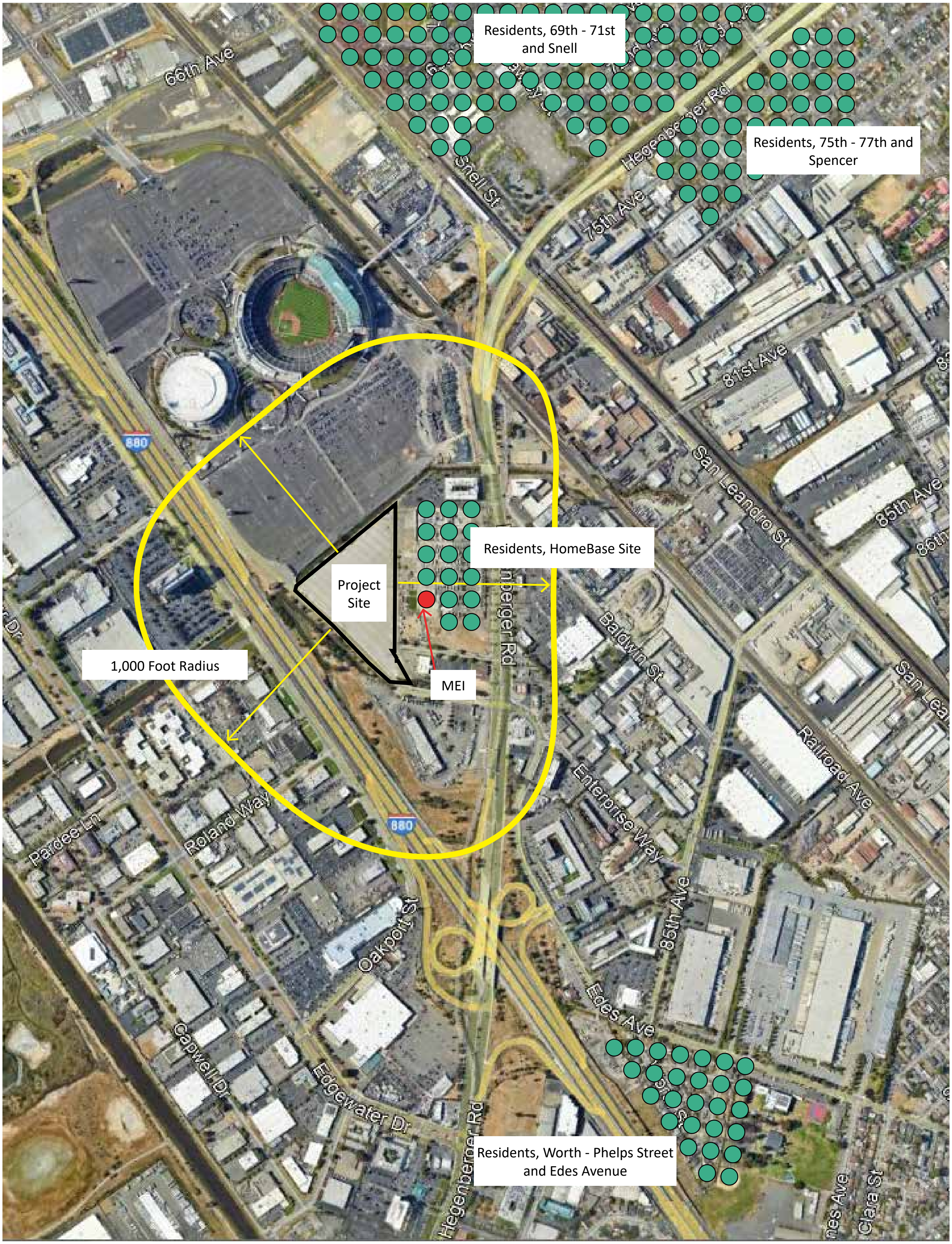

Figure 17
Location of Nearest Sensitive Receptors

Sensitive Residential Receptors

Maximum Exposed Individual (MEI)

Summary of Construction Health Risk Impacts

The maximum increased cancer risks were calculated using the modeled DPM concentrations combined with the appropriate BAAQMD/OEHHA guidance for age sensitivity factors and exposure parameters. Non-cancer hazard index (HI) and maximum annual PM2.5 concentrations were also calculated and identified. The modeled maximum annual PM2.5 concentration was calculated based on combined DPM (i.e., equipment exhaust) and fugitive dust emissions. The maximum computed HI value was based on the ratio of the maximum DPM concentration modeled and the chronic inhalation reference exposure level of 5 µg/m3.

The maximum modeled annual DPM concentration, and thus the maximally exposed individual (MEI) was identified at one of the HomeBase temporary housing trailers east of the Project site. **Table 8** summarizes the maximum cancer risks, maximum annual PM2.5 concentrations, and HI for project's construction activities. Appendix C includes the emission calculations used for the construction area source modeling and the cancer risk calculations. As shown in Table 8, the maximum cancer risks do not exceed the City's single source significance threshold, given DPM emissions estimates. Additionally, the maximum annual PM2.5 concentration from fugitive dust sources employing the basic control measures required by the City's SCAs do not exceed the City's significance threshold, nor do the annual HI from construction related DPM emissions.

Table 8: Construction Risk Impacts at the Off-Site MEI

Source	Cancer Risk (per million)	Annual PM2.5 (µg/m3)	Hazard Index
Project Construction	0.24 (adult)	0.18	0.02
City of Oakland Single-Source Threshold	10	0.3	1.0
Exceed Threshold?	**No**	**No**	**No**

Source: Illingworth & Rodkin, *Roots Stadium Project Air Quality Health Assessment,* December 2023

The resulting health risk impacts of the Project are relatively low compared to applicable thresholds. Factors relevant to the Project and its site that produce such relatively low health risks to sensitive receptors include the following (many of which are also described above under Construction-Period Criteria Pollutant Emissions):

- The Project's entire construction schedule is estimated to be completed in 190 days, or just over 6 months.
- The Project includes no demolition and limited site preparation activities, as it is currently a relatively flat parking lot. Grading (including limited trenching for new utilities) is estimated to occur over a period of 55 days, with limited (510 CY) off-haul required.
- The grandstands and other on-site buildings are all pre-made modular or container structures built off-site, with only assembly and building placement activity to occur on-site. The assembly work will rely on a minimal number of forklifts and cherry pickers, and use of a crane for a day to erect the top portion of the grandstand. No other typical building construction activity will occur.
- The import of surface and subsurface materials (gravel sub-base, sand, concrete, and porous concrete and porous asphalt) comprises nearly 90 percent of all the Project's haul trips, and will occur over a limited 45-day period
- installation of the grandstands, assuming up to 12 trucks to haul the modular grandstand components to the site and use of forklifts, lulls (cherry-pickers) and a crane to erect the grandstand

Additionally, sensitive receptors at the HomeBase property are assumed as adults, not infants or children that have substantially greater age-sensitivity factors for health risk.

Cumulative Health Risk Impacts at the Construction MEI

Cumulative health risk assessments look at all substantial sources of TACs that can affect sensitive receptors located within 1,000 feet of a project site (i.e., influence area). These sources include rail lines, highways, busy surface streets, and existing stationary sources identified by BAAQMD.

Existing Stationary Sources of TACs

A review of BAAQMD's stationary source geographic information systems (GIS) map tool identified six stationary sources with the potential to affect the MEI. Health risk impacts from these sources upon the MEI are reported in **Table 9**. Details of the health risk calculations are included in Appendix B. Permitted stationary sources of air pollution near the project site were identified using BAAQMD's Permitted Stationary Sources 2021 geographic information system (GIS) map website.[28] This mapping tool identifies the location of nearby stationary sources and provides their estimated cancer risk, contribution to annual PM2.5 concentrations, and chronic HI. Six existing sources were identified within a 1,000-foot radius of the site. All but one of the identified sources are gasoline-dispensing facilities. The non-gasoline dispensing source of TACs is an auto body repair facility.

The cancer risks, PM2.5 concentrations, and Hazard Index provided by BAAQMD for the auto body shop were adjusted for distance to the MEI using BAAQMD's distance decay factors. Risks from the gasoline dispensing facilities were estimated using the 2022 CARB and CAPCOA Gasoline Service Station Industrywide Risk Assessment Look-up Tool and dispensing permit limits obtained from BAAQMD through a public information request. Adjusted health risk impacts from the six identified stationary sources on the MEIs are reported in Table 9.

Mobile Sources of TACs

Table 9 also shows the screening-level cancer risks, annual PM2.5 concentrations and Health Index values associated with roadways and railway sources at the MEI. Impacts were estimated using BAAQMD's GIS screening data layers, which provide visualized health risks and hazards information for cumulative health risk analysis. The estimates provide conservative risks reflective of 2022 conditions. These risk estimates do not reflect the electrification of Caltrain or the increased proportion of zero-emission motor vehicles over time, which will result in lower future emissions. Table 9 reports the cumulative health risk impacts at the MEI location. The cumulative source thresholds for cancer risk, maximum annual PM2.5 concentration and HI would not be exceeded at the MEI.

28 Accessed at: https://baaqmd.maps.arcgis.com/apps/webappviewer/index.html?id=845658c19eae4594b9f4b805fb9d89a3

Table 9: Health Impacts from Combined Sources at Project Construction's MEI			
Source	**Cancer Risk (per million)**	**PM2.5 Concentration (µg/m3)**	**Hazard Index**
Project Construction	0.24 (adult)	0.18	0.02
Area Roadways (BAAQMD Screening Values)	18.61	0.43	0.06
Area Railways (BAAQMD Screening Values)	5.94	0.01	<0.01
Service King Paint & Body (Facility ID #22686, Auto Body)	NA	NA	<0.01
Oakland Coliseum (Facility ID #109015, Fuel Dispensing)	0.01	NA	0.01
Herc Rentals (Facility ID # 111369, Fuel Dispensing)	0.04	NA	0.01
TEC of California (Facility ID # 111613, Fuel Dispensing)	0.02	NA	0.01
ARCO Facility #07026 (Facility ID # 111939, Fuel Dispensing)	0.13	NA	0.01
Coliseum Shell (Facility ID # 112521, Fuel Dispensing)	0.21	NA	0.01
Cumulative Total	**25.23**	**0.62**	**<0.15**
City of Oakland Cumulative Source Thresholds	>100	>0.8	>10.0
Exceed Threshold?	**No**	**No**	**No**

Source: Illingworth & Rodkin, Roots Stadium Project Air Quality Health Assessment, December 2023

As this analysis demonstrates, construction of an intended temporary, modular professional soccer stadium will result in substantially less emissions than those associated with construction of the Coliseum District per the approved CASP and its associated EIR. As a result, the health risks associated with construction of the proposed Project would not exceed the City of Oakland's significance thresholds at the MEI (HomeBase trailer resident).

Additional Applicable Standard Conditions of Approval

The Project is still subject to the following City's SCAs as identified above for criteria pollutants:

- ❖ **SCA Air-1 (22), Dust Controls – Construction Related** (see above)
- ❖ **SCA Air-2 (23 a-f), Criteria Air Pollutant Controls - Construction and Operation Related** (see above)

These applicable SCAs would further reduce construction-period and operational health risks associated with the Project. The Project would not have a new or more severe air quality or health risk impact than as previously analyzed and disclosed in the CASP EIR.

Since the Project does not involve construction activities for 50 dwelling units or 25,000 square feet of non-residential floor area, and the Project's health risk analysis presented above does not identify a significant health risk to the nearest sensitive receiver, the Project is not subject additional City SCAs related to Toxic Air Contaminant Controls-Construction Related or preparation of a Construction Emissions Minimization Plan.

Since health risks associated with construction of the proposed Project would not exceed the City of Oakland's significance thresholds at the nearest MEI, the CASP EIR Mitigation Measure Air 6A-1: Reduced Construction Emissions is not required to ensure a resulting cancer risk level of less than 10 in a million. Similarly, since the Project does not involve significant structural demolition activity or on-site crushing operations, and does not involve construction of new residences within the Coliseum District, the CASP EIR's Mitigation Measure Air 6A-2: Construction Emission Exposure, is not warranted for the Project.

e): Operational Criteria Pollutant Emissions

CASP EIR Conclusions [29]

The CASP EIR (Impact Air-7A) found that new development at the Coliseum District would result in operational average daily emissions of more than 54 pounds per day of ROG, NOX, or PM2.5 and 82 pounds per day of PM10; and would result in maximum annual emissions of 10 tons per year of ROG, NOX, of PM2.5 and 15 tons per year of PM10. This impact was considered significant and unavoidable (SU).

The majority of criteria pollutants associated with CASP-related operations will be generated by mobile on-road sources including automobiles. The City of Oakland's SCAs required that a Transportation Demand Management (TDM) program be developed and implemented to reduce use of single-occupant vehicles and to increase the use of rideshare, transit, bicycle and walk modes. Given the magnitude of difference between the Coliseum District's projected emission rates and the thresholds of significance for criteria pollutants, the CASP EIR did not expect that implementation of a TDM Program would fully reduce the impact to a less-than-significant level. Consequently, development of the Coliseum District was found to result in significant environmental effects on air quality and contribute substantially to existing air quality exceedance (ozone precursors and particulate matter). This impact was determined to remain significant and unavoidable for emissions of ROG, NOx, and PM10, and no additional mitigation measures were considered available.

Project Analysis

The Project's operational criteria pollutant emissions have been calculated using the CalEEMod (version 2022.1.1.20) emissions calculator. Three different operational scenarios have been analyzed, based on the Project's operational characteristics. These three scenarios include:

- Annual emissions: This analysis is based on the annual operational characteristics of the Project including up to 160 events per year (Roots and Soul soccer games, Project 510 soccer games, other professional sports events, entertainment events and corporate or community events). As many as 1,150,000 attendees are projected over the course of a year at these events, assuming maximum attendance per event as described in Table 4 of the Project Description. This scenario is then compared against the City of Oakland's maximum annual emissions thresholds.
- Average daily emissions: This analysis converts the Project's annual emissions (in tons) into pounds, and then divides those annual pounds of emissions by the Project's 160 operating days to arrive at an average daily emission rate. This scenario is then compared against the City of Oakland's average daily emissions thresholds.[30]
- Typical Event Day (Summer Max) emissions: This analysis is based on a typical single-event day, assuming a professional soccer game with a maximum attendance of 10,000 spectators. This scenario is provided for informational purposes only, as the City's air quality thresholds do not provide for an individual daily emission threshold.

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29 City of Oakland, CASP Draft EIR, beginning at page 4.2-59

30 Per BAAQMD CEQA Guidelines 2022 page 5-6, "When calculating average daily operational emissions, total annual emissions should be divided by 365 to generate an average daily value for land uses that operate most days of the year. For land uses that operate less frequently, such as an arena, total annual emissions should be divided by the number of days the facility would operate on an annual basis." Therefore, the project's annual emissions (in tons) were converted into pounds, and divided by 160 operating days.

Project-specific information entered into the CalEEMod calculator includes the following:

- the Project site's precise location
- the square footage of building and landscaped area [31]
- Project-specific trip generation rates and VMT rates for weekday and weekend trips (per the Transportation chapter of this CEQA Checklist) [32]
- Trip generation rates and VMT rates for the same weekday and weekend trips, but accounting for a 20 percent reduction in vehicle trips resulting from implementation of the Project's required TDM Plan
- Food trucks relying on small portable generators with a typical brake horsepower (Bhp) of between 6 and 17 (with an average of 12 Bhp), with 12 food truck operating for 6 hours per event at each of 70 events with maximum (10,000) attendees; and 6 food truck operating for 6 hours per event at each of 90 events with lesser (5,000) attendees
- Use of gas/diesel powered landscape equipment for 180 days/year
- No use of natural gas/all electric power
- Minimal needs for reapplication of architectural coatings (i.e., paint) at the Project

CalEEMod default values were used for the assumed fleet mix and vehicle emission factors, and for area source emissions attributed to consumer products, architectural coatings and landscape equipment. As an all-electric Project, no criteria pollutants were assumed for use of natural gas. The results of operational emissions modeling for the Project are included in **Appendix C**, and summarized in **Table 10**, below.

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[31] New building space as analyzed in the CalEEMod emissions calculator conservatively includes the modular buildings and containers, the grandstands/bleachers, storage space and portable/trailer restrooms. Landscaped space includes all landscape areas, but not the artificial turf sports field.

[32] These trip generation rates and VMT calculations account for attendees who arrive/depart via driving/carpooling, attendees who arrive/depart via ride services, and arriving and departing game-day staff, players and vendors

Table 10: Project's Operational Emissions of Criteria Pollutants				
	Criteria Air Pollutants			
Scenario	**ROG**	**NOx**	**PM10 (emissions)**	**PM2.5 (emissions)**
Annual Emissions (tons/yr)				
Mobile sources [1]	2.1648	2.7536	0.0425	0.0398
Area Sources	0.2563	0.0018	0.0004	0.0003
Food Truck Generators	0.0496	0.2588	0.0291	0.0291
Total:	2.471	3.014	0.072	0.069
Total with TDM:	2.063	2.488	0.064	0.062
Annual Threshold (Exceed w/wo TDM)	**10 (No/No)**	**10 (No/No)**	**15 (No/No)**	**10 (No/No)**
Average Daily Emissions (lbs/day) [1]				
Mobile sources	27.06	34.42	0.53	0.50
Area Sources	3.20	0.02	0.01	0.00
Food Truck Generators	0.62	3.24	0.36	0.36
Total:	30.88	37.68	0.90	0.87
Total with TDM:	25.79	31.10	0.80	0.77
Avg. Daily Threshold (Exceed w/wo TDM)	**54 (No/No)**	**54 (No/No**	**82 (No/No**	**54 (No/No**
Typical Daily Summer (Max) Emissions (lbs/day)				
Mobile sources	41.89	45.82	0.78	0.73
Area Sources	1.61	0.02	0.00	0.00
Food Truck Generators	1.42	7.39	0.83	0.83
Total:	44.92	53.23	1.62	1.57
Total, with TDM:	36.11	42.82	1.44	1.40

Notes:

1. Vehicle trips, VMT and TDM effectiveness from Fehr & Peers, 2024
2. Per BAAQMD CEQA Guidelines 2022 page 5-6, "When calculating average daily operational emissions, total annual emissions should be divided by 365 to generate an average daily value for land uses that operate most days of the year. For land uses that operate less frequently, such as an arena, total annual emissions should be divided by the number of days the facility would operate on an annual basis." Therefore, the project's annual emissions (in tons) were converted into pounds, and divided by 160 operating days.

Source: CalEEMod Version 2022.1.1.20 (see **Appendix C**)

As demonstrated in Table 10, the Project's calculated annual emissions of operational ROG, NOx, PM10 and PM2.5 criteria air pollutants are all below the operational significance thresholds of the City of Oakland, as recommended by the BAAQMD, and as relied on in the CASP EIR. The Project's average daily operational air quality emissions are also well the average daily thresholds, without further mitigation.

Table 10 also demonstrates that the typical daily (summer maximum) emissions from a one-day event of 10,000 spectators plus staff, players and vendors (including 12 diesel-powered food trucks) would not exceed the operational significance thresholds for average daily emissions. This scenario is provided for informational purposes only, as the City's air quality thresholds do not apply on an individual daily basis.

Implementation of the Project's required TDM Plan pursuant to **SCA Transportation-1** would further reduce criteria air pollutant emissions under each of these three scenarios.

Applicable Standard Conditions of Approval

The Project would be subject to the following City of Oakland SCA intended to ensure consistency with City transportation-related plans, ordinances and policies.

- ***SCA Transportation-1 (85), Transportation and Parking Demand Management*** (see Transportation section of this CEQA checklist)

The Project would not have a cumulatively considerable net increase of non-attainment criteria pollutants, this impact would be less than significant, and no additional mitigation is required. This conclusion is different than was analyzed in the CASP EIR. The CASP EIR analyzed all subsequent development anticipated within the Coliseum District, finding that the added new development within the Coliseum District would generate operational ozone precursor emissions and particulate matter emissions that would exceed the City's thresholds of significance, even with implementation of City of Oakland SCAs. The Project represents a relatively small component of the development anticipated in the Coliseum District per the CASP EIR, and its relative contribution of non-attainment criteria pollutants is correspondingly much smaller than were projected for buildout of the Coliseum District.

Regardless of this finding and in addition to the required TDM Plan, the Project will be subject to City of Oakland SCAs pertaining to energy efficiency, water conservation and waste generation. Implementation of these SCAs will further reduce the Project's operational criteria pollutant emissions.

f and g): New Sources of Operational Toxic Air Contaminants

CASP EIR Conclusions [33]

Off-Site (Outside of the Coliseum District)

The CASP EIR (Impact Air-9) found that new sources of operational TACs pursuant to CASP buildout would not result in off-site receptors (i.e., receptors outside of the Coliseum District) being subject to an increase in cancer risk level greater than 10 in one million, a non-cancer risk (chronic or acute) hazard index greater than 1.0, or an increase of annual average PM2.5 concentration of greater than 0.3 micrograms per cubic meter.

The CASP EIR did not identify any specific stationary sources of air pollution but as a practical matter, California building code requires back-up diesel generators for all buildings in excess of 70 feet in height for elevator safety. The CASP EIR cited existing regulations that require operators of back-up diesel generators to obtain a permit from the BAAQMD, which prohibit any new or modified source of TACs that exceeds a cancer risk of 10 in one million or a chronic or acute hazard index of 1.0 at an adjacent receptor location.

The additional incremental health impacts associated with TAC emissions from traffic on major roadways as generated by CASP buildout were also evaluated in the CASP EIR. The CASP EIR's analysis concluded that the human health impact resulting from traffic generated by the CASP on the maximum exposed off-site sensitive residential receptors would be less than significant.

[33] City of Oakland, CASP Draft EIR, beginning at page 4.2-66

On-Site (Within the Coliseum District)

Although the CASP EIR cited CEQA guidelines providing that the potential effects of the environment on a project are legally not required to be analyzed or mitigated under CEQA, the CASP EIR did include an analysis of the potential effects of siting new sensitive receptors near existing sources of TAC emissions. The TAC sources that were analyzed included major roadways (I-880 and Hegenberger Road); railway activity within one mile of the Coliseum District; distribution centers; existing stationary sources; and emergency generators (including existing and anticipated new generators within and outside of the Coliseum District). The CASP EIR concluded that the lifetime excess cancer risk for new sensitive receptors within the Coliseum District (i.e., new residences pursuant to the CASP) would be exposed to a lifetime excess cancer risk of 147 in a million, exceeding the City's threshold of 100 in a million. The CASP EIR cited City of Oakland SCAs requiring new residential development pursuant to the CASP to installation air filtration systems (filters of MERV-13 or higher) or other equivalent measures to reduce indoor DPM to acceptable levels. With implementation of these SCAs, the CASP EIR concluded that would be unlikely that TAC emissions would exceed health risk thresholds, and health risk impacts were found to be reduced to less than significant.

The CASP EIR also evaluated the additional incremental health impacts associated with TAC emissions from traffic generated by CASP buildout, concluding that health impact resulting from traffic generated by the CASP on the maximum exposed on-site (i.e., within the Coliseum District) sensitive residential receptors would be less than significant.

Project Analysis

Stationary Sources

There are no stationary sources of significant TAC emissions associated with the Project.

The Project's electrical plans (Sheet E201) indicate that the Project will include an emergency inverter that converts its DC battery power to standard AC voltage to provide backup for lighting systems in the event of an emergency. The inverter replaces the need for a backup diesel generator to supply power for emergency lighting in the event of a power outage.

The Project will provide spaces for as many as 12 food trucks serving food during games and special events. The majority of commercial food trucks operate on power supplied by small portable diesel engines with power ratings of between 5 and 12 kilowatts, equivalent to between 6 and 17 brake horsepower (BHP). These small portable diesel engines are generally not considered stationary sources, but the frequency by which they are expected to be used at the Project (up to 12 food trucks operating for 6 hours on each of 70 major event days, and 6 food trucks operating for 6 hours on each of 90 lesser-attended event days) would result in quantifiable emissions of diesel particulate matter (DPM). Therefore, the operational analysis of criteria pollutants (see Table 10, above) provides a calculation of emissions from these portable diesel engines as if they were stationary sources. That analysis finds that these food trucks could produce approximately 0.029 tons (58 pounds) of PM10 and similar levels of PM2.5, per year. These emission levels are coincidentally nearly identical to the annual emissions of PM10 and PM2.5 as calculated for the Project's construction period (see prior Table 7).

It is reasonable to assume that the concentration of particulate matter as dispersed into the air, as well as other factors used in the Health Risk Analysis for construction-period TAC emissions will remain similar during Project operations. The construction-period HRA prepared for the Project found that the maximally exposed individual at one of the HomeBase temporary housing trailers could be exposed to an increased cancer risk of 0.24 per million. With a similar level of annual exposure to diesel emissions from food trucks, the maximally exposed individual at one of the HomeBase temporary housing trailers could be exposed to an additional 10 years of similarly increased cancer risk, with a resulting increased cancer risk of approximately 2.4 per million. This increased cancer risk would not exceed the City's single source significance threshold of 10 per million, and this increased health risk would not be significant. With similar annual emissions of PM10 and PM2.5 as calculated for the Project's construction period, the food truck emissions would add an additional 10 years for which the maximum annual PM2.5 concentrations would remain at 0.18 µg/m^3, but this concentration would remain less than the City's threshold of 0.3 µg/m^3.

Small portable and off-road engines under 50 Bhp such as those expected to be used by used by food trucks at the Project are required to be certified by CARB before they can be sold in California (including demonstration that their exhaust emission do not exceed 9 grams per kilowatt-hour), but their use is not subject to individual permits. In January of 2023, CARB adopted amendments to their Small Off-Road Engine Exhaust Emission Regulations, providing that CARB-certified small portable generator engines sold in California between 2024 and 2027 must meet an exhaust emission standard of 2 grams of particulate matter per kilowatt-hour, and be emission-free (i.e., 0.00 grams of particulate matter) thereafter.[34] With phasing-in of these regulations, the emission of DPM from food trucks at the Project site will also begin to decline due to required cleaner engine technologies.

Traffic-Related TAC Emissions

The CASP EIR estimated that buildout of the Coliseum District would result in approximately 34,150 daily trips, and special events (a football game) would add an additional 18,800 daily trips, for 52,950 total daily trips. The CASP EIR found that this traffic attributed to buildout of the Coliseum District would not result in significant human health impacts on the maximum exposed on-site and off-site sensitive residential receptors.

The Project's contribution of traffic to the surrounding major roadways is estimated at 7,990 weekday trips during an event day, with implementation of a TDM Plan. This Project-generated traffic represents only about 15 percent, or a small component of the assumed buildout of the Coliseum District. The Project's relatively small increment of traffic and other sources of TAC emissions would be far less than was assumed in the CASP EIR, and would similarly be less than significant.

h) Odors

CASP EIR Conclusions [35]

The CASP EIR (Impact Air-3) found that future development pursuant to the CASP would not expose a substantial number of people to existing or new objectionable odors. The CASP EIR included a screening analysis conducted in accordance with the recommendations in the BAAQMD Guidelines to determine the presence of any odor sources in the vicinity of the Project area. Only two businesses within 2 miles of the CASP planning area received three or more odor complaints over the previous three years. Neither business exceeded the threshold as described by the BAAQMD CEQA Air Quality Guidelines (of 5 confirmed complaints per year averaged over three years). Given the infrequent occurrence of odor complaints, the potential for new sensitive receptors within the Project area to be affected by objectionable odors affecting a substantial number of people was found to be less than significant. The CASP EIR also found that the CASP's proposed land use plan did not include any of the odor producing sources of particular concern as defined by the BAAQMD.

34 CARB, Final Regulation Order - Amendments to the Small Off-Road Engine Exhaust Emission Regulations, California Code of Regulations Title 13, Division 3, Chapter 9. Off-Road Vehicles and Engines Pollution Control Devices, Article 1. Small Off-Road Engines, January 23, 2023

35 City of Oakland, CASP Draft EIR, beginning at page 4.2-46

Project Analysis

Similar to the CASP EIR conclusions, the Project is not affected by objectionable odors, nor does it represent a new source of odors of particular concern as defined by the BAAQMD. The Project's impacts related to odors would be less than significant.

i): Carbon Monoxide Emissions

CASP EIR Conclusions [36]

The CASP EIR relied on City thresholds and BAAQMD CEQA Guidelines, which indicate that localized CO concentrations should be estimated for projects in which, a) project-generated traffic would conflict with an applicable congestion management program established by the County Congestion Management Agency, b) project-generated traffic would increase traffic volumes at affected intersections to more than 44,000 vehicles per hour, or c) project-generated traffic would increase traffic volumes to more than 24,000 vehicles per hour at locations where vertical and/or horizontal mixing is substantially limited, such as tunnels, parking garages, bridge underpasses, natural or urban street canyons, and below-grade roadways. The CASP EIR (Impact Air-8) concluded that the projected future maximum hourly traffic volumes under CASP buildout, and at all study intersections, would be significantly less than 44,000 vehicles, would not exceed the project-specific hourly traffic volume thresholds, and this impact was found to be less than significant.

Project Analysis

Because the CASP EIR concluded that full CASP buildout would not exceed the project-specific hourly traffic volume thresholds, and the Project represents only a small increment of CASP buildout, the traffic generated by the Project would not make a substantial contribution to carbon monoxide (CO) concentrations, and this impact of the Project would be less than significant.

CEQA Conclusion Pertaining to Air Quality

The analysis presented above examines whether there are any Project-specific significant effects related to air quality that are peculiar to the Project or its site, finding none. The Project would have no air quality impacts that were not previously analyzed in the CASP EIR, would have no off-site or cumulative air quality impacts not discussed in the prior CASP EIR, and would not result in any air quality impacts that are more severe than as discussed in the prior CASP EIR. There are no air quality-related impacts that would otherwise invalidate the applicability of CEQA Guidelines Section 15183 for the Project.

None of the conditions described in CEQA Guidelines Sections 15162 or 15163 calling for preparation of a subsequent or supplemental EIR are met as pertains to air quality. The air quality analysis presented above provides minor technical additions related to the specific air quality effects of the Project, and these minor technical additions to the CASP EIR that are specific to the Project are appropriately disclosed in this Addendum to the CASP EIR.

[36] City of Oakland, CASP Draft EIR, beginning at page 4.2-64

Biological Resources

		Relationship to CASP EIR Findings:		Project Conclusions:	
Would the Project:	**CASP EIR Findings**	**Equal or Less Severe**	**New or Substantial Increase in Severity**	**Applicable Mitigation, Standards and Requirements**	**Resulting Level of Significance**
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?	LTS with SCAs and MMs	■	☐	SCA Aesthetics-1: Lighting Plan SCA Haz-2, Hazardous Materials Related to Construction SCA Hydro-1: Creek Protection Plan SCA Hydro-4, Vegetation Management on Creekside Properties SCA Noise-6, Operational Noise	LTS with SCAs
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 federally protected wetlands (as defined by section 404 of the Clean Water Act) or state protected wetlands through direct removal, filling, hydrological interruption, or other means?	LTS with MM (none of the CASP EIR MMs are directly applicable to the Project)	■	☐	SCA Haz-2, Hazardous Materials Related to Construction SCA Hydro-1, Creek Protection Plan	LTS with SCAs
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?	LTS with SCAs and MM	■	☐	SCA Aesthetics-1, Lighting Plan SCA Hydro-2, Creek Protection Plan SCA Noise-3, Extreme Construction Noise SCA Noise-6, Operational Noise	LTS with SCAs

e) Fundamentally conflict with the City of Oakland Tree Protection Ordinance (Oakland Municipal Code Chapter 12.36) by removal of protected trees under certain circumstances?	LTS with SCAs	■	☐	SCA Bio-1, Tree Permit	LTS with SCA
f) Fundamentally conflict with the City of Oakland Creek Protection Ordinance (OMC Chapter 13.16) intended to protect biological resources?	LTS with SCAs	■	☐	SCA Hydro-1, Creek Protection Plan	LTS with SCA
g) Fundamentally conflict with any applicable habitat conservation plan or natural community conservation plan?	LTS with SCAs and MM	■	☐	-	LTS

a): Special Status Species and their Habitat

CASP EIR Conclusions [37]

The CASP EIR (Impact Bio-1A) found that new development within the Coliseum District could have a substantial adverse effect either directly or through habitat modifications on identified candidate, sensitive or special status species. These potential impacts to special status species were found to be reduced to less than significant through implementation of City SCAs and Mitigation Measures as identified in the CASP EIR (LTS with MM).

The CASP EIR identified the sensitive biological features within the Coliseum District as being Elmhurst Creek and Damon Slough. Potential environmental impacts to these on-site drainageways was a primary focus of the CASP EIR's biology chapter, and the conclusions of that analysis was as follows:

- The CASP EIR found it unlikely that any special status fish would enter Elmhurst Creek, as this creek is not connected to upstream habitat of any quality.
- In-water work within the creek could cause direct impacts to individual fishes that might be present, and construction work in or adjacent to the creek may cause indirect impacts to special status fish and marine mammals by releasing sediments downstream and into the Bay.
- Construction sediment released into Elmhurst Creek could also cause a detectable increase of contaminants at downstream salt marsh habitat within Damon Marsh or Arrowhead Marsh.
- California clapper rail and California black rail are expected to nest in the coastal salt marshes downstream of, and across I-880 from the Coliseum District, and California brown pelican, California least tern, peregrine falcon and western snowy plover are expected to forage in the vicinity. None of these species was found likely to nest within the Coliseum District.
- Mature trees may be used for nesting, roosting and perching by birds, and special status birds may forage in the vicinity of the Coliseum District. Specifically, Elmhurst Creek provides potential foraging for the great blue heron, great egret, snowy egret and other species. Adjacent marshes, creeks, sloughs and Bay waters also provide foraging habitat for most of these species. Construction activities at the

[37] City of Oakland, CASP Draft EIR, beginning at page 4.3-44

Coliseum District could have indirect impacts to salt marsh-associated bird species if construction caused sediments or contaminants to flow out to the open water.

Impacts to special status species resulting from construction and operations within the Coliseum District were found to be reduced to levels of less than significant through implementation of City of Oakland SCAs related to regulatory permits and authorizations by other regulatory agencies, and implementation of City of Oakland SCAs related to erosion and sedimentation control plans, best management practices for soil and groundwater, creek protection plans, and creek landscaping. With implementation of all SCAs and mitigation measures, potential impacts to special status species and their habitats were determined to be reduced to a level of less than significant.

Project Analysis

The Project is proposed at a location that is highly disturbed, with little to no potential for the on-site presence of special-status wildlife species. Special-status species and other wildlife may be present within the waters of Elmhurst Creek and may forage along its banks. The Project proposes no change or construction activity within the Elmhurst Creek channel or the Elmhurst Creek tributary channel.

Given Elmhurst Creek's waterway connection to the downstream Arrowhead Marsh and the San Leandro Bay, the Project could result in indirect impacts on known occurrences of Ridgeway's rail, California black rail, and other special-status birds and mammals, if polluted stormwater runoff from the site were to enter the waterway. **Figure 18** shows the location of the Project site in relation to these surrounding wetlands, open waters of the Bay and other nearby creek corridors.

The Project does not propose any tree removal, and its construction process does not require pile driving or other extreme noise generators. The Project does not include any tall structures with glass that might otherwise result in risks of bird collisions. The Project does involve new lighting and represents a new source of operational noise that could affect wildlife foraging along Elmhurst Creek during events at the Project, but this condition already applies to night lighting and noise associated with the adjacent Coliseum Complex and its parking areas, as was addressed in the CASP EIR.

<u>Applicable Standard Conditions of Approval</u>

As concluded in the CASP EIR, implementation of City of Oakland SCAs that require erosion and sedimentation control plans, Best Management Practices for soil and groundwater hazards and Creek Protection Plans would serve to address potential indirect effects of the Project's construction and operations on water quality and on aquatic-dependent special-status species primarily associated with the nearby habitats of the Bay and adjacent marshes and creeks.

Figure 18
Wetland and Water Habitats in the Vicinity

Source: Huffman-Broadway Group, Inc., *Aquatic Resources Delineation Report,* Figure 4a, October 2023

The following City of Oakland SCAs (as of February 2024) and as cited in the CASP EIR as an effective means for addressing indirect impacts to special-status species and their habitat and would apply to the Project.

- ***SCA Aesthetics-1 (21): Lighting Plan*** (see Aesthetics section of this Checklist)
- ***SCA Haz-2 (49), Hazardous Materials Related to Construction*** (see Hazards Section of this Checklist)
- ***SCA Hydro-1 (64), Creek Protection Plan*** (see Hydrology section of this Checklist)
- ***SCA Hydro-4 (63), Vegetation Management on Creekside Properties*** (see Hydrology section of this Checklist)
- ***SCA Noise-2 (70), Construction Noise*** (see Noise Section of this Checklist)

Consistent with the conclusions of the CASP EIR, the Project's indirect effects related to special status species and their habitat will be fully addressed through implementation of City SCAs, and this impact would be reduced to less than significant.

b) and c): Wetlands, Riparian Habitat and other Sensitive Natural Communities

CASP EIR Conclusions [38]

The CASP EIR (Impact Bio-2A) found that future development pursuant to the CASP could have a substantial adverse effect on wetlands, riparian habitat and other sensitive natural communities. The CASP EIR concluded that City of Oakland SCAs fully address the CASP's impacts to sensitive natural communities under a scenario whereby Elmhurst Creek would remain within its current alignment (LTS with SCAs).

The CASP EIR identified Damon Slough and Elmhurst Creek as jurisdictional waters regulated by the US Army Corps of Engineers under Section 10 of the Rivers and Harbors Act up to mean high water, and under Section 404 of the Clean Water Act up to the mean high tide line. Damon Slough and Elmhurst Creek are also regulated by the RWQCB as Waters of the State. BCDC also has jurisdiction over all areas of San Francisco Bay that are subject to tidal action, including stretches of Damon Slough and Elmhurst Creek through the Coliseum District.

The CASP EIR found that Elmhurst Creek has a narrow band of coastal scrub (a sensitive natural community) along its edges. This habitat type is considered sensitive because of its value to wildlife and because of the substantial regional loss and degradation of this habitat type. Removal of coastal scrub vegetation could reduce potential nesting habitat for birds and cover sites for animals, reduce beneficial shading of watercourses and potentially affect bank stability. Assuming that no change to the alignment of Elmhurst Creek were to occur, the CASP EIR concluded that no significant direct impacts to this habitat would occur. However, construction activities adjacent to the Creek could indirectly impact Elmhurst Creek and other waters adjacent to temporary work sites. Operation of vehicles and equipment in temporary construction access and staging areas, parking of vehicles, and placement of equipment and materials in laydown and storage areas within sensitive communities along the edges of waterways throughout the Coliseum District could remove or crush vegetation and/or compact the soil. Ground disturbance and other activities within the stream zones could result in increased erosion, water turbidity and sediment transport into waterways. Oil, gas and other pollutants could also be released into water bodies. While these temporary effects would not result in net loss of wetlands or other waters, they could adversely affect aquatic organisms in the vicinity of work areas and could potentially impair the recruitment and establishment of on-site vegetation.

For potential indirect impacts to wetlands, riparian habitat and sensitive natural communities potentially caused by construction activities near the edges of on-site creeks and waterways, the CASP EIR found that City of

[38] City of Oakland, CASP Draft EIR, beginning at page 4.3-56

Oakland SCAs related to Best Management Practices for soil and groundwater hazards and Creek Protection Plans would substantially reduce these impacts. A City of Oakland Creek Permit would be required, and all SCAs relevant to that permit would reduce indirect construction impacts to the wetlands, riparian habitat and other sensitive natural communities to a level of less than significant.

Project Analysis

An Aquatic Resources Delineation Report has been prepared for the Oakland Roots and Soul Interim Stadium Project (see **Appendix D**).[39] The purpose of the Aquatic Resources Delineation was to determine whether aquatic resources are present within or adjacent to the Project site and, if present, are these aquatic resources potentially subject to US Army Corps of Engineers (Corps) and US Environmental Protection Agency (US EPA) jurisdiction under Section 404 of the Clean Water Act (CWA), and/or Corps jurisdiction under Section 10 of the Rivers and Harbors Act.

<u>Wetlands, Riparian Habitat and other Sensitive Natural Communities of the Study Area</u>

The Aquatic Resources Delineation study area includes the approximately 8.74-acre Project site, plus the adjacent 1.57-acre easement containing Elmhurst Creek owned by Alameda County Flood Control, and an approximately 8,000 square-foot property immediately to the south between the Project site and South Coliseum Way that contains a portion of a tributary to Elmhurst Creek.

The Delineation study included data collection, analysis, identification and delineation of aquatic resources potentially subject to CWA, and was conducted consistent with the August 29, 2023 Waters of the United Stated Rule and supporting Corps and US EPA guidance document. The Delineation Study was an initial step to support planning efforts for the Project to avoid and minimize impacts to jurisdictional aquatic resources where practicable. Additionally, a Corps-verified delineation is required by the San Francisco Bay Regional Water Quality Control Board (RWQCB) if Clean Water Act jurisdictional waters are impacted.

Vegetation

Vegetation communities and habitats within the Aquatic Resources Delineation study area were identified based on the currently accepted List of Natural Communities. Wetland habitats were further classified using the USFWS's Classification of Wetlands and Deepwater Habitats of the United States. Based on these classifications, the Aquatic Resources Delineation study area contains two habitat types:

- *Coastal Brackish Marsh*, which consists of Northern Coastal Salt Marsh plant communities including pickleweed, alkali heath, saltgrass, creeping saltbush and gumplant, and
- *Urban habitat*, which consists of the gravel parking area and channelized drainages

Wetlands Pursuant to Section 404 of the Clean Water Act

The Aquatic Resources Delineation found that aquatic resources within the study area meet the technical criteria for either wetlands or other types of aquatic resources regulated by the Corps and the US EPA as Waters of the US pursuant to Section 404 of the Clean Water Act. There is a collective presence of hydric soil, wetland hydrology and hydrophytic vegetation as required by the Corps Delineation Manual to find that the wetlands that are adjacent to the relatively permanent and continuously flowing waters within the Elmhurst Creek Channel and a tributary to Elmhurst Creek meet the definition of Waters of the US. These wetlands also have a continuous surface connection to the waters of Elmhurst Creek and its tributary. The channels of Elmhurst Creek and the tributary are also identified and delineated as aquatic resources with relatively permanent continuously

[39] Huffman-Broadway Group, Inc., *Aquatic Resources Delineation Report, Oakland Roots and Soul Interim Stadium Project*, November 2023

flowing water to San Francisco Bay. The following **Table 11** summarizes the types of aquatic resource habitats identified as potentially subject to Clean Water Act Section 404 jurisdiction, as also illustrated on **Figure 19**.

Table 11: Aquatic Resource Habitats Subject to CWA Section 404 Jurisdiction

ID # [1]	Aquatic Habitat Type	WOTUS Definition Met?	Acres	Linear Ft	Classification [2]
R1, R2, R3, & R8	Tributary	Yes	0.142	953	Riverine, Tidal, Unconsolidated Bottom
R10	Tributary	Yes	0.013	103	Riverine, Tidal, Artificial Streambed
R6 and R7	Tributary	Yes	0.010	54	Riverine, Tidal, Rock Bottom
R4, R5, and R9	Wetland	Yes	0.180	944	Riverine, Tidal, Emergent

Source: Huffman-Broadway Group, Inc., Aquatic Resources Delineation Report, Table 4, November 2023

Notes: 1. See Figure 19 for ID# location

2. Based on Cowardin Classification System

Aquatic Resources Pursuant to Section 10 of the Rivers and Harbor Act

The Aquatic Resources Delineation found that these same aquatic resources potentially meet the technical criteria for aquatic resources regulated by the Corps under Section 10 of the RHA as navigable waters, given that these aquatic resources are subject to the ebb and flow of the tide.

Project's Effects on Wetlands, Riparian Habitat and other Sensitive Natural Communities

A Creek Protection Plan has been prepared for the Oakland Roots and Soul Interim Stadium Project (see **Appendix E**).[40] The purpose of the Creek Protection Plan is to protect the banks, riparian vegetation, wildlife and surrounding habitat of both Elmhurst Creek and the tributary to Elmhurst Creek that are adjacent to the Project. As stated in the Creek Protection Plan, all work related to the Project will only occur beyond the top of the creek banks, and no work will extend from the top of bank into the channels. No construction-related ground disturbing activities, vegetation or tree removal, or new planting shall occur beyond the top of the banks towards Elmhurst Creek and the tributary to Elmhurst Creek.

No Project-related work will occur within the jurisdictions of the Corps of Engineers, State Water Resources Control Board, San Francisco Bay Regional Water Quality Control Board, or California Department of Fish and Wildlife. Project work will occur within the jurisdiction of the San Francisco Bay Conservation and Development Commission (see Land Use section CEQA checklist).

[40] Huffman-Broadway Group, Inc., Creek Protection Plan, Oakland Roots and Soul Interim Stadium Project, November 2023

Figure 19
Aquatic Resource Delineation at Elmhurst Creek and Tributary

Source: Huffman-Broadway Group, Inc., *Aquatic Resources Delineation Report*, October 2023

Pursuant to the Creek Protection Plan, orange construction fencing will be placed along the surveyed top of bank of Elmhurst Creek and along the tributary to Elmhurst Creek. Contractors and subcontractors shall be made aware that no construction work is to occur beyond this creek habitat fencing, and they are responsible for maintaining the fencing and taking active measures during each workday to prevent sediment or hazardous materials from entering the creek habitats and channels beyond this point. With implementation of this Creek Protection Plan, the Project will have no direct effects on identified wetlands, riparian habitat and other sensitive natural communities.

Applicable Standard Conditions of Approval

The following City of Oakland SCAs are cited in the CASP EIR and are standard requirements for projects that are adjacent to, or in the immediate vicinity of Oakland's creeks. These SCAs apply to the Project.

- **SCA Haz-2 (49), Hazardous Materials Related to Construction** (see Hazards Section of this Checklist)
- **SCA Hydro-1 (64), Creek Protection Plan** (see Hydrology section of this Checklist)

Consistent with the conclusions of the CASP EIR (specifically its assumption that no change to the alignment of Elmhurst Creek would occur), the Project will have no significant direct impacts to wetlands, riparian habitat or other sensitive natural communities. Also consistent with the conclusions of the CASP EIR, with implementation of SCAs Haz-2 and Hydro-1 the Project would not result in indirect adverse effect to wetlands, riparian habitat and other sensitive natural communities resulting from a discharge of sediment or harmful substances to Waters of the State, and this impact would be reduced to a level of less than significant.

d): Species Movement, Migration, or Nursery Sites

CASP EIR Conclusions [41]

CASP EIR (Impact Bio-3) found that future development pursuant to the CASP could substantially interfere with the movement of native resident or migratory fish or wildlife species, could interfere with established native resident or migratory wildlife corridors, and could impede the use of native wildlife nursery sites, but that implementation of City of Oakland SCA would reduce such impacts to a less than significant level (LTS with SCAs).

The CASP EIR determined that potential interference with the movement of migratory fish and marine mammals would be substantially reduced through implementation of City of Oakland SCAs that provide for erosion and sedimentation control plans, best management practices for soil and groundwater hazards, and compliance with regulatory permits and authorizations. For projects involving creekside properties, the CASP EIR also cited City of Oakland SCA related to creek protection plans, creek monitoring, creek dewatering and aquatic life, and creek dewatering and diversions.

Disturbance from construction activities during the breeding season that may impact nesting migratory bird and bat species was found to be reduced through implementation of SCAs related to tree removal during breeding season (including consulting biologist's recommendations), required tree removal permits, and tree replacement plantings. For impacts of increased noise on migratory birds, implementation of SCAs related to operational noise and pile driving and other extreme noise generators would reduce operational and construction-related noise impacts to a less than significant level. For impacts of potential avian collisions with buildings and night lighting on migratory birds, the CASP EIR determined that implementation of SCAs related to lighting plans and bird collision reduction would include provisions to reduce bird strikes. These measures include night lighting

[41] City of Oakland, CASP Draft EIR, at page 4.3-64

recommendations and restrictions, and building maintenance guidelines. The CASP EIR concluded that implementation of City of Oakland SCA would reduce impacts related to migratory movement, migratory corridors and nursery sites to a less than significant level.

Project Analysis

The Project site consists of a gravel parking area and contains no habitat that would provide for the movement of native resident or migratory fish or wildlife species. The Project site does not provide a wildlife corridor for any native resident or migratory wildlife, and development of the Project would not directly affect any native wildlife nursery sites. There are 13 non-native trees located along the edge of the Project site along Elmhurst Creek that could potentially provide nesting habitat for migratory birds. The Project does not propose to remove any of these existing trees. Accordingly, the Project would have no significant direct effects related to species movement, migration, or nursery sites.

The Project site is immediately adjacent to Elmhurst Creek, which may serve a limited role as a wildlife corridor within the surrounding industrial and urban environment. However, the level of urbanization surrounding Elmhurst Creek is likely a deterrent to access by large numbers of wildlife, and it does not provide a corridor between the Bay and any significant upstream inland natural habitats.[42] Elmhurst Creek may provide suitable foraging habitat for a number of special status birds (e.g., Great blue heron, Great egret, Northern harrier, Snowy egret, and White-tailed kites), but Elmhurst Creek is unlikely to provide nesting or roosting habitat for these species.

The noise and night lighting associated with the Project may discourage foraging and species movement during those times when events occur at the Project's stadium, but these conditions are not unlike existing conditions with noise and lights from the adjacent Coliseum and or Arena and their associated parking lots. The photometric plan for the Project (see prior Figure 16) indicates that much of Elmhurst Creek may receive "light spill" of between 1 to less than 5 horizontal foot-candles, which is roughly equivalent to the light level at twilight, and no LED lights are directed towards the Creek.

<u>Applicable Standard Conditions of Approval</u>

The following City of Oakland SCAs and additional mitigation measures were cited in the CASP EIR as an effective means for addressing impacts related to migratory movement, migratory corridors and nursery sites, and would apply to the Project.

- ***SCA Aesthetics-1 (21), Lighting Plan*** (see Aesthetics section of this Checklist)
- ***SCA Hydro-1 (64), Creek Protection Plan*** (see details in the Hydrology section of this CEQA Checklist)
- ***SCA Noise-2 (70), Construction Noise*** (see Noise section of this Checklist), and
- ***SCA Noise-6 (75), Operational Noise*** (see Noise section of this Checklist)

As concluded in the CASP EIR, implementation of SCAs calling for a Lighting Plan would address the potential disruption of night lighting. Together with other SCAs called for in the CASP EIR that serve to protect nesting habitat and minimize disturbance to sensitive habitat, potential impacts on wildlife movement opportunities associated with the proposed Project would be less than significant.

42 City of Oakland, CASP Draft EIR, at page 4.3-8

e): Conflicts with Tree Protection Ordinance

CASP EIR Conclusions [43]

The CASP EIR (Impact Bio-5) found that future development pursuant to the CASP would not fundamentally conflict with the City of Oakland Tree Protection Ordinance. Prior to removal of any protected tree within the CASP planning area, the City's tree permit criteria for tree removal will be reviewed and a tree removal permit approved by the City of Oakland. Pursuant to SCAs, tree removal permit requirements shall be implemented before and during removal of protected trees, and removal of protected trees will be replaced by new trees that will contribute to the visual framework of the CASP planning area.

Project Analysis

There are 13 trees located within or immediately adjacent to the Project site. Of these 13 trees, 12 are located along the creek bank of Elmhurst Creek and generally outside of or immediately adjacent to the Project boundary, and one tree is located along the property boundary with the adjacent HomeBase property (see **Figure 20**). As indicated in **Table 12**, none of these existing trees is a native species.

Table 12: Tree Survey List

Tree ID	Common Name	Diameter at dbh (in.)	Native?	Comment
A	Russian olive	14	No	at Project boundary at HomeBase
B	Canary island date palm	36	No	outside Project at Elmhurst Creek bank
C	Blackwood acacia	5	No	at Project boundary with Elmhurst Creek
D	Blackwood acacia	6	No	at Project boundary with Elmhurst Creek
E	Blackwood acacia	9	No	at Project boundary with Elmhurst Creek
F	Blackwood acacia	15	No	at Project boundary with Elmhurst Creek
G	Blackwood acacia	10	No	at Project boundary with Elmhurst Creek
H	Blackwood acacia	8	No	at Project boundary with Elmhurst Creek
I	Blackwood acacia	15	No	at Project boundary with Elmhurst Creek
J	Blackwood acacia	15	No	at Project boundary with Elmhurst Creek
K	Blackwood acacia	1	No	at Project boundary with Elmhurst Creek
L	Russian olive	2	No	outside Project at Elmhurst Creek bank
M	Black wattle	11	No	outside Project at Elmhurst Creek bank

Source: Huffman-Broadway Group, Inc., Tree Survey List and Mapping, 10/7/23

[43] City of Oakland, CASP Draft EIR, at page 4.3-69

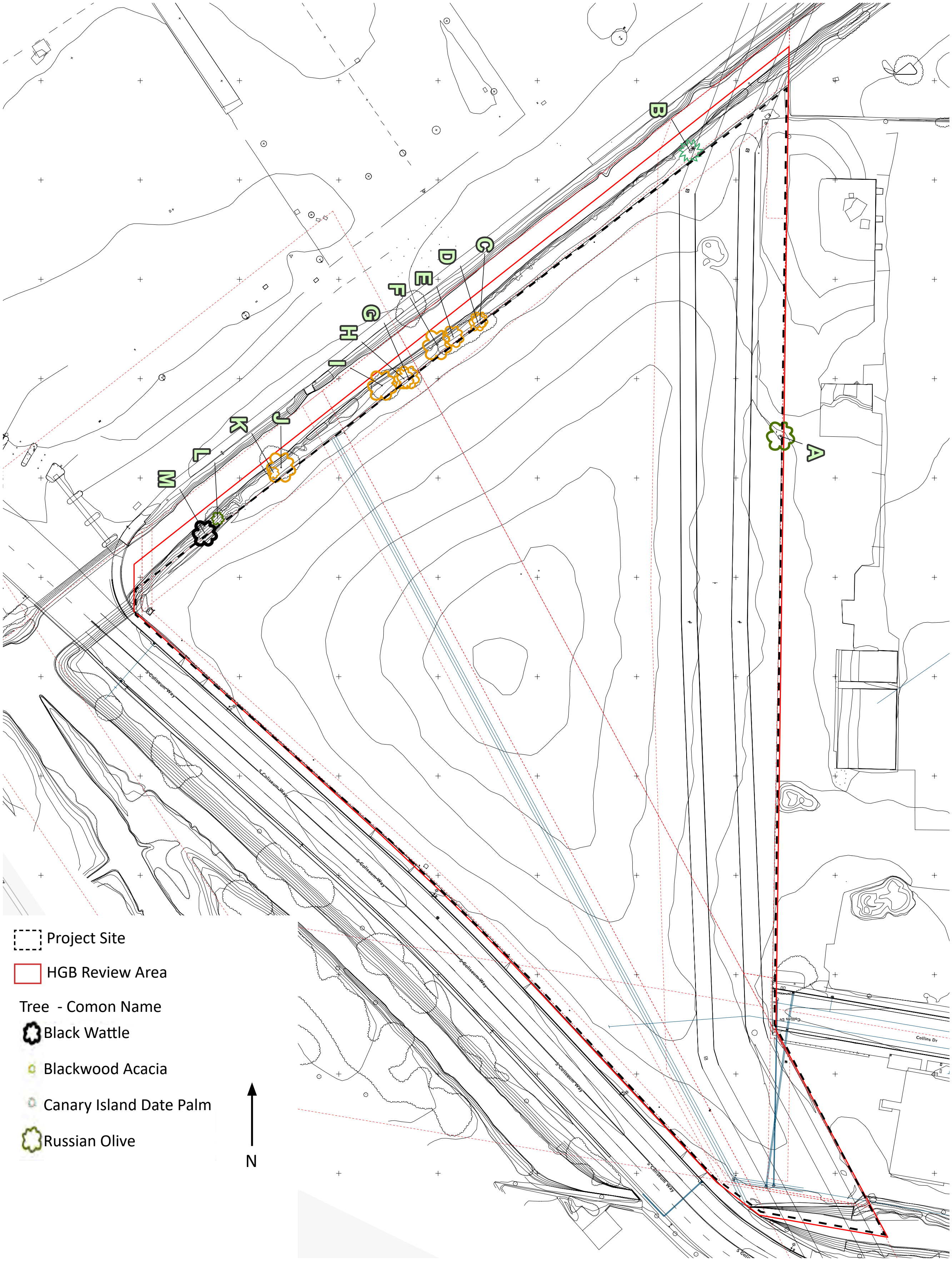

Figure 20
Tree Survey Diagram

Source: Huffman-Broadway Group, Inc., Tree Survey Maping, October 2023

The Project does not propose to remove any of these 13 existing trees. The 12 trees along Elmhurst Creek are within the development setback pursuant to the Project's proposed Creek Permit and will be retained. The one tree along the boundary at the HomeBase property is also proposed to be retained within a Project setback area.

Applicable Standard Conditions of Approval

The following City of Oakland SCA is cited in the CASP EIR as an effective means for addressing the City's tree permit policies and ordinance and would apply to the Project. Protected trees under the City's Tree Protection Ordinances are Coast live oak of four inches or larger in diameter, or any other species nine inches in diameter or larger (but not Eucalyptus or Monterey Pine trees). Based on species and trunk diameter, 8 of the 13 trees at or adjacent to the Project site qualify as protected under the City's Tree Protection Ordinance, and a permit would be required for their protection during construction.

- ***SCA Bio-1 (35), Tree Permit***: Pursuant to the City's Tree Protection Ordinance (OMC chapter 12.36), the project applicant shall obtain a tree permit and abide by the conditions of that permit.
  - a) *Tree Protection during Construction*: Adequate protection shall be provided during the construction period for any trees which are to remain standing, including the following, plus any recommendations of an arborist:
    - i. Before the start of any clearing, excavation, construction, or other work on the site, every protected tree deemed to be potentially endangered by said site work shall be securely fenced off at a distance from the base of the tree to be determined by the project's consulting arborist. Such fences shall remain in place for the duration of all such work. All trees to be removed shall be clearly marked. A scheme shall be established for the removal and disposal of logs, brush, earth and other debris which will avoid injury to any protected tree.
    - ii. Where proposed development or other site work is to encroach upon the protected perimeter of any protected tree, special measures shall be incorporated to allow the roots to breathe and obtain water and nutrients. Any excavation, cutting, filling, or compaction of the existing ground surface within the protected perimeter shall be minimized. No change in existing ground level shall occur within a distance to be determined by the project's consulting arborist from the base of any protected tree at any time. No burning or use of equipment with an open flame shall occur near or within the protected perimeter of any protected tree.
    - iii. No storage or dumping of oil, gas, chemicals, or other substances that may be harmful to trees shall occur within the distance to be determined by the project's consulting arborist from the base of any protected trees, or any other location on the site from which such substances might enter the protected perimeter. No heavy construction equipment or construction materials shall be operated or stored within a distance from the base of any protected trees to be determined by the project's consulting arborist. Wires, ropes, or other devices shall not be attached to any protected tree, except as needed for support of the tree. No sign, other than a tag showing the botanical classification, shall be attached to any protected tree.
    - iv. Periodically during construction, the leaves of protected trees shall be thoroughly sprayed with water to prevent buildup of dust and other pollution that would inhibit leaf transpiration.
    - v. If any damage to a protected tree should occur during, or resulting from work on the site, the project applicant shall immediately notify the Public Works Department and the project's consulting arborist shall make a recommendation to the City Tree Reviewer as to whether the damaged tree can be preserved. If, in the professional opinion of the Tree Reviewer, such tree cannot be preserved in a healthy state, the Tree Reviewer shall require replacement of any tree

removed with another tree or trees on the same site deemed adequate by the Tree Reviewer to compensate for the loss of the tree that is removed.

vi. All debris created by any tree removal work shall be removed by the project applicant from the property within two weeks of debris creation, and such debris shall be properly disposed of by the project applicant in accordance with all applicable laws, ordinances, and regulations.

Consistent with the conclusions of the CASP EIR, the Project's effects related to consistency with the City's Tree Protection Ordinance will be fully addressed through implementation of City SCAs and existing regulations, including obtaining a Tree Permit prior to grading or construction activities, and abiding by that permit's tree protection measures. With issuance of a Tree permit, impacts related to inconsistency with the City's Tree Protection Ordinance would be reduced to less than significant.

f): Conflicts with Creek Protection Ordinance

CASP EIR Conclusions [44]

The CASP EIR (Impact Bio-6) found that new development pursuant to the CASP would not fundamentally conflict with the City of Oakland Creek Protection Ordinance. All future work conducted within areas subject to the Creek Protection Ordinance will require a City of Oakland Creek Protection Permit, to be implemented in accordance with detailed performance requirements. By obtaining the required Creek Protection Permit(s) and conducting the work in accordance with those permits, any impacts were found to be less than significant.

Project Analysis

All creekside properties in Oakland must obtain a Creek Protection Permit to perform construction or other work. "Creekside property" means those properties having a creek or riparian corridor crossing the property and/or that are contiguous to a creek or riparian corridor. The Project site is contiguous to Elmhurst Creek and the provisions of the City Creek Protection Ordinance apply to the Project. The types of Creek Protection Permit categories that are potentially applicable to the Project are either;

- a Category 3 Creek permit, for exterior work that is located between 20 feet from the top of the Creek bank and 100 feet from the centerline of the Creek; or exterior work that includes earthwork involving more than three cubic yards of material, beyond 20 feet from the top of the Creek bank, or
- a Category 4 Creek permit for exterior work conducted from the centerline of the Creek to within 20 feet from the top of the Creek bank

The top of bank for Elmhurst Creek is on the same line as the Project's northwesterly property boundary and is marked by an existing chain link fence. The top of bank for the Elmhurst Creek tributary is mostly off-site from the Project, but does cross the Project site's southerly boundary at the most southwesterly corner (see **Figure 21**). The Project intends to conduct exterior earthwork to the edge of the Project site boundary, and therefore within the area that is 20 feet inward of the top of bank. Based on the Creek Permit category definitions, the Project would be subject to a Category 4 Creek Permit. However, inward from the top of bank at the Project site the property has been leveled, scraped and paved/graveled as a parking lot, and provides no biological resource value or buffer to the aquatic and wetland habitat within the Elmhurst Creek channel or its tributary.

[44] City of Oakland, CASP Draft EIR, at page 4.3-69

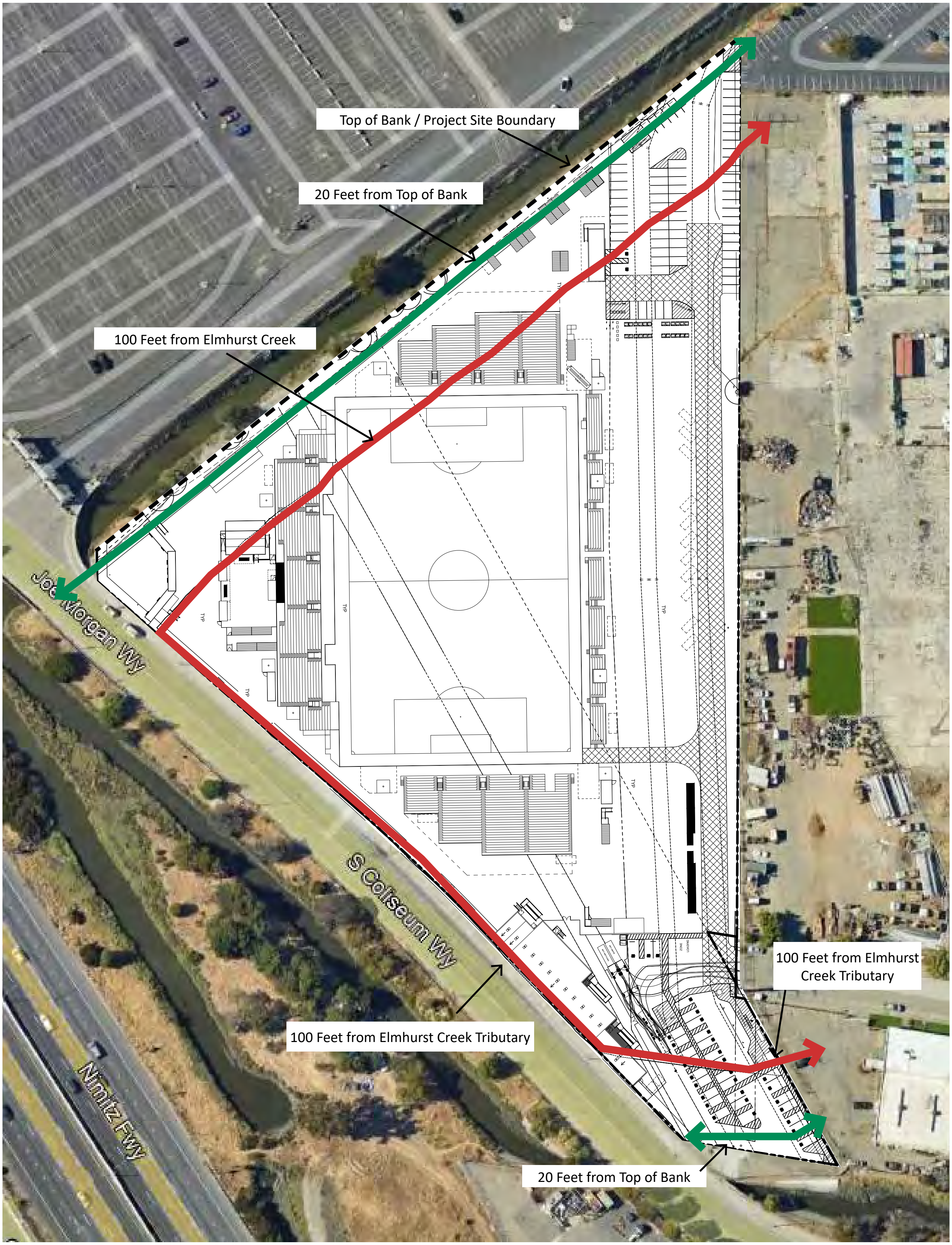

Figure 21
Project Site in Relation to Elmhurst Creek and City of Oakland Category 3 and 4 Creek Permit Boundaries

Source: BKF Engineers, Existing Conditions Exhibit, October 2023

The Project applicant has applied for re-designation of the Project for a Category 3 permit. Creek Protection permits may be reclassified to a lower category, based on a determination by the Building and Engineering Service's Watershed Protection Division. To be re-designated for a Class 3 permit, the Project's detailed designs must clearly show that all improvements and all earthwork involving more than three cubic yards of material proposed to occur within 20 feet of the top of bank will have no potential adverse impacts on biological resources associated with the Creek.

To the extent that earthwork and other construction activities may have indirect effects on water quality within Elmhurst Creek or its tributary, the Project includes a detailed Creek Protection Plan intended to protect the banks, riparian vegetation, wildlife and surrounding habitat of both Elmhurst Creek and the tributary to Elmhurst Creek (see further discussion in the Hydrology section of this CEQA Checklist).

<u>Applicable Standard Conditions of Approval</u>

As concluded in the CASP EIR, implementation of City of Oakland SCAs that require implementation of a Creek Protection Plan would serve to address potential conflicts with the City of Oakland Creek Protection Ordinance and its intention to protect biological resources. The following City of Oakland SCAs (as updated) are cited in the CASP EIR as an effective means for addressing indirect impacts to special-status species and their habitat and would apply to the Project.

❖ ***SCA Hydro-1 (64), Creek Protection Plan*** (see details in the Hydrology section of this CEQA Checklist)

Consistent with the conclusions of the CASP EIR, the Project's potential impacts on Elmhurst Creek and its tributary will be fully addressed through implementation of City SCAs (including either a Category 3 or Category 4 Creek permit as determined by the City), the Project would not conflict with the City's Creek Protection ordinance, and this impact would be less than significant.

<u>g): Conflicts with Other Applicable Conservation Plans</u>

CASP EIR Conclusions [45]

The CASP EIR (Impact Bio-4) determined that future development pursuant to the CASP would not fundamentally conflict with an applicable habitat conservation plan or natural community conservation plan. The CASP EIR focused its analysis on the BCDC San Francisco Bay Plan (Bay Plan) and the East Bay Regional Park District's MLK Regional Shoreline Master Plan. The CASP EIR found that the CASP would not fundamentally conflict with any applicable habitat conservation plan or natural community conservation plan. The CASP planning area was not found to be located within or in proximity to an area guided by a Habitat Conservation Plan or Natural Community Conservation Plan, other than the Bay Plan and the MLK Regional Shoreline Master Plan, addressed above. The CASP EIR concluded that adoption and development of the CASP would not conflict with any such plans.

Project Analysis

A portion of the Project site (the area within 100-feet from Elmhurst Creek and the Elmhurst Creek tributary) are within the land use jurisdiction of BCDC, and the Project will be subject to BCDC review for consistency with the Bay Plan (see further discussion in the Land Use section of this CEQA Checklist). Prior to reaching its own independent conclusions as to whether or how to issue a development permit, BCDC will consider the environmental effects of the Project. It is anticipated that this CEQA document will be sufficient for BCDC permitting, although BCDC may require additional conditions of approval related to their jurisdictional

45 City of Oakland, CASP Draft EIR, at page 4.3-67

responsibilities for those parts of the Project that it has authority to address. The Project is not adjacent to the EBRPD MLK Regional Shoreline, and the policies of that Master Plan do not apply to the Project.

As was concluded in the CASP EIR, the Project site (as part of the CASP planning area) is not within or in proximity to an area guided by any other Habitat Conservation Plan or Natural Community Conservation Plan. Therefore, the Project would not conflict with such plans.

CEQA Conclusion Pertaining to Biological Resources

The analysis presented above examines whether there are any Project-specific significant effects to biological resources that are peculiar to the Project or its site, finding none. The Project would have no impacts to biological resources that were not previously analyzed in the CASP EIR, would have no off-site or cumulative biology impacts not discussed in the prior CASP EIR, and would not result in any impacts to biological resources that are more severe than as discussed in the prior CASP EIR. There are no biology-related impacts that would otherwise invalidate the applicability of CEQA Guidelines Section 15183 for the Project.

None of the conditions described in CEQA Guidelines Sections 15162 or 15163 calling for preparation of a subsequent or supplemental EIR are met as pertains to biological resources. The biological resource analysis presented above provides minor technical additions related to the specific biology and wetlands effects of the Project, and these minor technical additions to the CASP EIR that are specific to the Project are appropriately disclosed in this Addendum to the CASP EIR.

Cultural Resources

Would the Project:	CASP EIR Findings	Relationship to CASP EIR Findings: Equal or Less Severe	Relationship to CASP EIR Findings: New or Substantial Increase in Severity	Project Conclusions: Applicable Standards and Regulations	Project Conclusions: Resulting Level of Significance
a) Cause a substantial adverse change in the significance of a historic resource pursuant to Section 15064.5?	SU	■	☐	-	No Impact
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5?	LTS with SCAs	■	☐	SCA Cultural-1, Archaeological and Paleontological Resources - Discovery during Construction	LTS with SCA
c) Disturb any human remains, including those interred outside of formal cemeteries?	LTS with SCAs	■	☐	SCA Cultural-2, Human Remains - Discovery during Construction	LTS with SCA
d) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	LTS with SCA	■	☐	SCA Cultural-1, Archaeological and Paleontological Resources – Discovery during Construction	LTS with SCA

a): Historic Resources

CASP EIR Conclusions [46]

The CASP EIR (Impact Cultural-1A) found that future development within the Coliseum District would result in ultimate demolition of the Oakland Coliseum and potentially the Arena, causing a substantial adverse change in the significance of the Oakland Coliseum and Arena Complex, a historical resource as defined in CEQA Guidelines Section 15064.5. This impact was identified as significant and unavoidable (SU).

Based on records search, background research, consultation and an intensive field survey, 23 built structures over fifty years of age are located within the Coliseum District. Except for the Oakland Coliseum and Arena complex these structures have been previously determined ineligible or have been recommended as ineligible for listing in the National Register (NRHP), California Register (CRHR) and Local Register of Historical Resources. The CASP EIR concluded that these other 22 structures are not considered historical resources under CEQA.

The CASP EIR concluded that the Coliseum District's only historical resource is the Oakland Coliseum complex (which includes the Coliseum and Arena, associated ancillary buildings, landscaping, fencing, and signage). Demolition of this historical resource was considered a significant impact.

- Coliseum: The CASP was based on the assumption that in the absence of new venues, the Raiders and the A's would decide to relocate away from the current Coliseum and perhaps out of Oakland. Both of

46 City of Oakland, CASP Draft EIR page 4.4-27

these professional sports franchises clearly communicated that the Coliseum is outdated, in poor condition and does not function well logistically, and that the Coliseum cannot be renovated in a manner to eliminate these problems. The objective of the CASP was to help facilitate positive outcomes for retaining the Raiders and the A's sports franchises by prioritizing development of new sports venues that maximize benefits to each of these sports franchises. However, the CASP acknowledged that these sports franchises may make independent business decisions to leave the Coliseum site, and so provides the flexibility for development scenarios that include no new sports venues. Even under the no new sports venue scenario, the CASP provided no planning program for on-going retention of the existing Coliseum. Demolition of the existing Coliseum was found to be a significant and unavoidable outcome of the CASP, resulting in the loss of the Coliseum as an historic resource and the loss of the major contributor of the Coliseum Complex historic district.

- Arena: The CASP EIR found the Arena to be a facility with much greater flexibility and economic viability than the Coliseum. The CASP does not pre-determine that the Arena would need to be demolished, even though the Warriors have relocated to San Francisco. The CASP identified three potential scenarios related to the Arena; 1) if the Warriors chose to remain in Oakland and to build a new Arena, it would not be economically viable to operate two large arena facilities, and demolition of the existing Arena would be a significant and unavoidable outcome; 2) if the Warriors had decided to stay in Oakland and invest in facility upgrades to the Arena to better suit their needs and desires, demolition of the existing Arena would not occur; and 3) if the Warriors chose to leave Oakland (as occurred), the Arena could be incorporated into future economic development plans for the Coliseum District. Under scenarios 2 and 3, demolition of the existing Arena would not occur, and the significant impact related to the loss of the Arena as a historic resource would be avoided. However, as the only remaining contributor to the Coliseum Complex historic district, the CASP EIR found it unlikely that the Coliseum District's historic district status would remain.

The CASP EIR concluded that recordation, public interpretation and financial contributions for other historic preservation projects may partially compensate for but cannot mitigate the loss of the Coliseum District as an historic resource to a less than significant level. The loss of the existing Oakland Coliseum as an individual historic resource and as the major contributor to the Coliseum Complex historic district was found to be a significant and unavoidable impact. Unlike the Coliseum, demolition of the existing Arena is identified as only one of several potential development options but because this option is possible, this CASP EIR conservatively assumed demolition of the Arena may occur. Mitigation may partially compensate for but would not mitigate the loss of this historical resource to a less than significant level. The loss of the existing Arena as an individual historic resource and the remaining contributor to the Coliseum Complex historic district was conservatively deemed significant and unavoidable.

Project Analysis

The Project site (the 8.93-acre property known as the Malibu Lot, located at 8000 South Coliseum Way) is a vacant property with no existing buildings or structures, and with no potential historical resources present. The Project site is not located within the adjacent historic Coliseum District, and development of the Project would not materially affect the Coliseum District's historic integrity. The Project's proposed use of Parking Lot "C" within the Coliseum Complex would not be a change of use as compared to current (or prior) conditions and would have no material effect of the Coliseum District's historic status. The adjacent City-owned HomeBase parcel has no remaining permanent structures, and CASP EIR did not identify any record of historic resources associated with this property. The Project's potential use of a portion of this property for supplemental parking would have no impact on historic resources.

Based on the records search, background research, consultation and intensive field survey work previously conducted in 2013 for the CASP EIR, the only built structures within the vicinity of the Project and that were over fifty years of age are an office building at 8055 Collins Drive (constructed in 1966), and the Elmhurst Creek Culvert constructed in the 1940s. The CASP EIR determined that neither of these structures were eligible for listing in the NRHP, CRHR or local designation. The Project would not alter or change these older structures.

Consistent with the conclusions of the CASP EIR, the Project site has been reviewed for the presence of historic resources, and no such resources were identified. No City of Oakland's SCAs, Planning Code requirements or General Plan policy considerations relevant to historic resource preservation apply to the Project. The Project would have no impact on historic resources.

b) and c): Archaeological Resources and Human Remains

CASP EIR Conclusions [47]

The CASP EIR (Impact Cultural-2) found that future development within the Coliseum District could cause a substantial adverse change in the significance of currently undiscovered archaeological resources or disturb human remains. However, with implementation of City of Oakland SCAs, this impact would be reduced to less than significant (LTS with SCAs).

Per the CASP EIR, archaeological resources are not anticipated at or near the surface within the Coliseum District due to historic development and the extent of existing artificial fill. The surface of the entire Coliseum District consists of a layer of historic and modern artificial fill that was placed to raise the elevation of the Bay margin for development. The fill consists of a mix of local and imported material considered to have very low sensitivity for archaeological resources. At the base of the fill, at the interface or contact with Quaternary Young Bay Mud, the CASP EIR found the sensitivity for prehistoric cultural deposits to be high, based on deposits associated shell mounds at previously recorded sites of Native American settlement along the edge of the historic shoreline. The Bay Mud strata that are in contact with terrestrial deposits (at elevation of approximately 0 feet – or sea level) does have the potential to contain sealed human remains associated with Native American habitation of the area. Thus, archaeological sensitivity is considered moderate to high within marsh deposits when they are situated at the interface of terrestrial deposits, and where the marsh may have been exposed as a land surface long enough to have been available for human use. The CASP EIR reached the conclusion that whether an individual development project is within an archaeologically sensitive area will depend on both its location and the depth of proposed disturbance. Encountering the Bay Mud strata that is in contact with terrestrial deposits would involve excavation deep enough to pass through the depth of the fill. Therefore, if a development project does not excavate to or below the fill, it is not within an archaeologically sensitive area. If development results in excavation deeper than the fill, it may encounter an archaeologically sensitive area and could result in the inadvertent discovery of human remains.

Given the sensitivity of the area, the CASP EIR recommended that any new development project throughout the CASP planning area that involves excavation should be subject to City SCAs. With the required implementation of City SCAs, impacts on archaeological resources and human remains were concluded to be less than significant.

Project Analysis

Similar to most of the entire CASP planning area, archaeological resources are not anticipated at or near the surface of the Project site due to historic development and the amount of artificial fill that covers the site. The

[47] City of Oakland, CASP Draft EIR page 4.4-40

surface of the entire Project site consists of historic and modern artificial fill that was placed to raise the elevation of Bay margin for development. Based on the elevation of the Project site, there is approximately 5 to 8 feet of undocumented fill above the former Bay Mud strata at the former Bay shoreline that blankets the site. This artificial fill is considered to have very low sensitivity for prehistoric or historic-period archaeological resources. The artificial fill is underlain Bay Mud, which formed the pre-1855 historic Bay shoreline. The interface or contact between the artificial fill and Bay Mud is considered to have a high sensitivity for prehistoric cultural deposits.

The Project's grading plan does not propose any deep excavation work that would extend below the existing layer of artificial fill. Grading is expected to be limited to minor cuts and fill of 2 to 3 feet across the site, as needed to create a level site. New modular buildings and modified containers are expected to be placed on at-grade concrete slab foundations with shallow footers as required for structural support. Field lights are all to be mounted on poles supported by above-grade concrete blocks. Trenching for underground utilities and water/sewer service are not extensive and are not expected to be deeper than the artificial fill that covers the site. Accordingly, it is unlikely that any archaeological resources would be discovered during Project construction. However, the possibility of encountering cultural resources during ground disturbance remains. The discovery of human remains during the course of the Project is also a possibility.

<u>Applicable Standard Conditions of Approval</u>

The following City of Oakland SCAs (as updated) are cited in the CASP EIR as an effective means for addressing potential discovery of undiscovered archaeological resources or human remains and would apply to the Project.

- ***SCA Cultural-1 (38), Archaeological and Paleontological Resources - Discovery during Construction***: Pursuant to CEQA Guidelines section 15064.5(f), in the event that any historic or prehistoric subsurface cultural resources are discovered during ground disturbing activities, all work within 50 feet of the resources shall be halted and the project applicant shall notify the City and consult with a qualified archaeologist or paleontologist, as applicable, to assess the significance of the find. In the case of discovery of paleontological resources, the assessment shall be done in accordance with the Society of Vertebrate Paleontology standards.

  a) If any find is determined to be significant, appropriate avoidance measures recommended by the consultant and approved by the City must be followed unless avoidance is determined unnecessary or infeasible by the City. Feasibility of avoidance shall be determined with consideration of factors such as the nature of the find, project design, costs, and other considerations. If avoidance is unnecessary or infeasible, other appropriate measures (e.g., data recovery, excavation) shall be instituted. Work may proceed on other parts of the project site while measures for the cultural resources are implemented.

  b) In the event of data recovery of archaeological resources, the project applicant shall submit an Archaeological Research Design and Treatment Plan (ARDTP) prepared by a qualified archaeologist for review and approval by the City. The ARDTP is required to identify how the proposed data recovery program would preserve the significant information the archaeological resource is expected to contain. The ARDTP shall identify the scientific/historic research questions applicable to the expected resource, the data class the resource is expected to possess, and the means by which the expected data class would address applicable research questions. The ARDTP shall include the analysis and specify the curation and storage methods.

  c) Data recovery, in general, shall be limited to the portions of the archaeological resource that could be impacted by the proposed project. Destructive data recovery methods shall not be applied to portions of the archaeological resources if nondestructive methods are practicable. Because the intent of the ARDTP is to save as much of the archaeological resource as possible, including moving the resource, if feasible, preparation and implementation of the ARDTP would reduce the potential adverse impact to less than significant. The project applicant shall implement the ARDTP at his/her expense.

d) In the event of excavation of paleontological resources, the project applicant shall submit an excavation plan prepared by a qualified paleontologist to the City for review and approval. All significant cultural materials recovered shall be subject to scientific analysis, professional museum curation, and/or a report prepared by a qualified paleontologist, as appropriate, according to current professional standards and at the expense of the project applicant.

- ***SCA Cultural-2 (40), Human Remains - Discovery during Construction***: Pursuant to CEQA Guidelines section 15064.5(e)(1), in the event that human skeletal remains are uncovered at the project site during construction activities, all work shall immediately halt, and the project applicant shall notify the City and the Alameda County Coroner.

  a) If the County Coroner determines that an investigation of the cause of death is required, or if the remains are Native American, all work shall cease within 50 feet of the remains until appropriate arrangements are made.

  b) In the event that the remains are Native American, the City shall contact the California Native American Heritage Commission (NAHC), pursuant to subdivision (c) of section 7050.5 of the California Health and Safety Code. If the agencies determine that avoidance is not feasible, then an alternative plan shall be prepared with specific steps and a timeframe required to resume construction activities. Monitoring, data recovery, determination of significance, and avoidance measures (if applicable) shall be completed expeditiously and at the expense of the project applicant

Consistent with the conclusions of the CASP EIR, the Project's effects related to inadvertent discovery of currently unknown cultural resources or human remains will be fully addressed through implementation of City SCAs and existing regulations, and this impact would be reduced to less than significant.

d): Paleontological Resources

CASP EIR Conclusions [48]

The CASP EIR (Impact Cutural-2) found that paleontological resources are not anticipated at or near the surface within the CASP planning are due to historic development and the extent of artificial fill that has been placed over the planning area. The surface stratum throughout the CASP planning area consists of a, "variable veneer of historic and modern artificial fill, which is considered to have very low sensitivity for paleontological resources". However, the deposits below the artificial fill may date to the late Pleistocene era and earlier, when the coast was 25 to 50 kilometers to the west. Due to the position on the landscape and the age of certain underlying deposits, these underlying deposits are considered to have high paleontological sensitivity." More specifically, the CASP EIR finds that, beneath the artificial fill, "there is a higher potential for the identification of paleontological resources, where there are Late Pleistocene and Pliocene aged strata, far below the artificial fill and the Bay Mud. These areas of sensitivity are situated deep beneath the ground surface (e.g., within the Quaternary Old Bay Mud at depths of 75 to 115 feet below sea level, or the Quaternary Alameda Formation at depths of 75 to 130 feet below sea level). These sensitive sub-surface areas are located beneath the surface of the CASP planning area and are not precisely mapped.

The CASP EIR found that development, including construction-related subsurface disturbance such as mass excavation, could destroy fossils by cutting into deep geological formations where they are located. Since the

48 City of Oakland, CASP Draft EIR page 4.4-40

potential presence and significance of fossils is unknown, such excavations could cause a significant impact to paleontological resources. The CASP EIR concluded that, with implementation of applicable SCAs, impacts on paleontological resources would be less than significant. No additional mitigation is required.

Project Analysis

As indicated in the CASP EIR, if a development project does not excavate to or below the on-site fill, it is not within a paleontologically sensitive area. At the Project site there is approximately 5 to 8 feet of undocumented fill that blankets the site, underlain young Bay Mud to depths varying from 12½ to 17 feet below ground surface. The Project's grading plan does not propose any deep mass excavation work. Other than selected shallow excavations for concrete slab footers and utility trenches, the Project does not propose any mass excavation work. Accordingly, it is unlikely that any paleontological resources would be discovered during Project construction.

<u>Applicable Standard Conditions of Approval</u>

The following City of Oakland SCAs are cited in the CASP EIR to address as effective means addressing an event whereby a paleontological resource may be discovered during an excavation, which would apply to the Project.

- ***SCA Cultural-1 (38), Archaeological and Paleontological Resources – Discovery during Construction*** (see above)

Consistent with the findings of the CASP EIR, with full compliance with SCAs as applies to a potential discovery of paleontological resources during ground disturbing activities, the Project's potential effects would be reduced to a level of less than significant, and no additional mitigation is required.

<u>CEQA Conclusion Pertaining to Cultural Resources</u>

The analysis presented above examines whether there are any Project-specific significant effects related to cultural resources that are peculiar to the Project or its site, finding none. The Project would have no impacts to cultural resources that were not previously analyzed in the CASP EIR, would have no off-site or cumulative cultural resources impacts not discussed in the prior CASP EIR, and would not result in any impacts to cultural resources that are more severe than as discussed in the prior CASP EIR. There are no impacts related to cultural resources that would otherwise invalidate the applicability of CEQA Guidelines Section 15183 for the Project.

None of the conditions described in CEQA Guidelines Sections 15162 or 15163 calling for preparation of a subsequent or supplemental EIR are met as pertains to cultural resources. The cultural resource analysis presented above provides additional information related to development plans for the site, and this additional information that is specific to the Project is appropriately disclosed in this Addendum to the CASP EIR.

Energy

Would the Project:	CASP EIR Findings	Relationship to CASP EIR Findings: Equal or Less Severe	Relationship to CASP EIR Findings: New or Substantial Increase in Severity	Project Conclusions: Applicable Standards and Requirements	Project Conclusions: Resulting Level of Significance
a) Result in a determination by the energy provider which serves or may serve the project that it does not have adequate capacity to serve the project's projected demand in addition to the providers' existing commitments and require or result in construction of new energy facilities or expansion of existing facilities, construction of which could cause significant environmental effects? b) Violate applicable federal, state and local statutes and regulations relating to energy standards?	LTS	■	☐	SCA Energy-1, Green Building Requirements SCA Transportation-2, TDM SCA Transportation-4, Plug-In Electric Vehicle (PEV) Charging Infrastructure SCA Utilities-3, Construction and Demolition Waste Reduction and Recycling SCA Utilities-4, Recycling Collection and Storage	Less than Significant

a) and b): Energy Resources

CASP EIR Conclusions[49]

The CASP EIR (Impact UTIL-5) found that new development pursuant to the CASP would not violate applicable federal, state and local statutes and regulations relating to energy standards The CASP EIR also found that new development would not result in a determination by the energy provider that it does not have adequate capacity to serve projected energy demands in addition to the providers' existing commitments, requiring construction of new energy facilities or expansion of existing facilities. New development will result in an incremental increase in the demand for gas and electrical power, sub-station improvements or new substations, and service line upgrades as needed to fully service projected new development. However, the CASP EIR found no known capacity limitations within the existing electrical system or gas system. The CASP EIR concluded that, with implementation of City of Oakland SCAs, all new development pursuant to the CASP will be required comply with mandatory Title 24 energy efficiency standards for buildings, CALGreen regulations, and City of Oakland Green Building Ordinance requirements and sustainability programs, which would reduce energy consumption. Cumulative impacts related to energy service were found to be less than significant.

Project Analysis

The Project will not cause the need for additional natural gas or electrical energy-producing facilities. Consistent with the City's December 2020 Building Electrification Ordinance, the Project does not include any new natural

[49] City of Oakland, CASP Draft EIR page 4.14-26

gas connections, and each of the modular buildings and modified containers are designed as all electric. The primary electrical demands associated with the Project are the proposed field lights; heating, ventilation and cooling (HVAC) systems; lighting for new buildings; and appliances and water heating.

Applicable Standard Conditions of Approval

The following City of Oakland SCAs, as updated since certification of the CASP EIR, are now standard conditions of approval that apply to all projects, including new construction of non-residential buildings between 5,000 and 25,000 square feet of total floor area (assumed to apply to the Project):

- ***SCA Energy-1 (93), Green Building Requirements – Small Projects***: The project applicant shall comply with the requirements of the California Green Building Standards (CALGreen) mandatory measures and the applicable requirements of the City of Oakland Green Building Ordinance (chapter 18.02 of the Oakland Municipal Code) for projects using the StopWaste.Org Small Commercial Checklist.
  - a) The following information shall be submitted to the City for review and approval with application for a building permit:
    - i. Documentation showing compliance with Title 24 of the current version of the California Building Energy Efficiency Standards
    - ii. Completed copy of the green building checklist approved during the review of a Planning and Zoning permit
    - iii. Permit plans that show in general notes, detailed design drawings and specifications as necessary compliance with the items listed in subsection (b) below
    - iv. Other documentation to prove compliance
  - b) The set of plans in subsection (a) shall demonstrate compliance with the following:
    - i. CALGreen mandatory measures
    - ii. All applicable green building measures identified on the checklist approved during the review of a Planning and Zoning permit, or submittal of a Request for Revision Plan-check application that shows the previously approved points that will be eliminated or substituted
  - c) The project applicant shall comply with the applicable requirements of CALGreen and the Green Building Ordinance during construction. The following information shall be submitted to the City for review and approval:
    - i. Completed copy of the green building checklists approved during review of the Planning and Zoning permit and during the review of the Building permit
    - ii. Other documentation as deemed necessary by the City to demonstrate compliance with the Green Building Ordinance
- ***SCA Transportation-2 (85), Transportation and Parking Demand Management*** (see Transportation section of this CEQA Checklist)
- ***SCA Transportation-4 (88), Plug-In Electric Vehicle (PEV) Charging Infrastructure*** (see Transportation section of this CEQA Checklist)
- ***SCA Utilities-3 (89), Construction and Demolition Waste Reduction and Recycling*** (see Utilities section of this CEQA Checklist)
- ***SCA Utilities-4 (91), Recycling Collection and Storage Space***: (see Utilities section of this CEQA Checklist)

Project Implementation of SCAs

In conformance with the City's SCA Energy-1, the Project includes the following energy conservation measures that are consistent with CalGreen and the Oakland Green Building Ordinance:

- *Stadium Lights*: All new stadium lights will rely on LED luminaires (550-watt and 1,500-watt fixture types). LED lamps are more energy efficient than traditional metal halide bulbs because LEDs have virtually no heat loss (the power an LED fixture consumes is used primarily to create the required lumens rather than heat). LEDs offer high lumen output with generally less electrical demand.
- *Other Lighting*: The Lighting Power Density (LPD) at all new buildings will be reduced to 90% of the Code requirement. Automatic daylight sensors will be installed in at least 75% of the building spaces with exterior windows, and for buildings with more than 50% of occupied space and within 30 feet of the building perimeter. All new exit signs and bleachers will be LED or luminescent bulbs.
- *HVAC*: All new HVAC equipment will comply with the Consortium for Energy Efficiency (CEE) Tier 1 commercial HVAC standards. All new ductworks will be tested and sealed.
- *Equipment, Appliances, Water Heating:* The Project will install ENERGY STAR-rated equipment and appliances. For eligible equipment, at least 75% of all new office equipment and 90% of all new appliances will be ENERGY STAR rated. The project will not have gas water heaters.
- *Reduced Heat Island Effect*: Cool site techniques will be used and combined for at least 75% of the Project's new development area, consistent with CALGreen. These techniques will include new pervious surfaces and light-colored concrete. A combination of other strategies will be used for 50% of the site, including tree shading and light-colored/high-albedo materials. Cool roofs will be applied for at least 75% of the new roof area, using roofing materials with a minimum aged Solar Reflectance Index (SRI) of 78, in compliance line CALGreen.

The Project is also required to provide electrical vehicle infrastructure within its on-site parking lots, and to achieve a TDM performance of 20 percent reduction in commuter single-occupant vehicle use.

Consistent with the findings of the CASP EIR, the Project's compliance with local policies and ordinances pertaining to energy use, and compliance with state and local plans for energy efficiency will substantially lower overall energy demands of the Project. The Project will not result in wasteful, inefficient or unnecessary consumption of energy, its impacts related to energy use would be less than significant, and no additional mitigation is required.

CEQA Conclusions Pertaining to Energy

The analysis presented above examines whether there are any Project-specific significant effects related to energy use that are peculiar to the Project or its site, finding none. The Project would have no impacts related to energy use that were not previously analyzed in the CASP EIR, would have no off-site or cumulative energy impacts not discussed in the prior CASP EIR, and would not result in any energy impacts that are more severe than as discussed in the prior CASP EIR. There are no impacts related to energy that would otherwise invalidate the applicability of CEQA Guidelines Section 15183 for the Project.

None of the conditions described in CEQA Guidelines Sections 15162 or 15163 calling for preparation of a subsequent or supplemental EIR are met as pertains to energy. The energy analysis presented above provides technical additions related to current requirements of the California Green Building Standards (CALGreen) and the applicable requirements of the City of Oakland Green Building Ordinance (Chapter 18.02 of the OMC) that are now applicable to the Project, and this updated information is appropriately disclosed in this Addendum to the CASP EIR.

Geology and Soils

Would the Project:	CASP EIR Findings	Relationship to CASP EIR Findings: Equal or Less Severe	Relationship to CASP EIR Findings: New or Substantial Increase in Severity	Project Conclusions: Applicable Standards and Requirements	Project Conclusions: Resulting Level of Significance
The project would have a significant impact on the environment if it would expose people or structures to geologic hazards, soils, and/or seismic conditions so unfavorable that they could not be overcome by special design using reasonable construction and maintenance practices. Specifically:					
a) Expose people or structures to substantial 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? ii. Strong seismic ground shaking? iii. Seismic-related ground failure, including liquefaction, lateral spreading, subsidence, collapse? iv. Landslides?	LTS with SCAs	■	☐	SCA Geo-1, Construction-Related Permit(s) SCA Geo-2, Soils Report SCA Geo-3, Seismic Hazards Zone (Landslide/Liquefaction) ENGEO recommendations to address seismic hazards through design	LTS with SCA
b) Be located on expansive soil, as defined in section 1802.3.2 of the California Building Code (2007, as it may be revised), creating substantial risks to life or property? Be located above a well, pit, swamp, mound, tank vault, or unmarked sewer line, creating substantial risks to life or property? Be located above landfills for which there is no approved closure and post-closure plan, or unknown fill soils, creating substantial risks to life or property?	LTS with SCAs	■	☐	SCA Geo-2, Soils Report ENGEO recommendations to address earthwork	LTS with SCAs
c) Result in substantial soil erosion or the loss of topsoil, creating substantial risks to life, property, or creeks/waterways?	LTS with SCAs	■	☐	SCA Hydro-1, Creek Protection Plan,	LTS with SCA
d) Have soils that are incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?	No Impact	■	☐	-	No Impact

Information related to the Project and the Project site as included in the following Geology section of this CEQA Checklist has been derived from the following primary source:

- ENGEO, Inc., *Geotechnical Exploration, Interim Stadium for Roots and Soul SC,* December 2023 (**Appendix F**)

The 2023 ENGEO report presents the results of a review of published geologic maps and historical aerial photographs, advancing one boring up to a maximum depth of 60 feet, and advancing two cone penetration tests (CPTs) up to approximately 100 feet deep. The purpose of these services was to determine, from a geotechnical viewpoint, whether the Project's planned stadium and related improvements are feasible, provided the identified geotechnical hazards are addressed and properly mitigated.

a): Seismic Hazards

CASP EIR Conclusions [50]

The CASP EIR (Impact Geo-1) found new development within the CASP planning area would not expose people or structures to substantial risk of loss, injury, or death involving strong seismic ground shaking and seismic-related ground failure including liquefaction, lateral spreading, subsidence, or collapse (LTS with SCAs).

Fault Rupture

The CASP EIR found that there are no active faults that cross anywhere within the CASP planning area and the nearest active fault is more than two miles away. Therefore, the potential for fault rupture to affect development pursuant to the CASP was found to be very low.

Strong Seismic Ground Shaking and Seismic-Related Ground Failure

The CASP EIR also found that, if development pursuant to the CASP is not properly designed or constructed, it has the potential to increase the exposure of people to injury or harm during a large regional earthquake. The entire CASP planning area could be subject to very strong ground shaking, capable of causing damage to structures and underground utilities. The majority of the CASP planning area is located over soil susceptible to liquefaction, which could increase the damage incurred by structures and utility lines in the event of an earthquake. These hazards must be properly evaluated and mitigated as individual projects are implemented. The CASP EIR concluded that development pursuant to the CASP would be required to comply with the Seismic Hazards Mapping Act (in liquefaction hazard zones) and with the California Building Code. These laws require development projects to demonstrate that soil conditions are known, and that foundations have been designed according to the proper seismic design category. The risk of liquefaction and other ground failures must be evaluated, and appropriate mitigation measures, if necessary, must be incorporated into project design. Since the entire CASP planning area is located within a Seismic Hazard Zone for liquefaction, development pursuant to the CASP would be required to comply with California Geologic Survey (CGS) guidelines for evaluating and mitigating seismic hazards (Special Publication 117A) (CGS, 2008).

Landslides

The CASP EIR found that the entire CASP planning area does not contain slopes that are susceptible to landslides or slope failure. The gentle sloping topography of the area puts the potential for landslides or slope failure to affect any of proposed development as very low.

[50] City of Oakland, CASP Draft EIR page 4.5-16

Conclusions and SCAs/Requirements

To ensure compliance with the Seismic Hazards Mapping Act and the California Building Code, as well as the seismic requirements of the City of Oakland Building Code, the City requires owners/developers to prepare a soils report and geotechnical report for proposed development. Those reports must include generally accepted and appropriate engineering techniques for determining the susceptibility of a site to various geologic and seismic hazards. These requirements are implemented through SCAs. The geotechnical report would include an analysis of ground shaking effects and liquefaction potential and provide recommendations to address these hazards through design. Owners/developers would be required to submit an engineering analysis accompanied by detailed engineering drawings to the City of Oakland Building Services Division prior to excavation, grading or construction activities. Geotechnical and seismic design criteria must conform to engineering recommendations consistent with the seismic requirements set forth in the California Code of Regulations, Title 24 of the California Building Standards Code in effect at the time of permit application.

The CASP EIR concluded that application of current geotechnical design criteria as required under the CBC and pursuant to applicable SCAs would reduce the potential impacts associated with seismic hazards such as liquefaction and ground shaking to a less than significant level.

Project Analysis [51]

Fault Rupture

Consistent with the conclusions of the CASP EIR, the 2023 ENGEO report finds that the Project site is not located within a designated Alquist-Priolo Earthquake Fault Zone and no known surface expression of active faults is believed to exist within the site. Ground rupture is unlikely at the Project site, and the potential for fault rupture to affect the Project is less than significant.

Strong Seismic Ground Shaking

The 2023 ENGEO report also finds an earthquake of moderate to high magnitude generated within the San Francisco Bay region could cause considerable ground shaking at the Project site, like that which has occurred in the past. To mitigate the shaking effects, structures should be designed using sound engineering judgment and the 2022 California Building Code (CBC) requirements, as a minimum. Structures should be able to: (1) resist minor earthquakes without damage, (2) resist moderate earthquakes without structural damage but with some nonstructural damage, and (3) resist major earthquakes without collapse but with some structural as well as nonstructural damage. Conformance to the current building code recommendations does not constitute any kind of guarantee that significant structural damage would not occur in the event of a maximum magnitude earthquake. However, it is reasonable to expect that a well-designed and well-constructed structure will not collapse or cause loss of life in a major earthquake.

Liquefaction

According to mapping of liquefaction susceptibility shown on the Seismic Hazard Zones map of the San Leandro Quadrangle by the California Geological Survey (CGS, 2003), the Project site is located within a mapped zone of potential liquefaction. ENGEO encountered potentially liquefiable layers at each exploration location and anticipated that the potential for seismic settlement exists throughout the site.

ENGEO performed further analysis of liquefaction potential at the Project site based on Cone Penetration Test (CPT) data and advanced software and procedures. The analysis assumed an earthquake moment magnitude of 7.2 based on a 2 percent probability disaggregation in 50 years, and used the mapped maximum considered

[51] ENGEO, Inc., *Geotechnical Exploration, Interim Stadium for Roots and Soul SC*, November 13, 2023, pages 5-7, 11-12

earthquake geometric mean peak ground acceleration, based on the 2022 California Building Code. Their analysis indicates that the liquefiable layers at the Project site are relatively thin and discontinuous, and they expect up to 2½ inches of total liquefaction-induced settlement could occur during a maximum credible seismic event. ENGEO also evaluated the capping effect of near surface, non-liquefiable soil to assess the potential for ground-surface disruption. Based on the thickness of potentially liquefiable deposits and thickness of non-liquefiable cap materials, the risk for ground surface rupture and sand boils is low.

Lateral Spreading

Lateral spreading is a failure within a nearly horizontal soil zone (possibly due to liquefaction) that causes the overlying soil mass to move towards a free face or down a gentle slope. Generally, the effects of lateral spreading are most significant at the free face or the crest of a slope and diminish with distance from the slope. The potentially liquefiable material that was encountered is at an elevation below the bottom of Elmhurst Creek, so flow failure of liquefiable soil exposed at a free face is not a hazard for this site.

<u>Applicable Standard Conditions of Approval</u>

The following City of Oakland SCAs are cited in the CASP EIR as effective means for reducing potential seismic hazards for new development and are standard conditions of approval that would apply to the Project.

- ***SCA Geo-1 (42): Construction-Related Permit(s)***: The project applicant shall obtain all required construction-related permits/approvals from the City. The project shall comply with all standards, requirements and conditions contained in construction-related codes, including but not limited to the Oakland Building Code and the Oakland Grading Regulations, to ensure structural integrity and safe construction.
- ***SCA Geo-2 (43), Soils Report***: The project applicant shall submit a soils report prepared by a registered geotechnical engineer for City review and approval. The soils report shall contain, at a minimum, field test results and observations regarding the nature, distribution and strength of existing soils, and recommendations for appropriate grading practices and project design. The project applicant shall implement the recommendations contained in the approved report during project design and construction.
- ***SCA Geo-3 (45), Seismic Hazards Zone (Landslide/Liquefaction)***: The project applicant shall submit a site-specific geotechnical report, consistent with California Geological Survey Special Publication 117 (as amended). The geotechnical report shall be prepared by a registered geotechnical engineer for City review and approval, and shall contain, at a minimum, a description of the geological and geotechnical conditions at the site, an evaluation of site-specific seismic hazards based on geological and geotechnical conditions, and recommended measures to reduce potential impacts related to liquefaction and/or slope stability hazards. The project applicant shall implement the recommendations contained in the approved report during project design and construction.

<u>Project Recommendations pursuant to City SCAs</u>

Consistent with CASP EIR requirements, and **SCA Geo-1, SCA Geo-2 and SCA Geo-3**, the ENGEO report provides the following recommendations to address seismic hazards through design:

- *2022 CBC Seismic Design Parameters:* The 2022 California Building Code (CBC) utilizes seismic design criteria established in the ASCE/SEI Standard “Minimum Design Loads and Associated Criteria for Buildings and Other Structures,” (ASCE 7-16). Based on the subsurface conditions encountered at the site, ENGEO characterized the site as Site Class E, per Chapter 20 of ASCE 7-16. While a potentially liquefiable layer was encountered in Boring 1-B1, this layer is relatively thin and likely discontinuous and will not significantly alter the ground response of the overall site during an earthquake. ASCE 7-16 requires a site-specific ground-motion hazard analysis for Site Class E sites, but that analysis is not required where the equivalent lateral force procedure is used for design, and the value of Cs is determined by equation. The ENGEO report provides seismic design parameters for new structures based on the USGS Seismic Design Maps. When using these design parameters, consideration should be given to potential exceptions as described in the report. These design parameters include the following:[52]

- Site Class: E
- Mapped MCER Spectral Response Acceleration at Short Periods: 1.92
- Mapped MCER Spectral Response Acceleration at 1-second Period: 0.73
- Short-Period Site Coefficient: 1.2
- Long Period Site Coefficient: 2.0* [53]
- MCER Spectral Response Accelerations at Short Periods: 2.30
- MCER Spectral Response Accelerations at 1-second Period: 1.46*
- Design Spectral Response Acceleration at Short Periods: 1.54
- Design Spectral Response Acceleration at 1-second period: 0.97*
- MCEG Peak Ground Acceleration Adjusted for Site Class Effects: 0.89

- *Shallow Foundation Recommendations*: Owing to the temporary nature of the facility, the prefabricated buildings, bleachers and light poles will all be founded on grade with no below-grade construction. In order to maximize the potential bearing capacity, ENGEO recommends that at least the upper foot of the site consist of engineered fill. Ideally, the ground can be graded to slope away from the planned foundations for a distance of 10 feet to assist in minimizing the potential for ponding of water below the foundations. If a leveling pad is desired by the supplier, a 4-inch-thick layer of aggregate base could be placed in the bearing area. The foundations for bleachers, light poles and other items that sit of footers can be designed for a maximum allowable bearing pressure of 1,500 pounds per square foot (psf) for dead-plus-live loads. Prefabricated structures that sit on grade should be designed for a bearing capacity of 750 psf because the loading will be felt deeper, and the bearing capacity will be impacted by the presence of the Young Bay Mud. The allowable bearing pressures can be increased by one-third for short-term effects including wind or seismic loading. Lateral loads may be resisted by friction along the base of the foundations. ENGEO recommends a coefficient of friction of 0.30 for the ultimate value for design. When evaluating seismic loading, the liquefaction settlement previously discussed should be added to these static estimates. [54]
- *Monitoring*: ENGEO recommends performing monitoring of the bleachers and light poles for settlement and levelness and being prepared to address excessive differential settlement or tilting if needed. [55]

Pursuant to SCA Geo-2: Soils Report and SCA Geo-3: Seismic Hazards Zone (Landslide/Liquefaction), the Project applicant is required to implement the recommendations contained in an approved geotechnical report during project design and construction. ENGEO concludes that, provided their recommendations are followed and given the proposed construction, they estimate total and differential foundation settlement under static loading

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52 Ibid., page 11

53 The parameters marked with * should only be used for calculation of Ts, determination of Seismic Design Category, and when taking the exceptions under ASCE 7-16 Section 11.4.8.

54 Ibid, page 12

55 Ibid, page 12

will be less than approximately 5 inch and 2½ inch, respectively. Consistent with the findings of the CASP EIR, with full compliance with the CBC building standards and recommendations of the 2018 Terracon Report, the effects of strong ground shaking and liquefaction in the event of a likely earthquake scenario would be reduced to levels considered acceptable by professional engineers, and therefore considered under CEQA to be less than significant. No additional mitigation is required.

b): Soil Settlement and Slope Stability

CASP EIR Conclusions [56]

The CASP EIR (Impact Geo-3) found that new development within the CASP planning area might be located on expansive soil, as defined in the California Building Code. Expansive soil can damage foundations of above-ground structures, paved roads and streets, and concrete slabs. The Bay Mud that underlies much of the CASP planning area, as well as areas underlain by artificial fill, could potentially be subject to shrink-swell behavior, and larger buildings may put loads on underlying geologic layers of mud and silt that could compress. Locations mapped as artificial fills may be underlain by historic bay sloughs, old foundations, and former marsh areas. These areas may experience some degree of differential settlement, and site-specific geotechnical investigations should be conducted prior to construction at a given location.

The City of Oakland imposes SCAs requiring proposed developments to conduct soil reports and geotechnical studies. The CASP EIR determined that these SCAs would provide for construction methods and building designs to address problematic soil (such methods typically involve soil removal and replacement, soil improvement, or special foundation design). SCAs would also provide for design methods to protect structures from expansive soil and settlement concerns.

The CASP EIR concluded that application of current geotechnical design criteria required under the CBC and the SCAs would reduce the potential impacts associated with expansive soils, subsidence, seismically induced settlement and differential settlement to less than significant.

Project Analysis [57]

The Project site is currently developed as an existing overflow parking lot, and the surface of the entire site is covered with gravel.

Non-Engineered Fill

ENGEO's explorations encountered a section of approximately 6 inches of aggregate base rock, with fill material below the aggregate base section extending to depths of approximately 6 to 8½ feet below ground surface. The fill material consists of clay with varying amounts of sand, gravel, glass fragments, wood debris and miscellaneous debris. The majority of this existing fill at the site was placed in the 1950s. Due to the era of placement as well as variable consistency encountered, the fill was likely not placed in an engineered manner. Existing non-engineered fill may perform variably when loaded. The exact location and magnitude of anticipated settlement is difficult to predict due to the variable material composition and density of the fill.

Groundwater

ENGEO estimated groundwater elevations using pore pressure dissipation tests and measurements recorded during their exploration. The groundwater level at the Project site is approximately 6 feet below ground surface, which corresponds to an elevation of approximately 1 to 4 feet. ENGEO considers an appropriate design

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56 City of Oakland, CASP Draft EIR page 4.5-17

57 ENGEO, Inc., *Geotechnical Exploration, Interim Stadium for Roots and Soul SC*, November 13, 2023, pages 8-10

groundwater depth of 5 feet below ground surface, but fluctuations in the level of groundwater may occur due to variations in rainfall, irrigation practice, and other factors not evident at the time measurements were made.

Compressible Soil

Young Bay Mud deposits were encountered below the existing fill that extended to a depth of approximately 26 feet bgs. The Young Bay Mud deposits generally consist of high plasticity clay with some interbedded sand layers, trace shells and noted organics. These soft marine sediments may be compressible due to loading from any new fill or structures. The amount of settlement is dependent on the imposed load and thickness of the Young Bay Mud deposits but will likely take approximately 6 months or less for most of the settlement to occur. ENGEO estimates the Young Bay Mud deposits will experience up to 3 inches of total settlement due to planned fill and structure loads. The settlement will likely be greater in with thicker fill and zero in areas of cut.

Deeper Subsurface Conditions

The transition from Young Bay Mud to Old Bay Clay occurs at around 26 feet below ground surface. Below the Old Bay Clay is medium dense to very dense, poorly graded alluvial sand with clay and gravel approximately 13 feet in thickness, extending from 48½ to 61½ feet below ground surface. Below this sand layer is stiff Old Bay Clay extending to approximately 70 feet below ground surface followed by dense sand and gravel extending to 100 feet below ground surface.

Slope Stability

To assess the risk of slope movement into the Elmhurst Creek under static or seismic loads, ENGEO performed slope stability analyses based on the following locations and Project conditions:

- In the northerly portion of the site, roughly 1 to 2 feet of engineered fill is to be placed atop the existing slope along Elmhurst Creek. Modular buildings will be placed within approximately 12 feet of the slope.
- At about the mid-point of the site's frontage along Elmhurst Creek, roughly 3 to 4 feet of engineered fill is to be placed up to the existing slope along Elmhurst Creek. The stadium bleachers will be erected within approximately 20 feet of the new slope.
- At the southerly point of the site's frontage along Elmhurst Creek, up to 1 foot of cut will be removed from existing grade along Elmhurst Creek. A modular building will be installed within approximately 2 feet of the slope.

ENGEO estimated the strength of the subsurface soil based on laboratory testing and various field test correlations. In general, a factor of safety of 1.5 under static conditions and 1.0 under seismic conditions is considered acceptable for slope stability analyses. Based on their results, the analyzed conditions achieve the minimum factors of safety, but during a seismic event the site could experience up to 2 inches of lateral movement in the direction of the creek. Based on their experience, ENGEO finds this lateral displacement is acceptable for the Project.

<u>Applicable Standard Conditions of Approval</u>

The following City of Oakland SCAs are cited in the CASP EIR as effective means for reducing potential seismic hazards for new development and are standard conditions of approval that would apply to the Project.

❖ ***SCA Geo-2 (43), Soils Report***: (see above)

Project Recommendations Pursuant to City SCAs

Consistent with CASP EIR requirements, and **SCA Geo-1 and Geo-2**, the Project sponsor retained ENGEO to prepare a geotechnical investigation for the Project. This report provides the following recommendations to address earthwork as necessary to render the site ready for foundations, floor slabs and pavement. [58]

- *Non-Engineered Fill*: it is ENGEO's understanding that excavation within the fill is not feasible due to environmental constraints as well as a desire to minimize site disturbance. They recommend designing for an additional 2 inches of total settlement throughout the design lifetime of the stadium due to compression of this fill. Settlement of the non-engineered fill can occur anywhere new load is added. The exact location and magnitude of the settlement is difficult to predict due to the variable material composition and density of the fill.
- *Compressible Soil*: The soft marine sediments in the underlying Young Bay Mud may be compressible due to loading from any new fill or structures. The amount of settlement is dependent on the imposed load and thickness of the deposits but will likely take approximately 6 months or less for most of the settlement to occur. ENGOE estimates the Young Bay Mud deposits will experience up to 3 inches of total settlement due to planned fill and structure loads. The settlement will likely be greater in areas of planned thicker fill and zero in areas of cut. They recommend grading the soccer field as early in site development as possible and delaying field placement until as late as possible, so that differential settlement can be graded out of the site and ongoing settlement after field placement will be reduced.
- *Lightweight Fill*: To mitigate potential settlement of the existing 63-inch EBMUD sanitary sewer line from additional overburden, ENGEO recommends the existing fill over the utility line should be over-excavated and replaced with lightweight cellular concrete (LWCC) to raise the grades to finish levels. The width of the LWCC section should extend the entire width of the EBMUD easement, approximately 25 feet.
- *Temporary Dewatering Considerations*: Any excavations planned below 5 feet below ground surface should consider potential dewatering to maintain a relatively dry stable work environment and a firm subgrade. ENGEO recommends dewatering systems be designed to keep the water table 2 feet below the bottom of the excavation and designed by a qualified contractor.
- *Site Drainage*: Finish grades should be sloped away from foundations and pavements to the maximum extent practical. The latest California Building Code Section 1804.4 specifies minimum slopes of 5 percent away from foundations within 10 feet for pervious surfaces.
- *Pervious Pavement Design*: All pervious pavement sections should include an underdrain system below the base course layer, as the infiltration rates of the site soil will likely be below 0.5 inches per hour when saturated. The subgrade should be prepared and compacted to 95 percent relative compaction within the top 12 inches below the base course layer. The subgrade should be firm and unyielding. Tensar TX140 geogrid should be placed atop the prepared subgrade prior to constructing the base course and underdrain system. If the area is considered self-retaining, the underdrain should be placed near the top of the section such that the reservoir section will fill completely prior to water flowing into the underdrain. The final design of pervious pavement sections should be performed based on estimated traffic loads and frequencies. The final thickness of the base course layer should be based on the rainfall runoff volume. It should be noted that permeable surfacing will require construction by specialty contractors experienced in that type of construction and periodic maintenance such as vacuum cleaning as needed.

[58] Ibid, pages 12-17

Pursuant to SCA Geo-1: Construction-Related Permit and SCA Geo-2: Soils Report, the Project applicant is required to implement the recommendations contained in the approved report during project design and construction. Consistent with the findings of the CASP EIR, with full compliance with the recommendations of the 2023 ENGEO report, the effects of soil settlement and/or slope stability would be reduced to levels considered acceptable by professional engineers, and therefore considered under CEQA to be less than significant. No additional mitigation is required.

c): Soil Erosion

CASP EIR Conclusions [59]

The CASP EIR (Impact Geo-2) found that construction activity within the CASP planning area could result in substantial soil erosion that could create substantial risks to property or creeks/waterways, given the potential for excessive or accelerated erosion to undermine building foundations.

The City of Oakland imposes SCAs to reduce soil erosion during construction for water quality purposes, which would also effectively prevent excessive riling, rutting or erosion of soil on construction sites. The CASP EIR concluded that implementation of erosion control measures would reduce the potential for substantial erosion during construction to less than significant.

Project Analysis

Coverage of the Project site consists of approximately 6 inches of aggregate base rock, with fill material below the aggregate base section extending to depths of approximately 6 to 8½ feet below ground surface. The fill material consists of clay with varying amounts of sand, gravel, glass fragments, wood debris and miscellaneous debris. Once the aggregate base rock is removed for site preparation and construction, the underlying fill soils are susceptible to erosion.

<u>Applicable Standard Conditions of Approval</u>

The following City of Oakland SCAs are cited in the CASP EIR as effective means for reducing potential erosion concerns during construction and is a standard condition of approval that would apply to the Project.

❖ ***SCA Hydro-1: Creek Protection Plan (64)***: (see Hydrology section of this CEQA Checklist, including BMPs to be implemented during construction)

Project Recommendations pursuant to City SCAs

Consistent with CASP EIR requirements and **SCA Hydro-1**, the Project sponsor has prepared a preliminary Erosion Control Plan for the Project, which includes the following elements consistent with City requirements for a Creek Protection Plan:

- A silt fence barrier with fiber roll in a compacted trench would be placed along the Project site boundary at Elmhurst Creek
- Fiber rolls (geo-synthetic straw wattle) in compacted tranches will be placed along the Project boundaries at South Coliseum Way and along the east property boundary

59 City of Oakland, CASP Draft EIR page 4.5-17

- stabilized construction entrances would be established at each construction entrance, using 2 to 3 inches of stone over 8 inches of crushed stone pad
- inlet protections would be placed around all existing stormdrain inlets to prevent sediment and erosion form draining into the storm drain [60]

This preliminary Erosion Control Plan would be subject to subsequent review and approval by the City prior to issuance of any grading permits for the Project but appears to be consistent with erosion and sedimentation control requirements of SCA Hydro-1 (see further discussion of erosion and sedimentation issues in the Hydrology section of this CEQA Checklist). Pursuant to SCA Hydro-1, Creek Protection Plan, the Project applicant is required to implement the erosion and sediment control plan during construction. Consistent with the findings of the CASP EIR, with full compliance with the required erosion and sediment control plan, the effects of soil erosion during construction would be reduced to levels considered acceptable by professional engineers, and therefore considered under CEQA to be less than significant. No additional mitigation is required.

d): Septic System Capability

The CASP EIR (Impact Geo-6) concluded that the CASP planning area is fully served by sewers available for the disposal of wastewater, and therefore the capability of soils within the planning area to adequately support the use of septic tanks or alternative wastewater disposal systems is not relevant (No Impact). [61]

Wastewater from the Project will either be conveyed via new on-site sewer system to the existing sewer lines and then treated and disposed of at the EBMUD wastewater treatment plant; or portable restrooms will be serviced (pumped) by a service provider and hauled to the EBMUD wastewater treatment plant. No septic tanks or alternative wastewater disposal systems are necessary or proposed. The Project would have no impact related to the capacity of local soils to adequately supporting the use of septic tanks or alternative wastewater disposal systems.

CEQA Conclusions Pertaining to Geology and Soils

The analysis presented above examines whether there are any Project-specific significant effects related to geology and soils that are peculiar to the Project or its site, finding none. The Project would have no impacts related to geology and soils that were not previously analyzed in the CASP EIR, would have no off-site or cumulative geology or soils impacts not discussed in the prior CASP EIR, and would not result in any geology or soils impacts that are more severe than as discussed in the prior CASP EIR. There are no impacts related to geology and soils that would otherwise invalidate the applicability of CEQA Guidelines Section 15183 for the Project.

None of the conditions described in CEQA Guidelines Sections 15162 or 15163 calling for preparation of a subsequent or supplemental EIR are met as pertains to geology and soils. The geology and soils analysis presented above does provide additional details regarding geologic conditions at the Project site, and the Project provides additional detailed geotechnical recommendations prepared by a registered geotechnical engineer for best addressing these conditions, specific to the site and the proposed Project improvements. These additional details are new information pertinent to the Project that was not available or practical at the time of certification of the CASP EIR. However, as described above, these new details do not introduce any new significant impacts pertaining to geology or soils that were not previously identified in the CASP EIR, and do not

[60] HOK, BKF, et.al., *Erosion Control Plan and Erosion Control Details*, Sheets C8.00 and C8.01, Project Application Materials, October 2023

[61] City of Oakland, CASP Draft EIR page 4.5-19

substantially increase the severity of any significant impacts as previously disclosed in the CASP EIR. The detailed geotechnical recommendations for the Project are fully consistent with the Standard Conditions of Approval as cited in the CASP EIR. These new details that are specific to the Project and its site are appropriately disclosed in this Addendum to the CASP EIR.

Greenhouse Gas Emissions

Would the Project:	CASP EIR Findings	Relationship to CASP EIR Findings: Equal or Less Severe	Relationship to CASP EIR Findings: New or Substantial Increase in Severity	Project Conclusions: Applicable Standards and Requirements	Project Conclusions: Resulting Level of Significance
a) Fail to demonstrate consistency with the 2030 Equitable Climate Action Plan (ECAP) adopted by the City Council on July 28, 2020? Consistency with the 2030 ECAP can be shown by either: Does the project commit to all of the GHG emissions reductions strategies described on the ECAP Consistency Checklist? or Does the Project comply with the GHG Reduction Standard Condition of Approval that requires a project-level GHG Reduction Plan quantifying how alternative reduction measures will achieve the same or greater emissions than would be achieved by meeting the ECAP Consistency Checklist	LTS with SCA	■	☐	SCA GHG-1, Project Compliance with the Equitable Climate Action Plan (ECAP) Consistency Checklist SCA Transportation-2, Transportation and Parking Demand Management SCA Energy-1, Green Building Requirements – Small Projects Transportation-4, Plug-In Electric Vehicle (PEV) Charging Infrastructure SCA Utilities-3: Construction and Demolition Waste Reduction and Recycling SCA Bio-3, Tree Permit	LTS with SCAs
b) For a project involving a stationary source, produce total emissions of more than 10,000 metric tons of CO_2e annually?	LTS	■	☐	-	LTS

Note: At the time the CASP EIR was certified, the threshold for determining whether a land use development project would have a significant impact on the environmental was a project that produced total emissions of more than 1,100 metric tons of CO_2e annually and more than 4.6 metric tons of CO_2e per service population annually. In December of 2020 and following the City's adoption of the Equity and Climate Action Plan, this threshold was changed to demonstration of consistency with the 2030 Equitable Climate Action Plan by committing to all of the GHG emissions reductions strategies described on the ECAP Consistency Checklist, or complying with the GHG Reduction Standard Condition of Approval that requires a project-level GHG Reduction Plan quantifying how alternative reduction measures will achieve the same or greater emissions than would be achieved by meeting the ECAP Consistency Checklist. The current (as of September 2023) GHG thresholds are relied on for analysis of the Project, below.

a): Land Use Emissions / ECAP Consistency

Conflicts with Plans, Policies or Regulations [62]

The CASP EIR (Impact GHG-3) determined that new development pursuant to the CASP would not fundamentally conflict with an applicable plan, policy or regulation adopted for the purpose of reducing greenhouse gas emissions. The CASP EIR found that the City's then-applicable numeric significance thresholds were formulated based on AB 32 reduction strategies, and that the numeric GHG significance thresholds were intended to serve as interim levels during implementation of AB 32 and SB 375. Until AB 32 has been fully implemented in terms of adopted regulations, incentives and programs, and until the Sustainable Communities Strategy or Alternative Planning Strategy required by SB 375 have been adopted or the California Air Resources Board (ARB) adopts a recommended threshold, the City's significance thresholds represented substantial compliance with applicable plans, policies and regulations adopted for the purpose of reducing GHG emissions. Since new development anticipated under CASP buildout did not exceed the numeric service population thresholds, at the plan or at the project level, the CASP was found not in conflict with applicable plans, policies and regulations adopted to reduce GHG emissions.

The CASP EIR concluded that development pursuant to the CASP would not be in conflict with then-current plans or policies adopted for the purpose of reducing GHG emissions, finding that all new development pursuant to the CASP would be required to comply with applicable plans, policies and regulations adopted for the purpose of reducing GHG emissions as compared to a baseline business-as-usual approach, and the impact was found to be less than significant.

Emissions per Service Population [63]

The CASP EIR (Impact GHG-2A and Impact GHG-3) determined that new development at the Coliseum District would generate greenhouse gas emissions from both direct and indirect sources that would have a significant impact on the environment. Specifically, development at the Coliseum District would involve land use development that would produce total emissions of more than 1,100 metric tons of CO_2e annually and 4.75 metric tons of CO_2e per service population annually, more than the then-applicable Project-level threshold of 4.6 metric tons of CO_2e per service population annually. Pursuant to City SCAs, individual subsequent development projects within the Coliseum District would be required to prepare project-specific GHG Reduction Plans. Because Coliseum District emission levels were so close to the project-level service population threshold, it was reasonable for the CASP EIR to assume that reductions for individual projects within the Coliseum District would be able to achieve the 4.6 metric tons per service population threshold. This impact was considered less than significant with implementation of City SCAs (LTS with SCA).

The CASP EIR cited SCAs that required each subsequent development project within the Coliseum District to assess whether that project may result in individually significant levels of GHG emissions. Projects exceeding pertinent screening criteria would be required to undergo project-specific GHG emissions forecasts and, as appropriate, implement project-specific GHG Reduction Plans intended to reduce project emissions levels below relevant thresholds.

Project Analysis

Since 2015 (when the City certified the CASP EIR) the City has adopted new GHG thresholds and several new policy documents and regulatory standards to further address issues related to GHG emissions. These new policy documents and regulations now apply to the Project, as summarized below.

[62] City of Oakland, CASP Draft EIR page 4.6-46

[63] City of Oakland, CASP Draft EIR page 4.6-34

City of Oakland 2030 Equitable Climate Action Plan

The current statewide goal pursuant to SB 32 is to reduce California's GHG emissions to 40 percent below 1990 levels by 2030, aligning with recommendations from the Intergovernmental Panel on Climate Change to achieve a level of climate stabilization that results in relatively minor consequences.

In 2018 and 2019, the Oakland City Council adopted several resolutions that formed the mandate and basis for the current 2030 Equitable Climate Action Plan (2030 ECAP), which replaced the city's 2020 Energy and Climate Action Plan and added an Equity lens to the measures and actions. The 2030 ECAP sets forth a detailed, equitable path toward cost-effectively reducing Oakland's local GHG emissions by a minimum of 56% below baseline 2005 GHG emissions levels by year 2030, transitioning away from fossil fuel dependence, removing carbon from the atmosphere through local projects, and ensuring that all of Oakland's communities are resilient to the foreseeable impacts of climate change by 2030. Oakland's adopted 2030 reductions target of 56% below Oakland's 2005 GHG emission reaches beyond that of the State's 40% target.

Concurrent with its adoption of the 2030 ECAP, Oakland City Council also adopted a resolution committing the city to achieve carbon neutrality by 2045. The 2030 ECAP contains not only deeper targets, but also qualitatively different and more focused actions than those contained in the 2020 ECAP. Whereas the 2020 ECAP included a heavy focus on energy efficiency and solar energy, the 2030 ECAP includes a major focus on building de-carbonization and energy resilience - fully removing natural gas from the built environment and installing energy storage systems where appropriate and feasible. The City's 2030 ECAP does not have a numeric threshold for individual projects, but rather requires that every project applicant must demonstrate consistency with the 2030 ECAP.

Building Electrification Ordinance

In December 2020, the Oakland City Council adopted a new ordinance to the OMC (Chapter 15.37: All-Electric Construction in Newly Constructed Buildings). These regulations require all newly constructed buildings to meet the definition of an All-Electric Building. As a result, newly constructed buildings are required to be designed to use a permanent supply of electricity as the source of energy for all space heating, water heating, cooking appliances, and clothes drying appliances, and will be prohibited from having natural gas or propane plumbing installed in the building.

City of Oakland Standard Conditions of Approval - GHG

As part of its December 2020 actions to implement the 2030 ECAP, the City of Oakland Planning Commission also adopted new SCAs related to GHG emissions from land use development projects. If a development project completes an ECAP Checklist and qualitatively demonstrates compliance with the Checklist items as part of the project's design (or alternatively, demonstrates to the City's satisfaction that the item is not applicable), then the project will be considered in compliance with the City's CEQA GHG Threshold of Significance. If a development project cannot meet all of the Checklist items, the project will alternatively need to demonstrate consistency with the 2030 ECAP by complying with the City of Oakland GHG Reduction Plan Condition of Approval. If the project cannot demonstrate consistency with the 2030 ECAP in either of those two ways, the City will consider the project to have a significant effect on the environment related to GHG emissions.

<u>Consistency with the 2030 Equitable Climate Action Plan</u>

The Project applicant has committed to implementation of all of the GHG emissions reductions strategies described on the ECAP Consistency Checklist that are applicable to the Project, thereby demonstrating consistency with the 2030 Equitable Climate Action Plan and reducing its GHG emissions to a level of less than significant. The Project applicants have completed an ECAP Consistency Checklist (see **Appendix G**), which answers affirmatively to all applicable Checklist questions, fully demonstrating their intent to comply with the City's 2030 ECAP and agreeing to incorporate all 2030 ECAP Consistency Checklist items into the Project's design, construction and operation. The ECAP Consistency Checklist and respective answers (as further explained) is provided in **Table 13**.

Table 13: ECAP Consistency Checklist

Yes	No	Land Use Consistency
■		1. For residential and mixed-use development, if the project is located on a parcel designated in the City of Oakland Housing Element as a Housing Inventory Site, is the proposed project a majority residential use (at least two-thirds of the square footage utilized for residential purposes) with either i) a minimum residential unit count no less than seventy-five percent of the realistic capacity designated for the site or ii) a minimum density of 30 dwelling units/acre? For non-residential development, is the proposed project substantially consistent with the City's over-all goals for land use and urban form, and/or taking advantage of allowable density and/or floor area ratio (FAR) standards in the City's General Plan?
The Project would develop a currently underutilized parking lot for a new professional sports venue. The proposed temporary stadium is consistent with the City of Oakland's land use and urban form goals and assumptions pursuant to the Coliseum Area Specific Plan, providing a sports venue that is within the development standards of the General Plan and applicable D-CO-2 zoning district. Pursuant to D-CO-2 development standards, the maximum non-residential FAR for the site is 8.0, whereas the Project seeks approval of development at an FAR of only 0.03 of occupied space, and FAR of only 0.15 with all building space including bleachers and portable restrooms, and an FAR of only 0.45 with inclusion of the sports field turf as built floor area. While this development intensity does not maximize the zoning allowance, the Project is fully consistent with the zoning and is a unique structure with a low floor area due to the open-air bleacher configuration, even though the bleachers provide for a very high density of just over 3 square feet per spectator. The Project's temporary status allows for reuse of the site at higher densities pursuant to a comprehensive master planned development for the entire Coliseum District, including the Malibu site, in the future.		
Yes	**No**	**Minimum Parking**
■		*2. For developments in "Transit Accessible Areas" as defined in the Planning Code, would the project provide less than the following off-street parking:* • *For Residential Activities, less than one parking space per dwelling unit?* • *For Commercial Activities, less than one parking space per 600 square feet of floor area on the ground floor and one parking space per 1,000 square feet of floor area on other floors?* • *For Industrial Activities, less than one space per 3,500 square feet of floor area if total size exceeds 25,000 square feet, and less than one space per 1,00 square feet in all other circumstances?* • *For Agricultural and Extractive Activities, less than one space per 1,000 square feet of floor area and outdoor sales area* *Where developments contain a mix of activities, each standard above should be applied to the respective component*
The Project site is located within a "Transit Accessible Area" as defined in the Planning Code because the Project site is within one-half (1/2) mile of the Coliseum BART Station. Pursuant to OMC section 17.116.070: Off-street parking for Civic Activities, extensive impact uses (such as a sports stadium) do not have a minimum number of parking spaces, and the number of parking spaces to be provided is to be prescribed by the Director of City Planning. The Director of City Planning shall base a determination of the parking requirement on the traffic generation of the activities, the amount and frequency of loading operations thereof, the time of operation of the activities, their location, and such other factors as affect the need for off-street parking or loading. At his or her discretion, the Director of City Planning may require the applicant to provide an analysis of parking demand and capacity from an independent professional. Pursuant to this requirement, an independent transportation consultant has prepared a parking analysis for the Project based on a baseline as extrapolated from travel surveys conducted for the Roots Soccer Stadium at the Laney College site in Oakland, less a 20 percent reduction in vehicle trips pursuant to the City's requirements of a Transportation Demand and Parking Management Plan. The Project intends to meet the parking demand that corresponds to this 20 percent reduction in vehicle trips using a combination of on-site and other existing near off-site parking lots at the Coliseum Complex.		

Yes	No	Structured Parking
N/A		**3**. For projects that include structured parking, would the structured parking be designed for future adaptation to other uses? (Examples include, but are not limited to the use of speed ramps instead of sloped floors)

The Project does not propose constructing any structured parking at the site.

Yes	No	Transit Passes
■		**4**. For projects that are subject to a Transportation Demand Management Program, would the project include transit passes for employees and/or residents?

Pursuant to City of Oakland SCA Transortation-1 (83) and the City Transportation Impact Review Guidelines, the Project is required to prepare a Transportation and Parking Demand Management Plan (TDM) to address all-around game-day and event-day transportation issues for the Project. The Project's TDM includes a menu of strategies intended to reduce the expected single-occupant vehicle trip generation rate for the Project by 20 percent. As part of these TDM measures, the applicant is required to (and has committed to) provide transit passes for employees.

Yes	No	Optional TDM Measures
N/A		**5**. For projects that are not subject to a Transportation Demand Management Program, would the project incorporate one or more of the optional Transportation Demand Management measures that reduce dependency on single-occupancy vehicles? (Examples include but are not limited to transit passes or subsidies to employees and/or residents; carpooling; vanpooling; or shuttle programs; on-site car-share program; guaranteed ride home programs)

The Project is subject to a Transportation Demand Management Program (see Transit passes, above).

Yes	No	PEV Charging Infrastructure
■		6. Does the project comply with the Plug-In Electric Vehicle (PEV) Charging Infrastructure requirements (Chapter 15.04 of the Oakland Municipal Code), if applicable?

The Project applicant has committed to comply with PEV Charging Infrastructure requirements of the Oakland Municipal Code, and the required EV chargers will be provided as part of the Project. The Project proposes to provide 11 preferred on-site parking spaces with charging stations for electric vehicles, equivalent to 10% of the total 109 parking spaces. An additional 11 on-site parking spaces will be designated for future electric vehicle charging stations, equivalent to an additional 10% of the total parking spaces. Preferred parking spaces will be designated for fuel-efficient vehicles, car share vehicles, carpools and electric vehicles.

Yes	No	Displacement
■		7. Would the project reduce or prevent the direct displacement of residents and essential businesses? (For residential projects, would the project comply with SB 330, if applicable? For projects that demolish an existing commercial space, would the project include comparable square footage of neighborhood serving commercial floor space)

The Project' site is a vacant, seldom-used parking lot adjacent to the Oakland Coliseum Complex. The Project's proposed development of a temporary sports stadium would not directly or indirectly displace residents or essential businesses. No demolition of any structures is required to implement the Project.

Yes	No	Sidewalk and Curb Space
■		8. Would the project prioritize sidewalk and curb space consistent with the City's adopted Bike and Pedestrian Plans? (The project should not prevent the City's Bike and Pedestrian Plans from being implemented. For example, do not install a garage entrance where a planned bike path would be, unless otherwise infeasible due to Planning Code requirements, limited frontage or other constraints)

The Project will not change the existing sidewalk or curb space along its one street frontage along South Coliseum Way. The existing sidewalk along the project-side of South Coliseum Way will remain, and it will not be interrupted by new curb cuts. Vehicle access to the Project site will be limited to Collins Drive (a short dead-end road from Hegenberger Road to the Project site). Vehicle access to the Coliseum Complex Parking Lot C (the anticipated parking area for stadium attendees) will use the existing vehicle entrance to the Coliseum Complex, and then attendees will use the existing sidewalk and bridge over Elmhurst Creek to directly access the site. There are no streets or pathways designated as Bike Paths, Lanes, Routes or Boulevards in the immediate vicinity of the Project site. Bike storage lockers are planned as part of the Project.

Yes	No	All Electric
■		9. Does the project not create any new natural gas connections/hook-ups?

The Project is proposed with all electric power, and no existing natural gas connections or new natural gas connections are proposed (see Required SCA's below).

Yes	No	Oakland Green Building Ordinance
■		10. Does the project comply with the City of Oakland Green Building Ordinance (Chapter 18.02 of the Oakland Municipal Code), if applicable?

The Project is required to meet the energy performance and other standards of the City's Green Building Ordinance (see Required SCA's below). The Project applicant has completed the Commercial Green Building Checklist for Alameda County, which provides 10 categories of green building strategies applicable to most commercial construction projects. The Project applicant has filled out the entire checklist based on the planned scope of work, indicating that the Project meets all applicable measures (see **Appendix H**). Per this Commercial Green Building Checklist, the Project is demonstrating as meeting all applicable measures, including:

- 1: General Requirements (Commercial Checklist and Operations & Maintenance Plan
- 2: Alternative Transportation Access (including 2A: Public Transit and 2B: Bicycle Parking
- 3: Reduced Parking
- 4: Reduced Heat Island Effect
- 5: Water Efficient Plumbing Fixtures
- 6: Improved Energy Efficiency
- 7: Construction Waste Management
- 8: Environmental Preferable Materials
- 9: Collection of Recyclables, and
- 10: Indoor Environment & Air

A certified GreenPoint rater has reviewed the Checklist and attests that the proposed Project would likely comply with the City of Oakland's Green Building Ordinance and attain green building certification.

Yes	No	City Retrofit Projects
N/A		11. For retrofits of City-owned or City-controlled buildings, would the Project be all electric, eliminate gas infrastructure from the building, and integrate energy storage wherever technically feasible and appropriate?

The Project is not a retrofit of City-owned or City-controlled buildings.

Yes	No	
■		12 Would the project reduce demolition waste from construction and renovation and facilitate material reuse in compliance with the Construction Demolition Ordinance (Chapter 15.34 of the Oakland Municipal Code)?

The Project would comply with the Construction Demolition Ordinance by requiring the Project contractor to reduce demolition waste and facilitates material reuse as required (see Required SCA's below).

Yes	No	Fossil Fuel Dependency
NA		13. For City projects: Have opportunities to eliminate/minimize fossil fuel dependency been analyzed in project design and construction?

The Project is not a City project, it is a private commercial development project as a temporary sports stadium.

Yes	No	Wildfire Severity
N/A		14. For new projects in the Designated Very High Wildfire Severity Zone: Would the project incorporate wildfire safety requirements such creation of defensible space around the house, pruning, clearing and removal of vegetation, replacement of fire-resistant plants, as required in the Vegetation Management Plan?

The Project site is well outside of any areas classified as a Very High Fire Hazard Severity Zone, which are identified throughout the East Bay Hills and more than 3 miles east of the Project site. [64]

[64] California Department of Forestry and Fire Protection (CalFire), VHSZ Viewer, accessed at: https://egis.fire.ca.gov/FHSZ/

Yes	No	Tree Replacement
■		15. Would the project replace a greater number of trees than will be removed in compliance with the Tree Preservation Ordinance (Chapter 12.36 of the Oakland Municipal Code) and Planning Code if applicable and feasible given competing site constraints?

Based on the Tree Survey conducted for the Project, the site includes 13 existing non-native trees. Of these, 11 trees are located along the Elmhurst Creek channel along the edge of the Project site, and 1 tree is on the boundary between the Project site and the adjacent City-owned HomeBase property. The Project does not propose removing any of these existing trees but does propose adding new trees to the site. Based on the Project's temporary status, the Project will add new oak trees planted in oversized nursery boxes and placed throughout the site, but these trees are intended to be transplanted for use in neighborhood parks and as street trees at the end of the stadium's tenancy.

Yes	No	Creek Protection and Stormwater Management
■		16. Does the project comply with the Creek Protection, Stormwater Management and Discharge Control Ordinance (Chapter 13.16 of the Oakland Municipal Code), as applicable?

A Creek Protection Plan will be prepared for City approval, to be submitted to the City at the time of site improvement applications. The Project will implement the Creek Protection Plan and will incorporate the contents required under section 13.16.150 of the Oakland Municipal Code, including Best Management Practices ("BMPs") during construction and after construction to protect the Elmhurst Creek waterway.

The Project sponsor has prepared a preliminary Stormwater Control Plan (SWCP) that addresses stormwater management measures for the project. This preliminary SWCP shows 2 Drainage Management Areas (or DMAs). For each DMA, C.3 stormwater quality treatment is primarily addressed through the incorporation of on-site permeable surfaces that qualify as NPDES c.3 water quality treatment areas via infiltration, removing pollutants and sediment prior to discharge into the City stormdrain system. These pervious self-treatment surfaces appear to be sized appropriately, meeting the stormwater treatment area requirements pursuant to NPDES c.3 criteria.

Consistent with the requirements of the CASP EIR, the Project is required to assess whether it may result in individually significant levels of GHG emissions. The Project applicants have implemented SCA GHG-1 by preparing an ECAP Consistency Checklist. This ECAP Checklist demonstrates full compliance with the ECAP policy and requirements and provides an adequate indication of the Project's GHG emissions, demonstrating that the Project does not exceed currently applicable thresholds for GHG emissions. The Project is therefore not required to implement a project specific GHG Reduction Plan.

<u>Applicable Standard Conditions of Approval</u>

The following City of Oakland SCAs are requirements of the Project and help fulfill the requirements of the City's 2030 ECAP and apply to the Project.

- ***SCA GHG-1 (47), Project Compliance with the Equitable Climate Action Plan (ECAP) Consistency Checklist***: The project applicant shall implement all the measures in the Equitable Climate Action Plan (ECAP) Consistency Checklist that was submitted during the Planning entitlement phase.
  - a) For physical ECAP Consistency Checklist measures to be incorporated into the design of the project, the measures shall be included on the drawings submitted for construction-related permits.
  - b) For physical ECAP Consistency Checklist measures to be incorporated into the design of the project, the measures shall be implemented during construction.
  - c) For ECAP Consistency Checklist measures that are operational but not otherwise covered by these SCAs, including but not limited to the requirement for transit passes or additional Transportation Demand Management measures, the applicant shall provide notice of these measures to employees and/or residents and post these requirements in a public place such as a lobby or work area accessible to the employees and/or residents

- ***SCA Transportation-2 (85), Transportation and Parking Demand Management*** (see Transportation section of this CEQA Checklist)
- ***SCA Energy-1 (93), Green Building Requirements, Small Projects***: (see Energy section of this CEQA Checklist)
- ***SCA Transportation-4 (88), Plug-In Electric Vehicle (PEV) Charging Infrastructure*** (see details in the Energy section of this CEQA Checklist)
- ***SCA Utilities-3 (89): Construction and Demolition Waste Reduction and Recycling***: (see details in the Utilities section of this CEQA Checklist)
- ***SCA Bio-3 (35), Tree Permit*** (see Biology section of this CEQA Checklist)

Since the Project is a development project, the Project applicants have completed the ECAP Consistency Checklist. The Checklist qualitatively demonstrates compliance (or required compliance through implementation of applicable City of Oakland SCA) with the Checklist items as part of the Project's design, or alternatively demonstrates to the City's satisfaction that certain items are not applicable. The Project complies with the City's current CEQA GHG threshold of significance (demonstrated compliance ECAP), and its GHG impacts would be less than significant. Accordingly, implementation of the City of Oakland's SCA GHG-2 pertaining to the preparation of a subsequent GHG Reduction Plan is not required.

b): Stationary Sources of GHG Emissions

CASP EIR Conclusions [65]

The CASP EIR (Impact GHG-1) found that new development pursuant to the CASP would not generate, either directly or indirectly, greenhouse gas emissions from stationary sources that would produce total emissions of more than 10,000 metric tons of CO2e annually. No specific stationary sources of air pollution were proposed pursuant to the CASP, but California building codes require back-up diesel generators for all buildings in excess of 70 feet in height for elevator safety, and other emergency generators were expected for back-up electricity requirements in the event of an emergency. The CASP EIR estimated the GHG emissions from one generator would be approximately 87 MT CO2e per year, and that as many as 114 emergency generators could be installed before exceeding the threshold of 10,000 MT CO2e per year. The CASP EIR did not expect that as many as 114 diesel generators would be installed, that the cumulative GHG emissions from emergency generators would not exceed the stationary source threshold of 10,000 MT CO2e per year, and this impact was found to be less than significant.

Project Analysis

The Project application materials do not indicate the needs for, nor the intent to provide emergency electrical power for the Project via emergency generators, and do not identify any other stationary sources of GHG emissions. The Project would have no impact related to stationary sources of GHG emissions.

CEQA Conclusions Pertaining to GHG Emissions

The analysis presented above examines whether there are any Project-specific significant effects related to GHG emissions that are peculiar to the Project or its site, finding none. The Project would have no impacts related to GHG emissions that were not previously analyzed in the CASP EIR, would have no off-site or cumulative impacts related to GHG emissions not discussed in the prior CASP EIR, and would not result in GHG emissions that are

65 City of Oakland, *CASP Draft EIR* page 4.6-32

more severe than as disclosed in the prior CASP EIR. There are no impacts related to GHG emissions that would otherwise invalidate the applicability of CEQA Guidelines Section 15183 for the Project.

None of the conditions described in CEQA Guidelines Sections 15162 or 15163 calling for preparation of a subsequent or supplemental EIR are met as pertains to GHG emissions. The analysis presented above does provide new information specific to the City's current GHG reduction strategy as outlined in the 2030 ECAP, and additional information pertaining to the Project's consistency with these GHG reduction strategies. This additional information pertinent to the Project was not available or practical at the time of certification of the CASP EIR. However, these new details do not introduce any new significant impacts pertaining to GHG emissions that were not previously identified in the CASP EIR, and do not substantially increase the severity of any significant GHG emission impacts as previously disclosed in the CASP EIR. The detailed information regarding the Project's consistency with the City's 2030 ECAP Checklist is fully consistent with the Standard Conditions of Approval as cited in the CASP EIR. These new details that are specific to the Project and its site are appropriately disclosed in this Addendum to the CASP EIR.

Hazards and Hazardous Materials

Would the Project:	CASP EIR Findings	Relationship to CASP EIR Findings: Equal or Less Severe	Relationship to CASP EIR Findings: New or Substantial Increase in Severity	Project Conclusions: Applicable Standards and Requirements	Project Conclusions: Resulting Level of Significance
a) 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?	LTS with SCAs	■	☐	SCA Haz-1 (48), Hazardous Building Materials and Site Contamination	LTS with SCA
b) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials? c) 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?	LTS with SCA	■	☐	SCA Haz-2 (47), Hazardous Materials Related to Construction	LTS with SCAs
d) Create a significant hazard to the public through the storage or use of acutely hazardous materials near sensitive receptors? e) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	LTS	■	☐	-	LTS
f) 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?	LTs	■	☐	-	No Impact
g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan? h) Result in less than two emergency access routes for streets exceeding 600 feet in length unless otherwise determined to be acceptable by the Fire Chief, or his/her designee, in specific instances due to climatic, geographic, topographic, or other conditions?	LTS	■	☐	-	LTS

i) Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?	See Wildfire section of this CEQA Checklist

a): Cortese List / Presence of Chemicals of Concern

CASP EIR Conclusions [66]

The CASP EIR (Impact Haz-5A) found that development at the Coliseum District would be located on sites included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 (i.e., the "Cortese List") and as a result, could create a significant hazard to the public or the environment. [67] This impact was determined to be less than significant with implementation of City of Oakland SCAs (LTS with SCA).

The CASP EIR determined that future development within the Coliseum District will require excavation for installation of building foundations and underground utilities, and some of these excavations could be substantial. Many of the development sites within the Coliseum District have had documented past releases of hazardous materials that have contaminated subsurface soils and groundwater or may have had a previously unknown release that would be exposed during excavation activities. Future construction within the Coliseum District could disturb impacted soil and/or groundwater, and the disturbed contaminated soil and/or groundwater could expose construction workers and the public to contaminants causing various health effects. The CASP identified several known sites within the Coliseum District that were listed on regulatory databases, including the Malibu Grand Prix site (i.e., the Project site) as a GeoTracker Cleanup Program site, with cleanup status of "Open - Site Assessment".

The CASP EIR determined that future development of any site that has a documented release of hazardous materials and that is listed in a regulatory database, is subject to site clean-up regulations as required by the designated regulatory agency. The CASP EIR concluded that future development pursuant to the CASP will be required to implement all applicable City of Oakland Standard Conditions of Approval, as well as implementation of all other relevant federal, state and city regulations, which will reduce these impacts to a less than significant level.

Project Analysis

A current review of the California Department of Toxic Substances Control's (DTSC) EnviroStor database does not identify the Project site as a Hazardous Waste or Substances site,[68] but a current review of the State Water Resource Control Board's (SWRCB) GeoTracker database does identify the Project site as having two separate open cases:

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[66] City of Oakland, CASP Draft EIR page 4.7-38

[67] The Cortese List includes properties listed as Hazardous Waste and Substances sites on DTSC's EnviroStor database, Leaking Underground Storage Tank Sites from the SWRCB GeoTracker database, solid waste disposal sites identified by SWRCB, "active" Cease and Desist Order and Cleanup and Abatement Order (CAO) sites from the SWRCB, and hazardous waste facilities subject to corrective action and listed on the EnviroStor database.

[68] DTSC Envirostor website, accessed at https://www.envirostor.dtsc.ca.gov/public/map/?myaddress=8000+South+Coliseum+Way%2C+Oakland

- The first case is identified as a Leaking Underground Fuel Tank Cleanup Program Site (LUST Case No. RO0000094/GeoTracker ID #T0600100859), and this case is listed as "Open – Site Assessment" since June 2021[69]
- The second case is identified as a Site Cleanup Program (Case RO0003382/GeoTracker ID# T10000013236, and this case is listed as "Open – Site Assessment" since July 31, 2019.[70]

Alameda County Department of Environmental Health (ACDEH) provides regulatory oversight for these open cases at the Project site.

<u>LUST Case History</u>

Prior to 1989, the Malibu Grand Prix facility owned and operated two 6,000-gallon underground storage tanks (USTs) containing marine mix gasoline. The two USTs were removed from the site on March 29, 1989 and February 1, 1990. Beginning in 1989, subsurface investigations were conducted at the site to delineate soil and groundwater contamination, including monitoring well installations. In 1994, the Malibu Grand Prix site was purchased by Alameda County and the City of Oakland jointly by the entity named as "Oakland Alameda County Coliseum." In 1995, approximately 4,000 cubic yards of soil was excavated with 3,000 cubic yards aerated and replaced back into the excavation. To be protective of human health and the environment, an asphalt cap was installed to mitigate exposure to contaminants. However, since residual hydrocarbon and lead contamination remained at the site, case closure was proposed in 1998 with the recordation of a Land Use Covenant and submittal of a Risk Management Plan to manage the residual contamination and stipulate maintenance requirements for the asphalt cap.

According to a December 23, 2019 letter from ACDEH:

> *"Based on our review, the residual contamination related to the USTs does not pose a potential threat to human health and the environment at the site in its current configuration as a parking lot, and ACDEH is considering case closure for the LUST case.*
>
> *However, fill materials at the site also contain contaminants that are not related to the former USTs utilized at the site. ACDEH has opened a separate Site Cleanup Program (SCP) case to regulate and oversee the non-LUST contamination at the site. Based on our review, the fill material contaminants do not pose a risk to the site in its current configuration as a parking lot. Therefore, to facilitate case closure of the SCP case, a Risk Management Plan (RMP) must be prepared, and a Land Use Covenant must be recorded."* [71]

Later in December 2019, Alameda County issued an Invitation to Comment-Potential Case Closure notice to the public. This notice indicated that, "Site investigation and cleanup activities have been completed and the site has been evaluated in accordance with the State Water Resources Control Board Low-Threat Underground Storage

[69] SWRCB Geotracker website, Malibu Grand Prix, accessed at: https://geotracker.waterboards.ca.gov/profile_report.asp?global_id=T0600100859

[70] SWRCB Geotracker website, Former accessed at: https://geotracker.waterboards.ca.gov/profile_report.asp?global_id=T10000013236

[71] Alameda County Health Care Services Agency, Department Of Environmental Health Local Oversight Program for Hazardous Materials Releases, "*Case Closure Consideration for Leaking Underground Fuel Tank Case*, Letter dated December 23, 2019, accessed at: https://geotracker.waterboards.ca.gov/view_documents?global_id=T10000013236&enforcement_id=6423455

Tank Case Closure Policy. The site appears to meet all of the criteria in the Low-Threat Closure Policy. Therefore, ACDEH is considering closure of the fuel leak case."[72]

However, by June of 2021 and based on information in the case file, ACDEH determined that the LUST case did not meet the criteria for case closure as the soil and groundwater had not been fully tested. ACDEH requested the Responsible Parties (i.e., the City and the County) to further test soil and groundwater.[73]

In March of 2023 and on behalf of the City of Oakland and Alameda County, Haley & Aldrich, Inc. submitted a Soil and Groundwater Investigation Report to ACDEH.[74] This Investigation Report confirmed that the site's previously impacted environmental conditions are associated with two former USTs, and a separate issue associated with imported fill material. The Investigation Report addresses the chemicals of concern (COC) associated with the USTs, which include benzene, toluene, ethylbenzene, and xylenes (BTEX), and total petroleum hydrocarbons as gasoline (TPHg). The Project site's soil and groundwater conditions were evaluated by advancing six borings and collecting soil and groundwater samples from each boring, and then conducting laboratory analyses of these soil and groundwater samples (see **Figure 22**). Detected concentrations of COCs were compared against Environmental Screening Levels (ESLs) established by the San Francisco Bay Regional Water Quality Control Board. Given the site's use as short-term parking lot, the soil ESLs selected for this assessment include those established for direct exposure human health risks for commercial/industrial properties, and for construction workers. Because groundwater beneath the site is not a current or future source of drinking water because there are no buildings on the site presenting a potential for vapor intrusion, the groundwater ESLs selected for this assessment include those established for aquatic habitat, saltwater ecotoxicity, and freshwater ecotoxicity. The results of this investigation indicated that limited VOCs, primarily benzene, ethylbenzene and naphthalene are present in a limited area of the Project site at concentrations above ESLs. This impact is present at both high and low tide conditions. More specifically,

- Soil and groundwater concentrations of benzene, ethylbenzene and naphthalene that were detected above both soil and groundwater ESLs appear to be localized in the vicinity of the two former underground storage tank excavations.
- Soil samples that exceed benzene and naphthalene ESLs were collected at 6 and 7 feet below ground surface (bgs) appear to be the source of impacted groundwater at this same location. Ethylbenzene concentrations in soil samples collected from the same borehole are also elevated, with concentrations just below ESLs.
- Groundwater concentrations of benzene, ethylbenzene and naphthalene are slightly higher in low tide conditions compared to high tide conditions.

[72] ACDEH, *Invitation To Comment-Potential Case Closure*, December 27, 2019, accessed at: https://geotracker.waterboards.ca.gov/view_documents?global_id=T0600100859&enforcement_id=6424758

[73] ACDEH, Letter, Subject: MTBE Testing for Leaking Underground Fuel Tank, June 29, 2021, accessed at: https://geotracker.waterboards.ca.gov/getfile?filename=/regulators%2Fdeliverable_documents%2F2890027701%2FRO0000094_DIR_L_2021-06-29.pdf

[74] Haley & Aldrich, Inc., on behalf of the City of Oakland and Alameda County, *Soil and Groundwater Investigation Report,* March 2023, accessed at: https://geotracker.waterboards.ca.gov/getfile?filename=/esi%2Fuploads%2Fgeo_report%2F9177077889%2FT0600100859.PDF

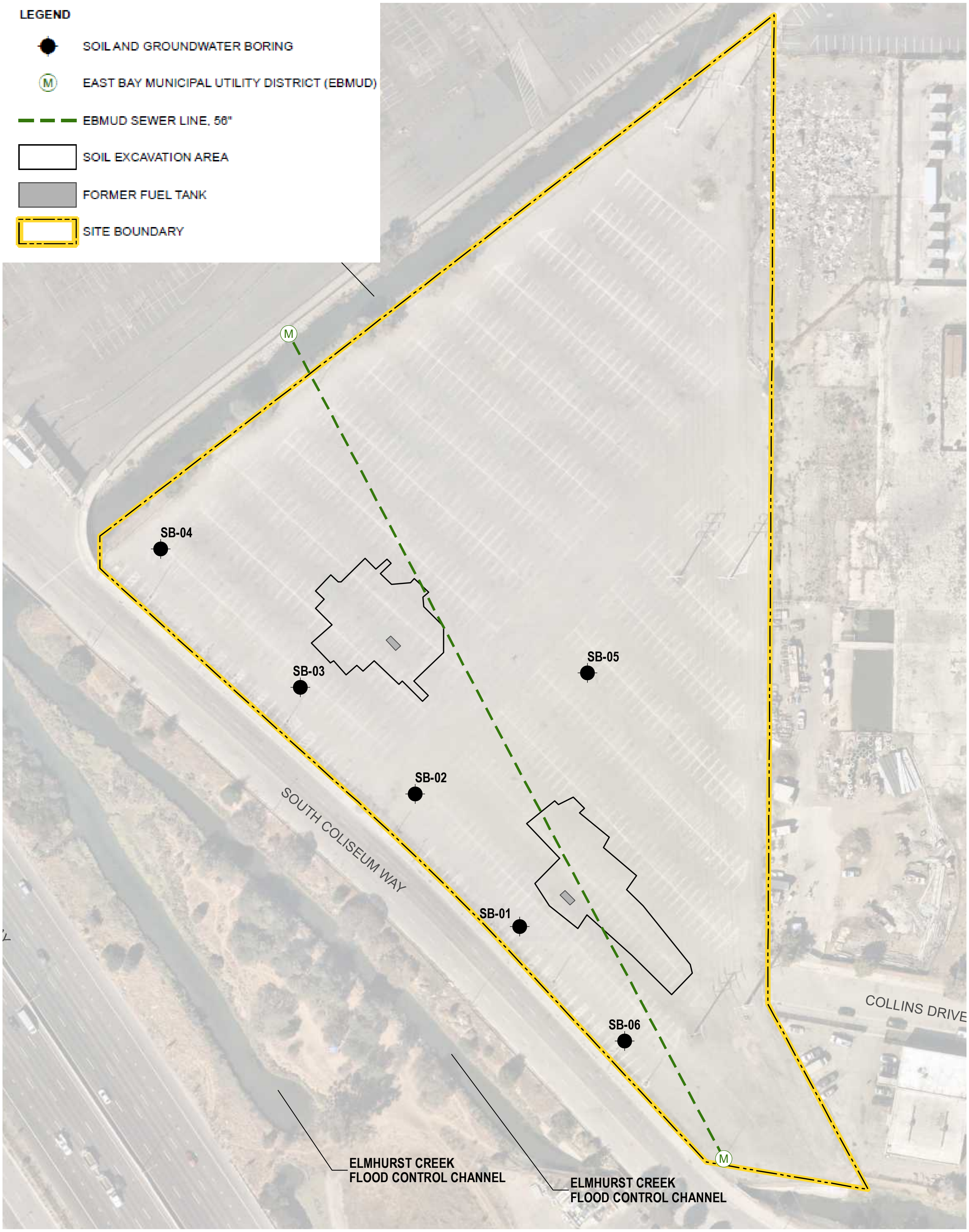

Figure 22
Soil and Groundwater Sampling Locations

Source: Haley Aldrich, *Soil and Groundwater Investigation Report*, March 2023

By November 2023 and based on ACDEH's review of the Soil and Groundwater Investigation Report, ACDEH determined that the LUST case did not meet the Low Threat Underground Storage Tank Case Closure Policy (LTCP) closure criteria. ACDEH determined that the data gaps in that Report needed to be addressed and a Site Investigation Work Plan be prepared to address those data gaps.[75]

In January 2024, Haley & Aldrich (on behalf of the City of Oakland and County of Alameda) submitted the requested Data Gap Investigation Work Plan to assess known impacts from chemicals-of-concern related to the prior UST-related releases. ACDEH issued conditional approval for subsurface investigations related to the Data Gap Investigation Work Plan on February 2024.[76]

Site Cleanup Program Case History

On behalf of the City of Oakland and Alameda County, Haley & Aldrich prepared a draft Risk Management Plan (RMP) for a separate case at the Project site to evaluate subsurface conditions from non-UST contaminants, including but not limited to imported fill material that contained a tar-like substances with reported chemicals of concern (COCs) including polychlorinated biphenyls (PCBs), phenanthrene, naphthalene, pyrene, and lead at the Project site. The RMP was submitted to ACDEH in June 2023 (see **Appendix I**) [77]

According to the RMP, the environmental investigations conducted at the site between 1990 and 1995 relative to the LUST Case (above) also identified a tar-like substance mixed with fill soil in the northeastern portion of the site, and on the ground surface. Samples of the tar-like substance were collected and submitted for laboratory analysis of volatile organic compounds (VOCs), TPH, metals, organochlorine pesticides, and polychlorinated biphenyls (PCBs). Concentrations of select constituents such as phenanthrene, naphthalene, pyrene, TPH, and lead were detected in elevated concentrations, and a minimal concentration of the PCB Aroclor-1260 was detected. The Bay Mud underlying the fill and shallow groundwater were also sampled, but were not found to be affected by the COCs detected in the tar-like substance samples. It was determined that the tar-like substance was likely imported with the fill material placed on the site during construction activity between 1955 and 1975.

A Site Management Plan (SMP) was prepared for the site in 1994. The SMP described the following measures as applicable towards development and maintenance of the site as a parking lot:

- worker and community health and safety plans to be utilized during any on-site construction
- limitations placed on excavation in areas where the on-site fill contains the tar-like substance
- a deed notice of site conditions, and
- regular inspections of the asphalt cap parking lot

In May 1995 and pursuant to the SMP, approximately 4,000 cubic yards of soil impacted by petroleum hydrocarbon was excavated and maintained on-site to aerate. Soil and grab groundwater samples were collected from the excavation, and found to contain detectable concentrations of BTEX, TPHg and total recoverable petroleum hydrocarbons (TRPH). Elevated lead concentrations were also detected. After the soil was spread out and aerated for 8 weeks, it was re-sampled. Levels of BTEX and TPHg were then found to be below the then-established cleanup levels.

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[75] Alameda County DEH, *Conceptual Site Model & Data Gap Investigation Work Plan - Leaking Underground Storage Tank Case #RO0000094*, November 30, 2023

[76] Alameda County DEH, *Conditional Approval of the Data Gap Investigation Work Plan*, February 2, 2024

[77] Haley & Aldrich, Inc., on behalf of the City of Oakland and Alameda County, Risk Management Plan (RMP) for Former Malibu Grand Prix, June 22, 2023, accessed at: https://geotracker.waterboards.ca.gov/getfile?filename=/esi%2Fuploads%2Fgeo_report%2F6295230448%2FT10000013236.PDF

As part of the Haley & Aldrich 2023 Soil and Groundwater Investigation Report (see above), residual environmental conditions within the imported fill material in the northeastern portion of the site were re-analyzed for TRPH and lead. The residual soil concentrations were compared against the RWQCB ESLs as effective July 2019. None of the post-aeration soil concentrations was found to exceed ESLs for construction worker direct exposure or human health, but samples collected from the side walls of the excavation were found to contain TPHg and TRPH at concentrations exceeding the human health ESLs for construction worker direct exposure.

The June 2023 RMP concluded that the site contains residually impacted soil and groundwater associated with historical releases from USTs, as well as from imported fill material. These impacted conditions are currently being mitigated through an asphalt cap that requires routine maintenance and monitoring to ensure the cap maintains its integrity and prevents exposure to the underlying impacted soil and groundwater conditions. The 2023 RMP also includes a preliminary list of proposed procedures to be followed when any future construction activity (e.g., the Project) occurs at the site.

<u>Applicable Standard Conditions of Approval</u>

The following City of Oakland SCAs (as updated) are cited in the CASP EIR as an effective means for addressing site contamination concerns, and would apply to the Project.

❖ ***SCA Haz-1 (50), Hazardous Building Materials and Site Contamination***

a) *Hazardous Building Materials Assessment*: The project applicant shall submit a comprehensive assessment report to the Bureau of Building, signed by a qualified environmental professional, documenting the presence or lack thereof of asbestos-containing materials (ACMs), lead-based paint, polychlorinated biphenyls (PCBs), and any other building materials or stored materials classified as hazardous materials by State or federal law. If lead-based paint, ACMs, PCBs, or any other building materials or stored materials classified as hazardous materials are present, the project applicant shall submit specifications prepared and signed by a qualified environmental professional, for the stabilization and/or removal of the identified hazardous materials in accordance with all applicable laws and regulations. The project applicant shall implement the approved recommendations and submit to the City evidence of approval for any proposed remedial action and required clearances by the applicable local, state, or federal regulatory agency.

b) *Environmental Site Assessment*: The project applicant shall submit a Phase I Environmental Site Assessment report, and Phase II Environmental Site Assessment report if warranted by the Phase I report, for the project site for review and approval by the City. The report(s) shall be prepared by a qualified environmental assessment professional and include recommendations for remedial action, as appropriate, for hazardous materials. The project applicant shall implement the approved recommendations and submit to the City evidence of approval for any proposed remedial action and required clearances by the applicable local, state or federal regulatory agency.

c) *Health and Safety Plan*: The project applicant shall submit a Health and Safety Plan for the review and approval by the City in order to protect project construction workers from risks associated with hazardous materials. The project applicant shall implement the approved Plan.

d) *Best Management Practices (BMPs) Required for Contaminated Sites*: The project applicant shall ensure that Best Management Practices (BMPs) are implemented by the contractor during construction to minimize potential soil and groundwater hazards. These shall include the following:

   i. Soil generated by construction activities shall be stockpiled on-site in a secure and safe manner. All contaminated soil determined to be hazardous or non-hazardous waste must be adequately profiled (sampled) prior to acceptable reuse or disposal at an appropriate off-site facility. Specific sampling, handling and transport procedures for reuse or disposal shall be in accordance with applicable local, state and federal requirements.

ii. Groundwater pumped from the subsurface shall be contained on-site in a secure and safe manner, prior to treatment and disposal, to ensure environmental and health issues are resolved pursuant to applicable laws and policies. Engineering controls shall be utilized, which include impermeable barriers to prohibit groundwater and vapor intrusion into the building

As documented above, the property owners of the Project site (the City and the County) have conducted appropriate site investigations as required by SCA Haz-1. These investigations have been prepared by qualified environmental assessment professionals, and they include recommendations for remedial action as appropriate for hazardous materials. Pursuant to SCA Haz-1, the property owner (i.e., the City/County) is now required to pursue ACDEH approvals for required corrective actions.

Project-Specific Measures

In January of 2024, ACDEH met with representatives of the City of Oakland and the County of Alameda and their environmental consultant (Haley & Aldrich, Inc.), as well as representatives of the Oakland Roots Sports Club and their respective environmental consultants and development team (ENGEO, Inc., and Keystone Development Group). The purpose of the meeting was to discuss the status and path forward for the Leaking Underground Storage Tank (LUST) Cleanup Program Site Case (Case #RO00000094), and for the associated Cleanup Program Site (CPS) Case (Case #RO0003382). Notes from this meeting, as posted to the SWRCB's GeoTracker website, identify a process and potential schedule for moving toward Case Closure for both of these open cases, and for construction of the Project.[78] This process and schedule identifies the responsibilities of the City of Oakland and Alameda County (as Property owners) and the coordination and implementation responsibilities of the Oakland Roots Sports Club (as applicant), and is a summarized below:

- Submittal of the Site Conceptual Model /Data Gap Investigation with draft grading plans (Roots) - completed
- Submittal of, and ACDEH distribution of Fact Sheet for CPS and LUST Cases, with 30-day comment period - completed
- Submittal of, and ACDEH approval of LUST Investigation Work Plan; City and County to conduct and submit LUST Investigation Report with recommendations for conceptual soil and groundwater remediation (if warranted); ACDEH review and comment on LUST Investigation Report; and ACDEH directive letter for conditional approval of LUST remediation
- Submittal of Draft Corrective Action Plan (CAP) for ACDEH review, to include: a) potential soil/groundwater remediation based on LUST investigation; b) soil CAP with sequencing of soil disturbance per the Project; c) Project-related utility corridors/demarcation layer; d) contingency for off-haul; and e) cross section and plans for Project's permeable asphalt and gravel; ACDEH review and comment on draft CAP
- Project (Conditional Use Permit) approval by City of Oakland
- Submittal of, and ACDEH approval of Remedial Excavation and/or Capping Plans & Specifications, and construction sequencing
- Petroleum remedial excavation (if warranted)

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[78] ACDEH, Cleanup Site Program Case #RO0003382 – Former Malibu Grand Prix – 8000 Coliseum Way, Conference call on 1/4/2024, *R03382_Meeting Notes_Jan42024*.pdf, accessed at: https://geotracker.waterboards.ca.gov/view_documents?global_id=T0600100859&enforcement_id=6570693

- Start of construction, and remediation of petroleum and excavation work (if warranted)

This process and sequence is anticipated to enable paving/covering the site pursuant to the Project, together with submittal to ACDEH of an Environmental Risk Management Plan, an Operations, Maintenance, Monitoring and Reporting Plan, and a Land Use Covenant, in November of 2024. This provides adequate time for the start of the Oakland Roots soccer season by March of 2025. This schedule was a best estimate made in January of 2024, and will likely evolve over time in response to progress efforts and new information as may become known.

Data Gap Investigation Work Plan

Pursuant to the schedule above, Haley & Aldrich (on behalf of the City of Oakland and County of Alameda) submitted a Data Gap Investigation Work Plan to ACHED on January 29, 2024.[79] The Data Gap Investigation Work Plan presents the proposed scope of work to further assess known impacts from UST-related releases pursuant to the LUST Case (Case #RO0000094). On February 2, 2024 ACHED issued conditional approval of the Data Gap Investigation Work Plan.[80]

Fact Sheet

On January 12, 2024, Alameda County Department of Environmental Health (ACDEH) distributed a “Fact Sheet” to inform community members and other interested stakeholders about potential environmental corrective action activities at the Project Site related to the Site Cleanup Program (Case #RO0003382).[81] The Fact Sheet identifies the City of Oakland and Alameda County (collectively the Property Owners) as responsible for investigation and cleanup of the site, and contained information on the site’s background, environmental investigations, potential corrective actions and community protection measures to be implemented during proposed site redevelopment. The Fact Sheet identified Oakland Pro Soccer, LLC (the Project applicant) as having proposed a soccer stadium for the Oakland Roots and Soul Soccer Teams at the site until a permanent soccer stadium site is identified and constructed. The Fact Sheet indicated that the Property Owners are evaluating corrective actions and mitigation actions to meet regulatory guidelines that are protective of human health to support redevelopment for the Project, and identified the following anticipated corrective actions:

- additional soil and ground water characterization associated with the former leaking underground storage tank area
- potential soil and/or groundwater remediation in the former leaking underground storage tank area
- potential removal of impacted soil from proposed grading and utility line trenches, and
- reconsolidation of site soil with an engineered cap

The Fact Sheet also identified that Property Owner will protect the surrounding community from dust and other environmental related nuisances during implementation of corrective actions including measures to protect the surrounding community including:

- controlling dust during soil disturbing activities by using water and covering soil stockpiles

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79 Haley & Aldrich, *Data Gap Investigation Work Plan, Former Malibu Grand Prix*, January 2024, accessed at: https://geotracker.waterboards.ca.gov/profile_report?global_id=T0600100859

80 ACDEH, Conditional Approval of the Data Gap Investigation Work Plan, Leaking Underground Storage Tank (LUST) Cleanup Site Case No RO0000094, February 2, 2024, accessed at: https://geotracker.waterboards.ca.gov/view_documents?global_id=T0600100859&enforcement_id=6571360

81 ACDEH, *Fact Sheet on Potential Corrective Actions and Mitigation Measures for 8000 South Coliseum Way*, January 12, 2024, RO3382_FACTSHEET_2024-01-12.pdf, accessed at: https://geotracker.waterboards.ca.gov/view_documents?global_id=T10000013236&enforcement_id=6568446

- performing real-time and perimeter air monitoring during impacted soil disturbing work
- controlling stormwater runoff using best management practices
- cleaning truck tires and undercarriages to prevent dust from tracking out
- adhering to the City of Oakland–approved truck routes, and
- maintaining perimeter Site fencing with signage that includes a phone number for more information

ACDEH will review and consider all public comments before making a final decision on proposed corrective actions. A draft Corrective Action Plan will be prepared following additional investigation of soil and groundwater in the UST area, and finalization of redevelopment grading and capping plans.

Voluntary Remedial Action Agreement [82]

In January of 2024, Oakland Professional Soccer LLC entered into a Voluntary Remedial Action Agreement with ACDEH pertaining to the Site Cleanup Program (Case #RO0003382). Pursuant to this Agreement, ACDEH will provide oversight of investigation and cleanup of subsurface contamination from historical land use, including contaminated fill import, to facilitate redevelopment of the Project site. This will include site assessment and/or remedial action at the site with respect to subsurface contamination. Oakland Professional Soccer LLC (as Responsible Party) shall complete the following tasks:

- *Submittal of Existing Data*: Submit to ACDEH all background information, analytical results, environmental assessment reports including Phase I environmental assessment reports and any other information pertinent to environmental conditions at the site.
- *Site Assessment*: Conduct site assessment activities to characterize the nature and extent of contamination and to determine whether the site poses a threat to human health or the environment. Documents which may be required as part of this site assessment could potentially include Work Plans, Site Assessment Reports, Risk Assessment Reports, Sensitive Receptor Survey Reports and Conceptual Site Models
- *Remedial Actions*: Documents which may be required as part of remedial actions could potentially include Interim Remedial Action Work Plans, Feasibility Study Reports, Remedial Action Plans, Remedial Action Completion Reports, Risk Management Plans, Monitoring Reports and Recording of Environmental Covenants
- *Additional Actions*: The Responsible Party(ies) understands that as additional information about the waste release, site conditions and related information becomes available, additional actions may be recommended and/or required

This Voluntary Remedial Action Agreement does not pertain to investigation or cleanup of the separate LUST Case (Case #RO0000094), for which the City and County remain the Responsible Parties.

The Site Conceptual Model, the Data Gap Analysis, the Corrective Action Plan and the Remedial Excavation and Specifications Plans will all be subject to sequential ACDEH review and approval prior to initiation of any construction, grading and ultimate occupancy of the site. Consistent with the conclusions of the CASP EIR, the Project's effects related to site contamination and the presence of chemical of concern will be fully addressed through implementation of City SCAs and existing regulations, and pursuant to the regulatory oversight of

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[82] ACDEH, Voluntary Remedial Action Agreement #: RO0003382-2024-01-04, accessed at: https://geotracker.waterboards.ca.gov/getfile?filename=/regulators%2Fdeliverable_documents%2F8215375602%2FRO0003382_VRAA_2024-01-17.pdf

Alameda County Environmental Health Department Local Oversight Program. With implementation of the approved CAP, this impact will be reduced to less than significant.

Routine Transport, Use or Disposal of Hazardous Materials / Upset and Accident Condition

CASP EIR Conclusions [83]

The CASP EIR (Impact Haz-1) found that future development pursuant to the CASP would result in an increase in the routine transportation, use and storage of hazardous chemicals. Construction pursuant to the CASP could result in impacts from hazards or hazardous materials if construction-related activities were to result in hazards or the release of hazardous materials. Ongoing commercial, retail and residential activities pursuant to the CASP may also involve the use of chemical compounds and products that are considered hazardous materials and that could require the transportation, use and storage of additional quantities of hazardous materials for new businesses and entities. If not handled, stored, or transported appropriately, these impacts could be potentially significant.

The CASP EIR found that handling and use of hazardous materials and the disposal of the resulting hazardous wastes would be required to follow all applicable laws and regulations, and projects requiring the use and disposal of hazardous materials would be required to comply with project-specific hazards best management practices as required by SCAs. The CASP EIR concluded that compliance with applicable regulatory requirements would minimize hazards to workers, visitors, the public and the environment from waste products. With implementation of these requirements, impacts resulting from hazardous materials and hazardous waste transport, use and disposal would be less than significant.

Project Analysis

Construction Effects

Construction activities pursuant to the Project will utilize hazardous chemicals such as fuels, oils and lubricants, paints and thinners, solvents, and other chemicals. Construction activities could generate chemical wastes that, if not properly managed, could flow into the storm drainage system or nearby surface water bodies including the San Francisco Bay.

Operational Effects

Ongoing operations at the stadium and parking area may involve the routine use of common commercial cleaning and maintenance chemicals and products that contain hazardous materials. Use of these products according to manufacturer’s recommendation would ensure these chemicals do not become a hazard to people or the environment. The Project would not involve transportation, use or storage of quantities of hazardous materials during operation that are of greater consequence than typical commercially available products.

<u>Applicable Standard Conditions of Approval</u>

The following City of Oakland SCA is cited in the CASP EIR as an effective means for addressing routine transport, use or disposal of hazardous materials during construction, and would apply to the Project.

- ***SCA Haz-2 (49), Hazardous Materials Related to Construction***: The project applicant shall ensure that Best Management Practices (BMPs) are implemented by the contractor during construction to minimize potential negative effects on groundwater, soils, and human health. These shall include, at a minimum, the following:

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83 City of Oakland, CASP Draft EIR page 4.7-35

a) Follow manufacture's recommendations for use, storage, and disposal of chemical products used in construction
b) Avoid overtopping of fuel gas tanks on construction equipment
c) During routine maintenance of construction equipment, properly contain and remove grease and oils
d) Properly dispose of discarded containers of fuels and other chemicals
e) Implement lead-safe work practices and comply with all local, regional, state, and federal requirements concerning lead (for more information refer to the Alameda County Lead Poisoning Prevention Program), and
f) If soil, groundwater or other environmental medium with suspected contamination is encountered unexpectedly during construction activities (e.g., identified by odor or visual staining, or if any underground storage tanks, abandoned drums or other hazardous materials or wastes are encountered), the project applicant shall cease work in the vicinity of the suspect material. The area shall be secured as necessary, and the applicant shall take all appropriate measures to protect human health and the environment. Appropriate measures shall include notifying the City and applicable regulatory agency(ies) and implementation of the actions described in the City's Standard Conditions of Approval, as necessary, to identify the nature and extent of contamination. Work shall not resume in the area(s) affected until the measures have been implemented under the oversight of the City or regulatory agency, as appropriate.

Consistent with the conclusions of the CASP EIR, the Project's effects related to routine transport, use or disposal of hazardous materials during construction will be fully addressed through implementation of City SCAs and existing regulations, and this impact would be reduced to less than significant.

Emit Hazardous Emissions or Handle Hazardous Materials near Schools or Sensitive Receptors

CASP EIR Conclusions [84]

The CASP EIR (Impact Haz-4) found that development pursuant to the CASP could involve use of hazardous materials within 0.25 mile of a school. There are four schools located within the CASP's Sub-Area C, and two grade schools and one daycare center located outside but within ¼-mile of the CASP planning area.

The CASP EIR found that operations that involve handling of hazardous material within 1,000 feet of a school or other sensitive receptor would be required to comply with the City of Oakland's ordinances and General Plan policies that require such operations to prepare a Hazardous Materials Assessment Report and Remediation Plan (HMARRP). The HMARRP would disclose the use of hazardous materials at the site, would require an assessment of potential off-site risks, and would identify precautions to reduce identified risks. The HMARRP is subject to review and approval by the City of Oakland. Additionally, those handling or storing hazardous materials would be required to prepare a Hazardous Materials Management Plan (HMMP) and Hazardous Materials Business Plan (HMBP) as required by Alameda County and the City's SCAs. The CASP EIR concluded that completion of these requirements would reduce the potential for an unacceptable release of hazardous materials within 0.25 mile of a school to a less than significant level.

Project Analysis

There are no schools or daycare centers located within ¼-mile (or within 1,000 feet) of the Project site. The land uses surrounding the Project site include light industrial and commercial uses, the Coliseum Complex and the

84 City of Oakland, CASP Draft EIR page 4.7-37

freeway. The Project would not involve use of hazardous materials within 0.25 mile of a school, and this impact would be less than significant.

Airport-Related Safety or Excessive Noise Hazards

CASP EIR Conclusions [85]

The CASP EIR (Impact Haz-7) found that the entire CASP planning area is located within the Oakland International Airport Land Use Compatibility Plan (ALUCP) planning area, and within two miles of the Oakland Airport, but that the CASP would not result in a safety hazard for people residing or working in the CASP planning area. The ALUCP establishes land use safety compatibility criteria developed to minimize the risks to people and property on the ground, as well as those for people in an aircraft in the event of an accident or emergency landing. The ALUCP states that the risk that potential aircraft accidents pose to land around the airport shall be defined in terms of the geographic distribution of where accidents are most likely to occur. To define those risks the ALUCP identifies safety zones around the airport. The safety zone criteria that are applicable to a particular zone are largely a function of risk acceptability. The CASP EIR concluded that the CASP complied with the land use safety and compatibility criteria of the ALUCP, and this potential impact was found to be less than significant.

Project Analysis

The Project site is located within the ALUCP Safety Zone 7: Other Airport Environs, which applies to the area between Zone 6: 6: Traffic Pattern Zone and the AIA boundary. Within this safety zone, there are no land use restrictions. The Project would not conflict with the land use safety and compatibility criteria of the ALUCP, and no impact related to airport safety hazards would occur (see also the Land Use section of this CEQA Checklist related to ALUCP consistency with building height, noise and lighting restrictions). [86]

Interference with Emergency Response Plan or Emergency Evacuation Plan

CASP EIR Conclusions [87]

The CASP EIR (Impact Haz-9) found that development pursuant to the CASP could potentially impair implementation of, or physically interfere with an adopted emergency response plan or emergency evacuation plan. The Safety Element of the City's General Plan identifies Hegenberger Road, San Leandro Street and Edgewater Drive as evacuation routes. Other roadways near the Project Area designated as evacuation routes include International Boulevard, Seminary Avenue, Doolittle Drive and 98th Avenue. The CASP EIR determined that the CASP (especially new planned development within the Coliseum Sub-Area) would result in significant and unavoidable traffic congestion on many of these emergency routes, including during special events at the sports venues. However, the CASP EIR concluded that implementation of the CASP would not impair, re-route, reduce, or otherwise interfere with these evacuation routes. The CASP EIR concluded that any evacuation route would likely be congested in the case of an emergency and that additional peak hour traffic caused by the CASP would not impair an emergency evacuation plan, and this impact was determined to be less than significant.

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85 City of Oakland, *CASP Draft EIR* page 4.7-48

86 Alameda County Airport Land Use Commission, *Oakland International Airport Land Use Compatibility Plan (ALUCP)*, December 2010

87 City of Oakland, *CASP Draft EIR* page 4.7-48

Project Analysis

The Project site is directly accessible to I-880 from South Coliseum Way to either the Hegenberger Road or 66th Avenue interchanges in the event of an emergency evacuation. The Project would not interfere with emergency evacuation routes on Hegenberger Road or 66th Avenue, and this impact is not considered significant.

CEQA Conclusion Pertaining to Hazard and Hazardous Materials

The analysis presented above examines whether there are any Project-specific significant effects related to hazards and hazardous materials that are peculiar to the Project or its site, finding none. The Project would have no impacts related to hazards or hazardous materials that were not previously analyzed in the CASP EIR, would have no off-site or cumulative impacts related to hazards or hazardous materials not discussed in the prior CASP EIR, and would not result in any hazards or hazardous materials impacts that are more severe than as discussed in the prior CASP EIR. There are no impacts related to hazards and hazardous materials that would otherwise invalidate the applicability of CEQA Guidelines Section 15183 for the Project.

None of the conditions described in CEQA Guidelines Sections 15162 or 15163 calling for preparation of a subsequent or supplemental EIR are met as pertains to hazards and hazardous materials. The hazards and hazardous materials analysis presented above does provide additional details regarding hazards and hazardous materials conditions specific to the Project site, and the Project provides additional detailed recommendations for best addressing these conditions specific to the site. These additional details are new information pertinent to the Project that were not available or practical at the time of certification of the CASP EIR. However, as described above, these new details do not introduce any new significant impacts pertaining to hazards and hazardous materials that were not previously identified in the CASP EIR, and do not substantially increase the severity of any significant impacts as previously disclosed in the CASP EIR. The detailed recommendations for the Project are fully consistent with the SCAs as cited in the CASP EIR. These new details that are specific to the Project and its site are appropriately disclosed in this Addendum to the CASP EIR.

Hydrology and Water Quality

Would the Project:	CASP EIR Findings	Relationship to CASP EIR Findings: Equal or Less Severe	Relationship to CASP EIR Findings: New or Substantial Increase in Severity	Project Conclusions: Applicable Mitigation, Standards and Requirements	Project Conclusions: Resulting Level of Significance
a) Place housing within a 100-year flood hazard area that would impede or redirect flood flows? b) Place structures within a 100-year flood hazard area which would impede or redirect flood flows? c) Expose people or structures to a substantial risk of loss, injury or death involving flooding? d) Expose people or structures to a substantial risk of loss, injury, or death as a result in inundation by seiche, tsunami, or mudflow?	LTS	■	☐	-	LTS
e) 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 result in substantial erosion siltation or flooding, on- or off-site? f): Fundamentally conflict with the City of Oakland Creek Protection Ordinance (OMC Chapter 13.16) intended to protect hydrologic resources.	LTS with SCAs (assuming no relocation of Elmhurst Creek)	■	☐	SCA Hydro-1, Creek Protection Plan	LTS with SCAs
During construction: g): Violate any water quality standards? or h): Result in substantial erosion or siltation on- or off-site that would affect the quality of receiving waters?	LTS with SCAs	■	☐	SCA Geo-4, Erosion and Sedimentation Control Plan SCA Hydro-1, Creek Protection Plan SCA Hydro-2, State Construction General Permit	
During operation i): Substantially alter the existing drainage pattern of the site or area through the addition of impervious surfaces, in a manner which would: j): Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite? k): Create or contribute runoff water which would exceed the capacity of existing or	LTS with SCA	■	☐	SCA Hydro-3, NPDES C.3 Stormwater Requirements for Regulated Projects SCA Hydro-4, Vegetation Management on Creekside Properties	LTS with SCA

planned stormwater drainage systems or provide substantial additional sources of polluted runoff?					
l) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin? m) Violate any waste discharge requirements or otherwise substantially degrade surface water quality?	LTS	■	☐	SCA Hydro-2, State Construction General Permit	LTS with SCA
n) Conflict with or obstruct implementation of a sustainable groundwater management plan? o) Conflict with or obstruct implementation of a water quality control plan?	LTS with SCAs	■	☐	-	LTS
Non-CEQA Threshold: p) Be susceptible to inundation, storm events and storm events with wind waves in the event of sea level rise?	Non-CEQA	■	☐	SCA Hydro-5 (65): BCDC Approval CASP EIR's Rec. Hydro-5	--

a) through d): Flooding

CASP EIR Conclusions [88]

The CASP EIR (Impact Hydro-2) found that new development at the Coliseum District would not be susceptible to flooding hazards, as no new development was proposed within a 100-year flood zone as mapped by FEMA. This impact was found to be less than significant with implementation of City of Oakland SCAs (LTS with SCAs).

The majority of the Coliseum District is located outside of the 100-year flood zone. The only portions of the Coliseum District identified as being within a 100-year flood zone are those areas within the banks of the on-site drainage channels (i.e., within Elmhurst Creek and Damon Slough). All new development within the Coliseum District would occur outside of these existing creek channels, and thus no development will occur within the 100-year flood zone.

Project Analysis

As demonstrated in **Figure 23**, the Project site is not located within the FEMA-designated 100-year flood zone. The Project site, like much of the surrounding within the Coliseum District, is within the 0.2 percent Annual Chance of Flood Hazard (i.e., the 500-year flood zone), which is not a regulated flood zone. [89]

Consistent with the findings of the CASP EIR, the impacts of the Project related to flooding hazards (i.e., impeding or redirecting flood flows, or exposing people or structures to a substantial risk involving flooding or inundation by tsunami) would be less than significant and no additional mitigation is required.

[88] City of Oakland CASP Draft EIR, page 4.8-29

[89] Federal Emergency Management Agency (FEMA), FEMA's National Flood Hazard Layer (NFHL) Viewer, accessed at: https://hazards-fema.maps.arcgis.com/apps/webappviewer/index.html?id=8b0adb51996444d4879338b5529aa9cd

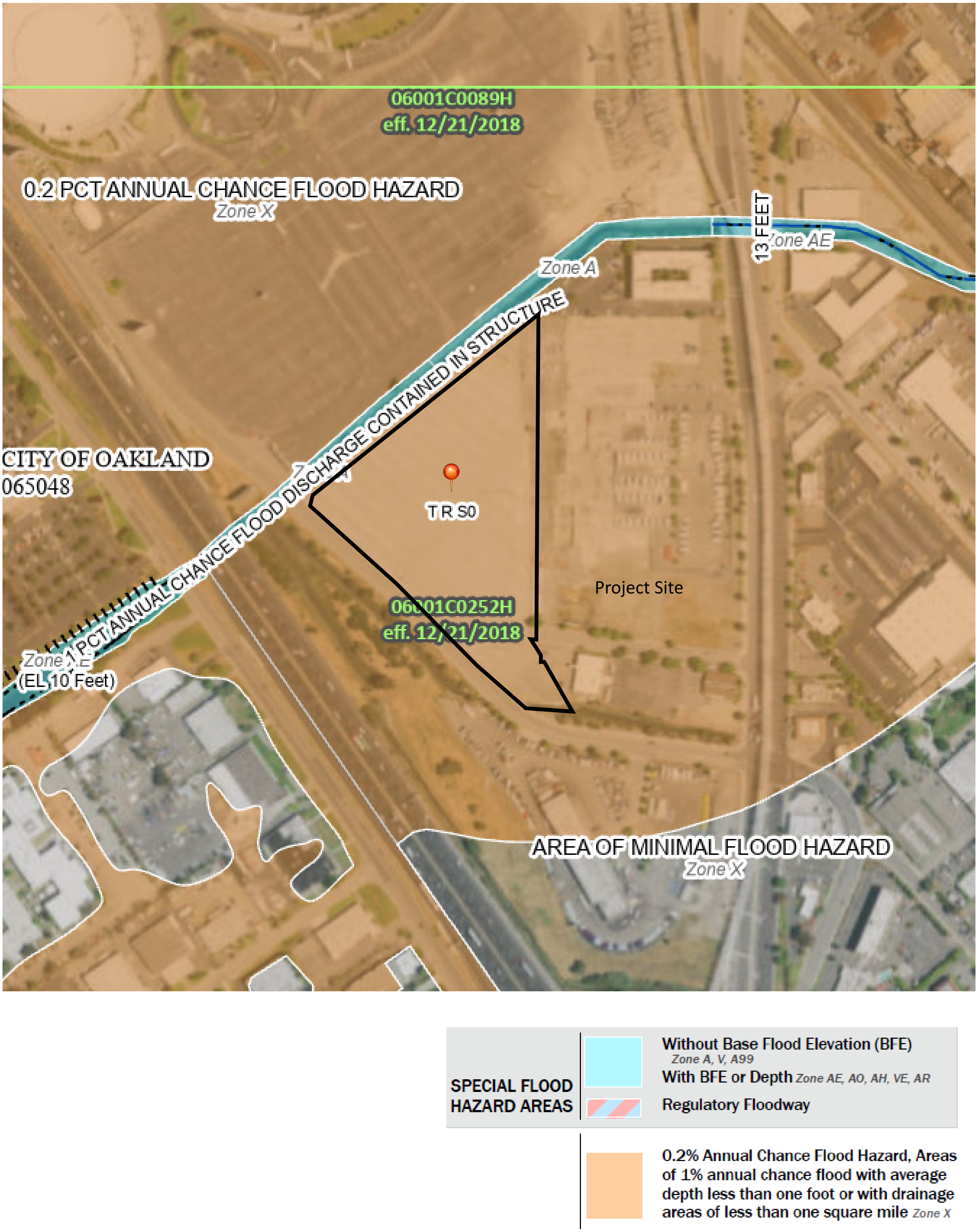


Figure 23
National Flood Hazard Layers

Source: FEMA, National Flood Hazard Layer FIRMette,

e and f): Alteration of a Creek or Stream, or Conflict with the City of Oakland Creek Protection Ordinance

CASP EIR Conclusions [90]

The CASP EIR (Impact Hydro-1A) found that new development at the Coliseum District would alter drainage patterns and potentially increase the level of contamination or siltation in stormwater flows. New development at the Coliseum District was assumed to likely require relocation of Elmhurst Creek to allow for development of a new Stadium. Three options related to Elmhurst Creek were identified in the CASP EIR, including 1) allowing Elmhurst Creek to remain in its current alignment and within its existing dimensions with no new crossings; 2) improving the Elmhurst Creek channel with a 3:1 setback ratio and a widened easement, with new pedestrian and vehicular crossings at bridges; or 3) realigning Elmhurst Creek far enough to the south to provide clearance for new construction.

The CASP EIR recognized that option 2) or 3) would require numerous subsequent permits and approvals (i.e., City Creek Protection permits, US Army Corps of Engineers permits, California Fish and Wildlife streambed alteration agreement, approval of ACFC&WCD to demonstrate conveyance of the 100-year flood event per County standards, and City of Oakland Creek Protection Permit). City of Oakland SCAs pertinent to these permits and other regulatory requirements would apply, and these permit obligations were found to mitigate potential drainage impacts associated with alteration of Elmhurst Creek to a less than significant level (LTS with SCAs).

Project Analysis

The Project would not substantially alter the existing drainage pattern of the site or the area, would not alter the course of a creek, and would not result in substantial erosion or siltation. The Project does not propose to realign any portions of Elmhurst Creek or its tributary, does not propose to widen the Elmhurst Creek channel or its tributary, does not propose any creek crossings, and would not require creek dewatering or diversions. Project-related construction work will only occur on the landward side of the top of the creek banks, and no work or Project-related improvements will extend from the top of bank into the channels of Elmhurst Creek or the Elmhurst Creek tributary.

The Project site is contiguous to Elmhurst Creek and a separate tributary to Elmhurst Creek, and the provisions of the City Creek Protection Ordinance apply. According to the City of Oakland's Creek Protection Ordinance (OMC Chapter 13.16), Oakland's Creek Permit procedures are intended to assure that work done on a creekside property will avoid or limit, to the extent feasible, negative impact to the creek at both the time of construction and in the future. Elmhurst Creek clearly falls within the City's definition of a creek, and the type of Creek Permit required of the Project is dependent on the type of work proposed and the proximity of that work to the creek. The types of Creek Protection Permit categories that are potentially applicable to the Project are either;

- a Category 3 Creek permit, for exterior work that is located between 20 feet from the top of the Creek bank and 100 feet from the centerline of the Creek; or exterior work that includes earthwork involving more than three cubic yards of material beyond 20 feet from the top of the Creek bank, or
- a Category 4 Creek permit for exterior work conducted from the centerline of the Creek to within 20 feet from the top of the Creek bank

For projects that fall in Creek Permit Categories 3 or 4, a site plan must be submitted with the permit application that clearly illustrates the relationship and distance of the project to the creek centerline and top of the creek bank. Category 3 or 4 permits also require a Creek Protection Plan that describes how the project protects the

[90] City of Oakland, CASP Draft EIR page 4.8-25

creek, its banks, riparian vegetation, wildlife, surrounding habitat, and the creek's natural appearance during and after construction. Category 4 permits also require a hydrology report.

The top of bank for Elmhurst Creek is on the same alignment as the Project's northwesterly property boundary, and the top of bank for the Elmhurst Creek tributary is on approximately the same line as the Project site's southerly boundary. The Project intends to conduct exterior earthwork and to place new, temporary structures (storage containers, portable restrooms and a portion of the Team Locker Room/Operations HQ building) to the edge of the Project site boundary, and therefore within the area that is within 20 feet of the top of bank (see **Figure 24**).

Based on the definitions of Creek Permit categories, the Project would be subject to a Category 4 Creek Permit. However, the top of bank at Elmhurst Creek and along the Elmhurst Creek tributary is clearly the outward extent of the creek channel. No creek-related habitat extends landward of the top of bank, and the existing top of bank currently provides no berm or other means of redirecting stormwater surface flows from the Project site away from the creek (see **Figure 25**). The Project applicant has applied for re-designation of the Project for a Category 3 permit. Creek Protection permits may be reclassified to a lower category based on a determination by the Building and Engineering Service's Watershed Protection Division. To be re-designated for a Category 3 permit, the Project's detailed designs must clearly show that all improvements and all earthwork involving more than three cubic yards of material proposed to occur within 20 feet of the top of bank will have no potential adverse impacts on the Creek and/or on water quality within the Creek.

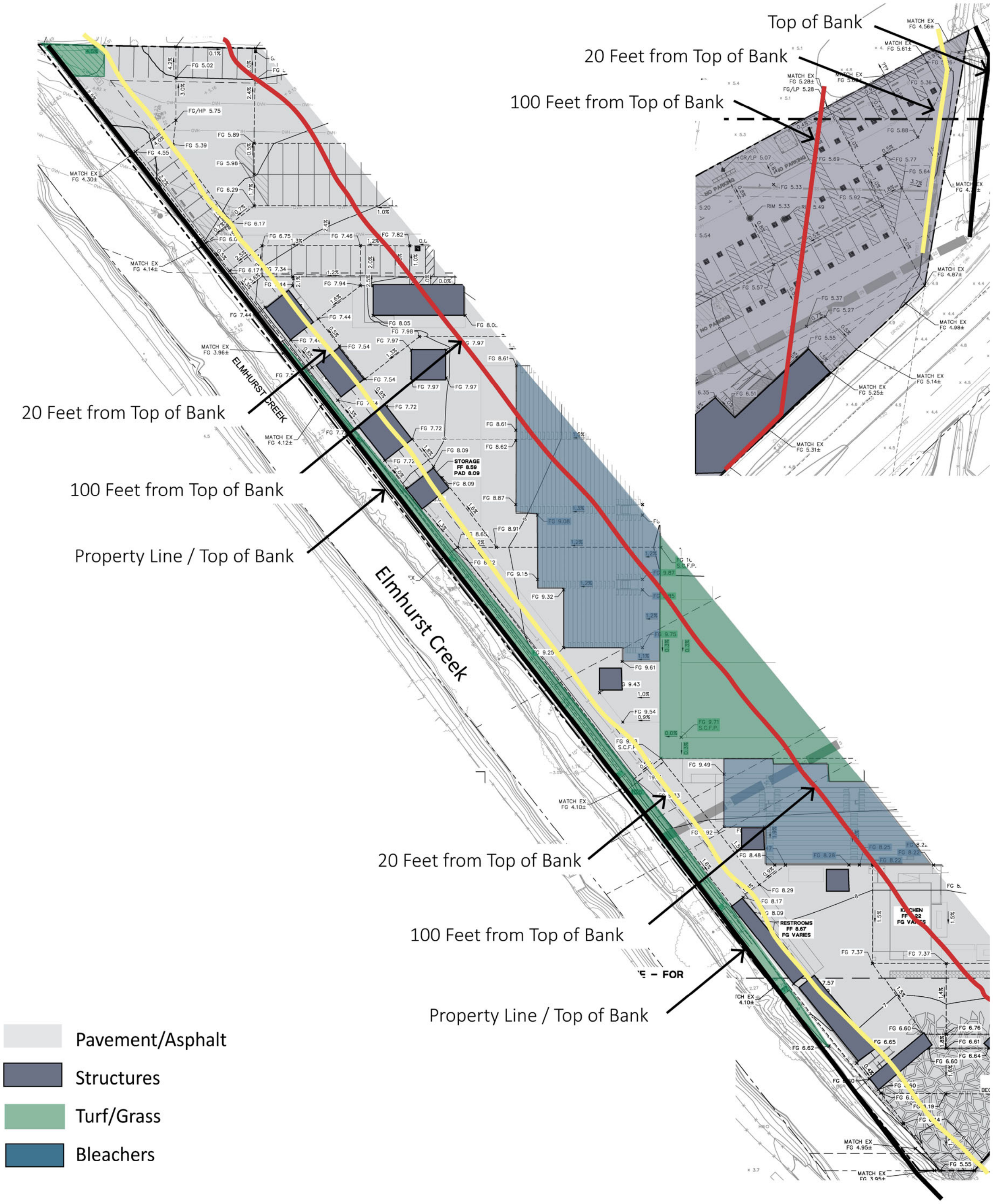
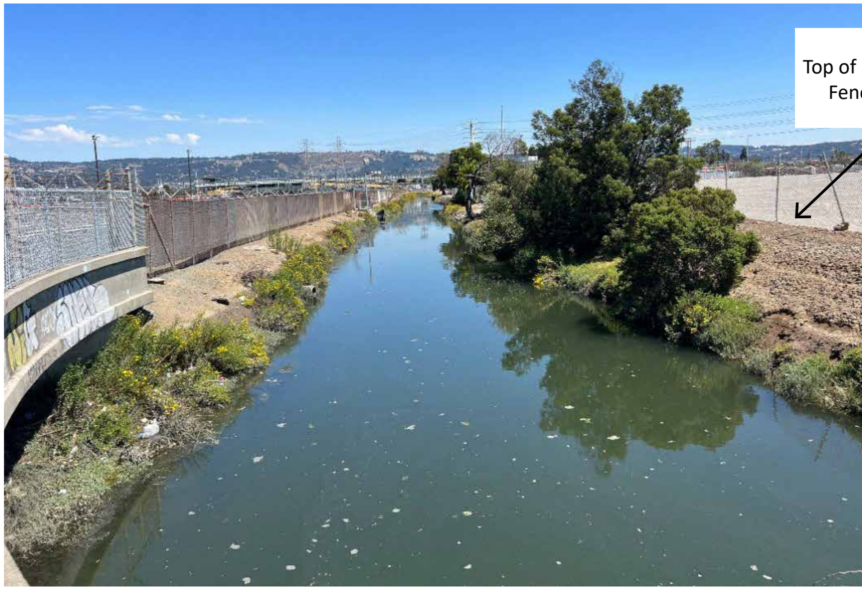
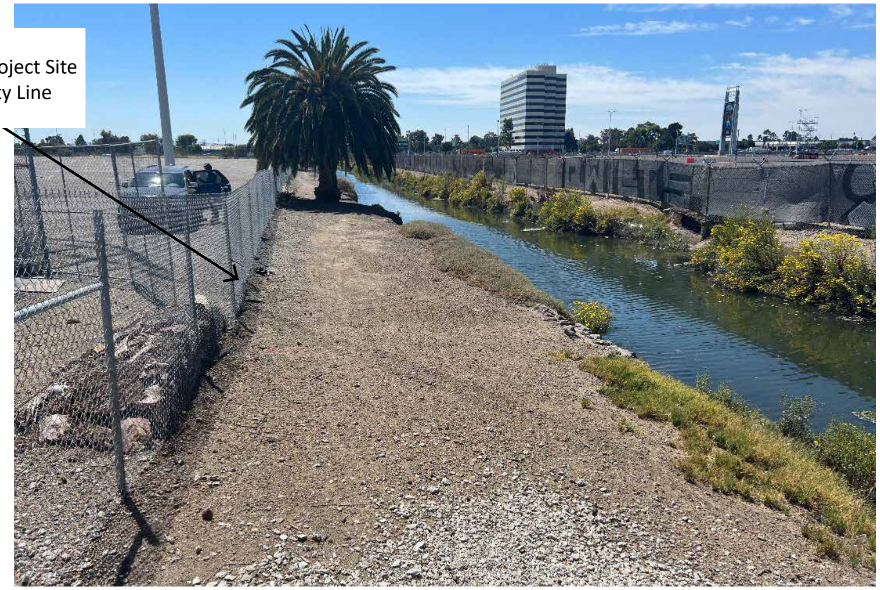


Figure 24
Project Improvements Relative to Top-of-Bank of Elmhurst Creek and Tributary

Source



Elmhurst Creek, Looking Upstream from S. Coliseum Way Bridge



Elmhurst Creek, Looking Downstream

Elmhurst Creek Tributary, Looking toward S. Coliseum Way Bridge

Elmhurst Creek, at S. Coliseum Way Bridge

Figure 25
Physical Characteristics of Top of Bank, Elmhurst Creek and Tributary

Source: Huffman-Broadway Group, Inc., *Creek Protection Plan - Oakland Roots and Soul Temporary Stadium*, October 2023

<u>Applicable Standard Conditions of Approval</u>

The CASP EIR cites the following City of Oakland SCA intended to ensure protection of Elmhurst Creek and the Elmhurst Creek tributary. This SCA applies to the Project:

- ***SCA Hydro-1: Creek Protection Plan (64)***: The following condition applies to all projects requiring a Category III or IV Creek Protection permit. The project applicant shall submit a Creek Protection Plan for review and approval by the City. The Plan shall be included with the set of project drawings submitted to the City for site improvements and shall incorporate the contents required under section 13.16.150 of the Oakland Municipal Code including Best Management Practices ("BMPs") during construction and after construction to protect the creek. Required BMPs are identified below.

  a) *Construction BMPs*: The Creek Protection Plan shall incorporate all applicable erosion, sedimentation, debris, and pollution control BMPs to protect the waterway during construction. The measures shall include, but are not limited to, the following:

     i. On sloped properties, the downhill end of the construction area must be protected with silt fencing (such as sandbags, filter fabric, silt curtains, etc.) and hay bales oriented parallel to the contours of the slope (at a constant elevation) to prevent erosion into the waterway.

     ii. The project applicant shall implement mechanical and vegetative measures to reduce erosion and sedimentation, including appropriate seasonal maintenance. One hundred (100) percent biodegradable erosion control fabric shall be installed on all graded slopes to protect and stabilize the slopes during construction and before permanent vegetation gets established. All graded areas shall be temporarily protected from erosion by seeding fast growing annual species. All bare slopes must be covered with staked tarps when rain is occurring or expected.

     iii. Minimize the removal of natural vegetation or ground cover from the site in order to minimize the potential for erosion and sedimentation problems. Maximize the replanting of the area with native vegetation as soon as possible.

     iv. All work in or near creek channels/waterway must be performed with hand tools and by a minimum number of people. Immediately upon completion of this work, soil must be repacked, and native vegetation planted.

     v. Install filter materials (such as sandbags, filter fabric, etc.) acceptable to the City at the storm drain inlets nearest to the project site prior to the start of the wet weather season (October 15); site dewatering activities; street washing activities; saw cutting asphalt or concrete; and in order to retain any debris flowing into the City storm drain system. Filter materials shall be maintained and/or replaced as necessary to ensure effectiveness and prevent street flooding.

     vi. Ensure that concrete/granite supply trucks or concrete/plaster finishing operations do not discharge wash water into the creek/waterway, street gutters, or storm drains.

     vii. Direct and locate tool and equipment cleaning so that wash water does not discharge into the creek/waterway.

     viii. Create a contained and covered area on the site for storage of bags of cement, paints, flammables, oils, fertilizers, pesticides, or any other materials used on the project site that have the potential for being discharged to the creek/waterway or storm drain system by the wind or in the event of a material spill. No hazardous waste material shall be stored on site.

     ix. Gather all construction debris on a regular basis and place it in a dumpster or other container which is emptied or removed at least on a weekly basis. When appropriate, use tarps on the ground to collect fallen debris or splatters that could contribute to stormwater pollution.

x. Remove all dirt, gravel, refuse, and green waste from the sidewalk, street pavement, and storm drain system adjoining the project site. During wet weather, avoid driving vehicles off paved areas and other outdoor work.

xi. Sweep the street pavement adjoining the project site with brooms on a daily basis. Caked-on mud or dirt shall be scraped from these areas before sweeping. At the end of each workday, the entire site must be cleaned and secured against potential erosion, dumping, or discharge to the creek, street, gutter, or storm drains.

xii. All erosion and sedimentation control measures implemented during construction activities, as well as construction site and materials management shall be in strict accordance with the control standards listed in the latest edition of the Erosion and Sediment Control Field Manual published by the Regional Water Quality Control Board (RWQCB).

xiii. Temporary fencing is required for sites without existing fencing between the creek/waterway and the construction site and shall be placed along the side adjacent to construction (or both sides of the creek if applicable) at the maximum practical distance from the creek center line/waterway. This area shall not be disturbed during construction without prior approval of the City.

b) *Post-Construction BMPs*: The project shall not result in a substantial increase in stormwater runoff volume or velocity to the creek or storm drains. The Creek Protection Plan shall include site design measures to reduce the amount of impervious surface to maximum extent practicable. New drain outfalls shall include energy dissipation to slow the velocity of the water at the point of outflow to maximize infiltration and minimize erosion.

c) *Creek Landscaping*: The project applicant shall include final landscaping details for the site on the Creek Protection Plan or on a Landscape Plan, for review and approval by the City. Landscaping information shall include a planting schedule, detailing plant types and locations, and a system to ensure adequate irrigation of plantings for at least one growing season. Plant and maintain only drought-tolerant plants on the site where appropriate as well as native and riparian plants in and adjacent to riparian corridors. Along the riparian corridor/marsh wetlands, native plants shall not be disturbed to the maximum extent feasible. Any areas disturbed along the riparian corridor/marsh wetlands shall be replanted with mature native riparian/marsh wetland vegetation and be maintained to ensure survival.

d) *Creek Protection Plan Implementation*: The project applicant shall implement the approved Creek Protection Plan during and after construction. During construction, all erosion, sedimentation, debris, and pollution control measures shall be monitored regularly by the project applicant. The City may require that a qualified consultant (paid for by the project applicant) inspect the control measures and submit a written report of the adequacy of the control measures to the City. If measures are deemed inadequate, the project applicant shall develop and implement additional and more effective measures immediately.

Project Plans Pursuant to a Creek Protection Plan

The Project includes a detailed Creek Protection Plan (see **Appendix E**) that is intended to protect the banks, riparian vegetation, wildlife and surrounding habitat of both Elmhurst Creek and the tributary to Elmhurst Creek.[91] As provided in that Creek Protection Plan, all construction work for the Project will only occur beyond (landward of) the top of the creek banks. No work will extend from the top of bank into the channels. Other measures intended to physically protect Elmhurst Creek and the Elmhurst Creek tributary during construction include:

91 Huffman-Broadway Group, Inc., *Creek Protection Plan, Roots Temporary Stadium*, October 2023

- *Construction Site Fencing*: Before starting construction activities, the boundary of the Project Area/ground-disturbing area shall be fenced. Fencing shall be maintained until construction activities are completed.
- *Creek Habitat Fencing*: Before starting construction activities, orange construction fencing shall be placed along the surveyed "top of bank" of Elmhurst Creek and the tributary to Elmhurst Creek. Contractors and Subcontractors shall be made aware during manager and worker training that no construction work is to occur beyond this creek habitat fencing and they are responsible for maintaining the fencing and taking active measures during each workday to prevent sediment or hazardous materials from entering the creek habitats and channels beyond this point.

Additionally, the Project's proposed Preliminary Stormwater Management Plan (see further details below under the topic "Water Quality during Operation") shows that stormwater will be managed by percolation through a variety of on-site types of impervious surfaces and then routed to an on-site stormdrain system to be constructed on the easterly portion of the Project site. No stormwater flows from the site would enter directly into Elmhurst Creek or the Elmhurst Creek tributary, and no changes to water flows within the Creek would occur.

Consistent with the conclusions of the CASP EIR, the Project's potential direct impacts on Elmhurst Creek and the Elmhurst Creek tributary will be fully addressed through implementation of City SCAs (including a Category 3 or Category 4 Creek permit, as determined by the City), and existing regulations. With implementation of an approved Creek Protection Plan, direct impacts to Elmhurst Creek and the Elmhurst Creek tributary would be reduced to less than significant.

g and h): Water Quality during Construction

CASP EIR Conclusions [92]

The CASP EIR (Impact Hydro-1A) found that future construction pursuant to the CASP would potentially increase the level of contamination or siltation in stormwater flows, potentially exceeding water quality standards for site runoff. The CASP EIR determined that all development within the Coliseum District will be required to comply with uniformly applied SCAs pursuant to preparation of grading plans which mandate implementation of erosion and sediment control plans, Stormwater Pollution Prevention Plans, and erosion, sedimentation and debris control measures. Implementation of the State's Construction General Permit and it's required Stormwater Pollution Prevention Plans (SWPPP) would require any project to incorporate Best Management Practices (BMPs) to control sedimentation, erosion and hazardous materials contamination of runoff during construction. These SCAs and regulatory requirements apply to all subsequent development within the Coliseum District. The CASP EIR found that these measures would mitigate potential drainage and water quality impacts associated with new construction at the Coliseum District to a less than significant level.

Project Analysis

Grading as proposed by the Project would disturb the existing ground cover, exposing underlying soil to increased erosion from stormwater runoff, site watering and wind. The proposed on-site cut and fill grading operations could also introduce the potential for temporary increases in sediment loads and associated construction-related pollutants into Elmhurst Creek and the Elmhurst Creek tributary during the construction period. Eroded soil may contain nitrogen, phosphorus and other nutrients that, when transported to water

[92] City of Oakland, CASP Draft EIR page 4.8-25

bodies, can trigger algae blooms that reduce the clarity of water, deplete oxygen and create odors. The overall increase in turbidity can be a detriment to the entire aquatic ecosystem, which is directly connected to the Bay.

Applicable Standard Conditions of Approval

The following City of Oakland SCAs as also cited in the CASP EIR would apply to the Project to address water quality concerns during construction:

- **SCA Hydro-1 (64),** ***Creek Protection Plan:*** (see above) [93]
- ***SCA Hydro-2 (56), State Construction General Permit***: The project applicant shall comply with the requirements of the Construction General Permit issued by the State Water Resources Control Board (SWRCB). The project applicant shall submit a Notice of Intent (NOI), Stormwater Pollution Prevention Plan (SWPPP), and other required Permit Registration Documents to SWRCB. The project applicant shall submit evidence of compliance with Permit requirements to the City.

Project Plans Pursuant to SCAs

Consistent with SCA Geo-4, Erosion and Sedimentation Control Plan for Construction, the Project includes an Erosion Control Plan for the site (Project Application Sheet C8.00 and C8.01). This Erosion Control Plan includes the following components:

- A job site fence with silt fence and fiber roll placed along the entire Project boundary at Elmhurst Creek with the fiber roll placed above a 4-inch by 6-inch trench with compacted backfill and a filter-fabric fence attached securely to steel or wood posts
- Fiber roll of geo-synthetics straw wattle placed in a 3-inch to 5-inch trench along the entire Project boundaries at south Coliseum Way and along the adjacent HomeBase property,
- Stabilized construction entrances and exits at south Coliseum Way and at Collins Drive, consisting of 50-foot minimum sections of stone and gravel pads to prevent tracking or flow of sediment onto the adjacent streets
- Inlet protection at all stormdrain inlets in the immediate vicinity of the site, with gravel-filled sandbags placed around all catch basins

Additionally, the Project's proposed Creek Protection Plan (see **Appendix E**) provides for the following site-specific measures (in addition to, or in furtherance of the requirements of the Creek Protection Plan's Construction BMPs), to be implemented during construction:

- *Manager and Worker Training*: Project managers and workers will be provided on-site environmental sensitive training regarding protection of the banks, riparian vegetation, wildlife, surrounding habitat, and the natural appearance of both Elmhurst Creek and the tributary to Elmhurst Creek. Contractor and Subcontractor managers and workers will be provided a copy of a Pollution Prevention Handout which provides specific creek pollution prevention guidelines which ensure compliance with City of Oakland and Alameda County requirements. The pollution prevention measures on the sheet will be described in detail during the training regarding where and how they will be specifically implemented within the Project construction site. In addition, all managers and workers will be shown the locations of spill kits and trained in their appropriate use. A signup sheet will be maintained where trainees acknowledge by signature, they have received the training. A copy of the Pollution Prevention Handout will also be

[93] The City's SCA requiring preparation of an Erosion and Sedimentation Control Plan for Construction provide that all projects involving construction activities that require a grading permit are superseded by the more stringent requirements of a Creek Protection Plan for those projects requiring a Category III or IV creek protection permit.

maintained on site and displayed for easy reference. In addition, at daily “beginning of workday” construction meetings, workers will be reminded of the creek protection requirements and of the pollution prevention measures to be implemented. Inspection and proper maintenance of the pollution prevention measures during each day’s construction operations will be stressed.

- *Litter Prevention Measures*: All trash and food items shall be contained in animal-proof containers and removed at least once a week to avoid attracting opportunistic predators such as ravens, coyotes and feral dogs. Contractors and Subcontractors shall not dump any litter or construction debris into the stream or at locations where such debris may pass into the stream during high stormwater flows. All removed material shall be disposed of according to state and local laws and ordinances.
- *Dust Control Measures*. All Contractors and Subcontractors shall follow County and City dust control requirements. This includes using reclaimed water for dust control as needed, and reuse water from utility trench dewatering operations (if needed) for dust control.
- *Methods of Cleaning Tools and Equipment*: Water containing mud, silt or other pollutants from equipment washing or other activities shall not be allowed to enter Elmhurst Creek and the tributary to Elmhurst Creek, or to be placed in locations that may be subjected to high storm flows that could flow toward the creeks. Measures described in the Pollution Prevention Handout under “Vehicle and Equipment Maintenance & Cleaning” shall be followed.
- *Erosion Control Materials*: Ongoing and post-construction measures shall not use erosion control materials containing plastic monofilament netting (erosion control matting) or similar material containing netting within the Project area due to documented evidence of birds, small mammals, amphibians, and reptiles becoming entangled or trapped in such material. Acceptable substitutes include coconut coir matting or similar.
- *Wet Weather Protection*: Wet weather protection measures will be followed. These measures include establishing and maintaining effective perimeter erosion controls and stabilizing all construction entrances and exits to sufficiently control erosion and sediment discharges from site and tracking off site; sweep or vacuum any street tracking immediately and secure sediment source to prevent further tracking; all earthen construction material must be covered with a tarp and contained with a perimeter control during wet weather or when rain is forecasted or when not actively being used within 14 days; cover all dumpsters with a tarp during wet weather; contain, cover and store on pallets all stockpiled landscape materials (mulch, compost, fertilizers, etc.) during wet weather or when rain is forecasted or when not actively being used within 14 days; and discontinue the application of any erodible landscape material within 2 days of forecasted rain and during wet weather.
- *Stockpile Locations*: Building materials and/or construction equipment shall not be stockpiled or stored where they may be washed into Elmhurst Creek and the tributary to Elmhurst Creek or adjacent riparian vegetation. Stockpiles shall be covered when measurable rain is forecasted. Specific measures include: sand, dirt and similar materials shall be stored at least 10 feet (3 meters) from catch basins; and all earthen construction material must be covered with a tarp and contained with a perimeter BMP erosion control during wet weather or when rain is forecasted or when not actively being used within 14 days.
- *Special Circumstances/Additional Information*: No construction ground disturbing activities, vegetation removal, or planting shall occur beyond the top of the banks of Elmhurst Creek and the tributary to Elmhurst Creek. No Project work will occur within the jurisdictions of the Corps of Engineers, State Water Resources Control Board, San Francisco Bay Regional Water Quality Control Board, or California Department of Fish and Wildlife.

- *Toxic and Hazardous Materials*: Any hazardous or toxic materials that could be deleterious to aquatic life that could be washed into Elmhurst Creek and the tributary to Elmhurst Creek shall be contained in watertight containers or removed from the Project site. Debris, soil, silt, bark, slash, sawdust, rubbish, creosote-treated wood, raw cement/concrete or washings thereof, asphalt, paint or other coating material, oil or other petroleum products, or any other substances which could be hazardous to aquatic life, wildlife, or riparian habitat resulting from the Project related activities shall be prevented from contaminating the soil and/or entering Elmhurst Creek and the tributary to Elmhurst Creek.
- *Emergency Preparations for Construction Related Spills*: All activities performed near Elmhurst Creek and the tributary to Elmhurst Creek shall comply with the following measures: keep a stockpile of spill cleanup materials (rags, absorbents, etc.) available at the construction site at all times; when spills or leaks occur, they shall be contained immediately with particular attention taken to prevent leaks and spills from reaching the gutter, street, or storm drain; never washing spilled material into a gutter, street, storm drain or creek; dispose of all containment and cleanup materials properly; and report any hazardous materials spills immediately.

Consistent with the conclusions of the CASP EIR, the Project's effects related to water pollution and sedimentation during construction will be fully addressed through implementation of City SCAs and existing regulations, including these measures specifically detailed in the Project's proposed Creek Protection Plan, and this impact would be reduced to less than significant.

i, j and k): Water Quality during Operation

CASP EIR Conclusions [94]

The CASP EIR (Impact Hydro-1A) also found that future development pursuant to the CASP would increase the volume of stormwater flows, and potentially increase the level of contamination or siltation in stormwater flows.

As would be required for all projects in Oakland, any project developed pursuant to the CASP would be required to comply with all City of Oakland Standard Conditions of Approval and other regulatory requirements for drainage and water quality. These requirements include site design measures for post-construction stormwater management, source control measures to limit stormwater pollution, post-construction stormwater pollution management plans, and maintenance agreements for stormwater treatment measures. The CASP EIR also identified the following City of Oakland regulatory requirements that will also need to be met by all new development projects:

- Compliance with the Municipal Regional Permit (MRP) C3 requirements for stormwater discharge would require all development projects to provide on-site storm water treatment to meet NPDES standards.
- Section C10 of the MRP will require all development to provide stormwater trash capture onsite or regionally.

The CASP EIR found that these SCAs and other regulatory requirements apply to all subsequent development within the Coliseum District and will mitigate potential drainage and water quality impacts associated with new development at the Coliseum District to a less than significant level.

[94] City of Oakland, CASP Draft EIR page 4.8-25

Project Analysis

During the life of the Project, attendees at soccer games and other events at the site may generate non-point source pollutants, potentially including oil, grease and toxic chemicals from parking and driveway runoff, and litter. These non-point source pollutants can be washed by rainwater from roofs, landscape areas and streets and parking areas into the downstream drainage network and directly into the Bay. An increase in non-point source pollutants could have adverse effects on water quality as well as wildlife, vegetation and human health. Non-point source pollutants could also infiltrate into groundwater and degrade the quality of groundwater sources.

According to information included in the Project application materials (City of Oakland Stormwater Supplemental Form MRP 3.0, dated October, 2022), the Project site is currently completely covered by 380,540 square feet of impervious uncovered parking. Under post-Project conditions, the Project site will have only 18,000 square feet of impervious surfaces (modular building and container rooftops, plus concrete podiums for the light standard). The remaining 362,540 square feet of the site are proposed to be covered with other pervious surfaces (artificial turf, gravel, pervious pavement and pervious asphalt). The new impervious surfaces represent non-point sources of water pollution.

<u>Applicable Standard Conditions of Approval</u>

The following City of Oakland SCA is cited in the CASP EIR as effective means for reducing post-construction water quality and increased runoff concerns from new development. Since the Project will replace more than 5,000 square feet of impervious surface area, the Project is considered a Regulated Project under the NPDES C.3 requirements, and the following SCA would apply.

- ***SCA Hydro-3 (60), NPDES C.3 Stormwater Requirements for Regulated Projects***

  a) *Post-Construction Stormwater Management Plan*: The project applicant shall comply with the requirements of Provision C.3 of the Municipal Regional Stormwater Permit issued under the National Pollutant Discharge Elimination System (NPDES). The project applicant shall submit a Post-Construction Stormwater Management Plan to the City for review and approval with the project drawings submitted for site improvements and shall implement the approved Plan during construction. The Post-Construction Stormwater Management Plan shall include and identify the following:

     i. Location and size of new and replaced impervious surface
     ii. Directional surface flow of stormwater runoff
     iii. Location of proposed on-site storm drain lines
     iv. Site design measures to reduce the amount of impervious surface area
     v. Source control measures to limit stormwater pollution
     vi. Stormwater treatment measures to remove pollutants from stormwater runoff, including the method used to hydraulically size the treatment measures; and
     vii. Hydromodification management measures, if required by Provision C.3, so that post-project stormwater runoff flow and duration match pre-project runoff.

  b) *Maintenance Agreement*: The project applicant shall enter into a maintenance agreement with the City, based on the Standard City of Oakland Stormwater Treatment Measures Maintenance Agreement, in accordance with Provision C.3, which provides, in part, for the following:

     i. The project applicant accepting responsibility for the adequate installation/construction, operation, maintenance, inspection, and reporting of any on-site stormwater treatment measures being incorporated into the project until the responsibility is legally transferred to another entity; and

ii. Legal access to the on-site stormwater treatment measures for representatives of the City, the local vector control district, and staff of the Regional Water Quality Control Board, San Francisco Region, for verifying the implementation, operation and maintenance of the on-site stormwater treatment measures, and to take corrective actions if necessary. The maintenance agreement shall be recorded at the County Recorder's Office at the applicant's expense.

❖ ***SCA Hydro-4 (63), Vegetation Management on Creekside Properties***: The project applicant shall comply with the following requirements when managing vegetation prior to, during, and after construction of the project:

a) Identify and leave "islands" of vegetation in order to prevent erosion and landslides and protect habitat;

b) Trim tree branches from the ground up (limb-up) and leave tree canopy intact;

c) Leave stumps and roots from cut down trees to prevent erosion;

d) Plant fire-appropriate, drought-tolerant, preferably native vegetation;

e) Provide erosion and sediment control protection if cutting vegetation on a steep slope;

f) Fence off sensitive plant habitats and creek areas if implementing goat grazing for vegetation management;

g) Obtain a Tree Permit before removing a Protected Tree (any tree 9 inches diameter at breast height or dbh or greater and any oak tree 4 inches dbh or greater, except eucalyptus and Monterey pine);

h) Do not clear-cut vegetation, as this can lead to erosion and severe water quality problems and destroy important habitat;

i) Do not remove vegetation within 20 feet of the top of the creek bank. If the top of bank cannot be identified, do not cut within 50 feet of the centerline of the creek or as wide a buffer as possible between the creek centerline and the development;

j) Do not trim/prune branches that are larger than 4 inches in diameter;

k) Do not remove tree canopy;

l) Do not dump cut vegetation in the creek;

m) Do not cut tall shrubbery to less than 3 feet high; and

n) Do not cut short vegetation (e.g., grasses, groundcover) to less than 6 inches high.

Project Plans Pursuant to City SCAs

Consistent with CASP EIR requirements and SCA Hydro-3, the Project sponsor has prepared a preliminary Stormwater Control Plan (SWCP) that addresses water quality treatment for the Project site.

The Project's preliminary SWCP shows 9 Drainage Management Areas (or DMAs) for the Project (see **Figure 26**). The turfed soccer field (DMA 1) is considered a self-treating area, where stormwater will percolate through the turf and through the underlying sand and gravel base before being routed to the on-site stormdrain system. The remainder of the site is a mix of impervious (rooftops and concrete) and pervious surfaces that include self-retaining cover and impervious pavement and asphalt.

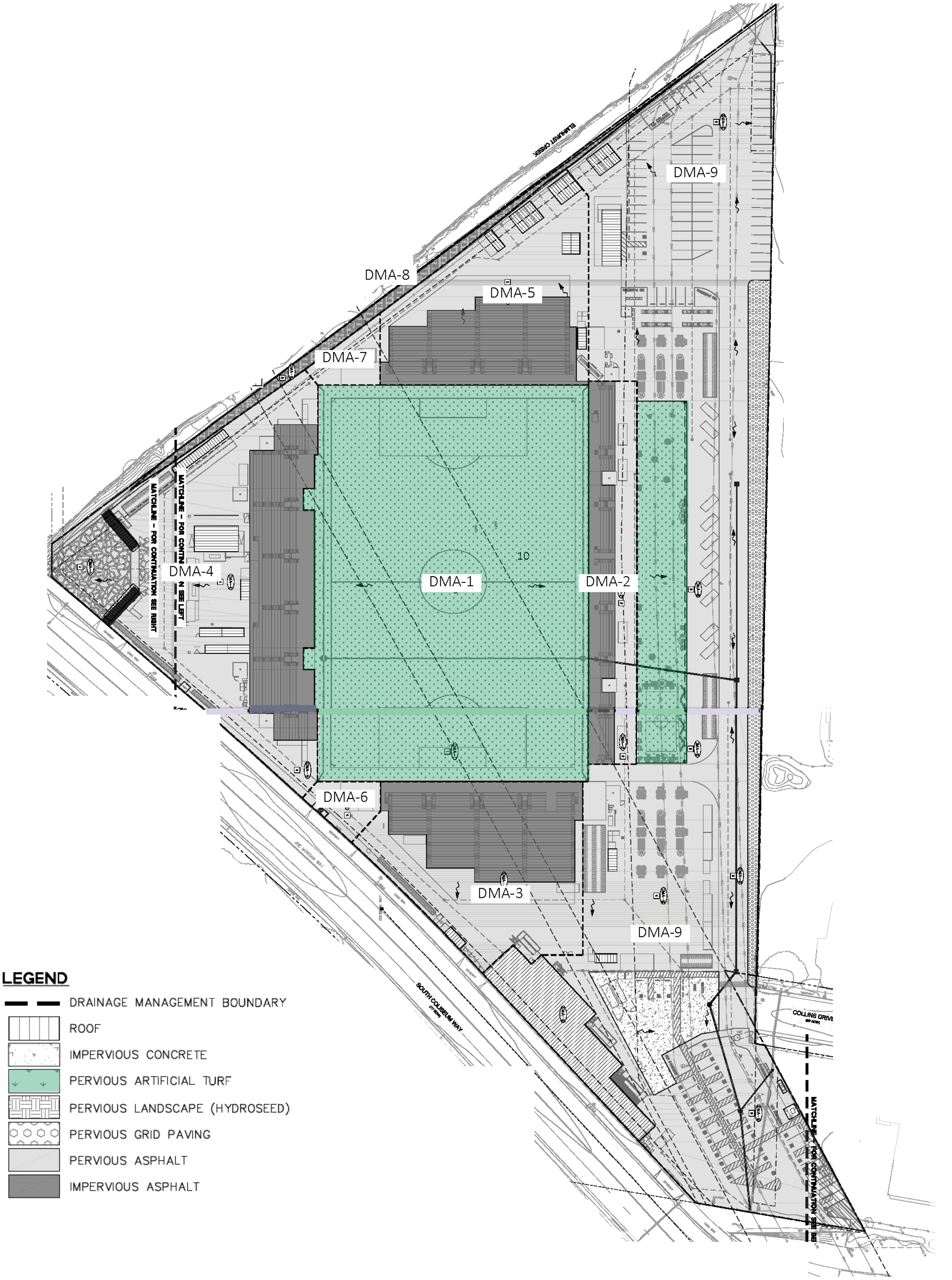


Figure 26
Preliminary Stormwater Control Plan

Source: HOK, *Stormwater Management Plan*, Sheet C6.00 and .01, 2/16/24

According to guidelines published by the Bay Area Stormwater Management Association (BASMA), "*pervious pavement, also referred to as permeable pavement, contains pores or separation joints that allow water to flow through and seep into a base material (typically gravel or drain rock). Types of pervious pavement include porous asphalt and concrete, open joint pavers, interlocking concrete or permeable pavers, and plastic or concrete grid systems with gravel-filled voids. Pervious pavement systems allow infiltration of stormwater into soils, thereby reducing runoff and the amount of pollutants that enter creeks, San Francisco Bay, the Pacific Ocean and other water bodies. This improves water quality, helps reduce creek erosion, and can facilitate groundwater recharge*."[95]

The Project's proposed SWCP appears to be sized appropriately, substantially exceeding the minimum treatment area that would be required pursuant to NPDES c.3 criteria (see **Table 14**).

Table 14: Storm Water Treatment Measures Summary (sf)

DMAs	Total Area	Pervious Area	Impervious Area	Effective Impervious [1]	Treatment Area Required [2]	Treatment Area Provided
DMA 1 – Self Treating Soccer Field Turf	90,496	90,496	0	9,095	90,496	90,496
DMA 2 – Self Retaining Surfaces	15,515	7,345	8,169	8,909	4,452	7,345
DMA 3 – Self Retaining Surfaces	26,308	12,601	13,707	14,967	7,483	12,601
DMA 4 – Self Retaining Surfaces	52,785	34,029	18,756	22,159	11,079	34,029
DMA 5 – Self Retaining Surfaces	26,426	12,327	14,102	15,335	7,667	12,327
DMA 6 – Self Treating	2,509	2,509	0	251	2,509	2,509
DMA 7 – Self Treating	2,701	2,701	0	270	2,701	2,701
DMA 8 – Self Treating	4,204	4,204	0	420	4,204	4,204
DMA 9 – Self Retaining Surfaces	158,450	141,624	16,825	30,988	15,494	141,624
Total:	**379, 848**	**308, 287**	**71,559**	**102,388**	**146,540**	**307,838**
Percent of Site Cover:		**81%**	**19%**	**26%**		

Notes: 1. Per Clean Water Program's C.3 Stormwater Technical Guidance, Effective Impervious Area is equal to the total impervious area, plus 10% of the total pervious area

2. Self-retaining pervious areas treat a maximum of 2:1 runoff from impervious areas. Treatment area is equivalent to the total pervious area for self-treating measures.

Source: HOK Architects and BKF Engineers, Sheet C6.00: Stormwater Management Plan, 2/16/24

Pursuant to SCA requirements, the City will review the designs for final hydraulic sizing of the various self-treating and self-retaining plans for post-construction water quality treatment prior to approval of grading and/or building permit, to determine whether adequate BMPs will be installed, implemented and maintained.

Consistent with the conclusions of the CASP EIR, the Project's impacts related to post-construction stormwater quality and increased storm water flows will be fully addressed through implementation of City SCAs and existing regulations, and this impact would be reduced to less than significant.

95 Bay Area Stormwater Management Association (BASMA), accessed at: https://basmaa.org/wp-content/uploads/2021/02/basmaa_pervious_paving_fact_sheet_082312_approved_8.5x11-online_viewing.pdf

l and m): Groundwater and Waste Discharge

CASP EIR Conclusions [96]

The CASP EIR (Impact Hydro-6) found that future development pursuant to the CASP would not adversely affect the availability of groundwater supplies or interfere substantially with groundwater recharge.

The entire CASP planning area is underlain by the East Bay Plain groundwater basin, and the San Francisco RWQCB has identified groundwater supplies in this basin for municipal, industrial and agricultural water supply. Impacts to this aquifer would occur if development pursuant to the CASP resulted in reduced recharge to the aquifer, or increased extraction from the aquifer. However, the CASP EIR determined that the amount of water that is able to infiltrate to the aquifer through pervious areas would not substantially decrease because of new development. The CASP planning area is already largely developed and substantially covered with impervious surfaces. Compliance with the C.3 provisions of the NPDES Municipal Stormwater Permit of the Alameda County Clean Water Program (ACCWP) would require that recharge rates at each individual project site be equivalent to the recharge rate at that site prior to development. Additionally, potable water is supplied to the CASP planning area through imported surface water by EBMUD. Therefore, the existing and potential use of groundwater for development pursuant to the CASP would not increase. Consequently, the CASP EIR concluded that impacts to groundwater would be less than significant.

Project Analysis

The Project site is underlain by approximately 5 to 8 feet of imported fill placed above Bay Mud, and historical reports conducted by multiple environmental consultants indicate that groundwater beneath the site has been encountered at approximately 5 to 12 feet below ground surface (bgs). Groundwater flows toward the west to the San Leandro Bay and is tidally influenced. [97]

The relatively high groundwater table could affect excavations that are expected for utility trenching, which are anticipated at a maximum depth of 8 feet below ground surface. A temporary dewatering system may be necessary, and dewatering should be anticipated and planned for in proposed utility trench excavations.

<u>Regulatory Requirements</u>

Depending on the volume and pollutant loads of non-stormwater discharges associated with construction dewatering, different regulatory requirements apply.

Pursuant to **SCA Hydro-2 (56): State Construction General Permit**, the Project applicant will be required to comply with all regulations and requirements of a Construction General Permit issued by the SWRCB. Authorized non-stormwater may be discharged to the municipal storm drain pursuant to a Construction General Permit. A permit from the City (as the local sewer agency) must be obtained prior to such discharge. This approach is generally appropriate for water that contains some sediment and/or pollutants, but sediment may require pre-treatment and pollutant must meet acceptable pollutant levels as defined by the City. The latest 2022 General Construction Permit requirements include sampling within the first hour of discharge, and daily sampling thereafter for continuous dewatering discharges. The samples are tested for pH and turbidity and the results compared with the numeric action levels. Depending on water quality, non-stormwater may require off-site hauling for treatment by a licensed commercial contractor who can remove, transport and dispose (or treat and

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96 City of Oakland, *CASP Draft EIR* page 4.8-33

97 Haley & Aldrich, Inc., *Risk Management Plan for the former Malibu Grand Prix Site*, June 2023 – see Appendix I

recycle) polluted water. [98] If dewatering is not permitted (e.g., cannot meet the numeric action levels for pH or turbidity) pursuant to the Construction General Permit, then a statewide low-threat discharge Waste Discharge Requirements (WDR) permit or a site-specific NPDES permit may be required.

Consistent with the conclusions of the CASP EIR, the Project's impacts to groundwater will be fully addressed through implementation of City SCAs and existing regulations, and this impact would be reduced to less than significant.

n and o): Conflict with Water Quality or Groundwater Management Plan

CASP EIR Conclusions

The CASP EIR did not directly address the current CEQA threshold of whether the CASP would conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan.

- The CASP EIR did identify that the entire CASP planning area is underlain by the East Bay Plain groundwater basin, and that the San Francisco RWQCB has identified groundwater supplies in this basin for municipal, industrial and agricultural water supply. Impacts to this aquifer would occur if development pursuant to the CASP resulted in reduced recharge to the aquifer, or increased extraction from the aquifer. The CASP EIR determined that new development would not significantly reduce recharge to the aquifer or significantly increase extraction from the aquifer.
- The CASP EIR also cited the San Francisco Bay Basin Water Quality Control Plan (Basin Plan) for San Francisco Bay (RWQCB, 2011) as the basis of water quality regulation in the region. The CASP EIR also cited the Municipal Regional Stormwater Permit (MRP) issued under the National Pollutant Discharge Elimination System (NPDES) as containing the regulatory requirements for stormwater discharges meeting NPDES standards. The CASP EIR determined that, with compliance with NPDES requirements, new development would not significantly increase the level of contamination or siltation in stormwater flows.
- The CASP EIR also cited the San Francisco Bay Conservation and Development Commission's (BCDC's) Bay Plan as providing limits and controls on the amount of fill placed in the Bay. BCDC permits are required prior to undertaking most work in the Bay or within 100 feet of the shoreline, including filling, dredging, shoreline development and other work. The CASP EIR concluded that prior to new development within 100 feet of a tidally-influences waterway or the Bay shoreline the project applicants for those projects must apply for and obtain necessary BCDC permits.

The CASP EIR did not identify any conflicts with or obstructions of a water quality control plan or sustainable groundwater management plan.

Project Analysis

As indicated in the above sections of this CEQA Checklist, the Project will not significantly reduce recharge to the aquifer. The Project will not increase extraction from the aquifer. The Project must comply with NPDES requirements of the MRP related to contamination or siltation in stormwater flows. The Project is also required

[98] The 2022 Construction General Permit requires dischargers to implement BMPs to control the volume and velocity of dewatering discharges (per Section II.G of the Order). Dischargers are required to minimize the discharge of pollutants from dewatering trenches and excavations through the implementation of BMPs. The General Permit does not cover the discharge from some dewatering activities (e.g. contaminated groundwater and/or extraction wells) and the discharger is required to obtain coverage under an applicable Regional Water Board low threat or deminimus permit or other applicable order prior to discharge. Discharges are prohibited unless managed by appropriate controls.

to obtain a BCDC permit for development within 100 feet of Elmhurst Creek (a tidally influenced waterway). Consistent with the conclusions of the CASP EIR, the Project's impacts related to conflicts with, or obstructions of a water quality control plan or sustainable groundwater management plan will be fully addressed through implementation of City SCAs and existing regulations, and this impact would be reduced to less than significant.

CEQA Conclusion Pertaining to Hydrology and Water Quality

The analysis presented above examines whether there are any Project-specific significant effects related to hydrology or water quality that are peculiar to the Project or its site, finding none. The Project would have no impacts related to hydrology or water quality that were not previously analyzed in the CASP EIR, would have no off-site or cumulative impacts related to hydrology or water quality not discussed in the prior CASP EIR, and would not result in any hydrology or water quality impacts that are more severe than as discussed in the prior CASP EIR. There are no impacts related to hydrology or water quality that would otherwise invalidate the applicability of CEQA Guidelines Section 15183 for the Project.

None of the conditions described in CEQA Guidelines Sections 15162 or 15163 calling for preparation of a subsequent or supplemental EIR are met as pertains to hydrology or water quality. The hydrology and water quality analysis presented above does provide additional details regarding hydrology conditions specific to the Project site, and the Project provides additional detailed information as to how it intends to best address these conditions specific to the site. These additional details are new information pertinent to the Project that was not available or practical at the time of certification of the CASP EIR. However, as described above, these new details do not introduce any new significant impacts pertaining to hydrology or water quality that were not previously identified in the CASP EIR, and do not substantially increase the severity of any significant hydrology or water quality impacts as previously disclosed in the CASP EIR. The detailed recommendations for the Project are fully consistent with the Standard Conditions of Approval as cited in the CASP EIR. These new details that are specific to the Project and its site are appropriately disclosed in this Addendum to the CASP EIR.

p): Non-CEQA Analysis - Sea Level Rise

CASP EIR Conclusions [99]

The CASP EIR (Impact Hydro-5) found that future development pursuant to the CASP could be susceptible to inundation, storm events and storm events with wind waves in the event of sea level rise.

The CASP EIR relied on the 2008 Bay Conservation and Development Commission's (BCDC's) Adapting to Rising Tides (ART) Project, which assessed existing conditions, vulnerability and risk. Based on the 16" and 55" sea level rise with storm events and wind wave scenarios, portions of the CASP planning area were found to be within the area subject to the maximum estimated sea level rise. Adaptation strategies were found to be capable of reducing vulnerability to sea level rise and storm impacts, but implementation of these strategies was found to require the involvement of regional, state and federal partners, as well as residents and businesses in the

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[99] City of Oakland CASP Draft EIR, page 4.8-31. The CASP EIR determined that the impact of flooding related to sea level rise pertains to the impact of an existing/future, environmental condition on the Project Area, whereas CEQA only requires an analysis of impacts pertaining to a project's impact on the environment. The impact of future growth as related to the CASP's GHG emissions (the cause of sea level rise) was analyzed in Section 4.6 of the CASP EIR. Per CEQA, the CASP EIR was not required to analyze or mitigate impacts pertaining to the impact of the environment on the Project. Although not legally required by CEQA, the CASP EIR nevertheless discussed\s the impact of sea level rise on the CASP planning area in the interest of being conservative and providing information to the public and decision-makers.

community. The CASP EIR found that sea level rise is both a local and a regional issue and must be addressed in that context. [100]

The CASP EIR found that the City's SCAs require compliance with applicable requirements of regulatory agencies, including BCDC. Future development within those portions of the CASP planning area that are located within 100 feet of high tide or within 100 feet of a tidally influenced waterway requires approval from BCDC. In accordance with BCDC's Bay Plan, BCDC may require a risk assessment and appropriate adaptation measures for those projects at risk from sea level rise. The CASP EIR determined that compliance with applicable requirements would reduce potential impact of sea level rise for those portions of the CASP planning area that are within BCDC's jurisdiction.

The CASP EIR concluded that safety measures built into the General Plan Safety Element, SCAs related to construction within 100-year flood zones, and adaptive management measures to address sea level rise would reduce potential impacts of sea level rise to less than significant levels. The CASP EIR also included additional recommendations to provide an adaptive approach to addressing a 16-inch sea level rise above current Base Flood Elevation (BFE) for mid-term (2050) planning and design.

Project Analysis

In 2018, the California Ocean Protection Council (Cal OPC) released updated State guidance on sea level rise projections. This latest guidance adopted a probabilistic approach and produced estimates of the likely range of global sea level rise under different GHG emission scenarios. To be precautionary in safeguarding the people and resources of California and inform the development of sufficient adaptation pathways and contingency plans, the 2018 Cal OPC report provides a range of projections based on low, medium-high, and extreme levels of risk aversion. BCDC's most recent sea level rise guidance (BCDC 2021) considers Cal OPC's 2018 projections to be the best estimates of future sea level rise.

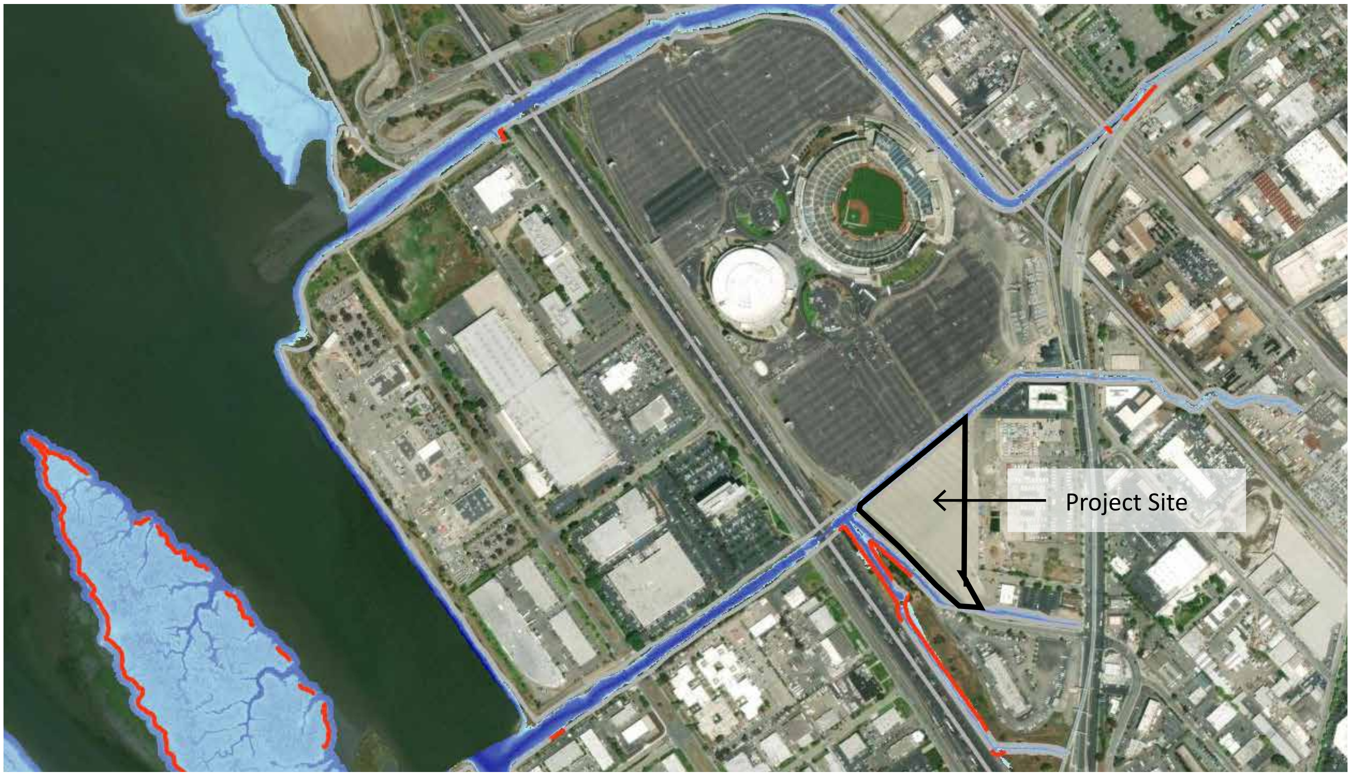
Based on the 2018 Cal OPC guidance, the San Francisco Bay is expected to experience 12 to 13 inches of sea level rise by year 2050 under a low risk aversion projection, or up to 23 to 24 inches of sea level rise under a medium-high risk aversion projection. By 2070, this increases to 23 inches of sea level rise under a low risk aversion projection and 42 inches under a medium-high risk aversion projection. [101]

BCDC's online mapping tool uses a "One Map, Many Futures" approach to provide multiple map options, showing a single total water level (inundation) resulting from a combination of sea level rise plus storm surges. [102] **Figure 27** shows the total water level under a Cal OPC year 2030 low risk scenario of 12-inches of sea level rise. This map shows that the Project site would not be inundated, that floodwaters do not overtop the Elmhurst Creek channel, and no inundation occurs within the Coliseum Complex. **Figure 27** also shows the total water level under a Cal OPC year 2050 medium-high risk scenario of 24-inch sea level rise (or 12 inches of sea level rise plus a king Tide storm surge). Under this scenario, the Project site is not inundated, but floodwaters do overtop the Elmhurst Creek channel and inundation occurs within the Coliseum Complex parking lots. These figures demonstrate that the Project site remains outside of the inundation area from sea level rise and storm surge flooding for both low-risk and medium-risk scenarios by the year 2050.

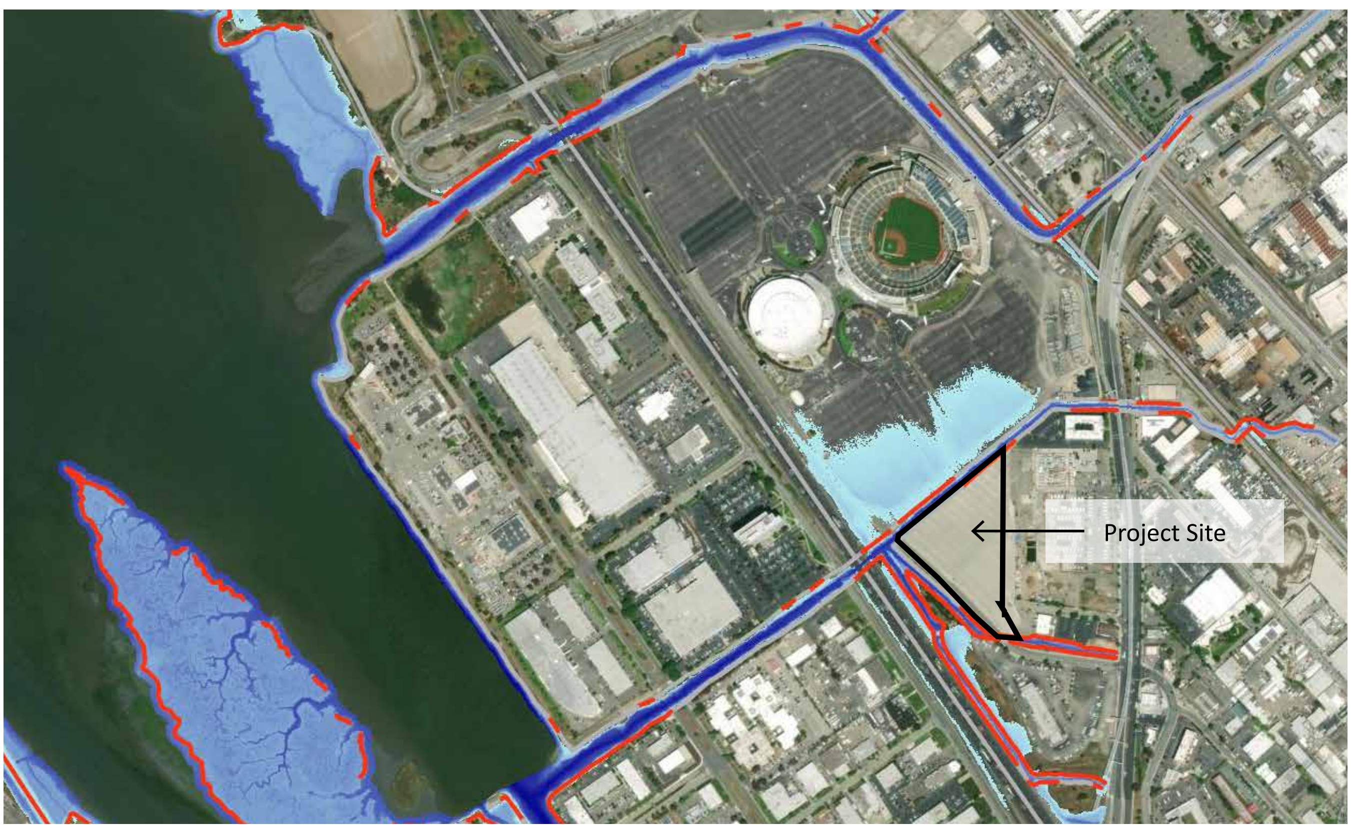
[100] City of Oakland CASP Draft EIR, pages 4.8-31

[101] California Ocean Protection Council, *State of California Sea-Level Rise Guidance*, 2018 Update, Table 1

[102] BCDC, Flood Explorer accessed at: https://explorer.adaptingtorisingtides.org/explorer, August 1, 2022



Plus 24-Inch Total Water Level



Plus 36-Inch Total Water Level

Figure 27
Sea Level Rise Scenarios

Source: ABAG, Adapting to Rising Tides, accessed at: https://explorer.adaptingtorisingtides.org/explorer

Because the Project is a temporary facility expected to remain for 10 years or until the Root's/Soul ownership group finds a permanent stadium site, the effects of longer-term or more severe sea level rise scenarios are unlikely to affect this Project.

Applicable Standard Conditions of Approval

The following mitigation measures and recommendations are cited in the CASP EIR as an effective means for addressing sea level rise and would apply to the Project.

- ***SCA Hydro-5 (67), Bay Conservation and Development Commission (BCDC) Approval*:** The project applicant shall obtain the necessary permit/approval, if required, from the Bay Conservation and Development Commission (BCDC) for work within BCDC's jurisdiction to address issues such as but not limited to shoreline public access and sea level rise. The project applicant shall submit evidence of the permit/approval to the City and comply with all requirements and conditions of the permit/approval.
- ***CASP EIR Recommendation Hydro-5***: The following additional recommendations are suggested to provide an adaptive approach to addressing sea level rise for mid-term (2050) planning and design:
    1. Design gravity-based stormdrain systems for 16 inches of sea level rise
    2. Design and construct habitable space above at-grade parking structures to allow sea level rise to affect uninhabited parking structures rather than dwelling units
    3. Design buildings to withstand periodic inundation
    4. Prohibit below grade habitable space in inundation zones
    5. Require that all critical infrastructure sensitive to inundation be located above the SLR base flood elevation
    6. Consider means for implementing an adaptive management strategy to protect against long-term sea level rise of as much as 55", potentially including constructing levees or seawalls and providing space for future storm water lift stations near outfall structures into the Bay and Estuary

Project Considerations Relative to the CASP EIR Recommendation

The Project's design is consistent with the following elements of the CASP EIR's Recommendation Hydro-5:

- BCDC's "One Map, Many Futures" scenarios do not show the Project site as becoming inundated until a 66-inch total water level scenario. This is equivalent to a year 2070 medium-high risk aversion scenario of 42 inches of seal level rise, plus a 5-year storm surge. Under an 18-inch total water inundation scenario, which is like the CASP EIR's 16-inch sea level rise scenario for mid-term (2050) planning purposes as identified in the CASP EIR, the Project site is not shown as being inundated.
- The Project's small storm drain system is intended to serve this temporary stadium project only and is unlikely to be retained as part of any long-term plan for the entire Coliseum District that may be envisioned and implemented in the future. designed to function via gravity, even considering a greater than 16- inch sea level rise scenario
- The Project's buildings are not shown as being inundated under reasonable near-term inundation levels with sea level rise. The stadium would be able to withstand a flood scenario, as there are no habitable structures or facilities that would be irreparable damaged by inundation.

The shorter-term ABAG projections for sea level rise do not appear to have direct effects on the Project site, and the longer-term sea level rise scenarios are unlikely to be relevant to this Project, given its temporary status.

Land Use and Planning

Would the Project:	CASP EIR Findings	Relationship to CASP EIR Findings: Equal or Less Severe	Relationship to CASP EIR Findings: New or Substantial Increase in Severity	Project Conclusions: Applicable Standards and Requirements	Project Conclusions: Resulting Level of Significance
a) Physically divide an established community?	LTS	■	□	-	No Impact
b) Result in a fundamental conflict between adjacent or nearby land uses?	LTS with SCAs	■	□	SCA Aesthetics-1, Lighting Plan SCA Noise-3,: Operational Noise	LTS with SCA
c) Cause a significant environmental impact due to a conflict with the Port of Oakland LUDC?	LTS	■	□	-	No Impact
d) Cause a significant environmental impact due to a conflict with the Oakland Airport ALUCP?	LTS with MM	■	□	CASP EIR Mitigation Measure Land-7B Avigation Easement / Disclosure	LTS with MM
e) Cause a significant environmental impact due to a conflict with the BCDC San Francisco Bay Plan and Seaport Plan?	LTS	■	□	SCA General-1, Regulatory Permits and Authorizations from Other Agencies SCA Hydro-5, Bay Conservation and Development Commission (BCDC) Approval	LTS with SCA
f) Cause a significant environmental impact due to a conflict Tidelands Trust?	LTS	■	□	-	No Impact
g) Cause a significant environmental impact due to a conflict with a Habitat Conservation Plan or Natural Community Conservation Plan?	No Impact	■	□	-	No Impact

a): Physically Divide an Established Community

CASP EIR Conclusions [103]

The CASP EIR (Impact Land-1) found that implementation of the CASP would not physically divide an established community. The CASP EIR determined that the Coliseum District is located adjacent to an established East

[103] City of Oakland, CASP Draft EIR, beginning at page 4.9-30

Oakland residential community to its east across San Leandro Street but is not located between or within an established residential community. The Coliseum District is bordered by the I-880 freeway, Hegenberger Road and an industrial/business area to its west, south and north respectively, and new development at the Coliseum District would not divide the established residential communities to the east. Current land uses and transportation facilities at the Coliseum District provide barriers or buffers between nearby residential uses (those to the east of the BART station) and the anticipated retail, jobs and civic and recreational uses anticipated within the Coliseum District. The Coliseum District currently exists as an unbroken superblock between residential uses and other surrounding areas. There are few existing pedestrian or vehicular crossings of I-880 or the two existing at-grade railroad lines. This impact was found to be less than significant (LTS).

Project Analysis

The Project site is a long-vacant parcel, occasionally used as overflow parking for the adjacent Coliseum Complex. The Project site is located between the Coliseum Complex to the north, the City-owned HomeBase parcel to the east (temporarily in use as emergency housing for the homeless), and South Coliseum Way and the I-880 freeway to the west. The Project site is not located within an established community, and the Project would not divide any such community. Consistent with the conclusions of the CASP EIR, the Project would have no impact related to the physical division of an established community.

b): Fundamental Conflict with Nearby Land Use

CASP EIR Conclusions [104]

The CASP EIR (Impact Land-2) found that implementation of the CASP would introduce new residential and other sensitive land uses at locations that could be exposed to noise, emissions and other potential land use incompatibilities associated with special event land uses. However, implementation of performance measures included in the City's General Plan, the City's Noise Ordinance, the Coliseum Area Specific Plan itself, as well as mitigation measures and recommendations in the CASP EIR pertaining to air quality and noise, would minimize such land use incompatibilities such that no fundamental conflict between adjacent or nearby land uses would occur (LTS with SCAs).

The CASP EIR did find that the CASP would place new housing immediately adjacent to three major sports and entertainment venues, and that these sports venues will generate large amounts of light, noise and traffic. Performance measures included in the City's Noise Ordinance were found to help buffer new residential uses from noise associated with new sports and entertainment activities. With implementation of City Standard Conditions of Approval, fundamental conflicts between adjacent or nearby land uses would not occur. Furthermore, the CASP EIR found that future residents within the Coliseum District will undoubtedly be aware of the presence of the adjacent sports venues and their associated retail uses, and many will choose to live in the Project Area due in part to the proximity of these venues and attractions.

Project Analysis

The Project's proposed sports stadium is not a sensitive land use that might fundamentally conflict with the nearby light industrial and commercial land uses and transportation corridors.

Consistent with the CASP EIR conclusions, the Project is a major sports and entertainment venue that will generate light, noise and traffic. This new source of light, noise and traffic will not fundamentally conflict with nearby light industrial or commercial land uses. However, since certification of the CASP EIR, the adjacent City-

[104] City of Oakland, CASP Draft EIR, beginning at page 4.9-32

owned HomeBase property has been established as temporarily emergency housing for the homeless. The Project represents a new source of light, noise and traffic, and is located adjacent to this emergency housing site. The Homebase property is located approximately 1,000 feet from the existing Coliseum and about 1,400 feet from the Arena, and adjacent to Coliseum Complex parking lots and Hegenberger Road. This property is already subject to light, noise and traffic from these existing uses, and the Project will add an additional source of potential conflicts with this residential use. Given the surrounding context of the HomeBase site, the addition of light, noise and traffic from the Project will not substantially increase land use conflicts associated with the emergency housing use at the HomeBase site. The CASP EIR previously disclosed that new residential uses within the Coliseum District (which would include the emergency housing for the homeless at the Homebase site) would be exposed to noise, emissions and other potential land use incompatibilities associated with special event land uses, and this is not a new or substantially more significant effect that was not already disclosed is the CASP EIR.

<u>Applicable Standard Conditions of Approval</u>

The following SCAs that pertain to operational noise and light and glare would also serve to reduce land use conflicts associated with the Project:

- **SCA Aesthetics-1 (21), Lighting Plan** (see the Aesthetics section of this Checklist)
- **SCA Noise-6 (75), Operational Noise** (see the Noise section of this Checklist)

Consistent with the conclusions of the CASP EIR, the Project would have a less than significant impact related to fundamental land use conflicts with implementation of applicable SCAs.

<u>c): Conflict with Land Use Plan and Policy – Port of Oakland LUDC</u>

CASP EIR Conclusions [105]

The CASP EIR noted that the CASP planning area included the Oakland Airport Business Park, which is under separate land use jurisdiction of the Port of Oakland. Development in this area must be consistent with the land use designations of the City of Oakland General Plan, but then must adhere to the development regulations of the Port as defined in the Port's Airport Business Park Land Use and Development Code (LUDC). New development in this area must receive development permit approval from the Port.

Project Analysis

The Coliseum District, including the Project site, is not within the Port's Airport Business Park and is not subject to development regulations of the Port's Airport Business Park LUDC. The Project does not require approval of a development permit from the Port. The Project poses no inconsistencies with land use plans and policies of the Port of Oakland or its LUDC, and has no impact related to conflicts with land use plans and policies of the Port of Oakland.

[105] City of Oakland, CASP Draft EIR page 4.9-52

d): Conflict with Land Use Plans and Policy – Oakland Airport ALUCP

CASP EIR Conclusions [106]

The CASP EIR noted that nearly the entire CASP planning area was within the Oakland International Airport Influence Area (AIA), and that the Alameda County Airport Land Use Commission relies on the Oakland International Airport Land Use Compatibility Plan (ALUCP) to promote compatibility between the Oakland International Airport and surrounding land uses.

The CASP EIR (Impact Land-7) found that future development pursuant to the CASP would be consistent with the noise and land use criteria of the ALUCP but would conflict with the height limit criteria for airspace protection.

Noise Compatibility

The CASP EIR cited the ALUCP's established noise compatibility criteria to safeguard against development of noise-sensitive land uses in locations exposed to significant levels of aircraft noise. The noise contours depicted in the ALUCP are confined to the areas adjacent to runways and in the direct path of landing and departing aircraft, and do not extend onto the CASP planning area do not apply to the CASP.

Land Use

The CASP EIR cited the ALUCP's seven safety zones, finding that only Zones 6 and 7 apply to the CASP planning area. Zone 6: Traffic Pattern Zone occurs only within portions of Sub-Areas C and D primarily along Hegenberger Road; and Zone 7: Other Airport Environs applies to the rest of the CASP planning area (with exceptions of certain properties outside of the AIA and not subject to the criteria of the ALUCP). Other than the proposed new special event venues, the CASP EIR found that all proposed land uses pursuant to the CASP (including but not limited to office buildings, retail, mixed use, hotels, residential and green space) were compatible land uses within Safety Zones 6 and 7, acceptable with no land use limitations. High-capacity indoor assembly room (i.e., greater than 1,000 people), professional sports arenas and concert halls are allowable in Zone 7 if no other suitable site outside the AIA is available. Since the CASP was found to be compliant with the land use safety compatibility criteria of the ALUCP, potential airport safety impacts were found to be less than significant.

Aviation Easement

The CASP EIR found that the entire portion of the CASP planning area westerly of San Leandro Street is within the ALUCP's Airport Aviation Easement Zone, which mandates that sellers or leasers of real property disclose that their property is situated within the AIA (also established as Mitigation Measure Land-8B).

Airspace Protection

The CASP EIR cited the ALUCP's airspace protection criteria, which are intended to reduce the risk of harm to people and property resulting from an aircraft accident. Tall structures, trees, other objects, or high terrain on or near airports, may constitute hazards to aircraft. Federal Aviation Regulations Part 77 (FAA Part 77) allows the FAA to identify potential aeronautical hazards, thus preventing or minimizing adverse impacts to safe and efficient use of navigable airspace, and FAA Part 77 provides guidance for the height of objects that may affect normal aviation operations, established as a set of imaginary surfaces around the airport. The CASP EIR found that the majority of the CASP planning area falls within the Horizontal Surface Plane established by the ALUCP at an elevation of 159.3 feet above mean sea level. Sub-Area E (which includes the Project site) is outside of the Horizontal Surface Plane, and building heights are based on a 20:1 slope from the runway, generally exceeding 159 feet above mean sea level at Sub-Area E.

[106] City of Oakland, CASP Draft EIR page 4.9-55

The CASP EIR did find that certain proposed structures pursuant to the CASP, particularly at the Coliseum District, would be so tall as to exceed the FAA Part 77 Horizontal Surface Plane. Implementation of CASP EIR Mitigation Measure Land-8A would restrict the approval of such buildings to a height no taller than as recommended by the FAA to ensure no hazards to air navigation and/or no modifications to flight operations at Oakland International Airport.

Project Analysis

Based on information presented in the CASP EIR, the Project site would be consistent with the noise, land use and height limit criteria of the ALUCP.

- The Project site is well outside of the ALUCP's established Noise Contours and not subject to airport-related noise exceeding 60 dBA CNEL.
- The Project site is located within the ALUCP's Safety Zone 7, which applies to all lands outside of safety Zone 6 to the Airport Influence Area boundary. In Safety Zone 7 outdoor assembly areas (more than 1,000 people), including amusement park areas, amphitheaters, stadiums, etc., are allowed with no limits on people-per-acre or requirements for surrounding open lands, if no suitable site outside the Airport Influence Area is available.[107]
- The Project has a maximum building height of only 45 feet, and with proposed new light standards at a maximum height of 116 feet (or approximately 126 feet above mean sea level). Both the building height and the light standards are well within the FAA Part 77 Horizontal Surface Plane at this site, which is established by the ALUCP at an elevation of 159.3 feet above mean sea level.

<u>Applicable Mitigation Measures</u>

The Project site is within the ALUCP's Airport Aviation Easement Zone. The following CASP EIR mitigation measure is therefore applicable to the Project:

❖ ***CASP EIR MM Land-7B, Avigation Easement / Disclosure***: Sellers or leasers of real property located within the Oakland Airport Influence Area (AIA) shall disclose within an aviation easement included as part of all real estate transactions within the AIA that their property is situated within the AIA, and may be subject to some of the annoyances or inconveniences associated with proximity to airport operations.

Consistent with the conclusions of the CASP EIR, the Project's effects related to consistency with the ALUCP will be fully addressed through implementation of Mitigation Measure Land-7B, and this impact would be reduced to less than significant.

<u>e): Consistency with Land Use Plans and Policies – BCDC San Francisco Bay Plan</u>

CASP EIR Conclusions [108]

The CASP EIR (Impact Land-8) found that new development pursuant to the CASP would not fundamentally conflict with BCDC's Bay Plan or Sea Port Plan.

The CASP EIR recognized that portions of the CASP planning area fall under the regulatory jurisdiction of the Bay Conservation and Development Commission (BCDC), which administers its jurisdiction through implementation of the San Francisco Bay Plan (Bay Plan) and Seaport Plan. Proposed development with the 100-foot shoreline band and within 100 feet of waterways that are subject to tidal action (e.g., Elmhurst Creek) are under the

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107 Alameda County Airport Land Use Commission, ALUCP, Table 3-2: Safety Compatibility Criteria, December 2020

108 City of Oakland, CASP Draft EIR, page 4.9-63

jurisdiction BCDC and the San Francisco Bay Plan. BCDC is authorized to control both Bay fill and dredging, and Bay-related shoreline development. BCDC is empowered to grant or deny permits for development within its jurisdiction.

New development within BCDC's jurisdiction requires issuance of a BCDC permit. The City of Oakland's CEQA process (as lead agency) must be complete prior to BCDC consideration of or granting of a BCDC development permit. To clarify these obligations and requirements, as well as other Bay Plan policy consistencies, the CASP EIR recommended Mitigation Measure Land-8A: BCDC Issuance of Major Permit(s), which clarified the obligations and requirements of subsequent development project within the CASP planning area to comply with the policy requirements of BCDC's Bay Plan and Sea Port Plan. With required compliance, the CASP EIR concluded that new development pursuant to the CASP would not fundamentally conflict with BCDC's Bay Plan or Sea Port Plan, thereby reducing potential conflicts to a less than significant level.

Project Analysis

As shown on **Figure 28**, portions of the Project site are located within 100 feet of Elmhurst Creek or the Elmhurst Creek tributary, which are waterways subject to tidal action and therefore under the jurisdiction of BCDC and the San Francisco Bay Plan.

BCDC's limited jurisdiction as provided by the McAteer-Petris Act is necessary to reduce pressures for Bay fill that would result from poor use of available shoreline land, and to assure that public access to the Bay is provided wherever feasible. Pursuant to the Bay Plan, the Commission has permit authority for Bay fill and shoreline development, and BCDC uses the Bay Plan to help guide its regulatory decisions on permit applications, consistency determinations and related matters. The Project does not involve any Bay fill, and does not require a permit for Bay fill

Any public agency or private owner holding lands within BCDC's jurisdiction is required to obtain a development permit from the Commission before proceeding with development. Development permits may be granted or denied only after public hearings, and after the process for review and entitlement by the applicable city or county has been completed. The Commission may approve a development permit if it specifically determines that the proposed project is in accordance with standards for use of the shoreline, provides for maximum feasible public access consistent with the project, and accounts for advisory review related to appearance (the Design Review Board). [109]

The Project does not involve any proposed Bay fill or dredging but does include new development within BCDC jurisdiction. Accordingly, the Project is subject to Bay Plan policy and permits pertaining to major development, as stipulated in BCDC regulations.

[109] Bay Conservation and Development Commission (BCDC), *San Francisco Bay Plan*, ___

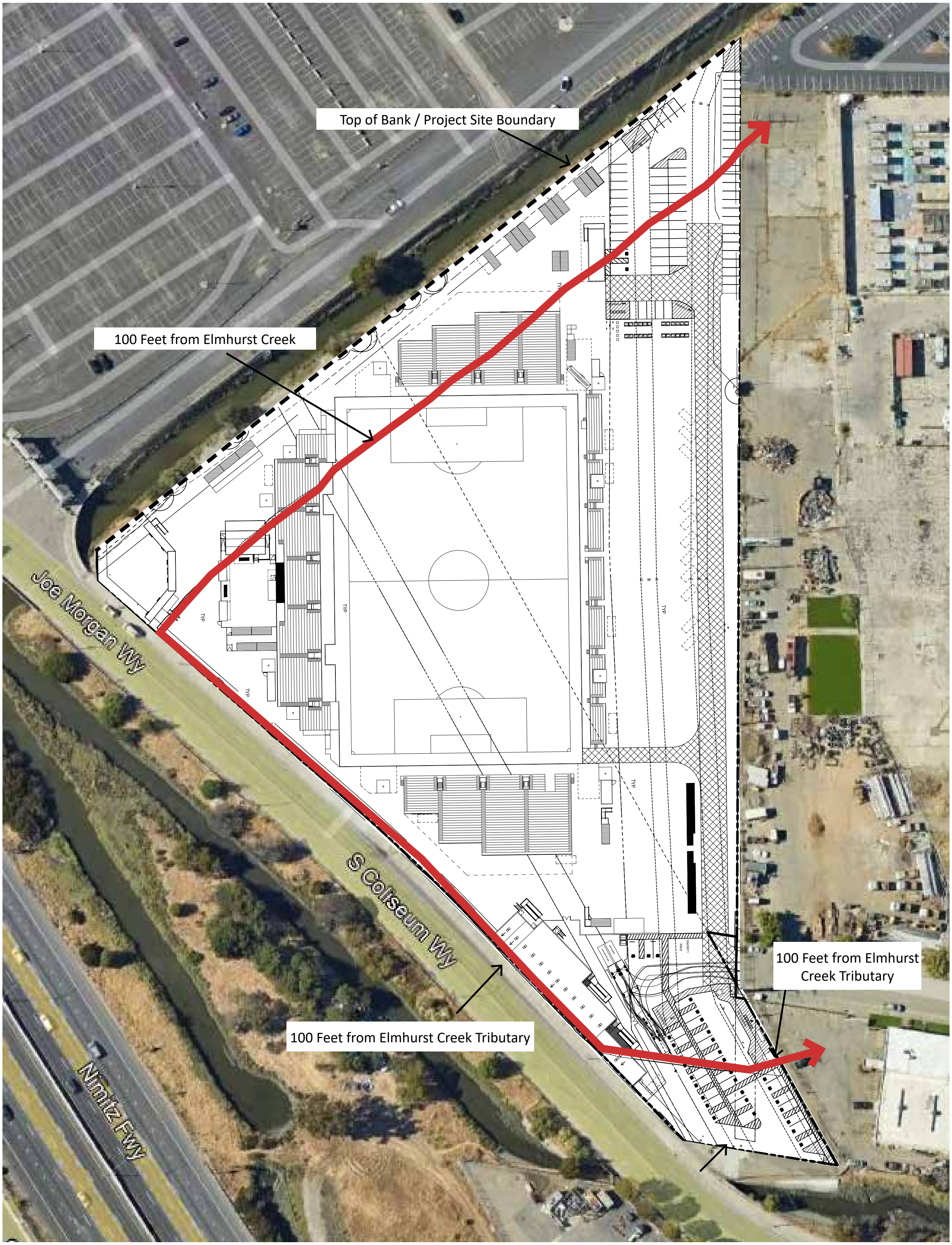


Figure 28
Approximate BCDC Jurisdiction within Project SIte

Source: BKF Engineers, Existing Conditions Exhibit, October 2023

Applicable SCAs and Mitigation Measures

The following City of Oakland SCAs clarify the Project's obligations and requirements to comply with applicable policies and regulations of BCDC as applies to the Project:

- ***SCA General-1 (17), Regulatory Permits and Authorizations from Other Agencies***: The project applicant shall obtain all necessary regulatory permits and authorizations from applicable resource/regulatory agencies. These agencies include but are not limited to the Regional Water Quality Control Board, Bay Area Air Quality Management District, Bay Conservation and Development Commission, California Department of Fish and Wildlife, U. S. Fish and Wildlife Service, and Army Corps of Engineers. Project applicants shall comply with all requirements and conditions of the permits/authorizations. The project applicant shall submit evidence of the approved permits/authorizations to the City, along with evidence demonstrating compliance with any regulatory permit/authorization conditions of approval.
- ***SCA Hydro-5 (67), Bay Conservation and Development Commission (BCDC) Approval:*** The project applicant shall obtain the necessary permit/approval, if required, from the Bay Conservation and Development Commission (BCDC) for work within BCDC's jurisdiction to address issues such as but not limited to shoreline public access and sea level rise. The project applicant shall submit evidence of the permit/approval to the City and comply with all requirements and conditions of the permit/approval.[110]

Since publication of the CASP EIR, the City has adopted SCA Hydro-5 (67) above, which is equivalent to and supersedes the CASP EIR Mitigation Measure Land-8A.

Consistent with the conclusions of the CASP EIR, the Project must comply with the policy requirements of BCDC, such that it would not fundamentally conflict with BCDC's Bay Plan, thereby reducing such potential conflicts to a less than significant level.

The City of Oakland, as Lead Agency, is required to conduct its CEQA review and grant its local discretionary approvals before BCDC can act on a permit application. When considering any future development permit for the Project, BCDC will act as a Responsible Agency and will rely on this CEQA document for its subsequent jurisdictional decisions. Prior to reaching its own independent conclusions as to whether or how to issue a shoreline development permit, the Commission will consider the environmental effects of the Project as shown in this CEQA document and may require mitigation for those direct or indirect environmental effects of those parts of the Project for which it has authority to address.

f): Plans and Policy Consistency – Tidelands Trust

CASP EIR Conclusions [111]

The CASP EIR (Impact Land-9) found that future development pursuant to the CASP may occur on lands granted to the Port of Oakland and subject to public trust. Development of residential or commercial office uses on lands subject to the public trust would conflict with the Public Trust Doctrine, and such development would not be permitted. However, potential inconsistencies with the public trust doctrine can be removed through appropriate reallocation of the public trust resource.

[110] SCA Land Use-1 supersedes and implements the CASP EIR's MM Land-8A, BCDC Issuance of Major Permit(s)

[111] City of Oakland, CASP Draft EIR, page 4.9-68

Project Analysis

The Project site is jointly owned by the City of Oakland and Alameda County, not the Port of Oakland, and the site is not subject to the public trust. The Project has no potential inconsistency with public trust requirements and this issue would not have an impact related to the Project.

g): Conservation Plan Conflict

CASP EIR Conclusions [112]

The CASP EIR (Impact Land-10) found that the CASP would not fundamentally conflict with any applicable habitat conservation plan or natural community conservation plan. The CASP planning area was not found to be located within or in proximity to an area guided by a Habitat Conservation Plan or Natural Community Conservation Plan. Therefore, adoption and development of the CASP would not conflict with such plans.

Project Analysis

As was concluded in the CASP EIR, the Project site (as part of the CASP planning area) is not within or in proximity to an area guided by a Habitat Conservation Plan or Natural Community Conservation Plan. Therefore, the Project would not conflict with such plans.

CEQA Conclusions Pertaining to Land Use

The analysis presented above examines whether there are any Project-specific significant effects related to land use that are peculiar to the Project or its site, finding none. The Project would have no impacts related to land use that were not previously analyzed in the CASP EIR, would have no off-site or cumulative impacts related to land use not discussed in the prior CASP EIR, and would not result in any land use impacts that are more severe than as discussed in the prior CASP EIR. There are no impacts related to land use that would otherwise invalidate the applicability of CEQA Guidelines Section 15183 for the Project.

None of the conditions described in CEQA Guidelines Sections 15162 or 15163 calling for preparation of a subsequent or supplemental EIR are met as pertaining to land use. The land use analysis presented above does provide additional details regarding land use and land use policy specific to the Project site. These additional details are new information pertinent to the Project that was not available or practical at the time of certification of the CASP EIR. However, as described above, these new details do not introduce any new significant impacts pertaining to land use that were not previously identified in the CASP EIR, and do not substantially increase the severity of any significant land use impacts as previously disclosed in the CASP EIR. These new details that are specific to the Project and its site are appropriately disclosed in this Addendum to the CASP EIR.

[112] City of Oakland, CASP Draft EIR, page 4.9-72

Mineral Resources

Would the Project:	CASP EIR Findings	Relationship to CASP EIR Findings: Equal or Less Severe	Relationship to CASP EIR Findings: New or Substantial Increase in Severity	Project Conclusions: Applicable Standards and Requirements	Project Conclusions: Resulting Level of Significance
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?	No Impact	■	□	-	No Impact
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?	No Impact	■	□	-	No Impact

Loss of Important Mineral Resources

CASP EIR Conclusions

Impacts on mineral resources were not anticipated, and consequently not analyzed in the CASP EIR. [113]

As there are no known important mineral deposits or active mineral extraction operations identified by the California Department of Conservation at the Project site. Consistent with the findings of CASP EIR, the Project would not have an adverse effect on important mineral resources or result in the loss of availability of a locally important mineral resource recovery site.

CEQA Conclusions Pertaining to Mineral Resources

The analysis presented above examines whether there are any Project-specific significant effects related to mineral resources that are peculiar to the Project or its site, finding none. The Project would have no mineral resource impacts that were not previously analyzed in the CASP EIR, would have no off-site or cumulative mineral resource impacts not discussed in the prior CASP EIR, and would not result in any mineral resource impacts that are more severe than as discussed in the prior CASP EIR. There are no mineral resource-related impacts that would otherwise invalidate the applicability of CEQA Guidelines Section 15183 for the Project.

None of the conditions described in CEQA Guidelines Sections 15162 or 15163 calling for preparation of a subsequent or supplemental EIR are met as related to mineral resources. Only minor technical additions related to the Project and its site have been identified, and these minor additions to the CASP EIR are appropriately disclosed in this Addendum to the CASP EIR.

[113] City of Oakland, CASP Draft EIR, page 2-2

Noise and Vibration

Would the Project:	CASP EIR Findings	CASP EIR Findings: Equal or Less Severe	CASP EIR Findings: New or Substantial Increase in Severity	Project Conclusions: Applicable Standards and Requirements	Project Conclusions: Resulting Level of Significance
a): Generate noise in violation of the City of Oakland Noise Ordinance (Oakland Planning Code section 17.120.050) regarding construction noise, except if an acoustical analysis is performed that identifies recommend measures to reduce potential impacts? b): Generate noise in violation of the City of Oakland nuisance standards (Oakland Municipal Code section 8.18.020) regarding persistent construction-related noise	LTS with SCAs	■	☐	SCA Noise-1, Construction Days/Hours SCA Noise-2, Construction Noise SCA Noise-3, Public Notification Required SCA Noise-4, Construction Noise Complaints SCA General-2, Construction Management Plan	LTS with SCAs
c) Generate noise in violation of the City of Oakland Noise Ordinance (Oakland Planning Code section 17.120.050) regarding operational noise?	SU	■	☐	-	Significant Unavoidable
d) Generate noise resulting in a 5 dBA permanent increase in ambient noise levels in the project vicinity above levels existing without the project; or, if under a cumulative scenario where the cumulative increase results in a 5 dBA permanent increase in ambient noise levels in the project vicinity without the project?	LTS	■	☐	-	LTs
e) During either project construction or project operation expose persons to or generate groundborne vibration that exceeds the criteria established by the Federal Transit Administration?	LTS	■	☐	-	LTS
f) 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?	LTS	■	☐	-	LTS

a and b): Temporary Construction Noise

CASP EIR Conclusions [114]

The CASP EIR (Impact Noise-1) concluded that future development pursuant to the CASP may include pile drilling and other extreme noise generating construction activities that would temporarily increase noise levels in the vicinity. In many instances, noise from construction would exceed the City's noise ordinance due to proximity of new buildings under construction to both existing and new noise-sensitive land uses. The CASP EIR determined that, with implementation of City of Oakland Standard Conditions of Approval, construction noise would not violate the City of Oakland Noise Ordinance or the City of Oakland nuisance standards regarding persistent construction-related noise. The City's SCAs address construction noise by requiring reasonable limits on construction hours, noise reduction program, and measures to track and respond to complaints. Through implementation of the City's SCAs, the CASP EIR found that construction noise would be less than significant.

Project Analysis

Regulatory Requirement

For purposes of analysis of potential construction-period noise impacts, the City of Oakland regulates noise through enforcement of its Noise Ordinance, which is found in Section 17.120 of the Oakland Municipal Code. The Noise Ordinance presents noise level standards that apply to temporary exposure to short-term (less than 10 days) and long-term (more than 10 day) construction noise, as shown in **Table 15**.

Table 15: Construction Noise Level Standards (dBA)

Receiving Land Use	Less Than 10 Days		More Than 10 Days	
	Weekdays 7 AM to 7 PM	Weekends 9 AM to 8 PM	Weekdays 7 AM to 7 PM	Weekends 9 AM to 8 PM
Residential	80	65	65	55
Commercial, Industrial	85	70	70	60

Note:
1. If the ambient noise level exceeds these standards, the standard shall be adjusted to equal the ambient noise level.
Source: OMC Section 17.120.050

Construction noise that would exceed the standards of the Noise Ordinance are considered potentially significant, except if an acoustical analysis is performed that identifies recommended measures to reduce potential impacts. The acoustical analysis must identify, at a minimum, the types of construction equipment expected to be used and the noise levels typically associated with the construction equipment, and surrounding land uses including any sensitive land uses (e.g., schools and childcare facilities, health care and nursing homes, public open space). If sensitive land uses are present, the acoustical analysis must recommend measures to reduce potential impacts.

[114] City of Oakland, CSP Draft EIR, page 4.10-19

Construction Equipment and Anticipated Noise Levels

Table 16, below, identifies the types of construction equipment that are likely to be used during construction of the Project. Typical noise levels from this equipment are expected to generate noise levels that range from between 74 to 89 dBA at 50 feet from the source.

Table 16: Reference Noise Levels of Anticipated Construction Equipment

Equipment	Typical Noise Level (dBA) 50 ft from Source
Air Compressor	81
Backhoe	80
Concrete Mixer	85
Crane, Mobile	83
Dozer	85
Grader	85
Loader	85
Paver	89
Pneumatic Tool	85
Roller	74
Truck	88

Source: *Federal Transit Administration Transit Noise and Vibration Impact Assessment*, May 2006, FTA-VA-90-1003-06, (FTA 2006)

The loudest construction noise is expected to occur during the following construction phases:

- during grading operations, using graders, backhoes and dozers (expected to occur over a 55-day period)
- during trenching for installation of new utilities (expected to occur over a 45-day period)
- during the import of surface and subsurface materials relying on heavy haul trucks (expected to occur periodically over a 45-day period), and
- during pouring of concrete and asphalt, relying on heavy haul trucks, concrete mixers and pavers (expected to occur over a 45-day period)

Overall, the Project's construction period is expected to last approximately 8 to 9 months, beginning in April and completing in November of 2025.[115]

To estimate the sound levels at nearby receiving locations, the inverse square law can be used to determine sound pressure levels at various distances. The inverse square law has been found to demonstrate that for each doubling of distance from a point source, the sound pressure level decreases by approximately 6 dB.[116] This approach assumes there are no reflective surfaces or barriers located between the noise source and the location at which the sound level is being determined that would otherwise further attenuate sound. Based on the

[115] The construction schedule as analyzed in the CalEEMod analysis relies on a construction period of a similar duration, but with an earlier start date. The earlier start date assumed in CalEEMod has no material effect on the calculation of construction emission or noise.

[116] WKC Group, accessed at: https://www.wkcgroup.com/tools-room/inverse-square-law-sound-calculator/

inverse square law, a conservative estimate of sound levels at nearby receiver sites can be determined, as indicated below.

- Construction activities at the Project site would occur between 200 and 400 feet from the trailers that provide emergency housing for the homeless at the adjacent Homebase property. At these distances, construction noise levels at these residential trailers could be expected at between 67 and 73 dBA. According to the City General Plan Noise Element, noise contours from traffic on the I-880 freeway result in an existing baseline noise at the Homebase site of approximately 70 dBA Ldn. Per the City's Construction Noise Level Standards (see Table 15 above), if the ambient noise level exceeds otherwise existing standards for construction noise, the standard shall be adjusted to equal the ambient noise level. The Project's louder construction operations involving concrete mixers, graders, pavers and large haul truck are expected to reach noise levels of 73 dBA, exceeding the adjusted standard of 70 dBA for weekday construction lasting more than 10 days.
- Construction activities at the Project site would occur about 800 feet from commercial uses located on the easterly side of Hegenberger Road. At these distances, construction noise levels at these commercial site could be expected to be about 61 dBA, which would not exceed the 70 dBA commercial standard for weekday construction lasting more than 10 days, and would likely not be noticeable over traffic noise on Hegenberger Road.
- Construction activities would occur about 600 feet from commercial and light industrial uses located on the westerly side of I-880 at the Airport Business Park. At these distances, construction noise levels at these commercial and industrial sites could be expected to be about 65 dBA, which would not exceed the 70 dBA commercial standard for weekday construction lasting more than 10 days, and would likely not be noticeable over traffic noise on the freeway.
- Residential areas nearest to the Project site are located east of the Coliseum BART station (Lion Creek Crossing at Snell Street/71st Avenue, and at Holly Street/73rd Avenue). These residential areas are about 2,500 feet or more from the Project site. At these distances, construction noise levels at the Project site are calculated to be less than 60 dBA, which is lower than the residential land use standard of 65 dBA. The Project's loudest construction noise would not be expected to exceed the existing ambient condition at these residential locations, particularly given their proximity of these residences to overhead BART tracks and/or other traffic noise sources near these locations.

This analysis demonstrates that the loudest construction noise attributed to the Project would be unlikely to exceed applicable standards at existing permanent residential or commercial/industrial receivers, but would exceed standards at the residential trailers currently located at the HomeBase property.

<u>Applicable Standard Conditions of Approval</u>

The Oakland Noise Ordinance provides that if an acoustical analysis does identify potentially significant construction noise levels, measures must be recommended to reduce potential impacts. The following City of Oakland SCAs are cited in the CASP EIR as effective measures for reducing the effects of construction noise, and these standard conditions of approval would apply to the Project. [117]

❖ ***SCA Noise-1 (69), Construction Days/Hours***: The project applicant shall comply with the following restrictions concerning construction days and hours:

[117] The SCAs listed as being applicable to the Project do not include the Extreme Construction Noise SCA for construction activities generating greater than 90 dBA. The Project does not include pier drilling, pile driving or other extreme noise generating construction activities.

a) Construction activities are limited to between 7:00 a.m. and 7:00 p.m. Monday through Friday, except that pier drilling and/or other extreme noise generating activities greater than 90 dBA shall be limited to between 8:00 a.m. and 4:00 p.m.

b) Construction activities are limited to between 9:00 a.m. and 5:00 p.m. on Saturday. In residential zones and within 300 feet of a residential zone, construction activities are allowed from 9:00 a.m. to 5:00 p.m. only within the interior of the building with the doors and windows closed. No pier drilling or other extreme noise generating activities greater than 90 dBA are allowed on Saturday.

c) No construction is allowed on Sunday or federal holidays.

Construction activities include, but are not limited to, truck idling, moving equipment (including trucks, elevators, etc.) or materials, deliveries, and construction meetings held on-site in a non-enclosed area.

Any construction activity proposed outside of the above days and hours for special activities (such as concrete pouring which may require more continuous amounts of time) shall be evaluated on a case-by-case basis by the City. Criteria for City’s evaluation include the urgency/emergency nature of the work, the proximity of residential or other sensitive uses, and a consideration of nearby residents’/occupants’ preferences. The project applicant shall notify property owners and occupants located within 300 feet at least 14 calendar days prior to construction activity proposed outside of the above days/hours. When submitting a request to the City to allow construction activity outside of the above days/hours, the project applicant shall submit information concerning the type and duration of proposed construction activity and the draft public notice for City review and approval prior to distribution of the public notice.

❖ ***SCA Noise-2 (70), Construction Noise***: The project applicant shall implement noise reduction measures to reduce noise impacts due to construction. Noise reduction measures include, but are not limited to, the following:

a) Equipment and trucks used for project construction shall utilize the best available noise control techniques (e.g., improved mufflers, equipment redesign, use of intake silencers, ducts, engine enclosures and acoustically attenuating shields or shrouds) wherever feasible.

b) Except as provided herein, impact tools (e.g., jackhammers, pavement breakers, and rock drills) used for project construction shall be hydraulically or electrically powered to avoid noise associated with compressed air exhaust from pneumatically powered tools. However, where use of pneumatic tools is unavoidable, an exhaust muffler on the compressed air exhaust shall be used; this muffler can lower noise levels from the exhaust by up to about 10 dBA. External jackets on the tools themselves shall be used, if such jackets are commercially available, and this could achieve a reduction of 5 dBA. Quieter procedures shall be used, such as drills rather than impact equipment, whenever such procedures are available and consistent with construction procedures.

c) Applicant shall use temporary power poles instead of generators where feasible.

d) Stationary noise sources shall be located as far from adjacent properties as possible, and they shall be muffled and enclosed within temporary sheds, incorporate insulation barriers, or use other measures as determined by the City to provide equivalent noise reduction.

e) The noisiest phases of construction shall be limited to less than 10 days at a time. Exceptions may be allowed if the City determines an extension is necessary and all available noise reduction controls are implemented.

❖ ***SCA Noise-3 (71), Extreme Construction Noise:*** Prior to any extreme noise generating construction activities (e.g., pier drilling, pile driving and other activities generating greater than 90dBA), the project applicant shall submit a Construction Noise Management Plan prepared by a qualified acoustical consultant for City review and approval that contains a set of site-specific noise attenuation measures to further reduce construction impacts associated with extreme noise generating activities. The project applicant shall implement the approved Plan during construction. Potential attenuation measures include, but are not limited to, the following:

a) Erect temporary plywood noise barriers around the construction site, particularly along on sites adjacent to residential buildings;
b) Implement "quiet" pile driving technology (such as pre-drilling of piles, the use of more than one pile driver to shorten the total pile driving duration), where feasible, in consideration of geotechnical and structural requirements and conditions;
c) Utilize noise control blankets on the building structure as the building is erected to reduce noise emission from the site;
d) Evaluate the feasibility of noise control at the receivers by temporarily improving the noise reduction capability of adjacent buildings by the use of sound blankets for example and implement such measure if such measures are feasible and would noticeably reduce noise impacts; and
e) Monitor the effectiveness of noise attenuation measures by taking noise measurements
f) The project applicant shall notify property owners and occupants located within 300 feet of the construction activities at least 14 calendar days prior to commencing extreme noise generating activities. Prior to providing the notice, the project applicant shall submit to the City for review and approval the proposed type and duration of extreme noise generating activities and the proposed public notice. The public notice shall provide the estimated start date and end date of the extreme noise generating activities and describe noise attenuation measures to be implemented.

❖ ***SCA Noise-4 (73), Construction Noise Complaints***: The project applicant shall submit to the City for review and approval a set of procedures for responding to and tracking complaints received pertaining to construction noise and shall implement the procedures during construction. At a minimum, the procedures shall include:

a) Designation of an on-site construction complaint and enforcement manager for the project;
b) A large on-site sign near the public right-of-way containing permitted construction days/hours, complaint procedures, and phone numbers for the project complaint manager and City Code Enforcement unit;
c) Protocols for receiving, responding to, and tracking received complaints; and
d) Maintenance of a complaint log that records received complaints and how complaints were addressed, which shall be submitted to the City for review upon the City's request.

❖ ***SCA General-2 (15), Construction Management Plan***: Prior to the issuance of the first construction-related permit, the project applicant and his/her general contractor shall submit a Construction Management Plan (CMP) for review and approval by the Bureau of Planning and Bureau of Building. Other relevant City departments, such as the Fire Department, Department of Transportation and the Public Works Department shall also review and approve the CMP, as directed.

a) The CMP shall contain measures to minimize potential construction impacts, including measures to comply with all construction-related Conditions of Approval (and mitigation measures if applicable) such as dust control, construction emissions, hazardous materials, construction days/hours, construction traffic control, waste reduction and recycling, stormwater pollution prevention, noise control, complaint management, and cultural resource management (see applicable Conditions below).
b) The CMP shall provide project-specific information including descriptive procedures, approval documentation, and drawings (such as a site logistics plan, fire safety plan, construction phasing plan, proposed truck routes, traffic control plan, complaint management plan, construction worker parking

plan, and litter/debris clean-up plan). This information shall specify how potential construction impacts will be minimized, and how each construction-related requirement will be satisfied throughout construction of the project.

These SCAs provide effective noise attenuation from excessive noise for surrounding residential, commercial and industrial land uses. SCA Noise-1 limits the days and hours of operation. SCA Noise-2 includes a list of standard noise reduction measures required of all construction projects that have been found to be practical and feasible for most all situations. SCA Noise-3 requires a Construction Noise Management Plan that contains site-specific noise attenuation measures be implemented to further reduce construction noise impacts on the adjacent residents at the HomeBase property. A temporary plywood noise barrier constructed at the property line shared with the adjacent HomeBase property, together with practical noise controls on construction equipment, is anticipated to provide 5 to 10 dBA of noise reduction to the adjacent trailers, reducing construction noise from the Project to levels that are at least equivalent to existing ambient noise conditions.

Consistent with the conclusions of the CASP EIR and in recognition that construction noise is a temporary condition, the Project's effects related to construction noise will be fully addressed through implementation of City SCAs, existing regulations and Project-specific recommendations pursuant to SCAs, and this impact would be reduced to less than significant.

c) Operational Noise

CASP EIR Conclusions [118]

The CASP EIR (Impact Noise-2A) concluded that new sports and special events venues in the Coliseum District would generate operational noise that would exceed thresholds of the Oakland Noise Ordinance at new on-site sensitive receivers (Significant and Unavoidable), but would be unlikely to generate noise levels that exceed threshold limits at off-site residences, assuming effective design of these new stadiums and their PA systems (LTS).

Noise measurements were made during an Oakland Raiders football game and an Oakland A's baseball game to quantify noise levels from these events and to extrapolate expected noise from the CASP's proposed new venues. Based on extrapolated noise levels from future sports venue locations, the resulting noise levels at the closest sensitive receivers was determined.

The nearest off-site (i.e., outside of the Coliseum District) sensitive noise receptors were identified as residences located near Snell Street and 71st Avenue, northwest of the Coliseum District and on the opposite side of San Leandro Street, the BART tracks and the rail tracks, and between 1,500 and 2,100 feet distant from the expected locations of the new sports venues. Expected noise levels from professional football and/or baseball games at these off-site receptors was found to be 57 to 60 dBA L_{33}, or about 2 to 5 dBA above the limits of the City's noise ordinance of 55 dBA for residential land uses.[119] However, existing railroad and BART noise from the intervening corridor already reaches as high as 65 dBA at these locations. The CASP EIR found it unlikely that the new sports venues would generate noise levels at these receiver sites that would represent a significant increase over ambient conditions. Furthermore, it was considered possible that the Noise Ordinance limits could be met at these existing off-site residences, depending on the specific designs of the football stadium, the baseball park and their respective PA systems.

118 City of Oakland, CASP Draft EIR, page 4.10-22

119 The CASP EIR assumed the Noise Ordinance's limit of 60 dBA would be reduced (conservatively lowered) by 5 dBA because the sound from these sports events would consist primarily of recurring noise.

The CASP EIR considered the nearest on-site sensitive receptors (i.e., within the Coliseum District and part of the anticipated CASP project) to be new residential buildings located near these event venues. Expected noise levels from professional football and/or baseball games at these on-site receptors was found to be well over the City's Noise Ordinance limits. For example:

- new residences within 360 feet of the expected 40,000-spectator baseball park were expected to be subject to average noise levels of 78 dBA L_{33}, and maximum noise levels of 87 dBA L_{max}
- New residences within 650 feet of the expected 72,000-spectator football stadium were expected to be subject to noise levels of 73 dBA L_{33} and 82 dBA L_{max}.

The CASP EIR found that both the new stadium and the new ballpark would generate noise levels in excess of the City's noise ordinance at new residential buildings located near these event venues and, assuming the new Stadium and Ballpark would not be fully enclosed, the CASP EIR found it impossible to achieve the Noise Ordinance limits at new, nearby residential buildings. This impact was found to be significant and unavoidable.

Project Analysis

Operational noise associated with the proposed Roots' temporary soccer stadium can be expected from three different noise sources: crowd noise, concert noise and pyrotechnic events, as further described below (permanent noise sources associated with increased traffic is discussed separately).

Crowd Noise

A hand-held noise monitor was used to measure crowd noise at the Roots' last home game on October 14, 2023 at the Cal State East Bay stadium in Hayward, with an estimated crowd size of approximately 6,300 spectators. The noise monitor was held about 10 feet back from the top row of the bleacher stadium. The average measured noise level as measured over a 20-minute time period was about 84 dBA, and the maximum crowd noise during this 20-minute period was 95 dBA. These measured noise levels are similar to close-range noise levels measured during a Raiders football game in 2013 (when crowd noise was measured at between 85 and 95 dBA), and also similar to close-range noise levels measured during an A's baseball game in 2013 (when crowd noise was measured at between 80 and 93 dBA).[120] For each of these noise measurements, crowd noise as read by the meter was dominated by a small subset of the full crowd that was nearest to the noise meter. The similarity of the measured crowd noise indicates that a small subset of fans at a Roots soccer game generate approximately the same or greater sound pressure as a similarly sized small subset of the crowd at a Raiders or A's game.

However, the noise analysis presented in the CASP EIR accounted for the total sound pressure from approximately 70,000 spectators at a Raiders game, and nearly 40,000 spectators at an A's baseball game. The CASP EIR then derived expected noise from similarly sized new venues, also accounting for noise attenuation based on stadium and ballpark designs. These circumstances are substantially different from the noise characteristics that can be expected from a Roots soccer game with 10,000 spectators and held in an open-air grandstand venue.

Instead, noise levels as monitored during a MLS soccer game at the Home Depot Center stadium in Carson, California provide a substantially more similar set of data for reference noise from a professional soccer game.[121] This data was measured during a professional soccer match between the Los Angeles Galaxy and Chivas USA teams, and the Home Depot Center served as the home stadium for both of these teams. The Home Depot Center is a similar open-air stadium, but approximately 23,300 spectators attended this match. Noise data was

[120] City of Oakland CASP EIR, Table 4.10-2, page 4.10-4, at noise monitor location ST-4

[121] Illingworth & Rodkin,

gathered at a reference location within an adjacent parking lot approximately 675 feet from the center of the stadium prior to, during and after the soccer event. Care was taken to exclude noise sources not related to the stadium (e.g., traffic on area roadways) but other associated noise sources such as local events occurring within the parking lot and close to the sound level meter were included. Additional surrounding noise measurements and noise source observations were made at several locations in the vicinity to quantify noise levels at greater distances, and to confirm the data gathered at the reference location in the parking lot. Noise sources measured at this MLS soccer game included vehicles within the parking lots before, during and after the event, amplified music within and around the stadium, announcements made through the public address system, fireworks, and crowd noise that included cheering, chanting, playing trumpets and drums, and stomping on the bleachers.

- Hourly average noise levels recorded at the monitoring location just prior to and during the event were approximately 63 dBA L_{eq}.
- Maximum instantaneous noise levels typically ranged from 65 to 77 dBA L_{max} throughout the game.
- The highest noise levels of 72 to 77 dBA L_{max} were measured after a goal was scored.

Expected Noise Levels at Sensitive Receptors

Expected noise levels from a Roots soccer game can be extrapolated from this data from the Home Depot Center Stadium, assuming that the majority of hourly average noise from the MLS soccer game (measured at 63 dBA L_{eq} at 675 feet) was generated by crowd noise from the 23,300 spectators. That crowd noise can be re-calibrated for a smaller 10,000-spectator crowd. Since sound pressure is calculated logarithmically, the sound pressure from a smaller 10,000-spectator crowd can be calculated by the following equation:

- sound pressure (10,000 crowd) = sound pressure (23,000 crowd) + 10*Log (10,000/23,000)

Based on this equation, the sound pressure from a smaller 10,000-spectator crowd can be calculated as an hourly average of approximately 59 dBA L_{eq} at a distance of 675 feet. Similarly, the highest maximum instantaneous noise level can be logarithmically re-calibrated for a smaller 10,000-spectator crowd to be approximately 73 dBA L_{max} at a distance of 675 feet. [122]

Applying the inverse square law (which provides that sound pressure drops by 6 dB with a doubling of distance from the source, or conversely increases by 6 dB at half the distance from the source), the noise levels generated by crowd noise from the Project at specific off-site receivers can then be estimated as follows:

- The property line between Project site and the adjacent HomeBase property is approximately 260 feet distant from the center of the proposed soccer stadium. At this distance, the Project can be expected to generate sound pressures of approximately 67 dBA Leq and 85 dBA Lmax at the property line.
- The residential trailers that are currently located on the HomeBase site are about 430 feet distant from the center of the proposed soccer stadium. These trailers are not within the Root's Project site, but are within the CASP's Coliseum District and thus would be considered on-site receptors pursuant to the in the CASP EIR. The Project can be expected to generate sound pressures of approximately 63 dBA Leq and 81 dBA Lmax at these nearest noise receptors.
- The nearest sensitive receptors outside of the Coliseum District are the residences located near Snell Street and 71st Avenue and the residences at 76th and 77th Avenue and Spencer to the north, and the residences at Edes and Phelps Street to the south (see prior Figure 17). Each of these sensitive receptor

[122] Based on the following equation: Sound Pressure (Roots) = sound pressure (Carson) + 10*Log (10,000/23,300), where 10,000 is the anticipated attendance at a Roots game, and 23,300 is the attendance at the reference soccer match at Carson, as follows:

Sound Pressure dBA Leq (Roots at 675 feet) = 63 dBA Leq (Carson at 675 feet) + 10*Log 0.43 (10,000/23,300) = 59 dBA Leq

Sound Pressure max (Roots at 675 feet) =77 dBA Lmax (Carson at 675 feet) + 10*Log 0.43 (10,000/23,300) = 73 dBA Lmax locations are about 3,000 feet distant from the center of the proposed Roots stadium. The Project can be expected to generate an hourly average sound pressure of approximately 46 dBA L_{eq} and 64 dBA L_{max} at these distant noise receptors.

Noise Thresholds

The thresholds for noise impacts in the CASP EIR are the same as the most current (February 2024) City of Oakland CEQA Thresholds of Significance Guidelines. These thresholds provide that the Project would have a significant impact on the environment if it would:

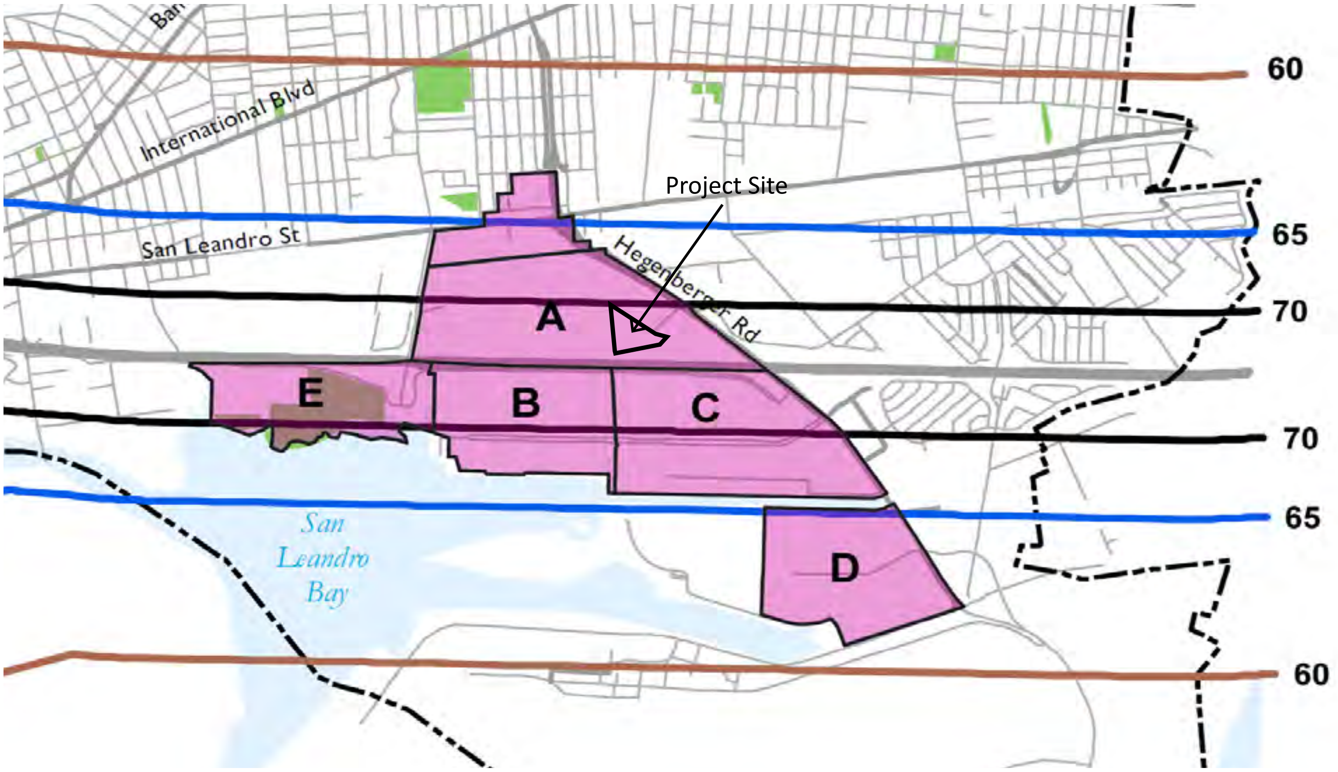
- Generate noise in violation of the City of Oakland Noise Ordinance (Oakland Planning Code section 17.120.050) regarding operational noise (see Table 4.10-2), and/or if the Project would:
- Generate noise resulting in a 5 dBA permanent increase in ambient noise levels in the Project vicinity above levels existing without the Project

The City of Oakland Noise Ordinance (OMC section 17.120.050) establishes the maximum allowable receiving noise level standards for residential uses at 60 dBA L_{33} and 80 dBA L_{max} during the daytime period (i.e., before 10:00 pm). However, the City Noise Ordinance also provides that if the ambient noise level exceeds the Ordinance's established standards, the standard shall be adjusted to equal the ambient noise level.

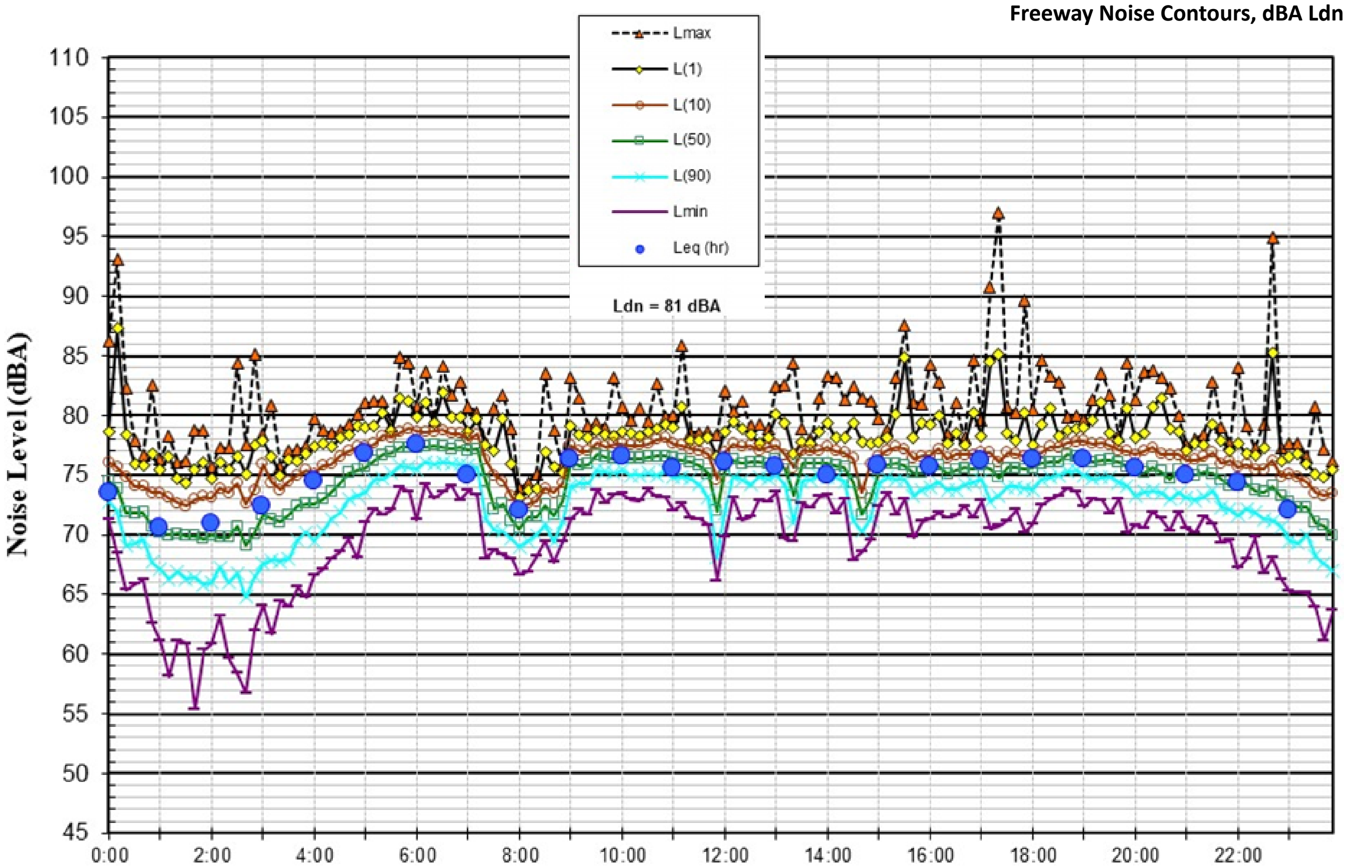
According to information presented in the CASP EIR, the ambient noise level at the HomeBase property is approximately 70 dBA Ldn from traffic noise on the I-880 freeway (see **Figure 29**). This Figure also shows a graph of noise data that was included in the CASP EIR. This graph presents the results from a long-term noise monitor placed 130 feet from the centerline of I-880, and that primarily measured traffic noise on the freeway. This monitoring data found the average daily ambient noise to be 81 dBA Ldn, or about 10 dBA Ldn greater that at the Homebase property. [123] This graph also shows L10 and L50 values (noise levels exceeded 10% and 50% of the day), and an L33 value can be approximated as the midpoint between the L10 and L50 range. As shown in this graph, an approximate L33 value would average about 5 to 6 dBA less than the 81 dBA Ldn, or between 75 to 76 dBA at this location during the afternoon to 10:00 pm period. The Lmax noise levels average about 2 to 3 dBA more than the 81 Ldn (or between 83 to 84 dBA at this location during the afternoon to 10:00 pm period).

This same relationship between the Ldn and L33 noise values can be applied to the 70 dBA Ldn ambient noise levels at the Homebase site. The resulting approximate ambient noise levels at the Homebase property line and at the nearest residential trailer on the Homebase property is expected to be 64 to 65 dBA L33, and 72 to 73 dBA Lmax. Accordingly, the ambient L33 noise level at the Homebase property exceeds the City's Noise Ordinance L33 standard of 60 dBA, and the standard is therefore adjusted to be equal the ambient noise level of 65 dBA L33. The ambient Lmax value of 72 to 73 dBA does not exceed the City's Noise Ordinance standard of 80 dBA Lmax, so 80 dBA Lmax remains the applicable maximum noise level standard.

[123] The Ldn in noise is a Leq-based Day-Night Average Sound Level. This is a 24-hour Leq average of noise levels, but with a 10 dB penalty added to noise levels measured during nighttime hours (typically 10 pm to 7 am) to account for the increased sensitivity to noise during nighttime.



Freeway Noise Contours, dBA Ldn



I-880 Freeway Noise Measurements, 130 Feet Northeast of I-880 Centerline, July 2022

Figure 29
Existing Noise Environment

Sources: City of Oakland CASP EIR Figure 4.10-2, and Ilingworth & Rodkin 2022

Comparison of Project Crowd Noise to City Thresholds

A comparison of the Project's expected crowd noise to applicable noise standards at noise receptor locations is shown below in **Table 17**.

Table 17: Comparison of Project Crowd Noise to City Standards at Sensitive Receptor Locations

	Non-Coliseum District Receptors, at 3,000 ft	Nearest HomeBase Trailer, at 430 ft	At HomeBase Property Line (260 ft
Project: Hourly Average Noise (Leq)	46 dBA Leq	63 dBA Leq	67 dBA Leq
Noise Ord. Standard (L33)	60 dBA L33	65 dBA L33 [1]	65 dBA L33 [1]
Exceed Standard?	No	No	**Yes (+2 dB)**
More than 5 dB Increase over Ambient?	No	No	No
Project: Maximum Noise (Lmax)	64 dB Lmax	81 dB Lmax	85 dB Lmax
Standard (Lmax)	80 dB Lmax	80 dB Lmax	80 dB Lmax
Exceed Standard?	No	**Yes (+1 dB)**	**Yes (+5 dB)**

Note: 1. Noise Ordinance Standard of 60 dB L33 adjusted to account for estimated L33 ambient noise level of 65 dB

As shown in Table 17, the Project's noise impact at various sensitive receptor locations vary by distance and noise duration, and can be summarized as follows: [124]

- At those off-site residential land use locations that are approximately 3,000 feet to the north and south of the Project site, the expected crowd noise from the Project is well below the City's L_{33} and L_{max} thresholds. Furthermore, existing railroad, BART and traffic noise already reaches as high as 65 dBA at these locations. The Project would not generate noise at these sensitive receiver sites that would be an increase over ambient conditions.
- At the nearest residential trailers on the HomeBase property, the average hourly crowd noise from the Project would be about 63 dBA Leq and would not exceed the City's adjusted L33 daytime noise standard of 65 dBA, and would not increase ambient noise levels by 5 dBA.
- At the nearest residential trailers on the HomeBase property, the maximum instantaneous crowd noise from the Project would be about 81 dBA Lmax, and would exceed the City's Lmax daytime noise standard of 80 dBA.
- At the Project site's boundary with the adjacent HomeBase site, the average hourly crowd noise from the Project would be about 67 dBA Leq and would exceed the City's adjusted L33 daytime noise standard of 65 dBA, but would not increase ambient noise levels by 5 dBA.

[124] These calculations conservatively compare the Project's hourly average noise levels to the City's L_{33} standard, where the L_{33} standard represents the noise level that is exceeded 33 percent of a given period. Per a research paper prepared for the 41st International Congress and Exposition on Noise Control Engineering, 2012 titled *Comparing Equivalent Noise Levels and Percentile Levels in Healthcare Spaces*, January 2012, "In many situations it is assumed that on average, the L90 is comparable to the Leq. However, recent research in healthcare facilities shows that the Leq is often closer to L33 or L10. Similarly, Leq in outdoor areas dominated by traffic noise has also been documented to be approximately equal to L33." Accessed at: https://www.researchgate.net/publication/287023529_Comparing_equivalent_noise_levels_and_percentile_levels_in_healthcare_spaces

- At the Project site's boundary with the adjacent HomeBase site, the maximum instantaneous crowd noise from the Project would be about 85 dBA Lmax, and would exceed the City's Lmax daytime noise standard of 80 dBA.

The Roots soccer stadium is proposed as a temporary facility, crowd noise from Roots and Soul soccer games would occur on 46 days of the year and would not be constant over each game day, and soccer games are expected to end by 10:00 pm. Other soccer games (i.e., Project 510 home games) and other corporate or community events to be held at the stadium are expected to have smaller crowds and generate less crowd noise.

While there may be some stadium/site design features that could reduce off-site noise impacts, achieving the required degree of noise attenuation, particularly for maximum instantaneous noise levels, is not considered feasible for an open-air stadium and grandstand assembly. No noise abatement measures are expected to be sufficient to reduce this impact to a less than significant level, and this impact would be significant and unavoidable.

This conclusion is consistent with the findings of the CASP EIR regarding noise effects of sports venues on on-site (i.e., within the Coliseum District) receptors. This impact was fully disclosed in the CASP EIR, and is not a new significant impact of the Project.

Concert Noise

The Project sponsor proposes up to 12 entertainment events per year at the temporary stadium, presumed for this analysis to be concerts. As cited in the City's Howard Terminal EIR, noise source levels from speakers at "rock concerts" can reach 95 dBA at 100 feet,[125] depending on the level of amplification and speaker array design. Unlike crowd noise, off-site noise from concert events can be managed and controlled by a sound engineer in charge of the PA system. Amplification systems and speaker arrays can be adjusted to levels appropriate for the event, but designed such that sound is directed away from the adjacent HomeBase property.

Regulatory Requirements

Pursuant to Oakland Municipal Code section 12.56.020, the use of sound amplifying equipment in an outdoor location must first obtain a written permit from the City at least ten working days prior to the date of intended use. Such permits restrict the use of sound amplification equipment in a manner considered "unreasonably loud", and limit the use of amplifiers to between the hours of 9:30 am to 10:00 pm. Furthermore, the permit process enables the City to require that the location and design of speaker arrays for amplified music be established at noise levels appropriate for the event, but that minimize off-site noise levels directed towards nearby sensitive receptors (e.g., the residential trailers at the Homebase property). Each concert event will require a permit from the City, these permits are considered effective in limiting occasional and temporary concert and special event noise. Like soccer games, noise from concerts and special events would not be constant over each day and would only occur a few days per year, and are considered temporary noise increase.

Pyrotechnic (Fireworks) Noise

The Project applicant has also indicated their desire to have occasional fireworks displays at the proposed stadium, such as on the Fourth of July or other special event days, and to have small fireworks occur at special moments during a soccer game (e.g., when the home team scores a goal, or wins the game). Peak noise levels from fireworks displays may occasionally exceed the instantaneous noise thresholds of the Noise Ordinance, but the duration of fireworks events would be brief and limited in number. Noise from firework displays is expected

125 City of Oakland, *Waterfront Ballpark District at Howard Terminal Draft EIR*, 2021, page 4.11-48

to result in a less than significant human exposure impact, with noise levels of 70 to 78 dBA expected during a maximum 45-minute event.

Regulatory Requirements

Similar to outdoor amplified music events, Oakland Municipal Code section 8.06.030 requires issuance of a permit for professional displays of fireworks and the use of fireworks for purposes of cultural celebrations or business promotion. These permits allow the City Administrator to establish specific health and safety regulations governing the issuance of such permits for public fireworks displays.

d) Traffic Noise

CASP EIR Conclusions [126]

The CASP EIR (Impact Noise-3) found that implementation of the CASP would not generate traffic noise resulting in a 5 dBA permanent increase in ambient noise levels in the vicinity, above levels that would exist without the CASP. Traffic volumes for roadways in the CASP planning area were analyzed to determine the potential for increased traffic noise. The calculated traffic noise levels and associated increases for each roadway link found that, in general, noise levels with the CASP were expected to increase by 1.2 dBA or less, as compared to existing conditions. Consequently, the CASP EIR determined that CASP buildout would not generate traffic noise that would exceed the threshold, and this impact was determined to be less than significant.

Project Analysis

The Project is anticipated to generate approximately 2,756 vehicle trips on a weekday event, and 2,940 vehicle trips during a weekend event, [127] as compared to the CASP's estimated increase of 63,350 total daily vehicle trips. [128] Accordingly, the Project generates only about 4% to 4.5% of the vehicle trips as analyzed in the CASP EIR. The full 63,350 daily trips were not found to increase ambient noise levels on roadways within the CASP planning area by a level that would be considered significant (i.e., only 1.2 dBA as compared to a 3 dBA threshold). Accordingly, the Project trips, which represent a small fraction of the trips generated under CASP buildout, would similarly (and to a lesser extent) not increase ambient noise levels on roadways within the CASP planning area by a level that would be considered significant. This would not be an impact of the Project.

e): Groundborne Vibration

CASP EIR Conclusions [129]

The CASP EIR (Impact Noise-7) found that construction or project operations pursuant to the CASP may expose persons to or generate groundborne vibration that exceeds the criteria established by the Federal Transit Administration (FTA). Vibration from construction was found to primarily be associated with use of vibratory rollers and pile drivers. Vibration can also be generated by other equipment, but those are usually at much lower levels. Vibration from construction attenuates rapidly with distance and is usually well below damage criteria for conventionally engineered buildings. The potential for damage from construction vibration was found to be potentially significant for historic structures. The City's standard conditions of approval that address

[126] City of Oakland, CASP Draft EIR page 4.10-25

[127] Per Fehr & Peers, see Transportation section of this CEQA Checklist, Table x

[128] City of Oakland, CASP Draft EIR, Table 4.13-16, page 4.13-55

[129] City of Oakland, CASP EIR page 4.10-28

vibration effects on historic buildings was determined to mitigate this potential impact to a level of less than significant.

Project Analysis

The project does not propose to use, and would not be required to construction equipment that would generate substantial vibrations. The Project does no rely on heavy vibratory rollers or pile drivers. Vibration levels from general construction equipment used at the Project be well below damage criteria for conventionally engineered buildings. There are no historic structures in the immediate vicinity of the Project that might be susceptible to vibration damage, and this impact would be less than significant.

f): Aviation Noise

CASP EIR Conclusions [130]

The CASP EIR (Impact Noise-8) found that new development pursuant to the CASP would not expose people residing or working in the CASP planning area to excessive noise levels from aircraft activity. According to the Airport Noise Contours for Oakland International Airport, the entire CASP planning area is located outside the CNEL 60 dBA noise contour. The Alameda County ALUC considers a CNEL of less than 60 dBA as compatible for residences and all other land uses pursuant to the CASP. Consequently, this impact was concluded to be less than significant.

Project Analysis

As is true for the entire CASP planning area, the Project site is not subject to excessive noise from private airstrips, public airports or overhead aircraft. Consistent with the findings of the CASP EIR, the Project would not be adversely affected by aviation noise (see also the Land Use section of this CEQA Checklist pertaining to ALUCP consistency).

CEQA Conclusions Pertaining to Noise and Vibration

The analysis presented above examines whether there are any Project-specific significant effects related to noise or vibration that are peculiar to the Project or its site. Although crowd noise attributed to game day operations are specific to the Project and found to be significant and unavoidable, this impact was previously analyzed in the CASP EIR, and the Project would not result in noise impacts that are more severe than as discussed in the prior CASP EIR. There are no impacts related to noise or vibration that would otherwise invalidate the applicability of CEQA Guidelines Section 15183 for the Project.

None of the conditions described in CEQA Guidelines Sections 15162 or 15163 calling for preparation of a subsequent or supplemental EIR are met as pertains to noise or vibration. The noise and vibration analysis presented above does provide additional details regarding noise conditions specific to the Project site. These additional details are new information pertinent to the Project that was not available or practical at the time of certification of the CASP EIR. However, as described above, these new details do not introduce any new significant impacts pertaining to noise or vibration that were not previously identified in the CASP EIR, and do not substantially increase the severity of any significant noise or vibration impacts as previously disclosed in the CASP EIR. These new details that are specific to the Project and its site are appropriately disclosed in this Addendum to the CASP EIR.

[130] City of Oakland, CASP Draft EIR, page 4.10-30

Population, Employment and Housing

Would the Project:	CASP EIR Findings	Relationship to CASP EIR Findings: Equal or Less Severe	Relationship to CASP EIR Findings: New or Substantial Increase in Severity	Project Conclusions: Applicable Standards and Requirements	Project Conclusions: Resulting Level of Significance
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)?	LTS with SCA	■	☐		LTS
b) Induce substantial unplanned employment 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)?	LTS	■	☐	-	LTS
c) Displace substantial numbers of existing people, housing or businesses, necessitating the construction of replacement housing elsewhere?	LTS	■	☐	-	No Impact

a): Population Growth

CASP EIR Conclusions [131]

The CASP EIR determined that the CASP buildout would include development of 5,750 housing units, of which 4,000 units were anticipated in the Coliseum District. This new housing was anticipated to accommodate 5,520 households with a population of 10,240 residents. As there was no existing housing in the CASP planning area, these new housing units and residents represent new growth pursuant to the CASP. This new household growth was found to represent about nine percent of total citywide household growth over the next 30 years, as targeted for Oakland in ABAG's 2013 *Plan Bay Area*. The CASP's housing development was found to contribute to achieving this targeted citywide residential growth.

Project Analysis

The Project does not include any proposed new housing or residential development. As such, the Project would not induce substantial unplanned population growth, either directly or indirectly.

As noted above, the CASP did anticipate that the Coliseum District would accommodate as many as 4,000 new housing units. The City of Oakland's adopted 2023-2031 Housing Element identifies the Project site as a Housing Opportunity Site with the potential to accommodate as many as 576 new dwelling units. [132] However, as indicated in the Project Description, the Project is intended as an interim use until a more permanent stadium

[131] City of Oakland, CASP Draft EIR, beginning at page 4.11-22

[132] City of Oakland, *2023-2031 Housing Element*, Table C-26: Housing Sites Inventory, February 2023

solution is identified. When the site is no longer needed for the Project, it will again become available for other future use, potentially including housing.

b): Employment Growth

CASP EIR Conclusions [133]

The CASP EIR (Impact Pop and Housing-4) found that new development facilitated by the CASP would not induce substantial employment growth in a manner not contemplated in the City's General Plan, either directly by facilitating new businesses, or indirectly through infrastructure improvements. This impact was considered less than significant.

Buildout of the Coliseum District was projected to accommodate 2.5 million square feet of non-residential building space plus three new sports facilities. Projected employment growth was assumed at as many as 7,000 new jobs in the Coliseum District alone, and 14,000 additional new jobs within business activities throughout the rest of the CASP planning area. Specifically, the CASP EIR anticipated that Sports Venue-related employment would increase form 2,350 jobs to 3,550 jobs, or an increase of as many as 1,200 new sports venue-related jobs. Employment growth was found to represents 25 percent of citywide growth over the next 30 years, as targeted for Oakland in the 2013 *ABAG Plan Bay Area*.

Project Analysis

The activities involved in producing sports and other events, and in managing the Project's facilities, will support new on-site employment. Most of this employment will be part-time work during events. The Project applicant has prepared a preliminary employment estimate for the Project, expecting that the Project will employ about 270 staff, players, security, maintenance, and food and beverage vendors. Additional indirect and induced employment in Oakland can be expected based on spending activity associated with the event attendees. This employment level represents only a small portion of the nearly 1,200 new sports venue-related jobs anticipated in the CASP EIR, and does not represent significant unplanned employment growth in the area. This impact would be less than significant.

c): Displacement of Persons or Housing

CASP EIR Conclusions [134]

The CASP EIR (Impact Pop and Housing-1 through -3) found that new development facilitated by the CASP would not displace any existing housing units and would not displace any people residing in the CASP planning area. It did find that new development facilitated by the CASP would displace certain existing businesses and jobs, but not in substantial numbers necessitating construction of replacement facilities elsewhere, in excess of that contemplated in the City's General Plan. This impact was determined to be less than significant.

Project Analysis

The Project site is a vacant, publicly owned property occasionally used for parking. There are no existing homes on the Project site and development of the Project would not result in the displacement of homes, persons or jobs.

[133] City of Oakland, *CASP Draft EIR*, beginning at page 4.11-18

[134] City of Oakland, CASP Draft EIR, beginning at page 4.11-27

CEQA Conclusions Pertaining to Population and Housing

The analysis presented above examines whether there are any Project-specific significant effects related to population, housing or employment that are peculiar to the Project or its site, finding none. The Project would have no population, housing or employment impacts that were not previously analyzed in the CASP EIR. It would have no off-site or cumulative population, housing or employment impacts not discussed in the prior CASP EIR, and would not result in any population, housing or employment impacts that are more severe than as discussed in the prior CASP EIR. There are no population, housing or employment related impacts that would otherwise invalidate the applicability of CEQA Guidelines Section 15183 for the Project.

None of the conditions described in CEQA Guidelines Sections 15162 or 15163 calling for preparation of a subsequent or supplemental EIR are met as related to population, housing or employment. Only minor technical additions related to the Project and its site have been identified, and these minor additions to the CASP EIR are appropriately disclosed in this Addendum to the CASP EIR.

Public Services and Recreation

Would the Project:	CASP EIR Findings	Relationship to CASP EIR Findings: Equal or Less Severe	Relationship to CASP EIR Findings: New or Substantial Increase in Severity	Project Conclusions: Applicable Standards and Requirements	Project Conclusions: Resulting Level of Significance
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 public services:					
a) Fire Protection, Police Protection or Schools?	LTS	■	☐	SCA Public-1, Capital Improvements Impact Fee Project Requirement: OUSD School Impact Fees	LTS with SCA
c) For parks; Would the Project 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? Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	LTS	■	☐	-	LTS

New Government Facilities

CASP EIR Conclusions [135]

The CASP EIR (Impact Public-1) determined that implementation of the CASP would result in less than significant adverse physical impacts associated with the provision of new or physically altered governmental facilities or associated with the need for new or physically altered governmental facilities.

Fire Protection

The CASP EIR concluded that the increase in development intensity and overall density within the CASP planning area would result in an increase in demand for fire protection services. However, adherence to General Plan policies and implementation of City of Oakland SCAs during review of individual development projects were found to reduce the potential for fire service deficiencies and related impacts. The CASP EIR found that the Oakland Fire Department was able to meet or exceed their response time goal 90 percent of the time. As such, it was anticipated that buildout of the CASP would have a less than significant impact on fire protection services, with implementation of applicable SCAs.

[135] City of Oakland, CASP Draft EIR, beginning at page 4.12-12

Police Protection

The CASP EIR concluded that development intensity and overall density within the CASP planning area could result in an increase in reported crimes. However, adherence to General Plan during review of individual development projects would reduce the potential for project-related service deficiencies. Although the population increase attributed to the CASP was considered to potentially result in an increase in reported crime, new construction would infill currently vacant and underused sites, serve to revitalize the community, and could result in a reduction in criminal activity within and around the area. As such, it was anticipated that the CASP would have a less than significant impact on police protection services.

Schools

The CASP EIR found that new development pursuant to the CASP would increase student enrollment at local schools. These new students would be added to district-wide enrollment incrementally over time as development occurs. The CASP EIR concluded that Senate Bill 50 (SB 50) requires applicants for individual development projects to pay applicable school impact fees to offset potential impacts from new development on school facilities. Payment of fees mandated under SB 50 is the mitigation measure prescribed by the statute, and payment of such fees is deemed full and complete mitigation. The CASP EIR determined that, with payment of these fees, the CASP's impact on schools would be less than significant and no additional mitigation would be required.

Other Public Facilities

The CASP EIR found no further impact on the provision of public services.

Project Analysis

Police, Fire and Other Public Services

Development of the Project will incrementally increase demand for public services (i.e., police, fire protection and other public services) and will contribute to the need for capital improvements necessary to meet this demand. The Project will place additional burdens on public services, and these demands will contribute to the cumulative need for construction of facilities and improvements to meet and accommodate new developments.

The City of Oakland had conducted a nexus study and established factors that reasonably estimate the level of impacts on public services and related capital improvements. The City has adopted a Capital Improvements Impact Fee (OMC Chapter 15.74) and has found that there is a reasonable relationship between the type of development projects paying the fees and the need for capital improvements and infrastructure. Through payment of these fees, the Project will address its portion of these cumulative effects on public services and capital improvement infrastructure, and fully mitigate its contribution to these impacts as required under CEQA.

Schools

By creating new jobs in Oakland, the Project's employment will indirectly induce additional population and housing growth, indirectly adding to demands for school capacity. As authorized by California Government Code Sections 65995, 65996(a) and 65996(b), OUSD collects school impact fees from developers of new residential and non-residential building space, including the Project. The permitted method for addressing school enrollment increase impacts is limited to the statutory authority of school districts to impose school impact fees.

<u>Applicable Standard Conditions of Approval</u>

The following condition applies to all projects subject to the Capital Improvements Impact Fee.

- ***SCA Public-1 (78), Capital Improvements Impact Fee***: The Project applicant shall comply with the requirements of the City of Oakland Capital Improvements Fee Ordinance (chapter 15.74 of the Oakland Municipal Code).
- As authorized by ***California Government Code Sections 65995***, 65996(a) and 65996(b), the OUSD will collect school impact fees from the Project, and payment of the required school impact fees will address the impact of the Project on school services to the furthest extent permitted by law. School impact fees are collected when building permits are issued. Payment of these fees will constitute full and complete mitigation, and the impact of the Project related to schools would be less than significant.

Parks and Recreation

CASP EIR Conclusions [136]

Park Standards

The CASP EIR (Impact Public-2) found that the CASP would result in increased use of existing neighborhood and regional parks and other recreational facilities, such that substantial physical deterioration of these facilities may occur. However, the CASP EIR concluded that adherence to the General Plan's OSCAR Policies would reduce potential impacts to recreational facilities, the City would continue to exceed its overall park standard but would continue to fall short of its stated local-serving park standard, but that the CASP would have a positive contribution to both standards. As a result, the impact was found to be less than significant.

New Recreational Facilities

The CASP EIR (Impact Public-3) found that the CASP would include new recreational facilities that could potentially have an adverse physical effect on the environment. However, the construction of new park spaces and habitat restoration efforts would be subject to the City's standard conditions of approval, and therefore any impacts would be less than significant.

Project Analysis

The Project is intended as a venue for professional men's and women's soccer, which could be considered a new recreational facility. The potential adverse environmental effects of this recreational facility are fully addressed in this CEQA Checklist. The Project is only expected to be used for professional soccer games for about 100 events per year. The rest of the time, the soccer field could potentially be used for other recreational sports purposes, but it is not intended as a public park or available for public use. The Project does not include any other on-site parks or recreational space improvements that might result in environmental effects. This impact would be less than significant.

CEQA Conclusions Pertaining to Public Services

The analysis presented above examines whether there are any Project-specific significant effects related to public services that are peculiar to the Project or its site, finding none. The Project would have no public service impacts that were not previously analyzed in the CASP EIR, would have no off-site or cumulative public service impacts not discussed in the prior CASP EIR, and would not result in any public service impacts that are more severe than as discussed in the prior CASP EIR. There are no public services related impacts that would otherwise invalidate the applicability of CEQA Guidelines Section 15183 for the Project.

[136] City of Oakland, CASP Draft EIR, beginning at page 4.12-13

None of the conditions described in CEQA Guidelines Sections 15162 or 15163 calling for preparation of a subsequent or supplemental EIR are met as related to public services. Only minor technical additions related to the Project and its site have been identified, and these minor additions to the CASP EIR are appropriately disclosed in this Addendum to the CASP EIR.

Transportation

Would the Project:	CASP EIR Findings	Relationship CASP EIR Findings: Equal or Less Severe	Relationship CASP EIR Findings: New or Substantial Increase in Severity	Project Conclusions: Applicable Standards and Requirements	Project Conclusions: Resulting Level of Significance
a) Cause substantial additional vehicle miles traveled (VMT) per capita, per service population, or other appropriate efficiency measure?	N/A	■	☐	-	LTS
b) Fundamentally conflict with adopted City policies, plans or programs regarding public transit, bicycle or pedestrian facilities?	N/A	■	☐	SCA Transp-1), Transportation and Parking Demand Management SCA Transp-2, Bicycle Parking SCA Trans-3, Transportation Impact Fee SCA Trans-4, Plug-In Electric Vehicle (PEV) Charging Infrastructure	LTS with SCAs
c) Result in a substantial, though temporary, adverse effect on the circulation system during construction of the project? d) Directly or indirectly cause or expose roadway users to a permanent and substantial transportation hazard due to a new or existing physical design feature or incompatible use?	LTS	■	☐	SCA Transp-5, Construction Activity in the Public Right-of-Way SCA Transp-6, Transportation Improvements	LTS with SCAs
e) Substantially induce additional automobile travel by increasing physical roadway capacity in congested areas (i.e., by adding new mixed-flow lanes) or by adding new roadways to the network?	NA	■	☐	-	LTS

The CASP EIR included thresholds addressing potential conflicts with an applicable plan, ordinance, or policy establishing measures of effectiveness for the performance of the circulation system, based on a variety of level of service (LOS) metrics. In April 2017, the City of Oakland published revised Transportation Impact Review Guidelines to guide the evaluation of transportation impacts associated with land-use development projects. Based on these new guidelines, level of service (LOS) or similar measures of vehicular capacity or traffic congestion are no longer used as thresholds for defining a significant impact on the environment.

The following Transportation section of this CEQA Checklist has been prepared by Fehr & Peers. Fehr & Peers has prepared a Transportation Management Plan for the Project (see **Appendix J**) and a Transportation Impact Review (see **Appendix K**) pursuant to City of Oakland Transportation Impact Review Guidelines.

a): Vehicle Miles Traveled

CASP EIR Conclusions

In 2015 (when the CASP EIR was certified), the applicable CEQA thresholds relative to traffic were based on level of service (LOS) metrics, considering intersection delay and queuing. The LOS metrics measured traffic congestion based on the relationship between the numbers of vehicles travelling on a given segment of a roadway or through an intersection during a given time period and the estimated capacity of the facility based on the number of lanes and other roadway design factors. The CASP EIR analysis evaluated the traffic-related impacts of the Coliseum District and CASP Buildout during the weekday morning and evening peak hours. The analysis was conducted in compliance with then-applicable City of Oakland and Alameda County Transportation Commission (Alameda CTC) guidelines. Traffic conditions were assessed for multiple scenarios, including Existing, Existing Plus Coliseum District, 2035 No Project, 2035 Plus Coliseum District, and 2035 Plus CASP Buildout conditions.

The CASP EIR did not use vehicle miles traveled (VMT) as a threshold for measuring transportation impacts.

Project Analysis

VMT Threshold

On September 21, 2016, the City of Oakland updated their CEQA thresholds of significance related to transportation impacts. The purpose of this update was to implement the directive from Senate Bill 743 (SB 743) to modify local environmental review processes by removing automobile delay, as described solely by level of service (LOS) or similar measures of vehicular capacity or traffic congestion, as a significant impact on the environment pursuant to CEQA. The City's current thresholds for transportation align with guidance from the Governor's Office of Planning and Research and with adopted plans and polices related to transportation that promote the reduction of greenhouse gas emissions, the development of multimodal transportation networks, and a diversity of land uses. Consistent with SB 743 requirements, the City's published 2017 Transportation Impact Review Guidelines (TIRG) now guide the evaluation of transportation impacts associated with land-use development projects.

According to the City of Oakland TIRG, event centers and regional-serving entertainment venues, generally require a detailed VMT analysis, and the screening is not applicable. However, the screening criteria are being presented here for public disclosure.

Screening Criteria

VMT impacts are considered less than significant for a project if any of the following identified screening criteria as outlined below are met:

1. Small Projects: if the project generates fewer than 100 vehicle trips per day
2. Near Transit Stations: if the project is located in a Transit Priority Area or within a one-half mile of a Major Transit Corridor or Major Transit Stop and satisfies the following:
    a. has a Floor Area Ratio (FAR) of more than 0.75
    b. includes less parking for use by residents, customers or employees of the project than other typical nearby uses, or less than or less than required by the City (if parking minimums pertain to the site) or allowed without a conditional use permit (if minimums and/or maximums pertain to the site), and
    c. is consistent with the applicable Sustainable Communities Strategy (as determined by the lead agency, with input from the MTC)

3. Low-VMT Areas: if the project meets map-based screening criteria by being located in an area that exhibits below-threshold VMT, or 15 percent or more below the regional average

Screening Criteria Assessment

Small Projects

Trip generation is the process of estimating the number of vehicles that would access the Project on any given event. **Table 18** summarizes the mode share and the person-trips for the Project for both a weekday and a weekend evening professional soccer game with 10,000 attendees. Calculations in Table 18 are based on travel surveys conducted for a Roots soccer game held at the Laney College stadium in Oakland, with adjustments to those survey results specific to the Project site, including:

- reduced bike share to 2% because the Project site is less accessible for bike use than is the Laney College site
- removed walk share because the Project site is less accessible for walking trips than the Laney College site
- increased drive alone, carpool, and BART travel mode shares to offset for the reduced bike and walk shares

Table 18 also summarizes the Project's resulting transportation mode share for the same weekday and weekend evening professional soccer games with 10,000 attendees, but assuming implementation of a Transportation Demand Management (TDM) Plan that is designed to achieve a 20% reduction in vehicle trips. Such a TDM Plan is consistent with the City's Standard Condition of Approval requiring all development projects to implement a TDM/Parking Management Plan that reduces the project's vehicle trips by 20% compared to the same project without TDM.

Table 18: Mode Share and Person Trips for Project Attendees, With and Without TDM				
	Weekday Game		**Weekend Game**	
Land Use	**Mode Split**	**Attendees**	**Mode Split**	**Attendees**
Without TDM:				
Carpooling	60%	6,000	72%	7,200
Drive Alone	21%	2,100	10%	1,000
Uber/Lyft/Taxi	3%	300	6%	600
BART	11%	1,100	9%	900
AC Transit Bus	3%	300	1%	100
Walk	--	--	--	--
Bike	2%	200	2%	200
Total Attendee Trips (One-Way)		**10,000**		**10,000**
With TDM:				
Carpooling	58%	5,800	68%	6,800
Drive Alone	20%	2,000	9%	900
Uber/Lyft/Taxi	3%	300	6%	600
BART	14%	1,400	14%	1,400
AC Transit Bus	3%	300	1%	100
Walk	--	--	--	--
Bike	2%	200	2%	200
Total Attendee Trips (One-Way)		**10,000**		**10,000**

Notes:

1. Represents average of arrival and departure travel mode shares, which may vary slightly. Represents primary mode of travel.

Source: Fehr & Peers, May 2024 based on surveys at Roots home games at Laney College in 2022 and at the California State University, East Bay (CSUEB) in 2023.2022

Based on the mode share and estimated person-trips for the Project as shown above, the resulting automobile trip generation for a sold-out game at the Project with 10,000 attendees is as shown in **Table 19**. The occupancy factors per automobile trip types were derived from transportation surveys taken at the Laney College site for a Roots soccer game. **Table 19** also shows the resulting automobile trips with implementation of a TDM/Parking Management Plan for the same sold-out soccer game at the Project.

Table 19: Project's Automobile Trip Generation (Daily Trips), With and Without TDM						
	Weekday Game			Weekend Game		
Land Use	Persons	Average Vehicle Occupancy	Total Vehicle Trips	Persons	Average Vehicle Occupancy	Total Vehicle Trips
Without TDM						
Attendees who Drive and Carpool	8,100	1.79	9,040	8,200	2.22	7,380
Attendees who use Uber/Lyft/Tax [1]	300	2.4	500	600	1.84	1,300
Employees/Players and Others [2]	240	1.06	450	240	1.06	450
Totals:			**9,990**			**9,130**
With TDM [3]						
Attendees who Drive and Carpool	7,800	2.17	7,190	7,700	2.73	5,640
Attendees who use Uber/Lyft/Tax [1]	300	2.4	500	600	1.84	1,300
Employees/Players and Others [2]	240	1.6	300	240	1.33	360
Totals:			**7,990**			**7,300**
Percent Reduction in Trips			**-20%**			**-20%**

Notes:

1. Total vehicle trips are calculated by dividing persons by average vehicle occupancy to get one-way trips. Drive and carpool trips are then multiplied by 2 for round trips. The calculation is similar for those who arrive by Uber / Lyft / taxi, except multiplied by 4 to account for the driver picking up and drop off the passenger (2 trips) multiplied by 2 for round trips.
2. Based on data provided by the Roots, about 270 staff and vendors, including players for both the home and visiting teams, would be expected at the Stadium on game days with maximum attendance. The visiting team (30 players/coaches) would arrive and leave the Stadium by bus. The remaining 240 game day staff and vendors are estimated to have a 93 percent drive alone mode share.
3. TMP/TDM would reduce trip generation by 20%

Source: Fehr & Peers, May 2024

As shown in Table 19, the Project would generate more than 100 vehicle trips per day (with or without TDM), and does not meet the VMT screening criterion as a small project. The TDM/Parking Management Plan is expected to reduce vehicle trips by 20%.

Near Transit Stations

The Project is located about 0.68 miles from the Coliseum BART Station by walking through the Coliseum District to the Project site, and about 0.28 miles from AC Transit bus stops on Hegenberger Road near Coliseum Way and Collins Drive. The bus stops serve the 45- and 73-Line buses. Combined, these buses provide 9 buses per hour prior to a 7 PM weekday game start and 8 buses per hour post-game, and 6 buses per hour prior to a 7 PM Saturday game start and 5 buses per hour post-game. These combined bus lines would exceed the minimum service frequency of 15-minutes or less. Thus, the Project meets the VMT screening criteria as a project within one-half mile of a Major Transit Corridor or Stop. The Project is also in a Transit Priority Area.

If the Project also satisfied the following additional criterion for projects near transit stations, the Project's impacts related to VMT would be considered less than significant:

- has a Floor Area Ratio (FAR) of more than 0.75 - not satisfied
- includes less parking for use by the Project than other typical nearby uses, or less than required by the City (if parking minimums pertain to the site) or allowed without a conditional use permit (if minimums and/or maximums pertain to the site) - not satisfied
- is consistent with the applicable Sustainable Communities Strategy as determined by the lead agency, with input from the MTC – not satisfied

Accordingly, the Project does not meet the criterion for projects near transit stations.

Low-VMT Area

Based on the Alameda CTC Travel Model, the VMT per worker for the traffic analysis zone that the Project is located within (TAZ 447) is 10.7 VMT/employee in 2020, and 10.3 VMT/employee in 2040 compared to the regional averages of 18.1 and 15.4, respectively. From an employment perspective, the Project's location meets the low-VMT Area screening threshold by having a per-employee VMT rate that is 15-percent lower than the regional average.

Project VMT Analysis

According to the City of Oakland TIRG, the following threshold of significance related to substantial additional VMT is applicable to the Project:

- For event centers and regional-serving entertainment venues, a project would cause substantial additional VMT if it exceeds the existing regional VMT per retail employee minus 15-percent.

However, the Roots' soccer games are currently being played at Cal State University East Bay (CSUEB) and are expected to continue there until a new stadium is built, with little difference in employment between the two locations. Accordingly, the Project's VMT analysis will instead focus on the VMT per attendee generated at the existing CSUEB site as compared to the anticipated VMT per attendee generated at the Project site, and to assess whether the Project site's VMT per attendee is at least 15-percent more efficient than at CSUEB. Therefore, the following modified threshold of significance applies to the Project:

- The Project would cause substantial additional VMT if it exceeds the existing VMT per attendee minus 15-percent.

Attendee surveys were conducted by the Roots at two soccer matches held at Cal State University East Bay (CSUEB) during September 2023, and at two soccer matches held at Laney College during the 2022 season. The surveys included questions about origin and destination zip codes so that the attendee travel distance could be established, and these zip codes were then used in VMT calculations for the Project. The survey results were used to establish per-attendee VMT. These survey results are used to determine if the Project's VMT (at the Project site) would be at least 15-percent less than an equivalent soccer game at the existing, currently used venues. Since the Roots would continue to play matches at CSUEB until the Project is constructed, a VMT comparison between the CSUEB site and the Project site is valid. Comparisons to the Laney College site would not be appropriate because the Roots are no longer holding soccer matches at that site.

Table 20 presents the VMT comparison for attendees at CSUEB versus the Project site.

Table 20: Comparison of Trip Distances, CSUEB vs. Project site (per attendees)				
	Average 1-way Trip Distance (miles) - Attendees			
	CSUEB		Project Site	
	Weekday Game	Weekend Game	Weekday Game	Weekend Game
Carpooling	19.4	19.2	13.8	14.8
Drive Alone	26.4	23.0	22.4	20.1
Carpooling/Drive Alone (weighted average)	20.5	19.6	15.0	15.4
Uber / Lyft / Taxi	16.8	12.2	11.3	10.9
Weighted Average (Carpooling, Drive Alone, Uber/Lyft/Taxi)	**21.1**	**19.5**	**15.1 (-29%)**	**15.3 (-22%)**

Source: Fehr & Peers, May 2024

As shown in Table 20, the weighted average VMT for carpooling, drive alone and Uber/Lyft/Taxis for a weekday game would decrease from 21.1 VMT/attendee at CSUEB, to 15.1 VMT/attendee at the Project site. This represents a 29% reduction in weekday VMT/attendee. The weighted average VMT for carpooling, drive alone and Uber/Lyft/Taxis for a weekend game would decrease from 19.5 VMT/attendee at CSUEB, to 15.3 VMT/attendee at the Project site. This represents a 22% reduction in weekend VMT/attendee. In conclusion, the Project (at the Malibu site) would have a beneficial effect on VMT per attendee as compared to continued current reliance on the CSUEB stadium.

For informational purposes, the CASP EIR assumed that three different sports franchises (the Raiders, the A's, and the Warriors) would make independent business decisions to remain in Oakland and at the Coliseum District, and that each of these sports franchises would have new, separate venues for their games. The CASP EIR also assumed that the maximum size event for the Coliseum District would be 70,000 attendees at a Raider's football game, generating 17,800 vehicle trips. Today, none of the three sports franchises operate at the Coliseum District, and only the 10,000-seat soccer stadium (the Project) is contemplated. The Project is expected to generate about 2,940 vehicle trips on a weekend game day, which represent only about 17 percent of the vehicle trips as was assumed in the CASP EIR for sports events.

b): Conflict with Transit, Bicycle or Pedestrian Facility Policies

CASP EIR Conclusions [137]

The CASP EIR (Impact Trans-86) found that development pursuant to the CASP would not fundamentally conflict with adopted City policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities adopted for the purpose of avoiding or mitigating an environmental effect. The CASP EIR found the CASP to be consistent with policies, plans and programs supporting public transit, bicycle and pedestrian transportation, and this impact was found to be less than significant (LTS).

The following general findings were cited in the CASP EIR in support of the City of Oakland General Plan LUTE, as well as the City's Public Transit and Alternative Mode Policy:

[137] City of Oakland, *CASP Draft EIR*, page 4.13-157 through 4.13-160

- The CASP provides for high-density development in a compact area with excellent pedestrian and bicycle infrastructure and transit service. By providing a mix of uses in a dense walkable urban environment with quality pedestrian, bicycle and transit infrastructure and a limited parking supply, the CASP encourages the use of non-automobile transportation modes.
- The CASP includes several street modifications that encourage pedestrian activity by creating a safer and more attractive pedestrian environment such as minimizing driveways on pedestrian thoroughfares, widening sidewalks, and providing pedestrian scale lighting that further encourage pedestrian activity consistent with the City's Pedestrian Master Plan.
- The CASP encourage both short- and long-term bike parking as well as completion of the bicycle network on 66th Avenue and Edgewater Drive, as well as completion of the bicycle connection between BART and the Bay Trail as envisioned in the Bicycle Master Plan.

The CASP EIR concluded that the CASP would not conflict with adopted City policies, plans or programs regarding public transit, bicycle or pedestrian facilities, this impact was determined to be less than significant, and no mitigation measures were required.

Project Analysis

The Project is consistent with the applicable programs, plans, ordinances, and policies, and would not cause a significant impact by conflicting with adopted programs, plans, ordinances, or policies addressing the safety and performance of the circulation system, including transit, roadways, bicycle lanes, and pedestrian paths (except for automobile LOS or other measures of vehicle delay).

The Project's land use activities, which primarily consist of soccer games and special events, and the types of trips generated by these uses, are consistent with the uses envisioned in the CASP EIR for the Coliseum District. The Project is consistent with the CASP in that it does not propose any modification to the transportation network not otherwise envisioned in the CASP and it would not adversely affect installation of new facilities or modifications to existing facilities as proposed by the CASP.

The CASP, consistent with the Oakland General Plan's Land Use and Transportation Element (LUTE), City's Public Transit and Alternative Mode Policy, and the Complete Streets Policy, states a strong preference for encouraging the use of non-automobile transportation modes such as transit, bicycling and walking. The Project's required TDM Plan and other Project characteristics such as limited automobile parking supply and access to the Bay Trail and the planned East Bay Greenway, are consistent with the CASP and other City policies by improving and encouraging the use of non-automobile transportation modes.

The Project is consistent with the City's 2017 Pedestrian Master Plan (Oakland Walks) and the 2019 Bicycle Master Plan (Let's Bike Oakland). Neither of these plans identify any planned improvements adjacent to the Project site. The City of Oakland's planned 66th Avenue BART-to-Bay Trail, One Bay Area Grant (OBAG) Project proposes a Class 1 separated multi-use path on the south side of 66th Avenue between the Bay Trail and San Leandro Street. This path is on the north side of the Coliseum District, whereas the Project site is in the south. The Project would not make any major modifications to the public right-of-way, including existing pedestrian or bicycle facilities in the surrounding area, and would not adversely affect installation of future facilities.

Applicable Standard Conditions of Approval

The Project would be subject to the following City of Oakland SCAs intended to ensure consistency with City transportation-related plans, ordinances, and policies. The SCAs are abridged for clarity.

❖ ***SCA Transportation-1 (85), Transportation and Parking Demand Management***: The project applicant shall submit a Transportation and Parking Demand Management (TDM) Plan for review and approval by the City.

In addition, a Transportation Management Plan (TMP) will be prepared that outlines operational strategies to optimize access to and from the soccer stadium within the constraints inherent to a large public event.

- ***SCA Transportation-2 (83), Bicycle Parking***: The project applicant shall comply with the City of Oakland Bicycle Parking Requirements (chapter 17.118 of the Oakland Planning Code). The project drawings submitted for construction-related permits shall demonstrate compliance with the requirements.
- ***SCA Transportation-3 (86), Transportation Impact Fee***: The project applicant shall comply with the requirements of the City of Oakland Transportation Impact Fee Ordinance (chapter 15.74 of the Oakland Municipal Code).
- ***SCA Transportation-4 (88), Plug-In Electric Vehicle (PEV) Charging Infrastructure***:

  a) *PEV-Ready Parking Spaces*: The applicant shall submit, for review and approval of the Building Official and the Zoning Manager, plans that show the location of parking spaces equipped with full electrical circuits designated for future PEV charging (i.e. “PEV-Ready) per the requirements of Chapter 15.04 of the Oakland Municipal Code. Building electrical plans shall indicate sufficient electrical capacity to supply the required PEV-Ready parking spaces.

  b) *PEV-Capable Parking Spaces*: The applicant shall submit, for review and approval of the Building Official, plans that show the location of inaccessible conduit to supply PEV-capable parking spaces per the requirements of Chapter 15.04 of the Oakland Municipal Code. Building electrical plans shall indicate sufficient electrical capacity to supply the required PEV-capable parking spaces.

  c) *ADA-Accessible Spaces*: The applicant shall submit, for review and approval of the Building Official, plans that show the location of future accessible EV parking spaces as required under Title 24 Chapter 11B Table 11B-228.3.2.1 and specify plans to construct all future accessible EV parking spaces with appropriate grade, vertical clearance, and accessible path of travel to allow installation of accessible EV charging station(s).

Project Plans pursuant to SCAs

Since the Project would generate more than 50 peak hour trips, preparation and implementation of a Transportation Demand Management Plan (TDM Plan) is required per City’s SCAs. The Project’s TDM Plan includes on-going operational strategies such as shuttle service between the Project site and the Coliseum BART station, as well as on-site facilities such as bicycle parking and amenities, and off-site infrastructure improvements, such as new bus stops and enhanced pedestrian crossings, that encourage the use of non-automobile travel modes.

Because the Project is an event venue, a Transportation Management Plan (TMP) has also been prepared as part of a separate non-CEQA Transportation Impact Report (TIR) prepared pursuant to the City’s Transportation Impact Review Guidelines (TIRG). The TMP outlines the operational strategies to be implemented to optimize access to and from the Project within the constraints inherent to a large public event. The TMP must be submitted and approved by the City prior to the issuance of the temporary Certificate of Occupancy. The TMP will be a living document requiring periodic updates over time, as travel patterns change because of other CASP developments and changes to transportation infrastructure and operations. The TMP document also includes the TDM measures as required by the City’s SCA.

Consistent with the conclusions of the CASP EIR, the Project’s effects related to potential conflicts with adopted plans, ordinances or policies addressing the safety and performance of the circulation system will be fully addressed through implementation of City SCAs and existing regulations, and this impact would be reduced to less than significant.

c) and d): Transportation Design Hazards

CASP EIR Conclusions[138]

The CASP EIR (Impact Trans-81) found that development pursuant to the CASP would not directly or indirectly cause or expose roadway users (e.g., motorists, pedestrians, bus riders, bicyclists) to a permanent and substantial transportation hazard due to a physical design feature or incompatible use, and that City SCAs would require improvements to the public right-of-way that incorporate design requirements and other measures to improve vehicle, bicycle and pedestrian safety (LTS with SCAs).

The CASP does include anticipated new developments and changes in the public right-of-way that could affect transportation safety, but the location and design of individual developments were not known at the time. The CASP EIR concluded that the CASP includes intersecting streets that slow vehicle speeds and maximize sight lines between drivers, pedestrians, and bicyclists. The CASP EIR also cited requirements for each new development project and any changes to the public right-of-way to be consistent with regulations and design standards in effect at the time. Specifically, City SCAs related to improvements in the public right-of-way require that public improvement plans and building plans for individual development projects incorporate design requirements such as curbs, gutters, disabled access, adequate emergency access and other measures to improve vehicle, bicycle and pedestrian safety. This impact was found to be less than significant, and no mitigation measures were required.

Project Analysis

The Project would use the existing driveways, sidewalks and site circulation currently used for events at the existing Coliseum and Arena, which hold much larger events than the Project. The Project does not propose modifications to the street network serving the Project site. The Transportation Management Plan (per the non-CEQA Transportation Impact Report) includes detailed operational strategies to accommodate multi-modal access and circulation for the Project site. With incorporation of the TMP and implementation of SCA Transportation-2, the Project would not include design features that would increase design hazards.

Like current uses at the Coliseum and Arena, the Project's activities would include professional sports events and other types of special events. The transportation characteristics of the Project's attendees will be generally consistent with the transportation characteristics of attendees at these other existing event venues at the adjacent Coliseum and Arena. The Project is expected to mostly generate a mix of passenger vehicle trips, with some pedestrian, bike and transit trips, and would be compatible with existing uses and the transportation system in the surrounding areas.

The Project would not substantially increase hazards due to a geometric design feature or incompatible uses, and the impact is less than significant.

<u>Applicable Standard Conditions of Approval</u>

The Project would be subject to the following City of Oakland SCAs intended to reduce transportation hazards.

❖ ***SCA Trans-5 (82): Construction Activity in the Public Right-of-Way***

a. *Obstruction Permit Required*: The project applicant shall obtain an obstruction permit from the City prior to placing any temporary construction-related obstruction in the public right-of-way, including City streets, sidewalks, bicycle facilities, and bus stops.

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[138] City of Oakland, *CASP Draft EIR*, page 4.13-151

b. *Traffic Control Plan Required*: In the event of obstructions to vehicle or bicycle travel lanes, bus stops, or sidewalks, the project applicant shall submit a Traffic Control Plan to the City for review and approval prior to obtaining an obstruction permit. The project applicant shall submit evidence of City approval of the Traffic Control Plan with the application for an obstruction permit. The Traffic Control Plan shall contain a set of comprehensive traffic control measures for auto, transit, bicycle, and pedestrian accommodations (or detours, if accommodations are not feasible), including detour signs if required, lane closure procedures, signs, cones for drivers, and designated construction access routes. The Traffic Control Plan shall be in conformance with the City's Supplemental Design Guidance for Accommodating Pedestrians, Bicyclists, and Bus Facilities in Construction Zones. The project applicant shall implement the approved Plan during construction.

c. *Repair of City Streets*: The project applicant shall repair any damage to the public right-of way, including streets and sidewalks, caused by project construction at his/her expense within one week of the occurrence of the damage (or excessive wear), unless further damage/excessive wear may continue; in such case, repair shall occur prior to approval of the final inspection of the construction-related permit. All damage that is a threat to public health or safety shall be repaired immediately.

❖ ***SCA Trans-6 (84): Transportation Improvements***: The project applicant shall implement the recommended on- and off-site transportation-related improvements contained within the Transportation Management Plan for the project (e.g., signal timing adjustments, restriping, signalization, traffic control devices, roadway reconfigurations, transportation demand management measures, and transit, pedestrian, and bicyclist amenities). The project applicant is responsible for funding and installing the improvements and shall obtain all necessary permits and approvals from the City and/or other applicable regulatory agencies such as, but not limited to, Caltrans (for improvements related to Caltrans facilities), prior to installing the improvements. To implement this measure, the project applicant shall submit Plans, Specifications, and Estimates (PS&E) to the City for review and approval. All elements shall be designed to be applicable to City standards in effect at the time of construction and all new or upgraded signals shall include these enhancements as required by the City. All other facilities supporting vehicle travel and alternative modes through the intersection shall be brought up to both City standards and ADA standards (according to Federal and State Access Board guidelines) at the time of construction.

Consistent with the conclusions of the CASP EIR, the Project's effects related to a permanent and substantial transportation hazard will be fully addressed through implementation of City SCAs and existing regulations, and this impact would be reduced to less than significant.

e): Induced Automobile Traffic

CASP EIR Conclusions

The CASP EIR did not use induced automobile traffic as a threshold for measuring transportation impacts.

Project Analysis

The Project would not modify the roadway network serving the Project site. Therefore, the Project would not substantially induce additional automobile travel by increasing the physical roadway capacity in congested areas (i.e., by adding new mixed-flow lanes), and would not add new roadways to the network. The Project would have a less than significant impact on inducing additional automobile traffic.

CEQA Conclusions Pertaining to Transportation

The analysis presented above examines whether there are any Project-specific significant transportation effects that are peculiar to the Project or its site, finding none. The Project would have no impacts related to transportation that were not previously analyzed in the CASP EIR, would have no off-site or cumulative impacts related to transportation not discussed in the prior CASP EIR, and would not result in any transportation impacts that are more severe than as discussed in the prior CASP EIR. There are no impacts related to transportation that would otherwise invalidate the applicability of CEQA Guidelines Section 15183 for the Project. Moreover, the Project would incorporate all applicable Oakland SCAs including SCA Trans-1: Transportation and Parking Demand Management; SCA Trans-2: Bicycle Parking; SCA Trans-3: Transportation Impact Fee; SCA Trans-4: Plug-In Electric Vehicle (PEV) Charging Infrastructure; SCA Trans-5: Construction Activity in the Public Right-of-Way; and SCA Trans-6: Transportation Improvements.

None of the conditions described in CEQA Guidelines Sections 15162 or 15163 calling for preparation of a subsequent or supplemental EIR are met as pertains to transportation. Only minor technical additions related to the Project and its site have been identified, and these minor additions to the CASP EIR are appropriately disclosed in this Addendum to the CASP EIR.

As previously noted, the CASP EIR used intersection Level of Service (LOS) as a threshold for measuring transportation impacts. LOS is no longer used as a threshold under CEQA. However, the intersection impacts and associated mitigation measures in the CASP EIR were incorporated into the City's Citywide Transportation Impact Fee through the City of Oakland Transportation Impact Fee Ordinance (chapter 15.74 of the Oakland Municipal Code). Per SCA Trans-3: Transportation Impact Fee, the Project applicant would comply with the requirements set forth in the impact fee ordinance, thereby meeting the requirements stipulated in the CASP EIR.

While not required under the City's CEQA thresholds of significance, a detailed site plan, transit, bicycle and pedestrian review, and a collision analysis have been completed for the Project. These reviews and analyses are provided in the Project's non-CEQA Transportation Impact Review for the Project (**Appendix J**). Based on those analyses, the non-CEQA Transportation Impact Review includes recommendations to improve multi-modal access, circulation and safety for the Project site and surrounding areas. These recommendations are incorporated in the Transportation Management Plan (TMP) and Transportation Demand Management Plan (TDM Plan) for the Project (**Appendix K**).

Tribal Cultural Resources

Would the Project:	CASP EIR Findings	Relationship to CASP EIR Findings: Equal or Less Severe	Relationship to CASP EIR Findings: New or Substantial Increase in Severity	Project Conclusions: Applicable Standards and Regulations	Project Conclusions: Resulting Level of Significance
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:					
a) 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	LTS	■	□	-	No Impact
b) 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 Resources Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.	LTS	■	□	SCA Cultural-1, Archaeological and Paleontological Resources - Discovery during Construction	Less than Significant
In 2014 (shortly after the CASP EIR's Notice of Preparation, Assembly Bill 52 (now PRC Section 21080.3.1) required an update to the CEQA Checklist to include questions related specifically to impacts to tribal cultural resources.					

<u>Tribal Cultural Resources</u>

CASP EIR Conclusions [139]

The CASP EIR did not include a separate discussion of Tribal cultural resources separate from its analysis of archaeological resources and human remains. The CASP EIR did identify that the CASP planning area is, "*located within the area that is ethnographically attributed to the Ohlone (also known as Costanoan). The term Costanoan derives from the Spanish word Costaños or "coast people" and refers to an ethno-linguistic group of people that lived along the San Francisco Peninsula before contact with European Americans. The territory of the Ohlone is purported to have extended from the Central Coast Ranges between San Pablo Bay in the north and Monterey in the south. The Ohlone tribal territory boundary in the east is not precisely known but is understood to extend to the Mount Diablo Range*".

The CASP EIR concluded that development within the CASP planning area, including construction-related subsurface disturbance, "*could damage or destroy previously unidentified prehistoric archaeological resources.*

[139] City of Oakland, CASP Draft EIR, page 4.4-45

There is a low potential for the identification of archaeological resources within the artificial fill from elevation 15 to 0 feet (sea level). However, beneath this stratum, there is a higher potential for the identification of prehistoric archaeological resources where there are Holocene aged soils below the artificial fill and above, or far below, the Bay Mud. These archaeologically sensitive areas are far below the ground surface. While deep excavation for the construction of new buildings has the potential to impact such resources, identification is not recommended. Geo-archaeological testing to a depth of 36 to 40 feet beneath the ground surface that was conducted for a different project on the northeast side of Hegenberger Road did not discover prehistoric archaeological resources or well-developed prehistoric land surfaces that indicate a high potential for the discovery of Native American archaeological resources".

Project Analysis

In 2014 (shortly after the CASP EIR's Notice of Preparation, Assembly Bill 52 (now PRC Section 21080.3.1) required an update to the CEQA Checklist to include questions related specifically to impacts to tribal cultural resources.[140] Pursuant to the updated CEQA Guidelines, the following information and analysis specific to tribal cultural resources is provided, based on research conducted for the CASP EIR and other surrounding projects. [141]

Ethnographic Setting

The region surrounding the Project site was traditionally known as home to the Chochenyo linguistic group of the Ohlone. Within this regional group, several tribelets inhabited the East Bay from the Carquinez Straight to the South Bay, and as far south as Monterrey. The Chochenyo Ohlone people were not affiliated as a single political entity but rather consisted of 14 or more separate and politically independent tribelets, making the Chochenyo speaking Ohlone the largest group of the Bay Area region. The Hutchian groups of the Chochenyo Ohlone inhabited the territory from the Berkeley Hills to the Bay shore, encompassing much of what is now the cities of El Cerrito, Emeryville, Berkeley, Alameda, and most of Oakland. Each tribelets' territory contained a main village and smaller satellite villages. Usually, these villages were situated along a river or stream for easy access to water. Coastal people did not build right on the shoreline, but usually on an overlooking bluff. Dwellings were domed structures consisting of a tule or grass-covered framework of poles, with a rectangular doorway and central hearth. The resources of the ocean, bays, valleys and mountains provided the Ohlone people with food and other material needs. A wide array of tools, implements and enclosures were used by the Chochenyo Ohlone people for hunting and gathering of natural resources, as were a variety of tools used to process food resources.

By 1770, the Ohlone population was estimated to be between 7,000 and 10,000 people. Due to numerous stressors including the introduction of European diseases, the loss of traditional lifeways including their settlement and subsistence practices, reduced birth rates, and the poor working and living conditions that they were forced to endure, the Ohlone population dramatically and rapidly declined to fewer than 2,000 by 1832.

Historic Setting

The Project is located approximately one-half mile from the shoreline of San Leandro Bay in Oakland. Based on archival research, much of the land along the San Leandro Bay and San Francisco Bay remained as marshland well into the later 1800s. By the year 1850, Oakland was incorporated as a city, which led to new construction

140 PRC Section 21080.3.1 provides that prior to the release of a Negative Declaration, Mitigated Negative Declaration or EIR, for a project, the lead agency shall begin consultation with a California Native American tribe that is traditionally and culturally affiliated with the geographic area of the proposed project. This CEQA Checklist is not a MND, ND or EIR, so formal consultation was not requested. Nevertheless, this CEQA document's preparers did conduct outreach to those Native American tribes that have requested notification of CEQA documents, requesting any knowledge of tribal cultural resources in the Project area.

141 SWCA Environmental Consultants, *Cultural Resources Inventory Report for the SupplyBank Project*, September 2022

primarily along the northerly Oakland waterfront, and the expansion of rail and ferry service. The San Francisco & Alameda Railroad was constructed in 1865, from Alameda south through the Project site vicinity to Hayward. In comparison to the northerly portions of what is now Oakland, the area to the south around San Leandro Bay remained largely undeveloped. The estuary's creeks and sloughs continued to meander through the area and drained into the Bay, creating mudflats, tidal sloughs, and fresh and saltwater marshes. By 1909, the City of Oakland established a municipal port just northwest of the Project site, and new municipal docks and wharves were constructed. The Western Pacific Railroad constructed rail tracks from the waterfront through what is now the Coliseum District, and the Oakland Municipal Airport was first developed in 1927. All this new expansion involved extensive landfilling and dredging, and channelization of sloughs in the San Leandro Bay estuary. The area that is now the Coliseum District began to be filled with commercial and light industrial properties in the 1940s. At that time the Project site, like much of the surrounding area was filled with urban rubble and dredged sand.

Likelihood of Tribal Cultural Resources

Per the CASP EIR, archaeological resources are not anticipated at or near the surface within the Coliseum District due to historic development and the extent of existing artificial fill. The surface of the entire Coliseum District consists of a layer of historic and modern artificial fill that was placed to raise the elevation of the Bay margin for development. The fill consists of a mix of local and imported material, considered to have very low sensitivity for archaeological resources. At the base of the fill, at the interface or contact with Bay Mud, the sensitivity for tribal cultural deposits is high, based on shell mound deposits discovered at other recorded sites of Native American settlement along the edge of the historic shoreline. The Bay Mud that is in contact with modern fill deposits at elevation of approximately 0 feet, or sea level, has the potential to contain sealed human remains and tribal cultural resources associated with Native American habitation of the area. Thus, archaeological sensitivity is considered moderate to high within marsh deposits when they are situated at the interface of modern fill, and where the marsh may have been exposed as a land surface long enough to have been available for human use.

The CASP EIR reached the conclusion that whether an individual site is within a sensitive area for tribal cultural resources depends on both its location and the depth of proposed disturbance. Encountering the Bay Mud strata involves excavation deep enough to pass through the depth of the fill. Therefore, if a development project does not excavate to or below the fill, it is not within a sensitive area for tribal cultural resources. If development results in excavation deeper than the fill, it may encounter a sensitive area and could result in the inadvertent discovery of tribal cultural resources.

At the Project site there is approximately 5 to 8 feet of undocumented fill that blankets the site, underlain Young Bay Mud to depths varying from 12½ to 17 feet below ground surface. The Project's grading plan does not propose any deep mass excavation work. Other than selected shallow excavations for concrete slab footers and utility trenches, the Project does not propose any mass excavation work. Accordingly, it is unlikely that any tribal cultural resources would be discovered during Project construction.

<u>Applicable Standard Conditions of Approval</u>

The following City of Oakland SCAs (as have been updated) is cited in the CASP EIR as an effective means for addressing an event whereby a tribal cultural resource may be discovered during excavation and would apply to the Project.

❖ ***SCA Cultural-1 (38), Archaeological and Paleontological Resources - Discovery during Construction***: Pursuant to CEQA Guidelines section 15064.5(f), in the event that any historic or prehistoric subsurface cultural resources, including tribal cultural resources, are discovered during ground disturbing activities, all work within 50 feet of the resources shall be halted and the project applicant shall notify the City and consult with a qualified archaeologist or paleontologist, as applicable, to assess the significance of the find.

a) If any find is determined to be significant, appropriate avoidance measures recommended by the consultant and approved by the City must be followed unless avoidance is determined unnecessary or infeasible by the City. Feasibility of avoidance shall be determined with consideration of factors such as the nature of the find, project design, costs, and other considerations. If avoidance is unnecessary or infeasible, other appropriate measures (e.g., data recovery, excavation) shall be instituted. Work may proceed on other parts of the project site while measures for the cultural resources are implemented.

b) In the event of data recovery of archaeological resources, the project applicant shall submit an Archaeological Research Design and Treatment Plan (ARDTP) prepared by a qualified archaeologist for review and approval by the City. The ARDTP is required to identify how the proposed data recovery program would preserve the significant information the archaeological resource is expected to contain. The ARDTP shall identify the scientific/historic research questions applicable to the expected resource, the data classes the resource is expected to possess, and how the expected data classes would address the applicable research questions. The ARDTP shall include the analysis and specify the curation and storage methods.

c) Data recovery, in general, shall be limited to the portions of the archaeological resource that could be impacted by the proposed project. Destructive data recovery methods shall not be applied to portions of the archaeological resources if nondestructive methods are practicable. Because the intent of the ARDTP is to save as much of the archaeological resource as possible, including moving the resource, if feasible, preparation and implementation of the ARDTP would reduce the potential adverse impact to less than significant. The project applicant shall implement the ARDTP at his/her expense.

In the unlikely event that human remains or funerary objects are discovered during Project excavation, the following additional regulatory requirements would also apply, addressing the potential discovery of tribal cultural resources and/or human remains of Native American origin:

In addition to SCA 38 and consistent with State Law, if Native American human remains or funerary objects are discovered, the provisions of Section 7050.5(b) of the California Health and Safety Code apply. These provisions provide that, the County Coroner, upon recognizing the remains as being of Native American origin, is responsible to contact the Native American Heritage Commission within 24 hours. The Commission has various powers and duties to provide for the ultimate disposition of any Native American remains, as does the assigned Most Likely Descendant. Sections 5097.98 and 5097.99 of the Public Resources Code also call for "protection of Native American human burials and skeletal remains from vandalism and inadvertent destruction.

In the unlikely event of discovery tribal cultural resources or human remains of Native American origin during construction, the Project would be required to comply with City SCAs and State law that addresses such an unanticipated circumstance. These SCAs and State regulations will ensure that the Project’s construction does not cause a substantial adverse change in the significance of a tribal cultural resource, defined 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.

CEQA Conclusions Pertaining to Tribal Cultural Resources

The analysis presented above examines whether there are any Project-specific significant effects related to tribal cultural resources that are peculiar to the Project or its site, finding none. The Project would have no impacts to tribal cultural resources that were not previously analyzed in the CASP EIR, would have no off-site or cumulative tribal cultural resources impacts not discussed in the prior CASP EIR, and would not result in any impacts to tribal cultural resources that are more severe than as discussed in the prior CASP EIR. There are no impacts related to tribal cultural resources that would otherwise invalidate the applicability of CEQA Guidelines Section 15183 for the Project.

None of the conditions described in CEQA Guidelines Sections 15162 or 15163 calling for preparation of a subsequent or supplemental EIR are met as pertains to tribal cultural resources. The tribal cultural resource analysis presented above provides technical additions related to specific cultural resource conditions at the site, and these minor technical additions to the CASP EIR that are specific to the Project are appropriately disclosed in this Addendum to the CASP EIR.

Utilities and Service Systems

Would the Project:	CASP EIR Findings	Relationship to CASP EIR Findings: Equal or Less Severe	Relationship to CASP EIR Findings: New or Substantial Increase in Severity	Project Conclusions: Applicable Standards and Requirements	Project Conclusions: Resulting Level of Significance
a) Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry, and multiple dry years?	LTS with SCAs	■	☐	SCA Energy-1, Green Building Requirements SCA Utility-1, Water Efficient Landscape Ordinance	LTS with SCAs
b) 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?	LTS with SCAs	■	☐	SCA Energy-1, Green Building Requirements SCA General -1, Regulatory Permits and Authorizations from Other Agencies	LTS with SCAs
c) 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? d) Comply with federal, state, and local statutes and regulations related to solid waste?	LTS with SCAs	■	☐	SCA Utilities-2, Construction and Demolition Waste Reduction and Recycling SCA Utilities-3, Recycling Collection and Storage Space	LTS with SCAs
e) Require or result in the relocation or construction of new or expanded water, wastewater treatment or stormwater drainage, electric power, natural gas, or telecommunications facilities, the construction of which could cause significant environmental effects?	LTS with SCAs	■	☐	SCA Utilities-4, Underground Utilities SCA Utilities-5, Storm Drain System SCAs pertaining to construction noise, air quality and dust suppression, erosion control and temporary construction traffic controls	LTS with SCAs

Water Supplies

CASP EIR Conclusions [142]

The CASP EIR (Impact Util-1A) found that the water demand generated by new development within the Coliseum District will increase the average daily water demand over existing levels but would not exceed water supplies currently available from existing entitlements and resources. This impact was found to be less than significant with City of Oakland SCAs (LTS with SCAs).

The CASP EIR (Table 4.14-1) found that the then-current average annual water use within the entire CASP planning area was about 700,000 gallons per day (gpd). CASP buildout was estimated to increase the annual water use within the entire CASP planning area by nearly 3 million gallons per day, to 3.62 million gpd, or 4,054 acre-feet per year (AFY). Of the total estimated increase in water demands, new land uses within the Coliseum District were found to result in a demand for approximately 1,487 AFY (or about 36% of the entire CASP buildout demands. The CASP-assumed sports and entertainment venues (stadium, ballpark and arena) were estimated to generate to collective water demand of approximately 48.3 AFY.

The Water Supply Assessment prepared for the CASP EIR (Appendix 4.14) found that, “the water demand for the Oakland Coliseum Area Specific Plan area is accounted for in EBMUD's water demand projections as published in EBMUD's 2010 Urban Water Management Plan (UWMP). Since the 1970s, water demand within EBMUD's service area has ranged from 200 to 220 million gallons per day (mgd) in non-drought years. The 2040 water demand forecast of 312 mgd for EBMUD's service area can be reduced to 230 mgd with the successful implementation of water recycling and conservation programs, as outlined in the 2010 UWMP. Although current demand is lower than estimated in the Demand Study due to the recent multi-year drought and the downturn in the economy, the Demand Study still reflects a reasonable expectation for growth over the long term for demand in year 2040. The Oakland Coliseum Area Specific Plan will not change EBMUD's 2040 demand projection.”[143] Based on this WSA, the CASP EIR determined that CASP buildout would not require expansion of existing water entitlements or resources.

The CASP EIR also concluded that water demand pursuant to the CASP would be reduced to the extent feasible through implementation of City of Oakland SCAs pertaining to compliance with the Green Building Ordinance, and Water Efficient Landscape Ordinance. With implementation of these SCA, the CASP EIR this impact was concluded to be less than significant.

Project Analysis

The same water demand factors for sports and entertainment venues as used in the CASP EIR have been applied to the Project to estimate the Project’s water demand. The CASP EIR relied on a water demand factor of 3 gallons per attendee for each annual event. This water demand factor is likely to be conservatively high for the Project, as the Project will not be including permanent restrooms at the new stadium. Using this conservative approach, the annual water demand for the Project is estimated to be 9.4 AFY, as shown in **Table 21**.

[142] City of Oakland, *CASP EIR*, page 4.14-13

[143] EBMUD, *Water Supply Assessment- Oakland Coliseum Area Specific Plan*, January 28, 2014 (CASP EIR Appendix 4.14)

Table 21: Project's Estimated Water Demand						
	# of Events	Attendees	Annual Attendance	Demand Factor (gal/attend/event)	Gallons/Yr	AF/Year
Roots	23	10,000	230,000			
Soul	23	10,000	230,000			
Program 501	20	5,000	100,000			
Other Sports	12	7,500	90,000			
Entertainment	12	10,000	120,000			
Corporate	50	5,000	250,000			
Total:	**140**		**1,020,000**	**3.0**	**3,060,000**	**9.4**

Notes:
Number of Events and Attendees per Event from Table 4, Project Description
Demand Factor for sports Stadium form CASP EIR, Technical Appendices

The water demands of the Project represent only about 19 percent of the water demand attributed under the CASP EIR to future sports and entertainment venues, and less than 1 percent of the water demands attributed under the CASP EIR to all new development within the Coliseum District. Whereas the CASP EIR concluded that the full water demands of CASP buildout were within EBMUD's long-range water supply for future growth in Oakland, the Project's small increment of this CASP water demand would be well within EBMUD's long-range water supply.

Applicable Standard Conditions of Approval

The following City of Oakland SCAs (as have been updated) are cited in the CASP EIR as an effective means for addressing cumulative water demands and offsetting water restrictions during periods of multiple dry years and would apply to the Project.

- ***SCA Energy-1 (93), Green Building Requirements, Small Projects***: (see details in the Energy section of this CEQA Checklist)
- ***SCA Utility-1 (97), Water Efficient Landscape Ordinance***: The project applicant shall comply with California's Water Efficient Landscape Ordinance (WELO) to reduce landscape water usage. For any landscape project with an aggregate (total non-contiguous) landscape area over 2,500 sq. ft., the project applicant shall implement the Performance Measures in accordance with the WELO.
  - a) Prior to construction, the project applicant shall submit the Project Information and documentation showing compliance with Appendix D of California's Model Water Efficient Landscape Ordinance
  - b) Prior to construction, the project applicant shall prepare and submit a Landscape Documentation Package for review and approval, which includes specific Project Information and a Water Efficient Landscape Worksheet.
  - c) Upon installation of the landscaping and irrigation systems, and prior to the final of a construction-related permit, the Project applicant shall submit a Certificate of Completion (see page 38.6 in the link above) and landscape and irrigation maintenance schedule for review and approval by the City. The Certificate of Completion shall also be submitted to the local water purveyor and property owner or his or her designee.

Consistent with the conclusions of the CASP EIR, the Project's effects related to water demand will be fully addressed through implementation of City SCAs and existing regulations, and this impact would be reduced to less than significant.

Wastewater Treatment

CASP EIR Conclusions [144]

The CASP EIR (Impact UTIL-2A) found that new development within the Coliseum District would not exceed the wastewater treatment limits of EBMUD's Main Wastewater Treatment Plant as established by the San Francisco Regional Water Quality Control Board and would not result in a determination that new or expanded wastewater treatment facilities would be required. This impact was found to be less than significant with City of Oakland SCAs (LTS with SCAs).

The CASP EIR did recognize that new development within the Coliseum district would increase the amount of wastewater generated within the CASP planning area, but that EBMUD's Main Wastewater Treatment Plant (EBMUD MWWTP) was operating at approximately 43 percent of its 168 mgd secondary treatment capacity and had additional capacity to accommodate the projected wastewater flows from the Coliseum District. Projections of new wastewater flows generated from within the Coliseum District was reviewed by EBMUD's Wastewater Planning Engineering Group, which concluded that that there was adequate wastewater treatment capacity to accommodate increased sewer generation from the Coliseum District. Therefore, expansion of existing wastewater treatment facilities would not be required.

However, the CASP EIR also identified that wet weather flows at the MWWTP were a concern. EBMUD has historically operated three Wet Weather Facilities to provide treatment for high wet weather flows that exceed the treatment capacity of the MWWTP. In 2009, the Regional Water Quality Control Board (RWQCB) issued an order eventually prohibiting further discharges from these three Wet Weather Facilities. In response, EBMUD initiated efforts to identify problem infiltration/inflow areas, reduce infiltration/inflow through private sewer lateral improvements, and lay the groundwork for future efforts to eliminate discharges from the Wet Weather Facilities.

Project Analysis

Conservatively assuming that nearly all of the expected water use within the Project ultimately becomes wastewater, the Project is projected to generate an average of approximately 21,000 gallons per day during each of its anticipated 140 event-days.[145] This represents less than 1% of the total 2.7 million gallons per day of wastewater generated by buildout of the CASP, as calculated in the CASP EIR. Whereas the full wastewater demands of CASP buildout were previously found to be within EBMUD's MWWTP capacity, the Project's small increment of the CASP's wastewater demands would be well within the EBMUD MWWTP capacity during average, dry-weather operations. Based on more recent data, the MWWTP currently treats, on average, about 63 million gallons of wastewater every day as compared to the facility's Design Flow of 120 MGD (average dry

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[144] City of Oakland, CASP EIR, page 4.14-17

[145] Whereas the Project intends to rely on portable toilets rather than permanent restroom facilities for its stadium, waste from the portable toilets will most likely be hauled to the EBMUD Main Wastewater Treatment Plant for treatment and disposal. The portable toilets do not reduce the effective wastewater treatment requirements of the Project at the WWTF.

weather design flow capacity).[146] The Project's estimated 21,000 gpd of wastewater represents a very small fraction of the remaining average dry weather capacity at the MWWTP.

Wet Weather Flows

Peak wet weather flows to the MWWTP remain a concern. When wet weather flows exceed the primary treatment capacity of the MWWTP, a portion of these excess flows are stored in separate basin, and returned to the plant influent when flows subside. Effluent may also be diverted around (or bypass) biological treatment, be disinfected, and then "blended" with disinfected biologically treated effluent. The "blended" wastewater is then dechlorinated prior to being discharged to the Bay through the deepwater outfall. This "blending" is now subject to discharge prohibitions that identify storage basin procedures, future enhancements to these procedures, and measures required to reduce such bypass events. [147] To cease discharge from all three WWFs and reduce bypass events at the MWWT, EBMUD is working with its 'satellite agencies' (e.g., the City of Oakland) to rehabilitate sewer main pipes and manholes, remove non-sewer sources of inflow, implement a private sewer lateral ordinance, and to identify sources of rapid inflow into the collection systems. These actions will reduce wet weather I&I into the collection systems, which will reduce blending at the MWWTP and enable discharges from the WWFs to cease.

The Project's utility plans (see **Figure 30**) show that only three locations within the Project will be connected to a new 4-inch sanitary sewer lateral – the Team Locker Rooms, the Hospitality Center, and the Operations Center. The new 4-inch sanitary sewer lateral will connect directly to EBMUD's 48-inch trunk line, which flows directly to the WWTF. No intervening City of Oakland sewer lines are required to convey wastewater flows. As a new system, the on-site sewer lateral will not be subject to inflow and infiltration (I&I) and will not be a source of added wet weather flows to the WWTF.

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[146] EBMUD, accessed at: https://www.ebmud.com/wastewater/collection-treatment/wastewater-treatment#:~:text=EBMUD%20provides%20secondary%20treatment%20for,wastewater%20is%20treated%20every%20day.

[147] California Regional Water Quality Control Board San Francisco Bay Region, *Order R2-2020-0024, NPDES Permit CA 0037702*, September 2020

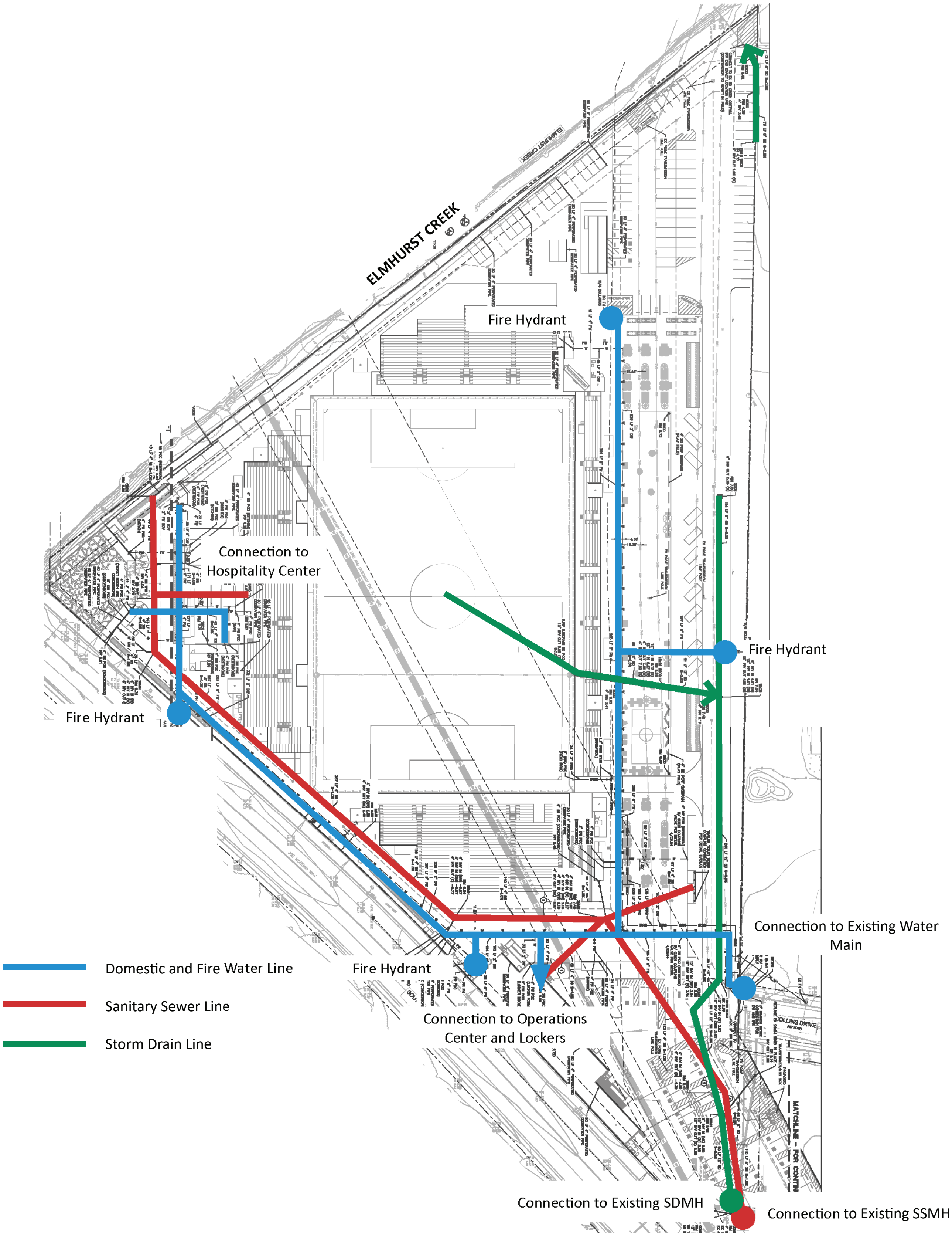

Figure 30
Utility Plan

Source: HOK and BKF Engineers, Utility Plan, Sheet C5.01, 2/16/24

Applicable Standard Conditions of Approval

The following City of Oakland SCAs are cited in the CASP EIR as an effective means for addressing cumulative wastewater demands and reducing wet weather flows to the MWWTP and would apply to the Project.

- ***SCA Energy-1 (93), Green Building Requirements, Small Projects*** (see above – these requirements will lower water demand and result in commensurately lower wastewater generation)
- ***SCA General -1 (17), Regulatory Permits and Authorizations from Other Agencies***: The project applicant shall obtain all necessary regulatory permits and authorizations from applicable resource/regulatory agencies and shall comply with all requirements and conditions of the permits/authorizations. The project applicant shall submit evidence of the approved permits/authorizations to the City, along with evidence demonstrating compliance with any regulatory permit/authorization conditions of approval. In accordance with this SCA:
  - a) To ensure that the Project contributes to legally required reductions in I&I, the Project applicant shall comply with EBMUD's Regional Private Sewer Lateral (PSL) Ordinance. Affected property owners must obtain a certificate from EBMUD certifying that all their PSLs are leak-free.
  - b) The Project shall replace or rehabilitate any existing sanitary sewer collection systems, including sewer lateral lines, to ensure that such systems and lines are free from defects or, alternatively, disconnected from the sanitary sewer system, and
  - c) The Project shall ensure that any new wastewater collection systems, including sewer lateral lines, are constructed to prevent I&I to the maximum extent feasible, while meeting all requirements contained in the Regional Private Sewer Lateral Ordinance and applicable municipal codes.

Since the Project will not rely on the City of Oakland sanitary sewer system, the Sanitary Sewer Impact Analysis as otherwise required pursuant to City of Oakland SCAs (SCA: Sanitary Sewer System) is not applicable.

Consistent with the conclusions of the CASP EIR, the Project's effects related to increased wastewater demands will be fully addressed through implementation of City SCAs and existing regulations, and impacts related to sanitary sewer service and treatment would be reduced to less than significant.

Stormwater/Drainage

CASP EIR Conclusions [148]

The CASP EIR (Impact UTIL-3A) found that new development within the Coliseum District would require construction of new stormwater drainage facilities and the potential expansion of existing facilities, the construction of which could cause significant environmental effects. This impact was found to be less than significant with implementation of City of Oakland SCAs (LTS with SCAs).

Given the age of the storm drainage infrastructure serving the Coliseum District, the CASP EIR concluded that future development will require localized improvements to storm drainage facilities, resized and reconfigured to accommodate new development. The design of this new infrastructure will need to comply with City of Oakland design standards and specifications and be coordinated with the City. The CASP EIR cited SCAs requiring Post-Construction Stormwater Pollution Prevention Plans, which requires compliance with Provision C.3 of the Alameda Countywide Clean Water Program for regulating post-construction stormwater runoff. The CASP EIR concluded that the environmental effects resulting from construction of new stormwater drainage facilities would be less than significant with implementation of SCAs.

[148] City of Oakland, CASP EIR, page 4.14-20

Project Analysis

Stormwater from the Project site currently drains as sheet flow towards South Coliseum Way or towards Collins Drive, where it is conveyed in the storm drain gutter to stormdrain manhole inlets within the right-of-way. These inlets connect to the City's 18-inch stormdrain, which eventually discharges into the Bay.

The Project's proposed grading plan will alter the direction of stormwater flows such that these flows drain to the east, toward the adjacent Homebase property. As shown in Figure 29, The Project's proposed stormdrain system intends to rely on pervious surfaces throughout the site to allow stormwater to filter through sand and/or gravel sub-base, then be delivered via catch basins located within the on-site drive-aisle to a new 6-inch to 12-inch stormdrain line. Perforated dissipater pipe (French drains) will capture stormwater runoff form proposed new buildings and convey that runoff into the site's impervious surfaces. A new stormdrain line will connect to the existing 18-inch stormdrain line near the South Coliseum Way right-of-way.

Consistent with the conclusions of the CASP EIR, and with implementation of the Project's required Stormwater Management Plan, the Project's impacts related to storm water drainage will be fully addressed, and this impact would be reduced to less than significant.

Landfill Capacity and Waste Generation

CASP EIR Conclusions [149]

The CASP EIR (Impact Util-4) found that future development pursuant to the CASP would not violate applicable federal, state and local statutes or regulations related to solid waste, and that it would not generate solid waste that would exceed the permitted capacity of the landfills serving the area. Based on waste generation rates established by the California Integrated Waste Management Board (CIWMB) new development pursuant to the CASP was expected to result in a total of approximately 49.3 million pounds per year of waste. Compliance with existing policies and regulations, including the City of Oakland's SCAs was found to minimize solid waste disposal requirements of the CASP to the extent feasible. The CASP EIR concluded that implementation of the CASP would not impede the ability of the City to meet waste diversion requirements, and would not cause the City to violate other applicable federal, state and local statutes and regulations related to solid waste. No additional mitigation measures were required.

The CASP EIR also found that demolition and construction activities associated with removal of existing buildings, paved asphalt areas and utilities would be subject to City of Oakland waste reduction and recycling requirements of the City's SCAs and the City's Waste Reduction and Recycling Standards of Oakland Municipal Code Chapter 15.34. The requirements provide for implementation of a recycling and waste reduction plan for construction and demolition activities. With implementation of these requirements, the CASP EIR determined that demolition and new construction pursuant to the CASP would comply with existing solid waste reduction requirements, including applicable federal, State, and local solid waste statutes and regulations. No additional mitigation measures were required.

Project Analysis

During the Project's construction process the Project will generate minimal construction waste, given its reliance on prefabricated modular structures and modified containers. During the Project's operations, event attendees will generate waste material as garbage, recyclable products and green waste. Based on waste generation rates

[149] City of Oakland, CASP EIR, page 4.14-23

established by the California Integrated Waste Management Board, sports and event venues are estimated to generate approximately 250 pounds of waste material per 100 visitors.[150] With an estimated total of 1,150,00 attendees per year (see prior Table 4), the Project can be expected to increase the existing total waste stream by approximately 2.5 million pounds per year, or about 5 percent of the total waste stream attributable to the CASP. In proportion to overall waste generated pursuant to CASP buildout, the Project's operational waste will be relatively small in volume. The waste streams resulting from the Project will incrementally add to the total amount of waste destined for landfill, but the Project's solid waste disposal needs will not cause an exceedance of permitted landfill capacity. The Project and will comply with federal, state and local statutes and regulations related to solid waste.

Applicable Standard Conditions of Approval

The following City of Oakland SCAs are cited in the CASP EIR as an effective means for addressing solid waste and landfill capacity and would apply to the Project.

- ***SCA Utilities-2 (89), Construction and Demolition Waste Reduction and Recycling***: The project applicant shall comply with the City of Oakland Construction and Demolition Waste Reduction and Recycling Ordinance (chapter 15.34 of the Oakland Municipal Code) by submitting a Construction and Demolition Waste Reduction and Recycling Plan (WRRP) for City review and approval and shall implement the approved WRRP. Projects subject to these requirements include all new construction, renovations/alterations /modifications with construction values of $50,000 or more (except R-3 type construction), and all demolition (including soft demolition) except demolition of type R-3 construction. The WRRP must specify the methods by which the project will divert construction and demolition debris waste from landfill disposal in accordance with current City requirements. The WRRP may be submitted electronically at www.greenhalosystems.com or manually at the City's Green Building Resource Center. Current standards, FAQs, and forms are available on the City's website and in the Green Building Resource Center.
- ***SCA Utilities-3 (91), Recycling Collection and Storage Space***: The Project applicant shall comply with the City of Oakland Recycling Space Allocation Ordinance (chapter 17.118 of the Oakland Planning Code). The project drawings submitted for construction-related permits shall contain recycling collection and storage areas in compliance with the Ordinance. For residential projects, at least two (2) cubic feet of storage and collection space per residential unit is required, with a minimum of ten (10) cubic feet. For non-residential projects, at least two (2) cubic feet of storage and collection space per 1,000 square feet of building floor area is required, with a minimum of ten (10) cubic feet.

Consistent with the conclusions of the CASP EIR, the Project's effects related to waste generation and landfill capacity will be fully addressed through implementation of City SCAs and existing regulations, and this impact would be reduced to less than significant.

Construction of New Utility Service Infrastructure

CASP EIR Conclusions [151]

The CASP EIR found that all construction activity on-site, including construction of new water distribution lines, new sewer laterals and new storm drain infrastructure, would be required to comply with City of Oakland standard conditions of approval regarding construction noise, air quality and dust suppression, erosion control

150 California Integrated Waste Management Board, *2006 Statewide Waste Characterization Study for Selected Industries*. This is the same source as relied on in the CASP EIR.

151 City of Oakland, CASP EIR, page 4.14-16 and -21

and temporary construction traffic controls. These City SCAs were found to reduce standard construction impacts to levels considered less than significant, and no mitigation measures were required.

Project Analysis

There is an existing 8-inch domestic water main within the Collins Drive right-of-way. The Project will connect to this existing water main with a new branch meter for domestic water and irrigation service, and with a new 6-inch firewater meter with detector assembly to serve 4 new fire hydrants at the Project site. Separate domestic and fire water lines will be constructed to serve the site (see Figure 29). Installation of new fire hydrants would be provided per City of Oakland standards.

The Project will also install a new sanitary sewer system to serve the Project. This system includes a new 4-inch sewer line that serves the Team Locker Rooms, the Hospitality Center, and the Operations Center. The new 4-inch sanitary sewer lateral will connect directly to EBMUD's 48-inch trunk line via an existing manhole located in the southerly portion of the site near South Coliseum Way.

The Project also proposes to construct a new storm drain system to serve the site, which will be connected to the Project's proposed Storm Water Management Plan that provides for impervious surfaces throughout the site for water quality treatment. Stormwater generated at the Project site will then be released into the surrounding storm drain system at a connection near South Coliseum Way.

All the construction necessary to install new utility infrastructure will occur on-site and is accounted for as part of the Project's grading and construction plans. On-site utilities will connect to the existing main lines that are within or immediately adjacent to the Project site. Little to no off-site construction is anticipated. On-site trenches and utility construction activities will be required to comply with all SCAs regarding construction noise, air quality and dust suppression, and erosion control, and are not expected to result in significant environmental effects.

<u>Applicable Standard Conditions of Approval</u>

The following City of Oakland SCAs are cited in the CASP EIR related to construction of new utility connections and would apply to the Project.

- **SCA Utilities-4 (90), Underground Utilities**: The project applicant shall place underground all new utilities serving the project and under the control of the project applicant and the City, including all new gas, electric, cable, and telephone facilities, fire alarm conduits, street light wiring, and other wiring, conduits, and similar facilities. The new facilities shall be placed underground along the project's street frontage and from the project structures to the point of service. Utilities under the control of other agencies, such as PG&E, shall be placed underground if feasible. All utilities shall be installed in accordance with standard specifications of the serving utilities.
- **SCA Utilities-5 (95), Storm Drain System**: The project storm drainage system shall be designed in accordance with the City of Oakland's Storm Drainage Design Guidelines. To the maximum extent practicable, peak stormwater runoff from the project site shall be reduced by at least 25 percent compared to the pre-project condition.

Consistent with the conclusions of the CASP EIR, the Project would not require or result in the relocation or construction of new or expanded water, wastewater treatment or stormwater drainage, electric power, natural gas, or telecommunications facilities, the construction of which could cause significant environmental effects.

CEQA Conclusions Pertaining to Utilities and Service Systems

The analysis presented above examines whether there are any Project-specific significant effects related to utilities that are peculiar to the Project or its site, finding none. The Project would have no impacts to utilities that were not previously analyzed in the CASP EIR, would have no off-site or cumulative utilities service impacts not discussed in the prior CASP EIR, and would not result in any impacts to utilities that are more severe than as discussed in the prior CASP EIR. There are no utilities-related impacts that would otherwise invalidate the applicability of CEQA Guidelines Section 15183 for the Project.

None of the conditions described in CEQA Guidelines Sections 15162 or 15163 calling for preparation of a subsequent or supplemental EIR are met as related to utilities. The utilities analysis presented above does provide additional details regarding the specific utilities to be provided at the Project site, specific to the site and the proposed Project. These additional details are new information pertinent to the Project that was not available or practical at the time of certification of the CASP EIR. However, as described above, these new details do not introduce any new significant impacts pertaining to utilities that were not previously identified in the CASP EIR, and do not substantially increase the severity of any significant utilities impacts as previously disclosed in the CASP EIR. The detailed utilities recommendations for the Project are fully consistent with the Standard Conditions of Approval as cited in the CASP EIR. These new details that are specific to the Project and its site are appropriately disclosed in this Addendum to the CASP EIR.

Wildfire

Would the Project: If located in or near state responsibility areas or lands classified as Very High Fire Hazard Severity Zones:	**CASP EIR Findings**	**Relationship to CASP EIR Findings:** Equal or Less Severe	**Relationship to CASP EIR Findings:** New or Substantial Increase in Severity	**Project Conclusions:** Applicable Standards and Requirements	**Project Conclusions:** Resulting Level of Significance
a) Due to slope, prevailing winds and other factors, exacerbate wildfire risks, and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrollable spread of a wildfire?	No Impact	■	□	-	No Impact
b) Substantially impair an adopted emergency response plan or emergency evacuation plan?	No Impact	■	□	-	No Impact
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 risks or that may result in temporary or ongoing impacts to the environment? d) Expose people or structures to significant risk, including downslope or downstream flooding or landslides from runoff post-fire slope instability, or drainage changes?	No Impact	■	□	-	No Impact

<u>a) - d): Exacerbate Wildfire Risks</u>

CASP EIR Conclusions [152]

When the CASP EIR was certified in 2015, the CEQA Checklist did not include a Wildfire Risk section. Wildfires pose an increasingly serious threat to the public and environment, and to help public agencies identify and evaluate such risks, CEQA Guidelines were amended in December 2018 to address this topic. Wildfire risks were addressed in the 2015 CASP EIR under the wildfire subcategory in the Hazards chapter of that EIR. The CASP EIR (Impact Haz-10) found that the CASP would not expose people or structures to risks involving wildland fires. The CASP planning area was not in or adjacent to a fire hazard severity zone for either a State Responsibility Area or a Local Responsibility Area as shown on CalFire's Fire Hazard Severity Zone maps for Alameda County, and no impact was identified.

[152] City of Oakland, CASP EIR, page 4.7-51

Project Analysis

Based on current review of the CalFire Fire Hazard Severity Zone Viewer, the Project site is not located within any designated fire hazard severity zone and is approximately 2.2 miles from the nearest Very High Fire Hazard Severity Zones, which is just west of MacArthur Boulevard between 82nd and 98th Avenues. This Very High Fire Hazard Severity Zone is identified throughout the East Bay Hills. [153] The Project poses no potential impacts related to exacerbation of wildfire risks, post-fire slope instability, or conflicts with emergency response plans or emergency evacuation plans.

Consistent with the conclusions of the CASP EIR, the Project has no potential effects related to wildfire risks, and this impact remains less than significant.

CEQA Conclusion Pertaining to Wildfire

The analysis presented above examines whether there are any Project-specific significant effects related to wildfire risks that are peculiar to the Project or its site, finding none. The Project would have no impacts to wildfire risks that were not previously analyzed in the CASP EIR, would have no off-site or cumulative wildfire risks not discussed in the prior CASP EIR, and would not result in any impacts related to wildfire risks that are more severe than as discussed in the prior CASP EIR. There are no impacts related to wildfire risks that would otherwise invalidate the applicability of CEQA Guidelines Section 15183 for the Project.

None of the conditions described in CEQA Guidelines Sections 15162 or 15163 calling for preparation of a subsequent or supplemental EIR are met as pertains to wildfire risks. The wildfire risk analysis presented above provides technical additions related to specific wildfire risks at the site, and these minor technical additions to the CASP EIR that are specific to the Project are appropriately disclosed in this Addendum to the CASP EIR.

[153] CalFire FHSZ Viewer, accessed August 2022 at https://egis.fire.ca.gov/FHSZ/

Mandatory Findings of Significance

	CASP EIR Findings	Relationship to CASP EIR Findings: Equal or Less Severe	Relationship to CASP EIR Findings: New or Substantial Increase in Severity	Project Conclusions: Applicable Standards and Requirements	Project Conclusions: Resulting Level of Significance
a) Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, or reduce the number or restrict the range of a rare or endangered plant or animal? Does the project have the potential to eliminate important examples of the major periods of California history or prehistory?	LTS	■	☐		LTS
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)	LTS	■	☐	-	LTS
c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly	LTS	■	☐	-	LTS

<u>Degrade the Quality of the Environment</u>

As addressed in the Air Quality, Biology, Cultural Resources, GHG, Hazards and Hydrology sections of this CEQA Checklist, the Project would not 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. The Project would not eliminate important examples of the major periods of California history or prehistory.

- The Project’s effects related to fugitive dust emissions during construction will be fully addressed through implementation of City SCAs and existing regulations, and this impact would be reduced to less than significant.
- The Project’s effects related to criteria pollutant emissions during construction will be fully addressed through implementation of City SCAs, and this impact would be less than significant.

- With implementation of the Project's TDM Plan as required pursuant to SCA Transportation-1, the Project would not have a cumulatively considerable net increase of non-attainment criteria pollutants, this impact would be less than significant, and no additional mitigation is required. In addition to the required TDM Plan, the Project will be subject to City of Oakland SCAs pertaining to energy efficiency, water conservation and waste generation. Implementation of these SCAs will further reduce the Project's operational criteria pollutant emissions.
- The Project is proposed at a location that is highly disturbed, with little to no potential for the on-site presence of special-status wildlife species. The Project's indirect effects related to special status species and their habitat will be fully addressed through implementation of City SCAs, and this impact would be reduced to less than significant.
- The Project will have no significant direct impacts to wetlands, riparian habitat or other sensitive natural communities. With implementation of City SCAs the Project would not result in indirect adverse effect to wetlands, riparian habitat and other sensitive natural communities resulting from a discharge of sediment or harmful substances to Waters of the State, and this impact would be less than significant.
- The Project site consists of a gravel parking area and contains no habitat that would provide for the movement of native resident or migratory fish or wildlife species. The Project site does not provide a wildlife corridor for any native resident or migratory wildlife, and development of the Project would not directly affect any native wildlife nursery sites. There are 13 non-native trees located along the edge of the Project site along Elmhurst Creek that could potentially provide nesting habitat for migratory birds. The Project does not propose to remove any of these existing trees. Accordingly, the Project would have no significant direct effects related to species movement, migration, or nursery sites.
- The Project does not intend to remove any of the 13 existing trees on the site. The 12 trees along Elmhurst Creek are within the development setback pursuant to the Project's proposed Creek Permit and will be retained. The one tree along the boundary at the HomeBase property is also proposed to be retained within a Project setback area.
- The Project's potential impacts on Elmhurst Creek and its tributary will be fully addressed through implementation of City SCAs, including either a Category 3 or Category 4 Creek permit as determined by the City. The Project would not conflict with the City's Creek Protection ordinance.
- The Project site (the 8.93-acre property known as the Malibu Lot, located at 8000 South Coliseum Way) is a vacant property with no existing buildings or structures, and with no potential historical resources present.
- The Project's grading plan does not propose any deep excavation work that would extend below the existing layer of artificial fill. Accordingly, it is unlikely that any archaeological resources would be discovered during Project construction. Any inadvertent discovery of currently unknown cultural resources or human remains will be fully addressed through implementation of City SCAs and existing regulations, and this impact would be reduced to less than significant.
- The Project applicants have completed an ECAP Consistency Checklist that demonstrates compliance with the Checklist items as part of the Project's design. The Project complies with the City's current CEQA GHG threshold of significance and its potential impacts related to generation of GHG emissions would be less than significant.
- Construction activities pursuant to the Project will utilize hazardous chemicals such as fuels, oils and lubricants, paints and thinners, solvents, and other chemicals. Construction activities could generate chemical wastes that, if not properly managed, could flow into the storm drainage system or nearby surface water bodies including the San Francisco Bay. Transport, use or disposal of hazardous materials

used during construction will be fully addressed through implementation of City SCAs and existing regulations, and this impact would be reduced to less than significant.

- The Project site is contiguous to Elmhurst Creek and a separate tributary to Elmhurst Creek. Project-related construction work will only occur on the landward side of the top of the creek banks, and no work or Project-related improvements will extend from the top of bank into the channels of Elmhurst Creek or the Elmhurst Creek tributary. The Project includes a detailed Creek Protection Plan (see Appendix E) that is intended to protect the banks, riparian vegetation, wildlife and surrounding habitat of both Elmhurst Creek and the tributary to Elmhurst Creek.
- Grading as proposed by the Project would disturb the existing ground cover, exposing underlying soil to increased erosion from stormwater runoff, site watering and wind. The proposed on-site cut and fill grading operations could also introduce the potential for temporary increases in sediment loads and associated construction-related pollutants into Elmhurst Creek and the Elmhurst Creek tributary. The Project's effects related to water pollution and sedimentation during construction will be fully addressed through implementation of City SCAs and existing regulations including measures specifically detailed in the Project's proposed Creek Protection Plan, and this impact would be reduced to less than significant.
- Attendees at soccer games and other events at the site may generate non-point source pollutants that can be washed by rainwater into the downstream drainage network and directly into the Bay, having an adverse effect on water quality as well as wildlife, vegetation and human health. The Project sponsor has prepared a preliminary Stormwater Control Plan that addresses water quality treatment for the Project site that substantially exceeds the minimum treatment area that would be required pursuant to NPDES C.3 criteria. The Project's impacts related to post-construction stormwater quality and increased storm water flows will be fully addressed through implementation of this Stormwater Control Plan pursuant to City SCAs and existing regulations, and this impact would be reduced to less than significant.
- In the unlikely event of discovery tribal cultural resources or human remains of Native American origin during construction, the Project would be required to comply with City SCAs and State law that addresses such an unanticipated circumstance. These SCAs and State regulations will ensure that the Project's construction does not cause a substantial adverse change in the significance of a tribal cultural resource.

Based on these conclusions, the Project would not degrade the quality of the environment. The Project would not substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, or threaten or eliminate a plant or animal community, or reduce the number or restrict the range of a rare or endangered plant or animal. The Project would not eliminate important examples of major periods of California history or prehistory.

Cumulative Impacts

The City of Oakland's certified 2015 CASP EIR is both a project-level and a Program EIR as defined under CEQA Guidelines Section 15168 and Section 15183. That prior EIR examined the potential cumulative effects of new development pursuant to Coliseum Area Specific Plan. The 2015 CASP EIR determined that, for most environmental topics analyzed in that EIR, cumulative development consistent with the CASP would result in environmental impacts that would be reduced to levels of less than significant with implementation of City of Oakland SCAs, existing regulatory requirements and implementation of policies contained within the 2015 CASP.

However, the 2015 CASP EIR determined that the following list of environmental impacts would be cumulatively significant and unavoidable.

- Construction activities pursuant to CASP buildout was found to generate regional ozone precursor emissions and regional particulate matter emissions from construction equipment exhaust. Even with implementation of mitigation measures, the CASP EIR could not conclude that cumulative emissions of ROG and NOx could be reduced to below threshold levels and this impact was conservatively deemed significant and unavoidable. The Project's contribution to cumulative criteria pollutant emissions during construction would be below threshold levels and therefore less than cumulatively considerable.
- New development pursuant to the Project CASP was found to result in cumulative operational emissions of criteria pollutants that would exceed applicable threshold criteria. Even with implementation of all applicable SCAs, this impact was deemed significant and unavoidable. The Project's contribution to cumulative criteria pollutant emissions during operations would be below threshold levels and therefore less than cumulatively considerable.
- The CASP EIR determined that future development pursuant to the CASP could have a substantial adverse effect, either directly or through habitat modifications on candidate, sensitive or special status species. The details of such subsequent projects were unknown, and the efficacy of future mitigation measures could not be fully determined. Therefore, this cumulative impact was conservatively deemed significant and unavoidable. The Project is proposed at a location that is highly disturbed, with little to no potential for the on-site presence of special-status wildlife species. The Project would have no contribution to cumulative effects on candidate, sensitive or special status species or their habitat.
- The CASP EIR determined that future development pursuant to the CASP would result in a cumulative loss of historical resources and found this cumulative impact to be significant and unavoidable. The Project site is a vacant property with no existing buildings or structures, and with no potential historical resources present. The Project would have no contribution to cumulative effects on historic resources.
- The CASP EIR concluded that cumulative development within the Coliseum District (especially new sports and special events venues) would generate cumulative operational noise that would exceed the City noise thresholds at new on-site receivers. The CASP EIR found no feasible mitigation to reduce game-day and special event noise and this impact was considered significant and unavoidable. The Project's calculated game-day noise levels would exceed City threshold at nearby sensitive receptors, and the Project would make a significant contribution to this previously identified cumulative noise impact.
- The CASP EIR also identified several traffic-related impacts involving level of service thresholds that were applicable at the time. However, as fully addressed in this CEQA Checklist, level of service effects on traffic are no longer considered an impact under CEQA.

CEQA Guidelines Section 15183 provides that future projects analyzed in relationship to a prior Program EIR may be excluded from further analysis of off-site or cumulative impacts if those off-site or cumulative impacts were adequately discussed in the prior Program EIR. This CEQA Checklist analyzes whether the Project may contribute to cumulative environmental effects as identified in the 2015 CASP EIR, and considers whether City SCAs, policies and/or regulations identified in the CASP EIR would apply to the Project. This Checklist also assesses whether the Project would have significant effects on the environment that may be unique to the Project or its site and not analyzed in that prior Program EIR, finding none. The analysis of this CEQA Checklist finds that the Project would not have environmental impacts that are unique to the Project, that the Project's contribution to cumulative effects were fully evaluated and disclosed in the 2015 CASP EIR, and that certain uniformly applied development policies or standards identified in the CASP EIR would continue to apply to the Project.

Accordingly, this CEQA Checklist relies on the streamlining provisions of CEQA Guidelines Section 15183 to address cumulative effects and finds that the Project would contribute to one significant and unavoidable cumulative effect that was already analyzed in the CASP EIR (operational noise), but would not contribute to any cumulative effects that were not previously disclosed and adequately analyzed in the prior 2015 CASP EIR.

Effects on Human Beings

As addressed in the Air Quality, Geology, Hazards, Hydrology, Noise and Wildfire sections of this CEQA Checklist:

- The Project's construction activities would generate diesel particulate matter (DPM) and fine particles of dust at 2.5 microns or less in diameter (PM2.5), both of which are considered toxic air contaminants (TACs) by BAAQMD and the City of Oakland. The maximum annual DPM concentration at the maximally exposed individual at one of the HomeBase temporary housing trailers east of the Project site has been calculated. The maximum cancer risks to the MEI do not exceed the City's single source significance threshold, the maximum annual PM2.5 concentration from fugitive dust sources employing the basic control measures required by the City's SCAs do not exceed the City's significance threshold, nor does the annual Health Index from construction related DPM emissions.
- The health risks associated with construction of the proposed Project, when added to emissions from other sources including rail lines, highways, busy surface streets, and existing stationary sources identified by BAAQMD, would not exceed the City of Oakland's significance thresholds at the maximum exposed individual at the adjacent HomeBase trailers.
- The CASP EIR found that traffic attributed to buildout of the CASP would not result in significant human health impacts. The Project's increment of traffic and associated TAC emissions would be less than as assumed in the CASP EIR, and therefore less than significant.
- The Project site is not located within an Alquist-Priolo Earthquake Fault Zone, and the potential for fault rupture to affect employees at the Project is less than significant.
- The Project site is located in the San Francisco Bay Area, a high seismicity region. The type and magnitude of seismic hazards affecting the site correlate with ''severe" groundshaking, potentially resulting in moderate to heavy damage to buildings and infrastructure. With full compliance with the CBC building standards and recommendations of the 2023 ENGEO geotechnical report, the effects of strong ground shaking and liquefaction in the event of a likely earthquake scenario would be reduced to levels considered acceptable by professional engineers, and therefore considered under CEQA to be less than significant.
- The Project site contains residually impacted soil and groundwater associated with historical releases from USTs and imported fill material. These impacted conditions are currently being mitigated through an asphalt cap, which requires routine maintenance and monitoring. Future construction activities performed at the site that will disturb the asphalt cap and procedures must be implemented to mitigate potential exposure concerns from the underlying impacted soil and groundwater conditions. Alameda County Department of Environmental Health has recommended that the Project applicant pursue remedial actions for the Project site, including a Corrective Action Plan (CAP) that includes site remediation and mitigation cleanup goals, and techniques to achieve those site goals that focus on the primary concern of potential exposure to construction workers. The Project's effects related to site contamination and the presence of chemical of concern will be fully addressed through implementation of City SCAs and existing regulations, including implementation of an ECDEH-approved CAP, and this impact will be reduced to less than significant.
- There are no schools, daycare centers or other sensitive receptors located within ¼-mile of the Project site. The Project would not involve use of hazardous materials within 0.25 mile of a school, and this impact would be less than significant.

- Ongoing operations of the proposed temporary soccer stadium would involve the routine use of certain cleaning agents and landscape products that contain hazardous materials. Use of these products according to manufacturer's recommendation would ensure these chemicals do not become a hazard to people or the environment.
- The Project site is located within the ALUCP Safety Zone 7: Other Airport Environs. Within this safety zone, there are no land use restrictions and no impacts to people related to airport safety hazards would occur.
- The Project site is directly accessible to I-880 from Hegenberger Road in the event of an emergency evacuation, and the Project would not interfere with emergency evacuation routes.
- The Project site is not located within the FEMA-designated 100-year flood zone. The Project site, like all the surrounding land west of San Leandro Street, is within the 0.2 percent Annual Chance of Flood Hazard (i.e., the 50-year flood zone), which is not a regulated flood zone. Impacts of the Project related to flooding hazards would be less than significant.
- The loudest construction noise attributed to the Project would be unlikely to exceed applicable standards at sensitive residential receivers. The Project's effects related to construction noise will be fully addressed through implementation of City SCAs, existing regulations and Project-specific recommendations pursuant to SCAs, and this impact would be reduced to less than significant.
- The Project site is not subject to excessive noise from private airstrips, public airports, or overhead aircraft. Consistent with the findings of the CASP EIR, the Project would not be adversely affected by aviation noise.
- There are no existing homes on the Project site and development of the Project would not result in the displacement of persons or housing.
- The Project site is well outside of any areas classified as a Very High Fire Hazard Severity Zone, which are identified throughout the East Bay Hills more than 3 miles east of the Project site. The Project poses no potential impacts related to exacerbation of wildfire risks, post-fire slope instability, or conflicts with emergency response plans or emergency evacuation plans.

Based on these conclusions, the Project would not have environmental effects that would cause substantial adverse effects on human beings, either directly or indirectly.

VII - CEQA Determination / Findings

Based on the information and analysis contained in this CEQA Checklist, the Project is consistent with the development density and land use characteristics established by existing zoning and General Plan policies for which an EIR was certified (i.e., the 2015 Coliseum Area Specific Plan and its EIR).

The Project would be required to comply with all applicable SCAs, regulatory requirements and/or mitigation measures as cited in the CASP EIR. With implementation of those SCAs, regulatory requirements and/or mitigation measures, the preceding CEQA Checklist concludes that the Project would not result in a substantial increase in the severity of any significant impacts and would not result in any new significant impacts that were not previously identified in that prior EIR.

In accordance with CEQA Guidelines Sections 15183 and as set forth in this CEQA Analysis, the Project qualifies for CEQA streamlining provisions, because the following findings can be made:

Consistency with Community Plan or Zoning (CEQA Guidelines Section 15183)

CEQA Guidelines Section 15183 provides that, “projects that are consistent with the development density established by existing zoning, community plan, or general plan policies for which an EIR was certified shall not require additional environmental review, except as might be necessary to examine whether there are project-specific significant effects which are peculiar to the project or its site”. These provisions of CEQA are intended to streamline the environmental review of certain types of projects, and to reduce the need to prepare repetitive environmental studies. An EIR must have been certified by the Lead Agency for the community plan, the zoning action, or the General Plan, for these provisions to apply. Section 15183(a) of the CEQA Guidelines further provides that, in approving a project meeting these requirements a public agency shall, “limit its examination of environmental effects to those impacts that the agency determines, in an Initial Study or other analysis:

- are peculiar to the project or the parcel on which the project would be located
- are not analyzed as significant effects in a prior EIR on the zoning action, General Plan, or community plan
- are potentially significant off-site impacts and cumulative impacts that were not discussed in the prior EIR prepared for the general plan, community plan or zoning action, or
- are previously identified significant effects which, as a result of substantial new information which was not known at the time the prior EIR was certified, are determined to have a more severe adverse impact than discussed in the prior EIR”

When reviewing the environmental effects of the Project pursuant to these provisions, an effect of the Project on the environment shall not be considered peculiar to the Project if uniformly applied development policies or standards (i.e., SCAs) have been previously adopted by the City. A finding must have been made that the applicable development policies or standards will substantially mitigate environmental effects when applied to future projects unless substantial new information shows that the policies or standards will not substantially mitigate the environmental effect. The finding shall be based on substantial evidence, which need not include an EIR.

This CEQA Checklist includes information that demonstrates the Project is consistent with the development density established by existing zoning, the Coliseum Area Specific Plan and the Oakland General Plan’s Land Use and Transportation Element (as amended by the CASP). The General Plan and Zoning Consistency Analysis I this CEQA Checklist demonstrates that the Project is consistent with the bulk, density and/or land use standards as established by the Coliseum Area Specific Plan, and as subsequently incorporated into the Land Use and Transportation Element (LUTE) of the City of Oakland General Plan and implementing regulations of the applicable zoning district. A Program EIR was prepared and certified by the City of Oakland for the Coliseum Area Specific Plan (the 2015 CASP EIR) and the Project is consistent with the development assumptions of that prior CASP EIR.

The CEQA Checklist also examines whether the potential impacts of the Project have already been addressed in the CASP EIR, and concludes that the Project's effects have been thoroughly addressed in the prior 2015 CASP EIR and no Project-specific significant effects that are peculiar to the Project or its site will occur.

- The CEQA Checklist prepared for the Project demonstrates that the Project will not result in significant impacts that were not previously identified in the CASP EIR as significant project-level, cumulative or off-site effects.
- The CEQA Checklist also presents substantial evidence that the Project would not result in new or more severe environmental effects than those previously disclosed in the CASP EIR, or which may be peculiar to the Project or its site.
- The Project's potentially significant effects have already been addressed as such in the CASP EIR and such potentially significant effects will be substantially mitigated by the implementation of City of Oakland Standard Conditions of Approval (SCAs) and/or the imposition of regulatory requirements, and Project's plans prepared pursuant to those SCAs and regulations.

The Project meets the criteria of CEQA Guidelines Section 15183 and no further environmental review is required. Based on an examination of the analysis, findings and conclusions of the 2015 CASP EIR, all of which are summarized in the CEQA Checklist of this document, the potential environmental impacts associated with the Project have been adequately analyzed and covered in that prior EIR. No further review or analysis under CEQA is required.

<u>Reliance on a Prior Program EIR</u>

Pursuant to CEQA Guidelines Section 15168, "a Program EIR is an EIR that has been prepared on a series of actions that can be characterized as one large project and that are related either geographically, as logical parts in a chain of contemplated actions, in connection with general criteria to govern the conduct of a continuing program, or as individual activities carried out under the same authorizing statute or regulatory authority and having generally similar environmental effects which can be mitigated in similar ways". CEQA Guidelines Section 15168(c) provides that, "later activities in the program must be examined in the light of the Program EIR to determine whether an additional environmental document must be prepared:

- If a later activity would have effects that were not examined in the program EIR, a new Initial Study would need to be prepared leading to either an EIR or a negative declaration. That later analysis may tier from the Program EIR as provided in Section 15152.
- If the lead agency finds, pursuant to Section 15162, that no subsequent EIR would be required, the lead agency can approve the activity as being within the scope of the project covered by the Program EIR, and no new environmental document would be required. Whether a later activity is within the scope of a Program EIR is a factual question that the lead agency determines based on substantial evidence in the record. Factors that an agency may consider in making that determination include but are not limited to consistency of the later activity with the type of allowable land use, overall planned density and building intensity, geographic area analyzed for environmental impacts, and covered infrastructure, as described in the program EIR.
- The Lead Agency shall incorporate feasible mitigation measures and alternatives developed in the Program EIR into later activities in the program.

- Where the later activities involve site-specific operations, the Lead Agency should use a written checklist or similar device to document the evaluation of the site and the activity, to determine whether the environmental effects of the operation are within the scope of the program EIR.

Based on information presented in this CEQA Checklist, the Project would not have effects that were not examined in the CASP EIR, no subsequent EIR would be required, The City may approve the Project as being within the scope of the project covered by the CASP EIR and no additional environmental document is required. This CEQA Checklist identifies City of Oakland SCAs and feasible mitigation measures as included in the CASP EIR into the Project Descriptions and as required conditions of approval. This CEQA Checklist documents the evaluation of the Project and its site, and determines that the environmental effects of the Project are within the scope of the prior CASP EIR.

A finding of reliance on a prior program EIR may be made concurrently and in addition to a finding for CEQA streamlining pursuant to CEQA Guidelines Section 15183.

Addendum to a Prior EIR

Section 15164 of the CEQA Guidelines provides that, "an addendum to an adopted negative declaration or certified EIR may be prepared if only minor technical changes or additions are necessary, and none of the conditions described in Section 15162 calling for the preparation of a subsequent EIR or negative declaration have occurred". CEQA Guidelines section 15162 provides that, for a project covered by a previously certified EIR, preparation of a subsequent EIR or negative declaration (rather than an Addendum) is required only if one or more of the following conditions occur:

- Substantial changes are proposed in the project which will require major revisions of the previous EIR or negative declaration due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects
- Substantial changes occur with respect to the circumstances under which the project is undertaken which will require major revisions of the previous EIR or negative declaration due to the involvement of new significant environmental effects or a substantial increase in the severity of the previously identified significant effects, or
- New information of substantial importance, which was not known and could not have been known with the exercise of reasonable diligence at the time of the previous EIR was certified as complete or the negative declaration was adopted, shows any of the following:
  - The project will have one or more significant effects not discussed in the previous EIR or negative declaration;
  - Significant effects previously examined will be substantially more severe than shown in the previous EIR or negative declaration;
  - Mitigation measures or alternatives previously found not to be feasible would in fact be feasible and would substantially reduce one or more significant effects of the project, but the project proponents decline to adopt the mitigation measure or alternative; or
  - Mitigation measures or alternatives which are considerably different from those analyzed in the previous EIR or negative declaration would substantially reduce one or more significant effects on the environment, but the project proponents decline to adopt the mitigation measures or alternative.

This CEQA document updates the CASP EIR with additional technical details and minor changes to the CASP EIR specific to the Project and as fully described in the Project Description. Based on the analysis presented in this

CEQA Checklist, the City has determined that an Addendum to the CASP EIR in accordance with CEQA Guidelines section 15164 is the appropriate CEQA document to address the more detailed information specific to the Project. This CEQA Checklist demonstrates that none of the conditions described in CEQA Guidelines section 15162 calling for the preparation of a subsequent EIR or Negative Declaration have occurred. The CEQA Checklist references and relies on the analyses completed in the CASP EIR and incorporates the conclusions of the CASP EIR by reference, as appropriate.

Each of the above findings provides a separate and independent basis for CEQA compliance.

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Attachment A

Applicable City of Oakland Standard Conditions of Approval and Mitigation Monitoring Program

Standard Conditions of Approval/Mitigation Measures	Mitigation Implementation/Monitoring: When Required	Initial Approval	Monitoring/ Inspection
General			
SCA General-1, Regulatory Permits and Authorizations from Other Agencies [17]: The project applicant shall obtain all necessary regulatory permits and authorizations from applicable resource/regulatory agencies including, but not limited to, the Regional Water Quality Control Board, Bay Area Air Quality Management District, Bay Conservation and Development Commission, California Department of Fish and Wildlife, U. S. Fish and Wildlife Service, and Army Corps of Engineers and shall comply with all requirements and conditions of the permits/authorizations. The project applicant shall submit evidence of the approved permits/authorizations to the City, along with evidence demonstrating compliance with any regulatory permit/authorization conditions of approval.	Prior to activity requiring permit/authorization from regulatory agency	Approval by applicable regulatory agency with jurisdiction; evidence of approval submitted to Bureau of Planning	Applicable regulatory agency with jurisdiction
SCA General-2, Construction Management Plan [15]: Prior to the issuance of the first construction-related permit, the project applicant and his/her general contractor shall submit a Construction Management Plan (CMP) for review and approval by the Bureau of Planning, Bureau of Building, and other relevant City departments such as the Fire Department, Department of Transportation, and the Public Works Department as directed. The CMP shall contain measures to minimize potential construction impacts including measures to comply with all construction-related Conditions of Approval (and mitigation measures if applicable) such as dust control, construction emissions, hazardous materials, construction days/hours, construction traffic control, waste reduction and recycling, stormwater pollution prevention, noise control, complaint management, and cultural resource management (see applicable Conditions below). The CMP shall provide project-specific information including descriptive procedures, approval documentation, and drawings (such as a site logistics plan, fire safety plan, construction phasing plan, proposed truck routes, traffic control plan, complaint management plan, construction worker parking plan, and litter/debris clean-up plan) that specify how potential construction impacts will be minimized and how each construction-related requirement will be satisfied throughout construction of the project.	Prior to the issuance of the first construction-related permit	Bureau of Planning, Bureau of Building, and other relevant City departments	Bureau of Planning, Bureau of Building, and other relevant City departments
Aesthetics			
SCA Aesthetics-1, Lighting [19]: Proposed new exterior lighting fixtures shall be adequately shielded to a point below the light bulb and reflector to prevent unnecessary glare onto adjacent properties.	Prior to building permit final	N/A	Bureau of Building
SCA Aesthetics-2, Trash and Blight Removal [18]: Requirement: The project applicant and his/her successors shall maintain the property free of blight, as defined in chapter 8.24 of the Oakland Municipal Code. For nonresidential and multi-family residential projects, the project applicant shall install and	Ongoing	N/A	Bureau of Building

Standard Conditions of Approval/Mitigation Measures	Mitigation Implementation/Monitoring: When Required	Initial Approval	Monitoring/ Inspection
maintain trash receptacles near public entryways as needed to provide sufficient capacity for building users.			
SCA Aesthetics-3: Graffiti Control [19] a. During construction and operation of the project, the project applicant shall incorporate best management practices reasonably related to the control of graffiti and/or the mitigation of the impacts of graffiti. Such best management practices may include, without limitation: i. Installation and maintenance of landscaping to discourage defacement of and/or protect likely graffiti-attracting surfaces ii. Installation and maintenance of lighting to protect likely graffiti-attracting surfaces iii. Use of paint with anti-graffiti coating iv. Incorporation of architectural or design elements or features to discourage graffiti defacement in accordance with the principles of Crime Prevention Through Environmental Design (CPTED) v. Other practices approved by the City to deter, protect, or reduce the potential for graffiti defacement. b. The project applicant shall remove graffiti by appropriate means within seventy-two (72) hours. Appropriate means include the following: i. Removal through scrubbing, washing, sanding, and/or scraping (or similar method) without damaging the surface and without discharging wash water or cleaning detergents into the City storm drain system ii. Covering with new paint to match the color of the surrounding surface iii. Replacing with new surfacing (with City permits if required	Ongoing	N/A	Bureau of Building
SCA Aesthetics-4:-Landscape Plan a. *Landscape Plan Required*: The project applicant shall submit a final Landscape Plan for City review and approval that is consistent with the approved Landscape Plan. The Landscape Plan shall be included with the set of drawings submitted for the construction-related permit and shall comply with the landscape requirements of chapter 17.124 of the Planning Code. Proposed plants shall be predominantly drought-tolerant. Specification of any street trees shall comply with the Master Street Tree List and Tree Planting Guidelines (which can be viewed at: http://www2.oaklandnet.com/oakca1/groups/pwa/documents/report/oak042662.pdf and http://www2.oaklandnet.com/oakca1/groups/pwa/documents/form/oak025595.pdf , respectively) , and with any applicable streetscape plan.	Prior to approval of construction-related permit	Bureau of Planning	N/A
b. *Landscape Installation*: The project applicant shall implement the approved Landscape Plan unless a bond, cash deposit, letter of credit, or other equivalent instrument acceptable to the Director of City Planning, is provided. The financial instrument shall equal the greater of $2,500 or the estimated cost of implementing the Landscape Plan based on a licensed contractor's bid.	Prior to building permit final	Bureau of Planning	Bureau of Building

Standard Conditions of Approval/Mitigation Measures	Mitigation Implementation/Monitoring: When Required	Initial Approval	Monitoring/ Inspection
c. *Landscape Maintenance*: All required planting shall be permanently maintained in good growing condition and, whenever necessary, replaced with new plant materials to ensure continued compliance with applicable landscaping requirements. The property owner shall be responsible for maintaining planting in adjacent public rights-of-way. All required fences, walls, and irrigation systems shall be permanently maintained in good condition and, whenever necessary, repaired or replaced.	Ongoing	N/A	Bureau of Building
Air Quality			
SCA Air-1, Dust Controls – Construction Related [22]: The project applicant shall implement all of the following applicable dust control measures during construction of the project: a) Water all exposed surfaces of active construction areas at least twice daily. Watering should be sufficient to prevent airborne dust from leaving the site. Increased watering frequency may be necessary whenever wind speeds exceed 15 miles per hour. Reclaimed water should be used whenever feasible. b) Cover all trucks hauling soil, sand, and other loose materials or require all trucks to maintain at least two feet of freeboard (i.e., the minimum required space between the top of the load and the top of the trailer). c) 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. d) Limit vehicle speeds on unpaved roads to 15 miles per hour. e) All excavation, grading, and/or demolition activities (if any) shall be suspended when average wind speeds exceed 20 mph. f) All trucks and equipment, including tires, shall be washed off prior to leaving the site. g) Unpaved roads providing access to sites located 100 feet or further from a paved road shall be treated with a 6 to 12 inch compacted layer of wood chips, mulch, or gravel. h) 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. Because the Project involves extensive site preparation (the construction site more than four acres in size), the following additional Enhanced dust control measures apply during construction of the project: i) Limit the simultaneous occurrence of excavation, grading, and ground-disturbing construction activities. j) Apply and maintain vegetative ground cover (e.g., hydroseed) or non-toxic soil stabilizers to disturbed areas of soil that will be inactive for more than 10 days. Enclose, cover, water twice daily, or apply (non-toxic) soil stabilizers to exposed stockpiles (dirt, sand, etc.).	During construction	Bureau of Building	Bureau of Building

Standard Conditions of Approval/Mitigation Measures	Mitigation Implementation/Monitoring: When Required	Initial Approval	Monitoring/ Inspection
k) Designate a person or persons to monitor the dust control program and to order increased watering, as necessary, to prevent transport of dust offsite. Their duties shall include holidays and weekend periods when work may not be in progress. l) When working at a site, install appropriate wind breaks (e.g., trees, fences) on the windward side(s) of the site, to minimize wind-blown dust. Windbreaks must have a maximum 50 percent air porosity. m) Post a publicly visible large on-site sign that includes the contact name and phone number for the project complaint manager responsible for responding to dust complaints and the telephone numbers of the City's Code Enforcement unit and the Bay Area Air Quality Management District. When contacted, the project complaint manager shall respond and take corrective action within 48 hours. n) All exposed surfaces shall be watered at a frequency adequate to maintain minimum soil moisture of 12 percent. Moisture content can be verified by lab samples or moisture probe. o) Install sandbags or other erosion control measures to prevent silt runoff to public roadways from sites with a slope greater than one percent. p) Plant vegetation in areas designated for landscaping as soon as possible and water appropriately until vegetation is established.			
SCA Air-2, Criteria Air Pollutant Controls - Construction and Operations Related [23 a-f]: The project applicant shall implement all of the following applicable basic control measures for criteria air pollutants during construction of the project as applicable: a) Idling times on all diesel-fueled commercial vehicles over 10,000 lbs. shall be minimized by shutting equipment off when not in use, or reducing the maximum idling time to two minutes (as required by the California airborne toxics control measure Title 13, Section 2485, of the California Code of Regulations). Clear signage to this effect shall be provided for construction workers at all access points. b) Idling times on all diesel-fueled off-road vehicles over 25 horsepower shall be minimized by shutting equipment off when not in use, or reducing the maximum idling time to two minutes. Fleet operators must develop a written policy as required by Title 23, Section 2449, of the California Code of Regulations ("California Air Resources Board Off- Road Diesel Regulations"). c) All construction equipment shall be maintained and properly tuned in accordance with the manufacturer's specifications. All equipment shall be checked by a certified mechanic and determined to be running in proper condition prior to operation. Equipment check documentation should be kept at the construction site and be available for review by the City and the Bay Area Air Quality District as needed. d) Portable equipment shall be powered by grid electricity if available. If electricity is not available, propane or natural gas generators shall be used if feasible. Diesel engines shall only be used if grid	During construction	N/A	Bureau of Building

Standard Conditions of Approval/Mitigation Measures	Mitigation Implementation/Monitoring: When Required	Initial Approval	Monitoring/ Inspection
electricity is not available and propane or natural gas generators cannot meet the electrical demand. e) Low VOC (i.e., ROG) coatings shall be used that comply with BAAQMD Regulation 8, Rule 3: Architectural Coatings. f) All equipment to be used on the construction site shall comply with the requirements of Title 13, Section 2449, of the California Code of Regulations ("California Air Resources Board Off-Road Diesel Regulations") and upon request by the City (and the Air District if specifically requested), the project applicant shall provide written documentation that fleet requirements have been met.			
SCA Air-3: Toxic Air Contaminant Controls-Construction Related [24]: a. Diesel Particulate Matter Reduction Measures: The project applicant shall implement appropriate measures during construction to reduce potential health risks to sensitive receptors due to exposure to diesel particulate matter (DPM) and particulate matter less than 2.5 microns in diameter (PM2.5) in exhaust and fugitive emissions from construction activities. The project applicant shall choose to implement i) or both ii) and iii): i. The project applicant shall retain a qualified air quality consultant to prepare a Health Risk Assessment (HRA) in accordance with current guidance from the California Air Resources Board (CARB), the Office of Environmental Health and Hazard Assessment, and the Bay Area Air Quality Management District (BAAQMD) to determine the health risk to sensitive receptors exposed to DPM and PM2.5 from exhaust and fugitive emissions from project construction. The HRA shall be based on project-specific construction schedule, equipment, and activity data. Estimated project-level health risks shall be compared to the City's health risk significance thresholds for projects. The HRA shall be submitted to the City (and the Air District if specifically requested) for review and approval. If the HRA concludes that the health risk is at or below the City's health risk significance thresholds for projects, then DPM and PM2.5 reduction measures are not required. If the HRA concludes that the health risk exceeds the City's health risk significance thresholds for projects, DPM and PM2.5 reduction measures shall be identified to reduce the health risk to below the City's health risk significance thresholds as set forth under subsection b below. Identified DPM and PM2.5 reduction measures shall be submitted to the City for review and approval prior to the issuance of building permits and the approved DPM and PM2.5 reduction measures shall be implemented during construction. -or- ii. The project applicant shall incorporate the following health risk reduction measures into the project to reduce TAC emissions from construction equipment. These features shall be submitted to the City for review and approval and be included on the project drawings submitted for the construction-related permit or on other documentation submitted to the City:	Prior to issuance of a construction related permit (i), during construction (ii)	Bureau of Planning	Bureau of Building

Standard Conditions of Approval/Mitigation Measures	Mitigation Implementation/Monitoring: When Required	Initial Approval	Monitoring/ Inspection
• All off-road diesel equipment shall be equipped with the most effective Verified Diesel Emission Control Strategies (VDECS) available for the engine type (Tier 4 engines automatically meet this requirement) as certified by CARB. The equipment shall be properly maintained and tuned in accordance with manufacturer specifications. This shall be verified through an equipment inventory submittal and Certification Statement that the Contractor agrees to compliance and acknowledges that a significant violation of this requirement shall constitute a material breach of contract. • Where access to grid-powered electricity is available, portable diesel engines shall be prohibited and electric engines shall be used for concrete/industrial saws, sweepers/scrubbers, aerial lifts, welders, air compressors, fixed cranes, forklifts, cement and mortar mixers, pressure washers, and pumps. • Any other best available technology that reduces emissions offered at the time that future projects are reviewed may be included in the construction emissions minimization plan (e.g., alternative fuel sources, etc.). -and- iii. The project applicant shall implement all enhanced control measures included in SCA 22 (Dust Controls – Construction Related).			
b. *Construction Emissions Minimization Plan* (if required by a] above): The project applicant shall prepare a Construction Emissions Minimization Plan (Emissions Plan) for all identified DPM reduction measures (if any). The Emissions Plan shall be submitted to the City (and the Bay Area Air Quality District if specifically requested) for review and approval prior to the issuance of building permits. The Emissions Plan shall include the following: i. An equipment inventory summarizing the type of off-road equipment required for each phase of construction, including the equipment manufacturer, equipment identification number, engine model year, engine certification (tier rating), horsepower, and engine serial number. For all VDECS, the equipment inventory shall also include the technology type, serial number, make, model, manufacturer, CARB verification number level, and installation date. Ii A Certification Statement that the Contractor agrees to comply fully with the Emissions Plan and acknowledges that a significant violation of the Emissions Plan shall constitute a material breach of contract.	Prior to issuance of a construction related permit	Bureau of Planning	Bureau of Building
Biological Resources			
SCA Biology-1, Tree Permit [35]: 1. *Tree Permit Required*: Pursuant to the City's Tree Protection Ordinance (OMC chapter 12.36), the project applicant shall obtain a tree permit and abide by the conditions of that permit.	Prior to approval of construction-related permit	Permit approval by Public Works Department,	Bureau of Building

Standard Conditions of Approval/Mitigation Measures	Mitigation Implementation/Monitoring: When Required	Initial Approval	Monitoring/ Inspection
		Tree Division; evidence of approval submitted to Bureau of Building	
2. *Tree Protection during Construction*: Adequate protection shall be provided during the construction period for any trees that are to remain standing, including the following, plus any recommendations of an arborist: a. Before the start of any clearing, excavation, construction or other work on the site, every protected tree deemed potentially endangered by said site work shall be securely fenced off at a distance from the base of the tree, to be determined by the project's consulting arborist. Such fences shall remain in place for duration of all such work. All trees to be removed shall be clearly marked. A scheme shall be established for the removal and disposal of logs, brush, earth and other debris that will avoid injury to any protected tree. b. Where proposed development or other site work is to encroach upon the protected perimeter of any protected tree, special measures shall be incorporated to allow the roots to breathe and obtain water and nutrients. Any excavation, cutting, filling, or compaction of the existing ground surface within the protected perimeter shall be minimized. No change in existing ground level shall occur within a distance to be determined by the project's consulting arborist from the base of any protected tree at any time. No burning or use of equipment with an open flame shall occur near or within the protected perimeter of any protected tree. c. No storage or dumping of oil, gas, chemicals, or other substances that may be harmful to trees shall occur within the distance to be determined by the project's consulting arborist from the base of any protected trees, or any other location on the site from which such substances might enter the protected perimeter. No heavy construction equipment or construction materials shall be operated or stored within a distance from the base of any protected trees to be determined by the project's consulting arborist. Wires, ropes, or other devices shall not be attached to any protected tree, except as needed for support of the tree. No sign, other than a tag showing the botanical classification, shall be attached to any protected tree. d. Periodically during construction, the leaves of protected trees shall be thoroughly sprayed with water to prevent buildup of dust and other pollution that would inhibit leaf transpiration. e. If any damage to a protected tree should occur during or from work on the site, the project applicant shall immediately notify the Public Works Department and the project's consulting arborist shall make a recommendation to the City Tree Reviewer as to whether the damaged tree can be preserved. If, in the professional opinion of the Tree Reviewer, such tree cannot be	During construction	Public Works Department, Tree Division	Bureau of Building

Standard Conditions of Approval/Mitigation Measures	Mitigation Implementation/Monitoring: When Required	Initial Approval	Monitoring/ Inspection
preserved in a healthy state, the Tree Reviewer shall require replacement of any tree removed with another tree or trees on the same site deemed adequate by the Tree Reviewer to compensate for the loss of the tree that is removed. f. All debris created from any tree removal work shall be removed by the project applicant from the property within two weeks of debris creation, and such debris shall be properly disposed of by the project applicant in accordance with all applicable laws, ordinances, and regulations.			
Cultural Resources			
SCA Cultural-1: Archaeological and Paleontological Resources – Discovery during Construction [38]: Pursuant to CEQA Guidelines section 15064.5(f), in the event that any historic or prehistoric subsurface cultural resources are discovered during ground disturbing activities, all work within 50 feet of the resources shall be halted and the project applicant shall notify the City and consult with a qualified archaeologist or paleontologist, as applicable, to assess the significance of the find. In the case of discovery of paleontological resources, the assessment shall be done in accordance with the Society of Vertebrate Paleontology standards. a) If any find is determined to be significant, appropriate avoidance measures recommended by the consultant and approved by the City must be followed unless avoidance is determined unnecessary or infeasible by the City. Feasibility of avoidance shall be determined with consideration of factors such as the nature of the find, project design, costs, and other considerations. If avoidance is unnecessary or infeasible, other appropriate measures (e.g., data recovery, excavation) shall be instituted. Work may proceed on other parts of the project site while measures for the cultural resources are implemented. b) In the event of data recovery of archaeological resources, the project applicant shall submit an Archaeological Research Design and Treatment Plan (ARDTP) prepared by a qualified archaeologist for review and approval by the City. The ARDTP is required to identify how the proposed data recovery program would preserve the significant information the archaeological resource is expected to contain. The ARDTP shall identify the scientific/historic research questions applicable to the expected resource, the data classes the resource is expected to possess, and how the expected data classes would address the applicable research questions. The ARDTP shall include the analysis and specify the curation and storage methods. c) Data recovery, in general, shall be limited to the portions of the archaeological resource that could be impacted by the proposed project. Destructive data recovery methods shall not be applied to portions of the archaeological resources if nondestructive methods are practicable. Because the intent of the ARDTP is to save as much of the archaeological resource as possible, including moving the resource, if feasible, preparation and implementation of the ARDTP would reduce the potential	During construction	N/A	Bureau of Building

Standard Conditions of Approval/Mitigation Measures	Mitigation Implementation/Monitoring When Required	Initial Approval	Monitoring/ Inspection
adverse impact to less than significant. The project applicant shall implement the ARDTP at his/her expense. d) In the event of excavation of paleontological resources, the project applicant shall submit an excavation plan prepared by a qualified paleontologist to the City for review and approval. All significant cultural materials recovered shall be subject to scientific analysis, professional museum curation, and/or a report prepared by a qualified paleontologist, as appropriate, according to current professional standards and at the expense of the project applicant.			
SCA Cultural-2: Human Remains – Discovery during Construction [40]: Pursuant to CEQA Guidelines section 15064.5(e) (1), in the event that human skeletal remains are uncovered at the project site during construction activities, all work shall immediately halt, and the project applicant shall notify the City and the Alameda County Coroner. a) If the County Coroner determines that an investigation of the cause of death is required, or that the remains are Native American, all work shall cease within 50 feet of the remains until appropriate arrangements are made. b) In the event that the remains are Native American, the City shall contact the California Native American Heritage Commission (NAHC), pursuant to subdivision (c) of section 7050.5 of the California Health and Safety Code. If the agencies determine that avoidance is not feasible, then an alternative plan shall be prepared with specific steps and timeframe required to resume construction activities. Monitoring, data recovery, determination of significance, and avoidance measures (if applicable) shall be completed expeditiously and at the expense of the project applicant.	During construction	N/A	Bureau of Building
Energy			
SCA Energy-1, Green Building Requirements – Small Projects (93): The project applicant shall comply with the requirements of the California Green Building Standards (CALGreen) mandatory measures and the applicable requirements of the City of Oakland Green Building Ordinance (chapter 18.02 of the Oakland Municipal Code) for projects using the StopWaste.Org Small Commercial Checklist. a) The following information shall be submitted to the City for review and approval with application for a building permit: i. Documentation showing compliance with Title 24 of the current version of the California Building Energy Efficiency Standards ii. Completed copy of the green building checklist approved during the review of a Planning and Zoning permit iii. Permit plans that show in general notes, detailed design drawings and specifications as necessary compliance with the items listed in subsection (b) below	Prior to approval of construction-related permit	Bureau of Building	N/A

Standard Conditions of Approval/Mitigation Measures	Mitigation Implementation/Monitoring When Required	Initial Approval	Monitoring/ Inspection
iv. Other documentation to prove compliance b) The set of plans in subsection (a) shall demonstrate compliance with the following: i. CALGreen mandatory measures ii. All applicable green building measures identified on the checklist approved during the review of a Planning and Zoning permit, or submittal of a Request for Revision Plan-check application that shows the previously approved points that will be eliminated or substituted			
c) The project applicant shall comply with the applicable requirements of CALGreen and the Green Building Ordinance during construction. The following information shall be submitted to the City for review and approval: i. Completed copy of the green building checklists approved during review of the Planning and Zoning permit and during the review of the Building permit ii. Other documentation as deemed necessary by the City to demonstrate compliance with the Green Building Ordinance	During construction	N/A	Bureau of Building
Geology and Soils			
SCA Geo-1: Construction-Related Permit(s) [42]: The project applicant shall obtain all required construction-related permits/approvals from the City. The project shall comply with all standards, requirements and conditions contained in construction-related codes, including but not limited to the Oakland Building Code and the Oakland Grading Regulations, to ensure structural integrity and safe construction.	Prior to approval of construction-related permit	Bureau of Building	Bureau of Building
SCA Geo-2: Soils Report [43]: The project applicant shall submit a soils report prepared by a registered geotechnical engineer for City review and approval. The soils report shall contain, at a minimum, field test results and observations regarding the nature, distribution and strength of existing soils, and recommendations for appropriate grading practices and project design. The project applicant shall implement the recommendations contained in the approved report during project design and construction.	Prior to approval of construction-related permit	Bureau of Building	Bureau of Building
SCA Geo-3, Seismic Hazards Zone (Landslide/Liquefaction) [45]: The project applicant shall submit a site-specific geotechnical report, consistent with California Geological Survey Special Publication 117 (as amended). The geotechnical report shall be prepared by a registered geotechnical engineer for City review and approval, and shall contain, at a minimum, a description of the geological and geotechnical conditions at the site, an evaluation of site-specific seismic hazards based on geological and geotechnical conditions, and recommended measures to reduce potential impacts related to liquefaction and/or slope stability hazards. The project applicant shall implement the recommendations contained in the approved report during project design and construction.	Prior to approval of construction-related permit	Bureau of Building	Bureau of Building

Standard Conditions of Approval/Mitigation Measures	Mitigation Implementation/Monitoring: When Required	Initial Approval	Monitoring/ Inspection
Greenhouse Gas Emissions/Climate Change			
SCA GHG-1, Project Compliance with the Equitable Climate Action Plan (ECAP) Consistency Checklist [47]: The project applicant shall implement all the measures in the Equitable Climate Action Plan (ECAP) Consistency Checklist that was submitted during the Planning entitlement phase.			
a) For physical ECAP Consistency Checklist measures to be incorporated into the design of the project, the measures shall be included on the drawings submitted for construction- related permits.	Prior to approval of construction-related permit	Bureau of Planning	N/A
b) For physical ECAP Consistency Checklist measures to be incorporated into the design of the project, the measures shall be implemented during construction.	During construction	Bureau of Planning	Bureau of Building
c) For ECAP Consistency Checklist measures that are operational but not otherwise covered by these SCAs, including but not limited to the requirement for transit passes or additional Transportation Demand Management measures, the applicant shall provide notice of these measures to employees and/or residents and post these requirements in a public place such as a lobby or work area accessible to the employees and/or residents	Ongoing	Bureau of Planning	Bureau of Planning
Hazards and Hazardous Materials			
SCA Hazards-1, Hazardous Building Materials and Site Contamination [50] a) *Hazardous Building Materials Assessment*: The project applicant shall submit a comprehensive assessment report to the Bureau of Building, signed by a qualified environmental professional, documenting the presence or lack thereof of asbestos-containing materials (ACMs), lead-based paint, polychlorinated biphenyls (PCBs), and any other building materials or stored materials classified as hazardous materials by State or federal law. If lead-based paint, ACMs, PCBs, or any other building materials or stored materials classified as hazardous materials are present, the project applicant shall submit specifications prepared and signed by a qualified environmental professional, for the stabilization and/or removal of the identified hazardous materials in accordance with all applicable laws and regulations. The project applicant shall implement the approved recommendations and submit to the City evidence of approval for any proposed remedial action and required clearances by the applicable local, state, or federal regulatory agency.	Prior to approval of demolition, grading, or building permits	Bureau of Building	Bureau of Building
b) *Environmental Site Assessment Required*: The project applicant shall submit a Phase I Environmental Site Assessment report, and Phase II Environmental Site Assessment report if warranted by the Phase 1 report, for the project site for review and approval by the City. The report(s) shall be prepared by a qualified environmental assessment professional and include recommendations for remedial action, as appropriate, for hazardous materials. The project applicant shall implement the approved recommendations and submit to the City evidence of approval for any proposed remedial action and required clearances by the applicable local, state, or federal regulatory agency	Prior to approval of construction-related permit	Applicable regulatory agency with jurisdiction	Applicable regulatory agency with jurisdiction

Standard Conditions of Approval/Mitigation Measures	Mitigation Implementation/Monitoring: When Required	Initial Approval	Monitoring/ Inspection
c) *Health and Safety Plan Required*: The project applicant shall submit a Health and Safety Plan for the review and approval by the City in order to protect project construction workers from risks associated with hazardous materials. The project applicant shall implement the approved Plan.	Prior to approval of construction-related permit	Bureau of Building	Bureau of Building
d) *Best Management Practices (BMPs) Required for Contaminated Sites*: i. Soil generated by construction activities shall be stockpiled on-site in a secure and safe manner. All contaminated soils determined to be hazardous or non-hazardous waste must be adequately profiled (sampled) prior to acceptable reuse or disposal at an appropriate off-site facility. Specific sampling and handling and transport procedures for reuse or disposal shall be in accordance with applicable local, state, and federal requirements. ii. Groundwater pumped from the subsurface shall be contained on-site in a secure and safe manner, prior to treatment and disposal, to ensure environmental and health issues are resolved pursuant to applicable laws and policies. Engineering controls shall be utilized, which include impermeable barriers to prohibit groundwater and vapor intrusion into the building.	During construction	N/A	Bureau of Building
SCA Hazards-2: Hazardous Materials Related to Construction [49]: The project applicant shall ensure that Best Management Practices (BMPs) are implemented by the contractor during construction to minimize potential negative effects on groundwater, soils, and human health. These shall include, at a minimum, the following: a) Follow manufacture's recommendations for use, storage, and disposal of chemical products used in construction b) Avoid overtopping construction equipment fuel gas tanks c) During routine maintenance of construction equipment, properly contain and remove grease and oils d) Properly dispose of discarded containers of fuels and other chemicals e) Implement lead-safe work practices and comply with all local, regional, state, and federal requirements concerning lead (for more information refer to the Alameda County Lead Poisoning Prevention Program), and f) If soil, groundwater, or other environmental medium with suspected contamination is encountered unexpectedly during construction activities (e.g., identified by odor or visual staining, or if any underground storage tanks, abandoned drums or other hazardous materials or wastes are encountered), the project applicant shall cease work in the vicinity of the suspect material, the area shall be secured as necessary, and the applicant shall take all appropriate measures to protect human health and the environment. Appropriate measures shall include notifying the City Fire Prevention Bureau, Alameda County Environmental Health, and other applicable regulatory agencies, and implementation of the actions described in these agencies' conditions of approval, as necessary, to identify the nature and extent of contamination. Work shall not resume in the area(s)	During construction	N/A	Bureau of Building

Standard Conditions of Approval/Mitigation Measures	Mitigation Implementation/Monitoring: When Required	Initial Approval	Monitoring/ Inspection
affected until the measures have been implemented under the oversight of the City or regulatory agency, as appropriate.			
Hydrology and Water Quality			
SCA Hydro-1, Creek Protection Plan [64]: a) *Creek Protection Plan Required*: The project applicant shall submit a Creek Protection Plan for review and approval by the City. The Plan shall be included with the set of project drawings submitted to the City for site improvements and shall incorporate the contents required under section 13.16.150 of the Oakland Municipal Code including Best Management Practices ("BMPs") during construction and after construction to protect the creek. Required BMPs are identified below.	Prior to approval of construction-related permit	Bureau of Planning	N/A
b) *Construction BMPs Requirement*: The Creek Protection Plan shall incorporate all applicable erosion, sedimentation, debris, and pollution control BMPs to protect the creek during construction. The measures shall include, but are not limited to, the following: i. On sloped properties, the downhill end of the construction area must be protected with silt fencing (such as sandbags, filter fabric, silt curtains, etc.) and hay bales oriented parallel to the contours of the slope (at a constant elevation) to prevent erosion into the creek. ii. The project applicant shall implement mechanical and vegetative measures to reduce erosion and sedimentation, including appropriate seasonal maintenance. One hundred (100) percent biodegradable erosion control fabric shall be installed on all graded slopes to protect and stabilize the slopes during construction and before permanent vegetation gets established. All graded areas shall be temporarily protected from erosion by seeding with fast growing annual species. All bare slopes must be covered with staked tarps when rain is occurring, or expected. iii. Minimize the removal of natural vegetation or ground cover from the site in order to minimize the potential for erosion and sedimentation problems. Maximize the replanting of the area with native vegetation as soon as possible. iv. All work in or near creek channels must be performed with hand tools and by a minimum number of people. Immediately upon completion of this work, soil must be re-packed and native vegetation planted. v. Install filter materials (such as sandbags, filter fabric, etc.) acceptable to the City at the storm drain inlets nearest to the project site prior to the start of the wet weather season (October 15); site dewatering activities; street washing activities; saw cutting asphalt or concrete; and in order to retain any debris flowing into the City storm drain system. Filter materials shall be maintained and/or replaced as necessary to ensure effectiveness and prevent street flooding.	Prior to approval of construction-related permit	Bureau of Planning	N/A

	Mitigation Implementation/Monitoring		
Standard Conditions of Approval/Mitigation Measures	**When Required**	**Initial Approval**	**Monitoring/ Inspection**
vi. Ensure that concrete/granite supply trucks or concrete/plaster finishing operations do not discharge wash water into the creek, street gutters, or storm drains. vii. Direct and locate tool and equipment cleaning so that wash water does not discharge into the creek. viii. Create a contained and covered area on the site for storage of bags of cement, paints, flammables, oils, fertilizers, pesticides, or any other materials used on the project site that have the potential for being discharged to the creek or storm drain system by the wind or in the event of a material spill. No hazardous waste material shall be stored on site. ix. Gather all construction debris on a regular basis and place it in a dumpster or other container which is emptied or removed at least on a weekly basis. When appropriate, use tarps on the ground to collect fallen debris or splatters that could contribute to stormwater pollution. x. Remove all dirt, gravel, refuse, and green waste from the sidewalk, street pavement, and storm drain system adjoining the project site. During wet weather, avoid driving vehicles off paved areas and other outdoor work. xi. Broom sweep the street pavement adjoining the project site on a daily basis. Caked-on mud or dirt shall be scraped from these areas before sweeping. At the end of each workday, the entire site must be cleaned and secured against potential erosion, dumping, or discharge to the creek, street, gutter, or storm drains. xii. All erosion and sedimentation control measures implemented during construction activities, as well as construction site and materials management shall be in strict accordance with the control standards listed in the latest edition of the Erosion and Sediment Control Field Manual published by the Regional Water Quality Control Board (RWQCB). xii. Temporary fencing is required for sites without existing fencing between the creek and the construction site and shall be placed along the side adjacent to construction (or both sides of the creek if applicable) at the maximum practical distance from the creek centerline. This area shall not be disturbed during construction without prior approval of the City.			
c) *Post-Construction BMPs Requirement*: The project shall not result in a substantial increase in stormwater runoff volume or velocity to the creek or storm drains. The Creek Protection Plan shall include site design measures to reduce the amount of impervious surface to maximum extent practicable. New drain outfalls shall include energy dissipation to slow the velocity of the water at the point of outflow to maximize infiltration and minimize erosion.	Prior to approval of construction-related permit	Bureau of Planning	N/A
d) *Creek Landscaping Requirement*: The project applicant shall include final landscaping details for the site on the Creek Protection Plan, or on a Landscape Plan, for review and approval by the City. Landscaping information shall include a planting schedule, detailing plant types and locations, and a system to ensure adequate irrigation of plantings for at least one growing season. Plant and	Prior to approval of construction-related permit	Bureau of Planning	N/A

Standard Conditions of Approval/Mitigation Measures	Mitigation Implementation/Monitoring: When Required	Initial Approval	Monitoring/ Inspection
maintain only drought-tolerant plants on the site where appropriate as well as native and riparian plants in and adjacent to riparian corridors. Along the riparian corridor, native plants shall not be disturbed to the maximum extent feasible. Any areas disturbed along the riparian corridor shall be replanted with mature native riparian vegetation and be maintained to ensure survival.			
d) *Creek Protection Plan Implementation Requirement*: The project applicant shall implement the approved Creek Protection Plan during and after construction. During construction, the project applicant shall regularly monitor all erosion, sedimentation, debris, and pollution control. The City may require that a qualified consultant (paid for by the project applicant) inspect the control measures and submit a written report of the adequacy of the control measures to the City. If measures are deemed inadequate, the project applicant shall develop and implement additional and more effective measures immediately.	During construction; ongoing	N/A	Bureau of Building
SCA Hydro-2, State Construction General Permit [56]: The project applicant shall comply with the requirements of the Construction General Permit issued by the State Water Resources Control Board (SWRCB). The project applicant shall submit a Notice of Intent (NOI), Stormwater Pollution Prevention Plan (SWPPP), and other required Permit Registration Documents to SWRCB. The project applicant shall submit evidence of compliance with Permit requirements to the City.	Prior to approval of construction-related permit	State Water Resources Control Board; evidence of compliance submitted to Bureau of Building	State Water Resources Control Board
SCA Hydro-3, NPDES C.3 Stormwater Requirements for Regulated Projects [60] a) *Post-Construction Stormwater Management Plan Required*: The project applicant shall comply with the requirements of Provision C.3 of the Municipal Regional Stormwater Permit issued under the National Pollutant Discharge Elimination System (NPDES). The project applicant shall submit a Post-Construction Stormwater Management Plan to the City for review and approval with the project drawings submitted for site improvements, and shall implement the approved Plan during construction. The Post-Construction Stormwater Management Plan shall include and identify the following: i. location and size of new and replaced impervious surface ii. directional surface flow of stormwater runoff iii. location of proposed on-site storm drain lines iv. site design measures to reduce the amount of impervious surface area v. source control measures to limit stormwater pollution vi. stormwater treatment measures to remove pollutants from stormwater runoff, including the method used to hydraulically size the treatment measures; and hydro-modification management	Prior to approval of construction-related permit	Bureau of Building	Bureau of Building

Standard Conditions of Approval/Mitigation Measures	Mitigation Implementation/Monitoring: When Required	Initial Approval	Monitoring/ Inspection
measures, if required by Provision C.3, so that post-project stormwater runoff flow and duration match pre-project runoff. vii. Hydromodification management measures, if required by Provision C.3, so that post-project stormwater runoff flow and duration match pre-project runoff.			
b) *Maintenance Agreement Required*: The project applicant shall enter into a maintenance agreement with the City, based on the Standard City of Oakland Stormwater Treatment Measures Maintenance Agreement, in accordance with Provision C.3, which provides, in part, for the following: i. The project applicant accepting responsibility for the adequate installation/construction, operation, maintenance, inspection, and reporting of any on-site stormwater treatment measures being incorporated into the project until the responsibility is legally transferred to another entity, and ii. Legal access to the on-site stormwater treatment measures for representatives of the City, the local vector control district, and staff of the Regional Water Quality Control Board, San Francisco Region. Access is for purposes of verifying implementation, operation and maintenance of the on-site stormwater treatment measures, taking corrective action if necessary. The maintenance agreement shall be recorded at the County Recorder's Office at the applicant's expense.	Prior to building permit final	Bureau of Building	Bureau of Building
SCA Hydro-4, Vegetation Management on Creekside Properties [63]: The project applicant shall comply with the following requirements when managing vegetation prior to, during, and after construction of the project: a) Identify and leave "islands" of vegetation in order to prevent erosion and landslides and protect habitat; b) Trim tree branches from the ground up (limbing up) and leave tree canopy intact; c) Leave stumps and roots from cut down trees to prevent erosion; d) Plant fire-appropriate, drought-tolerant, preferably native vegetation; e) Provide erosion and sediment control protection if cutting vegetation on a steep slope; f) Fence off sensitive plant habitats and creek areas if implementing goat grazing for vegetation management; g) Obtain a Tree Permit before removing a Protected Tree (any tree 9 inches diameter at breast height or dbh or greater and any oak tree 4 inches dbh or greater, except eucalyptus and Monterey pine); h) Do not clear-cut vegetation, as this can lead to erosion and severe water quality problems and destroy important habitat; i) Do not remove vegetation within 20 feet of the top of the creek bank. If the top of bank cannot be identified, do not cut within 50 feet of the centerline of the creek or as wide a buffer as possible between the creek centerline and the development; j) Do not trim/prune branches that are larger than 4 inches in diameter;	Ongoing	N/A	Bureau of Building

Standard Conditions of Approval/Mitigation Measures	Mitigation Implementation/Monitoring: When Required	Initial Approval	Monitoring/ Inspection
k) Do not remove tree canopy; l) Do not dump cut vegetation in the creek; m) Do not cut tall shrubbery to less than 3 feet high; and n) Do not cut short vegetation (e.g., grasses, groundcover) to less than 6 inches high.			
SCA Hydro-5, Bay Conservation and Development Commission (BCDC) Approval [67]: The project applicant shall obtain the necessary permit/approval, if required, from the Bay Conservation and Development Commission (BCDC) for work within BCDC's jurisdiction to address issues such as but not limited to shoreline public access and sea level rise. The project applicant shall submit evidence of the permit/approval to the City and comply with all requirements and conditions of the permit/approval.	Prior to activity requiring permit/approval from BCDC	Approval by BCDC; evidence of approval submitted to Bureau of Planning	BCDC
Land Use			
CASP EIR MM Land-7B, Avigation Easement / Disclosure: Sellers or leasers of real property located within the Oakland Airport Influence Area shall disclose within an aviation easement included as part of all real estate transactions within the AIA that their property is situated within the AIA, and may be subject to some of the annoyances or inconveniences associated with proximity to airport operations.	Prior to issuance of building permit	Bureau of Building	N/A
Noise and Vibration			
SCA Noise-1, Construction Days/Hours [69]: The project applicant shall comply with the following restrictions concerning construction days and hours: a) Construction activities are limited to between 7:00 a.m. and 7:00 p.m. Monday through Friday, except that pier drilling and/or other extreme noise generating activities greater than 90 dBA shall be limited to between 8:00 a.m. and 4:00 p.m. b) Construction activities are limited to between 9:00 a.m. and 5:00 p.m. on Saturday. In residential zones and within 300 feet of a residential zone, construction activities are allowed from 9:00 a.m. to 5:00 p.m. only within the interior of the building with the doors and windows closed. No pier drilling or other extreme noise generating activities greater than 90 dBA are allowed on Saturday. c) No construction is allowed on Sunday or federal holidays. Construction activities include, but are not limited to, truck idling, moving equipment (including trucks, elevators, etc.) or materials, deliveries, and construction meetings held on-site in a non-enclosed area. Any construction activity proposed outside of the above days and hours for special activities (such as concrete pouring which may require more continuous amounts of time) shall be evaluated on a case-by-case basis by the City, with criteria including the urgency/emergency nature of the work, the proximity of residential or other sensitive uses, and a consideration of nearby residents'/occupants' preferences. The project applicant shall notify property owners and occupants located within 300 feet at least 14 calendar	During construction	N/A	Bureau of Building

Standard Conditions of Approval/Mitigation Measures	Mitigation Implementation/Monitoring		
	When Required	**Initial Approval**	**Monitoring/ Inspection**
days prior to construction activity proposed outside of the above days/hours. When submitting a request to the City to allow construction activity outside of the above days/hours, the project applicant shall submit information concerning the type and duration of proposed construction activity and the draft public notice for City review and approval prior to distribution of the public notice.			
SCA Noise-2, Construction Noise [70]: The project applicant shall implement noise reduction measures to reduce noise impacts due to construction. Noise reduction measures include, but are not limited to, the following: a) Equipment and trucks used for project construction shall utilize the best available noise control techniques (e.g., improved mufflers, equipment redesign, use of intake silencers, ducts, engine enclosures and acoustically attenuating shields or shrouds) wherever feasible. b) Except as provided herein, impact tools (e.g., jackhammers, pavement breakers, and rock drills) used for project construction shall be hydraulically or electrically powered to avoid noise associated with compressed air exhaust from pneumatically powered tools. However, where use of pneumatic tools is unavoidable, an exhaust muffler on the compressed air exhaust shall be used; this muffler can lower noise levels from the exhaust by up to about 10 dBA. External jackets on the tools themselves shall be used, if such jackets are commercially available, and this could achieve a reduction of 5 dBA. Quieter procedures shall be used, such as drills rather than impact equipment, whenever such procedures are available and consistent with construction procedures. c) Applicant shall use temporary power poles instead of generators where feasible d) Stationary noise sources shall be located as far from adjacent properties as possible, and they shall be muffled and enclosed within temporary sheds, incorporate insulation barriers, or use other measures as determined by the City to provide equivalent noise reduction. e) The noisiest phases of construction shall be limited to less than 10 days at a time. Exceptions may be allowed if the City determines an extension is necessary and all available noise reduction controls are implemented.	During construction	N/A	Bureau of Building
SCA Noise-3, Extreme Construction Noise [71]: Prior to any extreme noise generating construction activities (e.g., pier drilling, pile driving and other activities generating greater than 90dBA), the project applicant shall submit a Construction Noise Management Plan prepared by a qualified acoustical consultant for City review and approval that contains a set of site-specific noise attenuation measures to further reduce construction impacts associated with extreme noise generating activities. The project applicant shall implement the approved Plan during construction. Potential attenuation measures include, but are not limited to, the following: a) Erect temporary plywood noise barriers around the construction site, particularly along on sites adjacent to residential buildings;	Prior to approval of construction-related permit	Bureau of Building	Bureau of Building

Standard Conditions of Approval/Mitigation Measures	Mitigation Implementation/Monitoring When Required	Initial Approval	Monitoring/ Inspection
b) Implement "quiet" pile driving technology (such as pre-drilling of piles, the use of more than one pile driver to shorten the total pile driving duration), where feasible, in consideration of geotechnical and structural requirements and conditions; c) Utilize noise control blankets on the building structure as the building is erected to reduce noise emission from the site; d) Evaluate the feasibility of noise control at the receivers by temporarily improving the noise reduction capability of adjacent buildings by the use of sound blankets for example and implement such measure if such measures are feasible and would noticeably reduce noise impacts; e) Monitor the effectiveness of noise attenuation measures by taking noise measurements f) The project applicant shall notify property owners and occupants located within 300 feet of the construction activities at least 14 calendar days prior to commencing extreme noise generating activities. Prior to providing the notice, the project applicant shall submit to the City for review and approval the proposed type and duration of extreme noise generating activities and the proposed public notice. The public notice shall provide the estimated start date and end date of the extreme noise generating activities and describe noise attenuation measures to be implemented.			
SCA Noise-4, Construction Noise Complaints [73]: The project applicant shall submit to the City for review and approval a set of procedures for responding to and tracking complaints received pertaining to construction noise, and shall implement the procedures during construction. At a minimum, the procedures shall include: a) Designation of an on-site construction complaint and enforcement manager for the project; b) A large on-site sign near the public right-of-way containing permitted construction days/hours, complaint procedures, and phone numbers for the project complaint manager and City Code Enforcement unit; c) Protocols for receiving, responding to, and tracking received complaints; and d) Maintenance of a complaint log that records received complaints and how complaints were addressed, which shall be submitted to the City for review upon the City's request.	Prior to approval of construction-related permit	Bureau of Building	Bureau of Building
SCA Noise-5, Operational Noise [75]: Noise levels from the project site after completion of the project (i.e., during project operation) shall comply with the performance standards of chapter 17.120 of the Oakland Planning Code and chapter 8.18 of the Oakland Municipal Code. If noise levels exceed these standards, the activity causing the noise shall be abated until appropriate noise reduction measures have been installed and compliance verified by the City.	Ongoing	N/A	Bureau of Building

Standard Conditions of Approval/Mitigation Measures	Mitigation Implementation/Monitoring: When Required	Initial Approval	Monitoring/ Inspection
Public Services			
SCA Public-1, Capital Improvements Impact Fee [80]: The Project applicant shall comply with the requirements of the City of Oakland Capital Improvements Fee Ordinance (chapter 15.74 of the Oakland Municipal Code).	Prior to issuance of building permit	Bureau of Building	N/A
Transportation and Circulation			
SCA Transportation-1: Transportation and Parking Demand Management [85]: a) *Transportation and Parking Demand Management (TDM) Plan Required*: The project applicant shall submit a Transportation and Parking Demand Management (TDM) Plan for review and approval by the City. 1. The goals of the TDM Plan shall be the following: i. Reduce vehicle traffic and parking demand generated by the project to the maximum extent practicable. ii. For Projects generating 50-99 net new a.m. or p.m. peak hour vehicle trips, achieve a project vehicle trip reduction (VTR of 10%. For Projects generating 100 or more net new a.m. or p.m. peak hour vehicle trips, achieve a project vehicle trip reduction (VTR of 20% iii. Increase pedestrian, bicycle, transit, and carpool/vanpool modes of travel. All four modes of travel shall be considered, as appropriate. iv. Enhance the City's transportation system, consistent with City policies and programs. 2. The TDM Plan should include the following: i. Baseline existing conditions of parking and curbside regulations within the surrounding neighborhood that could affect the effectiveness of TDM strategies, including inventory of parking spaces and occupancy if applicable. ii. Proposed TDM strategies to achieve VTR goals (see below). iii. For employers with 100 or more employees at the subject site, the TDM Plan shall also comply with the requirements of Oakland Municipal Code Chapter 10.68 Employer-Based Trip Reduction Program. 3. The following TDM strategies must be incorporated into a TDM Plan based on a project location or other characteristics. When required by Code or when described below, these mandatory strategies should be identified as a credit toward a project's VTR. i. Bus boarding bulbs or islands, when a bus boarding bulb or island does not already exist and a bus stop is located along the project frontage; and/or a bus stop along the project frontage serves a route with 15 minutes or better peak hour service and has a shared bus-bike lane curb	Prior to approval of planning application	Bureau of Planning	N/A

Standard Conditions of Approval/Mitigation Measures	Mitigation Implementation/Monitoring		
	When Required	Initial Approval	Monitoring/ Inspection
ii. Bus shelter, when a stop with no shelter is located within the project frontage, or the project is located within 0.10 miles of a flag stop with 25 or more boardings per day iii. Concrete bus pad, where a bus stop is located along the project frontage and a concrete bus pad does not already exist iv. Curb extensions or bulb-outs, where identified as an improvement within site analysis v. Implementation of a corridor-level bikeway improvement, where a buffered Class II or Class IV bikeway facility is in a local or county adopted plan within 0.10 miles of the project location, and The project would generate 500 or more daily bicycle trips vi. Implementation of a corridor-level transit capital improvement, where a high-quality transit facility is in a local or county adopted plan within 0.25 miles of the project location; and the project would generate 400 or more peak period transit trips vii. Installation of amenities such as lighting; pedestrian-oriented green infrastructure, trees, or other greening landscape; and trash receptacles per the Pedestrian Master Plan and any applicable streetscape plan - always required viii. Installation of safety improvements identified in the Pedestrian Master Plan (such as crosswalk striping, curb ramps, count down signals, bulb outs, etc.), when improvements are identified in the Pedestrian Master Plan along project frontage or at an adjacent intersection ix. In-street bicycle corral, when a project includes more than 10,000 square feet of ground floor retail, is located along a Tier 1 bikeway, and onstreet where vehicle parking is provided along the project frontages. x. Intersection improvements, when identified as an improvement within site analysis xi. New sidewalk, curb ramps, curb and gutter meeting current City and ADA standards, always required xii. No monthly permits and establish minimum price floor for public parking, if proposed parking ratio exceeds 1:1000 sf. (commercial) xiii Parking garage is designed with retrofit capability, optional if proposed parking ratio exceeds 1:1.25 (residential), or 1:1000 sf. (commercial) xiv Parking space reserved for car share, if a project is providing parking and a project is located within downtown. One car share space reserved for buildings between 50 – 200 units, then one car share space per 200 units. xv. Paving, lane striping or restriping (vehicle and bicycle), and signs to midpoint of street section, typically required xvi. Pedestrian crossing improvements, when identified as an improvement within site analysis xvii Pedestrian-supportive signal changes, when identified as an improvement within operations analysis			

Standard Conditions of Approval/Mitigation Measures	Mitigation Implementation/Monitoring: When Required	Initial Approval	Monitoring/ Inspection
xviii Real-time transit information system, when a project frontage block includes a bus stop or BART station and is along a Tier 1 transit route with 2 or more routes or peak period frequency of 15 minutes or better xix Relocating bus stops to far side, when a project is located within 0.10 mile of any active bus stop that is currently near-side xx. Signal upgrades, when project size exceeds 100 residential units, 80,000 sf. of retail, or 100,000 sf. Of commercial; and Project frontage abuts an intersection with signal infrastructure older than 15 years xxi. Transit queue jumps , when identified as a needed improvement within operations analysis of a project with frontage along a Tier 1 transit route with 2 or more routes or peak period frequency of 15 minutes or better xxii Trenching and placement of conduit for providing traffic signal interconnect, when a Project size exceeds 100 units, 80,000 sf. Of retail, or 100,000 sf. of commercial; and Project frontage block is identified for signal interconnect improvements as part of a planned ITS improvement; and a major transit improvement is identified within operations analysis requiring traffic signal interconnect xxiii Unbundled parking, if proposed parking ratio exceeds 1:1.25 (residential) 4. Other TDM strategies to consider include, but are not limited to, the following: i. Inclusion of additional long-term and short-term bicycle parking that meets the design standards set forth in chapter five of the Bicycle Master Plan and the Bicycle Parking Ordinance (chapter 17.117 of the Oakland Planning Code), and shower and locker facilities in commercial developments that exceed the requirement. ii. Construction of and/or access to bikeways per the Bicycle Master Plan; construction of priority bikeways, on-site signage and bike lane striping iii. Installation of safety elements per the Pedestrian Master Plan (such as crosswalk striping, curb ramps, count down signals, bulb outs, etc.) to encourage convenient and safe crossing at arterials, in addition to safety elements required to address safety impacts of the project. iv. Installation of amenities such as lighting, street trees, and trash receptacles per the Pedestrian Master Plan, the Master Street Tree List and Tree Planting Guidelines and any applicable streetscape plan. v. Construction and development of transit stops/shelters, pedestrian access, way finding signage, and lighting around transit stops per transit agency plans or negotiated improvements. vi. Direct on-site sales of transit passes purchased and sold at a bulk group rate (through programs such as AC Transit Easy Pass or a similar program through another transit agency).			

Standard Conditions of Approval/Mitigation Measures	Mitigation Implementation/Monitoring: When Required	Initial Approval	Monitoring/ Inspection
vii. Provision of a transit subsidy to employees or residents, determined by the project applicant and subject to review by the City, if employees or residents use transit or commute by other alternative modes. viii Provision of an ongoing contribution to transit service to the area between the project and nearest mass transit station prioritized as follows: 1) Contribution to AC Transit bus service; 2) Contribution to an existing area shuttle service; and 3) Establishment of new shuttle service. The amount of contribution (for any of the above scenarios) would be based upon the cost of establishing new shuttle service (Scenario 3). ix. Guaranteed ride home program for employees, either through 511.org or through separate program. x. Pre-tax commuter benefits (commuter checks) for employees xi. Free designated parking spaces for on-site car-sharing program (such as City Car Share, Zip Car, etc.), and/or car-share membership for employees or tenants. xii. On-site carpooling and/or vanpool program that includes preferential (discounted or free) parking for carpools and vanpools xiii. Distribution of information concerning alternative transportation options xiv. Parking spaces sold/leased separately for residential units. Charge employees for parking, or provide a cash incentive or transit pass alternative to a free parking space in commercial properties. xv. Parking management strategies, including attendant/valet parking and shared parking spaces xvi. Requiring tenants to provide opportunities and the ability to work off-site xvii Allow employees or residents to adjust their work schedule in order to complete the basic work requirement of five eight-hour workdays by adjusting their schedule to reduce vehicle trips to the worksite (e.g., working four, ten-hour days; allowing employees to work from home two days per week). xviii Provide or require tenants to provide employees with staggered work hours involving a shift in the set work hours of all employees at the workplace or flexible work hours involving individually determined work hours. 5. The TDM Plan shall indicate the estimated VTR for each strategy, based on published research or guidelines where feasible. For TDM Plans containing ongoing operational VTR strategies, the Plan shall include an ongoing monitoring and enforcement program to ensure the Plan is implemented on an ongoing basis during project operation. If an annual compliance report is required, as explained below, the TDM Plan shall also specify the topics to be addressed in the annual report.			

Standard Conditions of Approval/Mitigation Measures	When Required	Initial Approval	Monitoring/ Inspection
	Mitigation Implementation/Monitoring		
b) *TDM Implementation – Physical Improvements Requirement*: For VTR strategies involving physical improvements, the project applicant shall obtain the necessary permits/approvals from the City and install the improvements prior to the completion of the project.	Prior to building permit final	Bureau of Building	Bureau of Building
c) TDM Implementation – Operational Strategies: For projects that generate 100 or more net new a.m. or p.m. peak hour vehicle trips and contain ongoing operational VTR strategies, the project applicant shall submit an annual compliance report for the first five years following completion of the project (or completion of each phase for phased projects) for review and approval by the City. The annual report shall document the status and effectiveness of the TDM program, including the actual VTR achieved by the project during operation. If deemed necessary, the City may elect to have a peer review consultant, paid for by the project applicant, review the annual report. If timely reports are not submitted and/or the annual reports indicate that the project applicant has failed to implement the TDM Plan, the project will be considered in violation of the Conditions of Approval and the City may initiate enforcement action as provided for in these Conditions of Approval. The project shall not be considered in violation of this Condition if the TDM Plan is implemented but the VTR goal is not achieved.	Ongoing	Department of Transportation	Department of Transportation
SCA Transportation-2, Bicycle Parking [83]: The project applicant shall comply with the City of Oakland Bicycle Parking: Requirements (chapter 17.118 of the Oakland Planning Code). The project drawings submitted for construction-related permits shall demonstrate compliance with the requirements.	Prior to approval of construction-related permit	Bureau of Planning	Bureau of Building
SCA Transportation-3, Transportation Impact Fee [86]: The project applicant shall comply with the requirements of the City of Oakland Transportation Impact Fee Ordinance (chapter 15.74 of the Oakland Municipal Code).	Prior to issuance of building permit	Bureau of Building	N/A
SCA Transportation-4, Plug-In Electric Vehicle (PEV) Charging Infrastructure [88]: a) *PEV-Ready Parking Spaces*: The applicant shall submit, for review and approval of the Building Official and the Zoning Manager, plans that show the location of parking spaces equipped with full electrical circuits designated for future PEV charging (i.e. "PEV-Ready) per the requirements of Chapter 15.04 of the Oakland Municipal Code. Building electrical plans shall indicate sufficient electrical capacity to supply the required PEV-Ready parking spaces. b) *PEV-Capable Parking Spaces*: The applicant shall submit, for review and approval of the Building Official, plans that show the location of inaccessible conduit to supply PEV-capable parking spaces per the requirements of Chapter 15.04 of the Oakland Municipal Code. Building electrical plans shall indicate sufficient electrical capacity to supply the required PEV-capable parking spaces. c) *ADA-Accessible Spaces*: The applicant shall submit, for review and approval of the Building Official, plans that show the location of future accessible EV parking spaces as required under Title 24 Chapter 11B Table 11B-228.3.2.1, and specify plans to construct all future accessible EV parking	Prior to Issuance of Building Permit	Bureau of Building	Bureau of Building

Standard Conditions of Approval/Mitigation Measures	Mitigation Implementation/Monitoring: When Required	Initial Approval	Monitoring/ Inspection
spaces with appropriate grade, vertical clearance, and accessible path of travel to allow installation of accessible EV charging station(s).			
SCA Transportation-5, Construction Activity in the Public Right-of-Way [82] a) *Obstruction Permit Required*: The project applicant shall obtain an obstruction permit from the City prior to placing any temporary construction-related obstruction in the public right-of-way, including City streets, sidewalks, bicycle facilities, and bus stops.	Prior to approval of construction-related permit	Department of Transportation	Department of Transportation
b) *Traffic Control Plan Required*: In the event of obstructions to vehicle or bicycle travel lanes, bus stops, or sidewalks, the project applicant shall submit a Traffic Control Plan to the City for review and approval prior to obtaining an obstruction permit. The project applicant shall submit evidence of City approval of the Traffic Control Plan with the application for an obstruction permit. The Traffic Control Plan shall contain a set of comprehensive traffic control measures for auto, transit, bicycle, and pedestrian accommodations (or detours, if accommodations are not feasible), including detour signs if required, lane closure procedures, signs, cones for drivers, and designated construction access routes. The Traffic Control Plan shall be in conformance with the City's Supplemental Design Guidance for Accommodating Pedestrians, Bicyclists, and Bus Facilities in Construction Zones.	The project applicant shall implement the approved Plan during construction	Department of Transportation	Department of Transportation
c) *Repair of City Streets*: The project applicant shall repair any damage to the public right-of way, including streets and sidewalks, caused by project construction at his/her expense within one week of the occurrence of the damage (or excessive wear), unless further damage/excessive wear may continue; in such case, repair shall occur prior to approval of the final inspection of the construction-related permit. All damage that is a threat to public health or safety shall be repaired immediately.	Prior to building permit final	N/A	Department of Transportation
SCA Transportation-6, Transportation Improvements [84]: The project applicant shall implement the recommended on- and off-site transportation-related improvements contained within the Transportation Impact Review for the project (e.g., signal timing adjustments, restriping, signalization, traffic control devices, roadway reconfigurations, transportation demand management measures, and transit, pedestrian, and bicyclist amenities). The project applicant is responsible for funding and installing the improvements, and shall obtain all necessary permits and approvals from the City and/or other applicable regulatory agencies such as, but not limited to, Caltrans (for improvements related to Caltrans facilities) and the California Public Utilities Commission (for improvements related to railroad crossings), prior to installing the improvements. To implement this measure for intersection modifications, the project applicant shall submit Plans, Specifications, and Estimates (PS&E) to the City for review and approval. All elements shall be designed to applicable City standards in effect at the time of construction and all new or upgraded signals shall include these enhancements as required by the City. All other facilities supporting vehicle travel and alternative modes through the intersection shall be brought up to both City standards and ADA standards	Prior to building permit final or as otherwise specified	Bureau of Building; Department of Transportation	Bureau of Building

Standard Conditions of Approval/Mitigation Measures	Mitigation Implementation/Monitoring: When Required	Initial Approval	Monitoring/ Inspection
(according to Federal and State Access Board guidelines) at the time of construction. Current City Standards call for, among other items, the elements listed below: a) 2070L Type Controller with cabinet accessory b) GPS communication (clock) c) Accessible pedestrian crosswalks according to Federal and State Access Board guidelines with signals (audible and tactile) d) Countdown pedestrian head module switch out e) City Standard ADA wheelchair ramps f) Video detection on existing (or new, if required) g) Mast arm poles, full activation (where applicable) h) Polara Push buttons (full activation) i) Bicycle detection (full activation)) Pull boxes k) Signal interconnect and communication with trenching (where applicable), or through existing conduit (where applicable), 600 feet maximum l) Conduit replacement contingency m) Fiber switch n) PTZ camera (where applicable) o) Transit Signal Priority (TSP) equipment consistent with other signals along corridor p) Signal timing plans for the signals in the coordination group q) Bi-directional curb ramps (where feasible, and if project is on a street corner) r) Upgrade ramps on receiving curb (where feasible, and if project is on a street corner)			
Utilities and Service Systems			
SCA Utilities-1, Water Efficient Landscape Ordinance [97]: The project applicant shall comply with California's Water Efficient Landscape Ordinance (WELO) in order to reduce landscape water usage. For any landscape project with an aggregate (total noncontiguous) landscape area over 2,500 sq. ft., the project applicant shall implement the Performance Measures in accordance with the WELO. Prior to construction, the project applicant shall submit the Project Information (detailed below) and documentation showing compliance with Appendix D of California's Model Water Efficient Landscape Ordinance. *a) Performance Measures*: Prior to construction, the project applicant shall prepare and submit a Landscape Documentation Package for review and approval, including the following: i. Project information (date, applicant and property owner name, project address, total landscape area, project type (new, rehabilitated, cemetery, or home owner installed), water supply type and water purveyor, checklist of documents in the package, project contact information, and	Prior to approval of construction-related permit	Bureau of Planning	Bureau of Building

Standard Conditions of Approval/Mitigation Measures	Mitigation Implementation/Monitoring: When Required	Initial Approval	Monitoring/ Inspection
applicant signature and date with the statement: "I agree to comply with the requirements of the water efficient landscape ordinance and submit a complete Landscape Documentation Package." ii. Water Efficient Landscape Worksheet, including Hydro-zone Information Table and Water Budget Calculations with Maximum Applied Water Allowance (MAWA) and Estimated Total Water Use iii. Soil Management Report iv. Landscape Design Plan v. Irrigation Design Plan, and vi. Grading Plan b) Upon installation of the landscaping and irrigation systems, and prior to the final of a construction-related permit, the Project applicant shall submit a Certificate of Completion, and landscape and irrigation maintenance schedule, for review and approval by the City. The Certificate of Completion shall also be submitted to the local water purveyor and property owner or his or her designee.			
SCA Utilities-2, Construction and Demolition Waste Reduction and Recycling [89]: The project applicant shall comply with the City of Oakland Construction and Demolition Waste Reduction and Recycling Ordinance (chapter 15.34 of the Oakland Municipal Code) by submitting a Construction and Demolition Waste Reduction and Recycling Plan (WRRP) for City review and approval, and shall implement the approved WRRP. Projects subject to these requirements include all new construction, renovations/alterations /modifications with construction values of $50,000 or more (except R-3 type construction), and all demolition (including soft demolition) except demolition of type R-3 construction. The WRRP must specify the methods by which the project will divert construction and demolition debris waste from landfill disposal in accordance with current City requirements. The WRRP may be submitted electronically at www.greenhalosystems.com or manually at the City's Green Building Resource Center. Current standards, FAQs, and forms are available on the City's website and in the Green Building Resource Center.	Prior to approval of construction-related permit	Public Works Department, Environmental Services Division	Public Works Department, Environmental Services Division
SCA Utilities-3, Recycling Collection and Storage Space [91]: The project applicant shall comply with the City of Oakland Recycling Space Allocation Ordinance (chapter 17.118 of the Oakland Planning Code). The project drawings submitted for construction-related permits shall contain recycling collection and storage areas in compliance with the Ordinance. For residential projects, at least two (2) cubic feet of storage and collection space per residential unit is required, with a minimum of ten (10) cubic feet. For non-residential projects, at least two (2) cubic feet of storage and collection space per 1,000 square feet of building floor area is required, with a minimum of ten (10) cubic feet.	Prior to approval of construction-related permit	Bureau of Planning	Bureau of Building
SCA Utilities-4, Underground Utilities [90]: The project applicant shall place underground all new utilities serving the project and under the control of the project applicant and the City, including all new gas, electric, cable, and telephone facilities, fire alarm conduits, street light wiring, and other wiring, conduits, and similar facilities. The new facilities shall be placed underground along the project's street frontage and	During construction	N/A	Bureau of Building

Standard Conditions of Approval/Mitigation Measures	Mitigation Implementation/Monitoring: When Required	Initial Approval	Monitoring/ Inspection
from the project structures to the point of service. Utilities under the control of other agencies, such as PG&E, shall be placed underground if feasible. All utilities shall be installed in accordance with standard specifications of the serving utilities.			
SCA Utilities-5, Storm Drain System [95]: The project storm drainage system shall be designed in accordance with the City of Oakland's Storm Drainage Design Guidelines. To the maximum extent practicable, peak stormwater runoff from the project site shall be reduced by at least 25 percent compared to the pre-project condition.	Prior to approval of construction-related permit	Bureau of Building	Bureau of Building
SCA Utilities-6: Sanitary Sewer System [94]: The project applicant shall prepare and submit a Sanitary Sewer Impact Analysis to the City for review and approval in accordance with the City of Oakland Sanitary Sewer Design Guidelines. The Impact Analysis shall include an estimate of pre-project and post-project wastewater flow from the project site. In the event that the Impact Analysis indicates that the net increase in project wastewater flow exceeds City-projected increases in wastewater flow in the sanitary sewer system, the project applicant shall pay the Sanitary Sewer Impact Fee in accordance with the City's Master Fee Schedule for funding improvements to the sanitary sewer system.	Prior to approval of construction-related permit	Public Works Department, Department of Engineering and Construction	N/A

Appendix B

Roots Stadium Project, Air Quality and Health Risk Assessment

Illingworth & Rodkin, December 11, 2023

ROOTS STADIUM PROJECT AIR QUALITY HEALTH RISK ASSESSMENT

Oakland, California

December 11, 2023

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I&R Project: 23-150

Introduction

This report provides the results of a toxic air contaminant (TAC) health risk analysis (HRA) for the proposed construction of a temporary soccer stadium intended for interim use by the Oakland Roots and Oakland Soul professional soccer clubs on the existing 8.74-acre Malibu Parking Lot near the Oakland Coliseum (the Project). The Project site (Malibu Parking Lot) is a triangular-shaped property located at 8000 South Coliseum Way in Oakland, California. The Project site is bounded by South Coliseum Way to the southwest, the City-owned HomeBase property to the east, and Elmhurst Creek and the Coliseum Complex to the northwest. Access is available from South Coliseum Way and Collins Drive. The adjacent HomeBase site is being used by the City for emergency housing programs. The Property was used from the 1970s to the mid-1990s as Malibu Grand Prix, a miniature Indy car racing track (hence, the Malibu Lot name). It has since been used primarily as an asphalt and gravel-surface overflow parking lot for events at the adjacent Oakland-Alameda County Coliseum Complex.

This project is located in the "West Alameda – East Oakland" impacted community adopted by the Bay Area Air Quality Management District (BAAQMD) under Assembly Bill 617 (AB 617) and is identified as an "Overburdened Area." The *East Oakland Community Emissions Reduction Plan* is currently under development by BAAQMD.

This assessment predicts health risk impacts with respect to the City of Oakland Standard Conditions of Approval (SCA). The SCAs applicable to this project are included in *Attachment 1*.

Setting

The project site is in Alameda County which is a part of San Francisco Bay Area Air Basin. Air quality in the region is affected by natural factors such as proximity to the Bay and ocean, topography, and meteorology, as well as proximity to sources of air pollution. Health risk standards have been established at the local level by BAAQMD for cancer risk, $PM_{2.5}$ concentration and non-cancer risks (Health index, or HI).

<u>TACs</u>

TACs are a broad class of compounds known to cause morbidity or mortality (usually because they cause cancer or serious illness) and include but are not limited to criteria air pollutants. TACs are found in ambient air, especially in urban areas, and are emitted from industry, fuel combustion, and commercial operations (e.g., dry cleaners). TACs are typically found in low concentrations, even near their source (e.g., diesel particulate matter [DPM] near a freeway). Because chronic exposure can result in adverse health effects, TACs are regulated at the regional, state, and federal level. The identification, regulation, and monitoring of TACs is relatively new compared to that for criteria air pollutants that have established ambient air quality standards. TACs are regulated or evaluated based on risk to human health rather than comparison to an ambient air quality standard or emission-based thresholds.

Particulate Matter

Particulate matter (PM) is a complex mixture of tiny particles that consists of dry solid fragments, solid cores with liquid coatings, and small droplets of liquid. These particles vary greatly in shape, size, and chemical composition, and can be made up of many different materials such as metals, soot, soil, and dust. Particles 10 microns or less in diameter are defined as "respirable particulate matter" or "PM_{10}." Fine particles are 2.5 microns or less in diameter ($PM_{2.5}$) and, while also respirable, can contribute significantly to regional haze and reduction of visibility. Inhalable particulates come from smoke, dust, aerosols, and metallic oxides. Although particulates are found naturally in the air, most particulate matter found in the vicinity of the project site is emitted either directly or indirectly by motor vehicles, industry, construction, and wind erosion of disturbed areas. Most $PM_{2.5}$ is comprised of combustion products such as smoke. Extended exposure to PM can increase the risk of chronic respiratory disease.[1, 2] PM exposure is also associated with increased risk of premature deaths, especially in the elderly and people with pre-existing cardiopulmonary disease.

Diesel Exhaust & Particulate Matter

Diesel exhaust is the predominant cancer-causing TAC in California. The California Air Resources Board (CARB) estimates that about 70% of total known cancer risk related to air toxics in California is attributable to DPM.[3] According to CARB, diesel exhaust is a complex mixture of gases, vapors, and fine particles. This complexity makes the evaluation of health effects of diesel exhaust a complex scientific issue. Some of the chemicals in diesel exhaust, such as benzene and formaldehyde, have been previously identified as TACs by the CARB, and are listed as carcinogens either under the state's Proposition 65 or under the Federal Hazardous Air Pollutants programs.

To address the issue of diesel emissions in the state, CARB developed the *Risk Reduction Plan to Reduce Particulate Matter Emissions from Diesel-Fueled Engines and Vehicles*.[4] In addition to requiring more stringent emission standards for new on-road and off-road mobile sources and stationary diesel-fueled engines to reduce particulate matter emissions by 90 percent, a significant component of the plan involves application of emission control strategies to existing diesel vehicles and equipment. Many of the measures of the Diesel Risk Reduction Plan have been approved and adopted, including the Federal on-road and non-road diesel engine emission standards for new engines, as well as adoption of regulations for low sulfur fuel in California.

CARB has adopted and implemented several regulations for stationary and mobile sources to reduce emissions of DPM. Several of these regulatory programs affect medium and heavy-duty diesel trucks that represent the bulk of DPM emissions from California highways. CARB regulations require on-road diesel trucks to be retrofitted with particulate matter controls or

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[1] BAAQMD 2016. Planning Healthy Places. May. Accessed at http://www.baaqmd.gov/~/media/files/planning-and-research/planning-healthy-places/php_may20_2016-pdf.pdf?la=en on August 24, 2016.
[2] Bay Area Air Quality Management District, *CEQA Air Quality Guidelines*, May 2017.
[3] CAEB. *Summary: Diesel Particulate Matter Health Impacts*. https://www.arb.ca.gov/research/diesel/diesel-health_summ.htm
[4] California Air Resources Board. *Risk Reduction Plan to Reduce Particulate Matter Emissions from Diesel-Fueled Engines and Vehicles*. October 2000.

replaced to meet 2010 or later engine standards that have much lower DPM and $PM_{2.5}$ emissions. This regulation substantially reduced emissions between 2013 and 2023. While new trucks and buses will meet strict federal standards, this measure accelerated the rate at which the fleet turned over and was retrofitted to meet the standards. older, more polluting trucks were removed from the roads sooner.

CARB also adopted and implemented regulations to reduce DPM and NO_X emissions from in-use (existing) and new off-road heavy-duty diesel vehicles (e.g., loaders, tractors, bulldozers, backhoes, off-highway trucks, etc.). The regulations apply to diesel-powered off-road vehicles with engines 25 horsepower (hp) or greater and are intended to reduce particulate matter and nitrogen oxides (NO_X) exhaust emissions by requiring owners to turn over their fleet (replace older equipment with newer equipment) or retrofit existing equipment to achieve specified fleet-averaged emission rates. Implementation of this regulation, in conjunction with stringent Federal off-road equipment engine emission limits for new vehicles, will significantly reduce emissions of DPM and NO_X.

Sensitive Receptors

"Sensitive receptors" are defined as places where sensitive population groups, such as children, the elderly, the acutely ill, and the chronically ill, are likely to live or spend a significant amount of time. These land uses include residences, schools, playgrounds, childcare centers, retirement homes, convalescent homes, hospitals, and medical clinics.

Immediately to the east of the Project site is an approximately 12.2-acre parcel known as the HomeBase site. This site is currently serving as a City of Oakland emergency housing location for homeless persons, with 67 trailers and approximately 30 "cabins." To be eligible to live in one, participants must be either 65 years of age or older and/or have underlying medical conditions. HomeBase residents are the closest sensitive receptors to the project site with no other receptors within 1,000 feet. For the purposes of this analysis, it was assumed none of the HomeBase sites would house infants or children (i.e., 3rd-trimeter fetus, infant, or child).

Local Regulations – Air District

The BAAQMD has jurisdiction over an approximately 5,600-square mile area, commonly referred to as the San Francisco Bay Area (Bay Area). The District's boundary encompasses the nine San Francisco Bay Area counties, including Alameda County, Contra Costa County, Marin County, San Francisco County, San Mateo County, Santa Clara County, Napa County, southwestern Solano County, and southern Sonoma County.

The BAAQMD is responsible for developing thresholds of significance for CEQA compliance, permitting and inspection of stationary sources, enforcement of regulations, including setting fees, levying fines, and enforcement actions, and ensuring that public nuisances are minimized.

BAAQMD's Community Air Risk Evaluation (CARE) program was initiated in 2004 to evaluate and reduce health risks associated with exposures to outdoor TACs in the Bay Area.[5] The program

5 See BAAQMD: https://www.baaqmd.gov/community-health/community-health-protection-program/community-

examines TAC emissions from point sources (i.e., stationary sources), area sources, and on-road and off-road mobile sources with an emphasis on diesel exhaust, which is a major contributor to airborne health risk in California. The CARE program is an on-going program that encourages community involvement and input. The technical analysis portion of the CARE program is implemented in three phases that includes an assessment of the sources of TAC emissions, modeling and measurement programs to estimate concentrations of TAC, and an assessment of exposures and health risks. Throughout the program, information derived from the technical analyses will be used to focus emission reduction measures in areas with high TAC exposures and high density of sensitive populations. Risk reduction activities associated with the CARE program are focused on the most at-risk communities in the Bay Area. The BAAQMD currently considers seven communities as impacted: Concord, Pittsburgh/Antioch, Vallejo, Richmond/San Pablo, Western Alameda County, San José, and Eastern San Francisco. The project site is located within the Western Alameda – East Oakland CARE community. BAAQMD is in the process of developing an emissions reduction plan for the East Oakland area.

Additionally, BAAQMD has identified overburdened communities within its area. BAAQMD defines overburdened communities as areas located (i) within a census tract identified by the California Communities Environmental Health Screening Tool (CalEnviroScreen), Version 4.0 implemented by OEHHA, as having an overall CalEnviroScreen score at or above the 70th percentile, or (ii) within 1,000 feet of any such census tract.[6] The project site is within a BAAQMD overburdened area as identified by CalEnviroScreen as the Project site is scored at the 97th percentile.[7]

Local Regulations – City of Oakland

The City of Oakland has established Standard Conditions of Approval (SCAs) applicable to all projects. To help clarify and standardize analysis and decision-making in the environmental review process in the City of Oakland, the City has also established CEQA Thresholds of Significance, which are consistent with those established by BAAQMD. The City's Thresholds are presented in Table 1 and are to be used in conjunction with the City's SCAs, which are incorporated into projects regardless of a project's environmental determination.

Specific to a health risk analysis, projects are considered significant if, during either project construction or project operation, they result in (a) an increase in cancer risk level greater than 10 in one million, (b) a non-cancer risk (chronic or acute) hazard index (HI) greater than 1.0, or (c) an increase of annual average $PM_{2.5}$ of greater than 0.3 micrograms per cubic meter ($\mu g/m^3$). Under cumulative conditions, projects are considered significant if they result in (a) a cancer risk level greater than 100 in a million, (b) an HI greater than 10.0, or (c) annual average $PM_{2.5}$ of greater than 0.8 micrograms per cubic meter. Per BAAQMD CEQA guidance and the City's Guidelines, health risk impacts are to consider all TAC sources within 1,000 feet of the project.

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air-risk-evaluation-care-program , accessed 2/18/2021.
6 See BAAQMD: https://www.baaqmd.gov/~/media/dotgov/files/rules/reg-2-permits/2021-amendments/documents/20210722_01_appendixd_mapsofoverburdenedcommunities-pdf.pdf?la=en.
7 OEHAA, CalEnviroScreen 4.0 Maps https://oehha.ca.gov/calenviroscreen/report/calenviroscreen-40

Table 1. City of Oakland Thresholds of Significance

Criteria Air Pollutant	Construction Thresholds	Operational Thresholds	
	Average Daily Emissions (lbs./day)	Average Daily Emissions (lbs./day)	Annual Average Emissions (tons/year)
ROG	54	54	10
NO_X	54	54	10
PM_{10}	82	82	15
$PM_{2.5}$	54	54	10
CO	Not Applicable	9.0 ppm (8-hour average) or 20.0 ppm (1-hour average)	
Health Risks and Hazards	**Single Sources**	**Combined Sources**	
Excess Cancer Risk	>10 per one million	>100 per one million	
Hazard Index	>1.0	>10.0	
Incremental annual $PM_{2.5}$	>0.3 µg/m^3	>0.8 µg/m^3	

Source: City of Oakland CEQA Thresholds of Significance Guidelines, September 26, 2023

SCAs applicable to the project are considered requirements of the project and not mitigation. The applicable SCAs are provided in *Attachment 1* and include:

Dust Controls – Construction Related
Requirement: The project applicant shall implement all of the following applicable dust control measures during construction of the project:

a) Water all exposed surfaces of active construction areas at least twice daily. Watering should be sufficient to prevent airborne dust from leaving the site. Increased watering frequency may be necessary whenever wind speeds exceed 15 miles per hour. Reclaimed water should be used whenever feasible.

b) Cover all trucks hauling soil, sand, and other loose materials or require all trucks to maintain at least two feet of freeboard (i.e., the minimum required space between the top of the load and the top of the trailer).

c) 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.

d) Limit vehicle speeds on unpaved roads to 15 miles per hour.

e) All excavation, grading, and/or demolition activities (if any) shall be suspended when average wind speeds exceed 20 mph.

f) All trucks and equipment, including tires, shall be washed off prior to leaving the site.

g) Unpaved roads providing access to sites located 100 feet or further from a paved road shall be treated with a 6 to 12 inch compacted layer of wood chips, mulch, or gravel.

h) 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.

i) Limit the simultaneous occurrence of excavation, grading, and ground-disturbing construction activities.

j) Apply and maintain vegetative ground cover (e.g., hydroseed) or non-toxic soil stabilizers to disturbed areas of soil that will be inactive for more than 10 days. Enclose, cover, water twice daily, or apply (non-toxic) soil stabilizers to exposed stockpiles (dirt, sand, etc.).

k) Designate a person or persons to monitor the dust control program and to order increased watering, as necessary, to prevent transport of dust offsite. Their duties shall include holidays and weekend periods when work may not be in progress.

l) When working at a site, install appropriate wind breaks (e.g., trees, fences) on the windward side(s) of the site, to minimize wind-blown dust. Windbreaks must have a maximum 50 percent air porosity.

m) Post a publicly visible large on-site sign that includes the contact name and phone number for the project complaint manager responsible for responding to dust complaints and the telephone numbers of the City's Code Enforcement unit and the Bay Area Air Quality Management District. When contacted, the project complaint manager shall respond and take corrective action within 48 hours.

n) All exposed surfaces shall be watered at a frequency adequate to maintain minimum soil moisture of 12 percent. Moisture content can be verified by lab samples or moisture probe.

o) Install sandbags or other erosion control measures to prevent silt runoff to public roadways from sites with a slope greater than one percent.

p) Plant vegetation in areas designated for landscaping as soon as possible and water appropriately until vegetation is established.

Criteria Air Pollutant Controls - Construction and Operation Related
Requirement: The project applicant shall implement all of the following applicable basic and enhanced control measures for criteria air pollutants during construction of the project as applicable:

a) Idling times on all diesel-fueled commercial vehicles over 10,000 lbs. shall be minimized either by shutting equipment off when not in use or reducing the maximum idling time to two minutes (as required by the California airborne toxics control measure Title 13, Section 2485, of the California Code of Regulations). Clear signage to this effect shall be provided for construction workers at all access points.

b) Idling times on all diesel-fueled off-road vehicles over 25 horsepower shall be minimized either by shutting equipment off when not in use or reducing the maximum idling time to two minutes and fleet operators must develop a written policy as required by Title 23, Section 2449, of the California Code of Regulations ("California Air Resources Board Off-Road Diesel Regulations").

c) All construction equipment shall be maintained and properly tuned in accordance with the manufacturer's specifications. All equipment shall be checked by a certified mechanic and determined to be running in proper condition prior to operation. Equipment check documentation should be kept at the construction site and be available for review by the City and the Bay Area Air Quality District as needed.

d) Portable equipment shall be powered by grid electricity if available. If electricity is not available, propane or natural gas generators shall be used if feasible. Diesel engines shall only be used if grid electricity is not available and propane or natural gas generators cannot meet the electrical demand.

e) Low VOC (i.e., ROG) coatings shall be used that comply with BAAQMD Regulation 8, Rule 3: Architectural Coatings.

f) All equipment to be used on the construction site shall comply with the requirements of Title 13, Section 2449, of the California Code of Regulations ("California Air Resources Board Off-Road Diesel Regulations") and upon request by the City (and the Air District if specifically requested), the project applicant shall provide written documentation that fleet requirements have been met.

Criteria Air Pollutant Controls - Construction and Operation Related
a) Particulate Matter Reduction Measures

Requirement: The project applicant shall implement appropriate measures during construction to reduce potential health risks to sensitive receptors due to exposure to diesel particulate matter (DPM) and particulate matter less than 2.5 microns in diameter ($PM_{2.5}$) in exhaust and fugitive emissions from construction activities. The project applicant shall choose to implement I or both ii and iii:

i. The project applicant shall retain a qualified air quality consultant to prepare a Health Risk Assessment (HRA) in accordance with current guidance from the California Air Resources Board (CARB), the Office of Environmental Health and Hazard Assessment (OEHHA), and the Bay Area Air Quality Management District (BAAQMD) to determine the health risk to sensitive receptors exposed to DPM and $PM_{2.5}$ from exhaust and fugitive emissions from project construction. The HRA shall be based on project-specific construction schedule, equipment, and activity data. Estimated project-level health risks shall be compared to the City's health risk significance thresholds for projects. The HRA shall be submitted to the City (and the Air District if specifically requested) for review and approval. If the HRA concludes that the health risk is at or below the

City's health risk significance thresholds for projects, then DPM and $PM_{2.5}$ reduction measures are not required. If the HRA concludes that the health risk exceeds the City's health risk significance thresholds for projects, DPM and $PM_{2.5}$ reduction measures shall be identified to reduce the health risk to below the City's health risk significance thresholds as set forth under subsection b below. Identified DPM and $PM_{2.5}$ reduction measures shall be submitted to the City for review and approval prior to the issuance of building permits and the approved DPM and $PM_{2.5}$ reduction measures shall be implemented during construction.

-or-

ii. The project applicant shall incorporate the following health risk reduction measures into the project to reduce TAC emissions from construction equipment. These features shall be submitted to the City for review and approval and be included on the project drawings submitted for the construction-related permit or on other documentation submitted to the City:

- All off-road diesel equipment shall be equipped with the most effective Verified Diesel Emission Control Strategies (VDECS) available for the engine type (Tier 4 engines automatically meet this requirement) as certified by CARB. The equipment shall be properly maintained and tuned in accordance with manufacturer specifications. This shall be verified through an equipment inventory submittal and Certification Statement that the Contractor agrees to compliance and acknowledges that a significant violation of this requirement shall constitute a material breach of contract.
- Where access to grid-powered electricity is available, portable diesel engines shall be prohibited and electric engines shall be used for concrete/industrial saws, sweepers/scrubbers, aerial lifts, welders, air compressors, fixed cranes, forklifts, cement and mortar mixers, pressure washers, and pumps.

Any other best available technology that reduces emissions offered at the time that future projects are reviewed may be included in the construction emissions minimization plan (e.g., alternative fuel sources, etc.).

-and-

iii. The project applicant shall implement all enhanced control measures included in Dust Controls – Construction Related.

b) Particulate Matter Reduction Measures

Requirement: The project applicant shall prepare a Construction Emissions Minimization Plan (Emissions Plan) for all identified DPM reduction measures (if any). The Emissions Plan shall be submitted to the City (and the Bay Area Air Quality District if specifically requested) for review and approval prior to the issuance of building permits. The Emissions Plan shall include the following:

i. An equipment inventory summarizing the type of off-road equipment required for each phase of construction, including the equipment manufacturer, equipment identification number, engine model year, engine certification (tier rating), horsepower, and engine serial number. For all VDECS, the equipment inventory shall also include the technology type, serial number, make, model, manufacturer, CARB verification number level, and installation date.

ii. ii. A Certification Statement that the Contractor agrees to comply fully with the Emissions Plan and acknowledges that a significant violation of the Emissions Plan shall constitute a material breach of contract.

Coliseum Area Specific Plan (CASP)

The Project is located within the City of Oakland's Coliseum Area, which is guided by the Coliseum Area Specific Plan (CASP). The CASP was adopted in 2015 and provides the guiding framework for reinventing the City's Coliseum area as a major center for sports, entertainment, residential mixed use, and economic growth. A major element of the CASP was the assumption that all three sports franchises (at that time, the Oakland Raiders, the A's, and the Warriors) would make independent business decisions to remain in Oakland and within the Coliseum District, and that each of the sports franchises would have new, separate venues for their games. This has not been the case, as all three teams have decided to relocate. However, the proposed project represents the same type of land use as those sports venues that were anticipated in the CASP albeit on a much smaller scale.

The Environmental Impact Report (EIR) for the CASP evaluated the air quality impacts associated with implementation of the CASP.[8] It found that the City's standard conditions of approval were sufficient to mitigate impacts associated with the CASPs build out, with the exception of TAC impacts associated with construction activities. Therefore, the CASP included two applicable mitigation measures:

MM Air 6A-1: Reduce Construction Emissions. Further reduce toxic air contaminant emissions from construction activities at the Coliseum District (especially DPM and $PM_{2.5}$) to ensure a resulting cancer risk level of less than 10 in a million. Additional emission reduction strategies to achieve this health risk standard may include, but are not limited to requiring on-site construction equipment (including concrete and asphalt crushers and/or haul trucks) to include emission reduction technologies such as low-emission diesel products, alternative fuels, engine retrofit technology, after-treatment products, and/or add-on devices such as particulate filters that are capable of further reducing toxic air contaminants (especially DPM and $PM_{2.5}$) beyond the 45% reduction as required in City's Standard Conditions of Approval such that construction emissions result in cancer risks of less than 10 in a million for off-site sensitive receptors.

MM Air 6A-2: Construction Emissions Exposure. Further reduce toxic air contaminant exposure risk to on-site sensitive receptors to ensure a resulting cancer risk level of less than 10 in a million. Additional risk reduction strategies to achieve this standard may include, but are not limited to successful combinations of the following:

[8] https://www.oaklandca.gov/topics/coliseum-area-specific-plan-environmental-impact-report

a) Require that all demolition activity and any on-site crushing operation (if conducted) be completed prior to the construction of new housing units on the Coliseum District within 200 meters of the demolition or construction activity.

b) Install MERV-13 filters at any new on-site residences at the Coliseum District that will be exposed to subsequent on-site construction activity within 100 meters (328 ft).

AIR QUALITY IMPACTS FROM PROJECT CONSTRUCTION ACTIVITY

The City of Oakland's CEQA significance thresholds apply to both a project's construction period and during operation of the project. Criteria pollutant impacts and traffic impacts of the project were assessed as part of the CASP EIR and do not need to be addressed. However, the City's SCAs require a construction health risk assessment to be completed for the project. Therefore, this report documents the health risks associated with project construction emissions.

Construction Health Risk Impacts Analysis

Construction activity is temporary but would generate emissions of DPM from equipment and trucks and generate dust, a portion of which is $PM_{2.5}$, which could affect nearby sensitive receptors.[9] An assessment of the Project's construction activities was conducted that included on-site emissions estimates of construction-related activities, dispersion modeling, and calculation of cancer risks, non-cancer risks (i.e., HI), and maximum annual $PM_{2.5}$ concentrations. The methodology for computing health risks impacts is provided in Appendix E of the BAAQMD CEQA Guidance.[10] To evaluate the increased cancer risks from the project, a 30-year exposure period was used, per BAAQMD guidance.

Additionally, the project is located near existing permitted stationary sources of TACs. Therefore, cumulative health risk impacts to existing sensitive receptors from the project and existing TAC sources were assessed. BAAQMD's CEQA screening maps and methodologies were used to estimate the health risks and hazards from the existing TAC sources in the area.[11]

Sensitive receptors include locations where infants and children would be present for extended periods of time (i.e., chronic exposures). This includes the existing multifamily and single-family residences located at various distances beyond 1,000 feet from the project site. It does not include the HomeBase temporary housing adjacent to the project site, as the trailers and cabins are reserved for adults only. Figure 1 shows the receptor locations included in the analysis. Only those locations that were anticipated to yield the highest pollutant concentrations were included in the health risk assessment dispersion modeling.

[9] DPM is identified by California as a toxic air contaminant due to the potential to cause cancer.
10 BAAQMD, 2022. *BAAQMD CEQA Air Quality Guidelines Appendix E*. April 2023.
11 Web: https://www.baaqmd.gov/plans-and-climate/california-environmental-quality-act-ceqa/ceqa-tools/health-risk-screening-and-modeling

Construction Period Emissions

Construction activities would generate DPM and $PM_{2.5}$, which are considered TACs by BAAQMD and the City of Oakland. The California Emissions Estimator Model (CalEEMod) Version 2022.1.1.20 was used to estimate emissions from on-site construction activity and construction vehicle trips. Project land use types and size were input to CalEEMod as was the construction information provided by the applicant regarding the construction schedule, phases, and equipment needed. CalEEMod default values were used when applicable or when project-specific information was not available. The CalEEMod model output along with construction inputs are included in *Attachment 2*.

CalEEMod Inputs

Land Use Inputs

The proposed project land use was entered into CalEEMod as 8.74 acres of "Arena" with no building square footage as modular buildings will be used. They will be constructed offsite and delivered.

Figure 1. Locations of Project Construction Site, Off-Site Sensitive Receptors, and Maximum TAC Impacts (MEI)

Construction Inputs

CalEEMod computes annual emissions for construction that are based on the project type, size, and acreage. The model provides emission estimates for both on-site and off-site construction activities. On-site activities are primarily made up of construction equipment emissions, while off-site activity includes worker, hauling, and vendor traffic. The construction build-out scenario, including equipment list and schedule, were based on information provided by the project applicant. The construction schedule assumed that the earliest start date would be May 20, 2024. Project-specific construction phases, durations, and equipment types were used while CalEEMod default equipment quantities and average hours of use per day were used.

Construction Traffic Emissions

Construction would produce traffic in the form of worker trips and truck traffic. Table 2 provides the on-road vehicle trips associated with the project. Traffic-related emissions are based on worker and vendor trip estimates produced by CalEEMod and haul trips that were computed based on information provided by the applicant. Deliveries were converted to total one-way trips, assuming two trips per delivery. On-site trip lengths for on-road vehicles were assumed to be 1 mile per day.

Table 2. Construction Traffic Data Used for Construction Emissions Analysis

CalEEMod Construction Phase	Trips by Trip Type			Notes
	Total Worker	**Total Vendor**	**Total Haul[2]**	
Vehicle mix[1]	50% LDA 25% LDT1 25% LDT2	50% MHDT 50% HHDT	100% HHDT	CalEEMod Default
Grading	688	-	150	150 CY of Soil Import
Trenching	388	-	-	
Paving	675	-	1,575	Includes sand, gravel, asphalt, and concrete for site, field, building slabs, concourse, and roads.
Grandstand Install	438	-	25	Includes trucks delivering grandstands.
Building Install	175	-	50	Includes trucks delivering modular buildings.

Notes: [1] Based on CalEEMod default values.
[2] Haul trips estimated based on data provided by the applicant. On-site lengths are assumed to be 1 mile.

BAAQMD's new CEQA guidance recommends a paved road silt loading factor of 0.5 grams per square meter (g/m^2) instead of the CalEEMod default value of 0.1 g/m^2 to account for material track-out onto low volume roadways adjacent to the project. Material tracked out onto paved roadways generates re-entrained road dust (i.e., $PM_{2.5}$) emissions. Because this project would repurpose an existing parking lot and would not involve the extensive grading/site preparation assumed by CalEEMod defaults, using the BAAQMD-recommended silt loading factor of 0.5 g/m^2 would not be appropriate for this particular project. Additionally, the City SCAs require dust control measures that include street sweeping and reduced vehicle speeds that greatly reduce these types of emissions. Therefore, the CalEEMod default value of 0.1 g/m^2 was used.

Total uncontrolled DPM emissions from onsite construction activities were estimated by CalEEMod to be 0.04 tons (79.8 pounds). Uncontrolled fugitive dust ($PM_{2.5}$) emissions were calculated by CalEEMod as 0.04 tons (74.3 pounds) for the project.

<u>Dispersion Modeling</u>

The U.S. EPA AERMOD dispersion model was used to predict DPM and $PM_{2.5}$ concentrations at sensitive receptors (i.e., residences) near the project area. The AERMOD dispersion model is an BAAQMD-recommended model for use in modeling analysis of these types of emission activities for CEQA projects.[12] Emission sources for the construction site were grouped into two categories: exhaust emissions of DPM and fugitive $PM_{2.5}$ dust emissions.

Both equipment exhaust emissions and fugitive dust emissions were modeled as area sources to represent the on-site construction emissions, one for exhaust emissions and one for fugitive dust emissions. The area source representing construction equipment exhaust emissions has a release height of 19.7 feet (6 meters) to reflect the height of the equipment exhaust pipes plus an additional distance. The additional distance for the height of the exhaust plume above the exhaust pipes accounts for plume rise of the exhaust gases. Emissions from the construction equipment, on-site, and off-site vehicle travel were distributed throughout the modeled area sources.

Fugitive dust emissions at construction sites come from a variety of sources, including truck and equipment travel, grading activities, truck loading (with loaders) and unloading (rear or bottom dumping), loaders and excavators moving and transferring soil and other materials, etc. All of these activities result in fugitive dust emissions at various heights at the point(s) of generation. Once generated, the dust plume will tend to rise as it moves downwind across the site and exits the site at a higher elevation than when it was generated. For all these reasons, a release height of 6.6 feet (2 meters) was used as the average release height across the construction site. Figure 1 shows the locations of both the area sources used in the analysis. Emissions from the construction equipment and on-road vehicle travel were distributed throughout the modeled area sources.

Annual DPM and $PM_{2.5}$ concentrations from construction activities in 2024 were estimated using AERMOD. A five-year data set (2013 – 2017) of hourly meteorological data from Oakland Airport prepared for use with the AERMOD model by BAAQMD was used. Construction emissions were modeled as occurring ten hours per day, between 7:00 a.m. to 5:00 p.m., when the majority of construction activity is expected to occur. DPM and $PM_{2.5}$ concentrations were calculated at the sensitive receptor locations identified in Figure 1. Receptor heights were input to reflect the breathing heights of individuals living in the nearby dwelling units. A height of 5 feet (1.5 meters) was used as the receptor heights for single family homes and the temporary housing units (i.e., trailers and cabins) nearest the project.[13]

<u>Summary of Construction Health Risk Impacts</u>

The maximum increased cancer risks were calculated using the modeled DPM concentrations combined with the appropriate BAAQMD/OEHHA guidance for age sensitivity factors and

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[12] BAAQMD, 2022. *BAAQMD CEQA Air Quality Guidelines Appendix E*. April 2023.
[13] BAAQMD, 2022. BAAQMD CEQA Air Quality Guidelines Appendix E. April 2023

exposure parameters.[14] Age-sensitivity factors reflect the greater sensitivity of infants and children to cancer causing TACs such as DPM.

Non-cancer health hazards (HI) and maximum annual $PM_{2.5}$ concentrations were also calculated and identified. The maximum modeled annual $PM_{2.5}$ concentration was calculated based on combined DPM (i.e., equipment exhaust) and fugitive dust emissions. The maximum computed HI value was based on the ratio of the maximum DPM concentration modeled and the chronic inhalation reference exposure level of 5 µg/m^3.

The maximum modeled annual DPM concentration, and thus the maximally exposed individual (MEI), was identified at one of the HomeBase temporary housing trailers east of the project site (as shown in Figure 1). Table 3 summarizes the maximum cancer risks, maximum annual $PM_{2.5}$ concentrations, and HI for project's construction activities. *Attachment 3* to this report includes the emission calculations used for the construction area source modeling and the cancer risk calculations. As shown in Table 3, the maximum cancer risks do not exceed the City's single source significance threshold given DPM emissions estimates. Additionally, the maximum annual $PM_{2.5}$ concentration from fugitive dust sources employing the basic control measures required by the City's SCAs do not exceed the City's significance threshold, nor do the annual HI from construction related DPM emissions.

Table 3. Construction Risk Impacts at the Off-Site MEI

Source	Cancer Risk (per million)	Annual $PM_{2.5}$ (µg/m^3)	Hazard Index
Project Construction	0.24 (adult)	0.18	0.02
City of Oakland Single-Source Threshold	***10***	***0.3***	***1.0***
Exceed Threshold?	*No*	*No*	*No*

Cumulative Health Risk Impacts at the Construction MEI

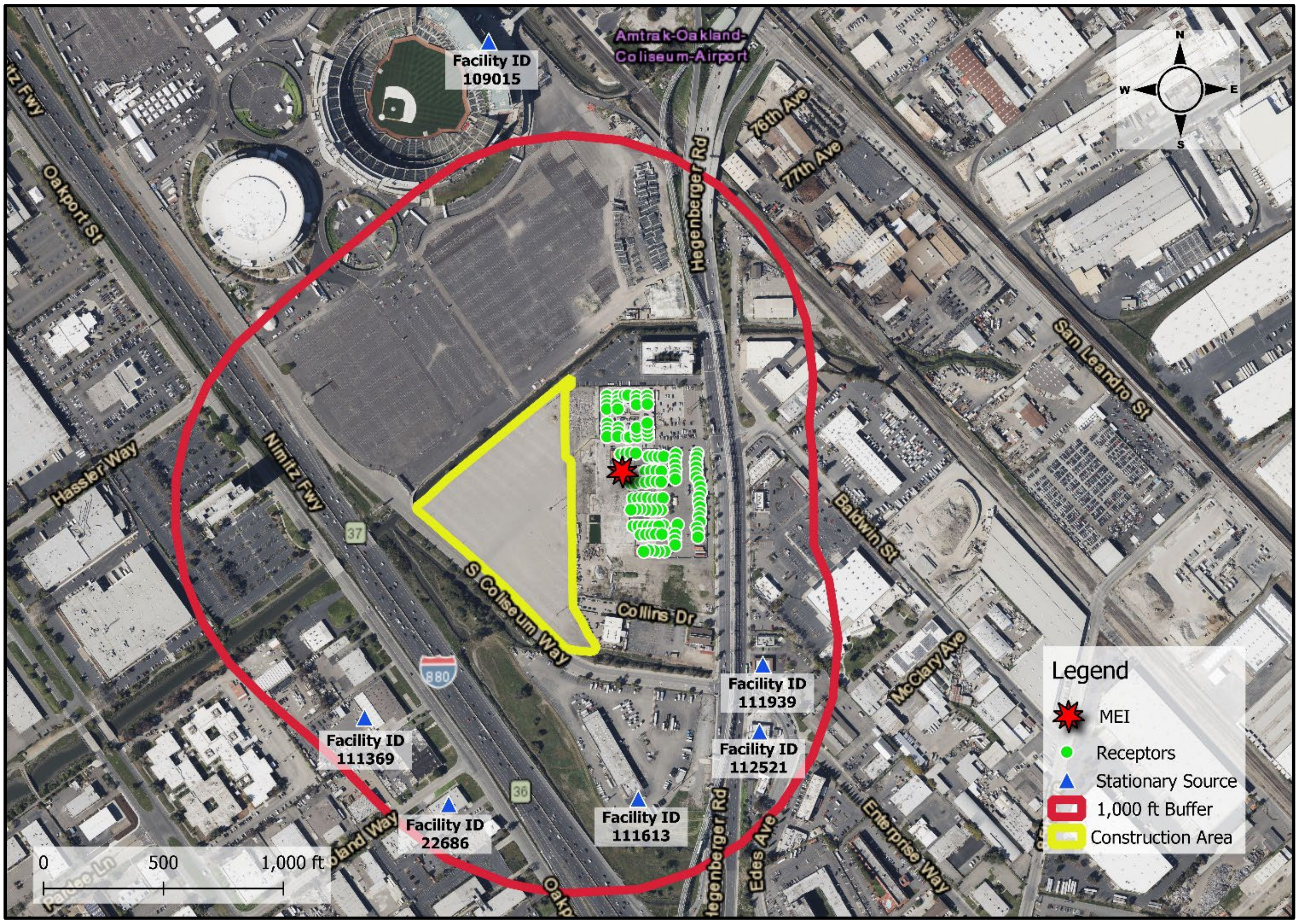
Cumulative health risk assessments typically look at all substantial sources of TACs that can affect sensitive receptors located within 1,000 feet of a project site (i.e., influence area). These sources include rail lines, highways, busy surface streets, and existing stationary sources identified by BAAQMD. Figure 2 shows the region included within the influence area, the location of the existing TAC sources, and the MEI.

Existing Stationary Sources of TACs

A review of BAAQMD's stationary source geographic information systems (GIS) map tool identified six stationary sources with the potential to affect the MEI. Health risk impacts from these sources upon the MEI are reported in Table 4. Details of the health risk calculations are included in *Attachment 4.*

[14] BAAQMD, 2022. BAAQMD CEQA Air Quality Guidelines Appendix E. April 2023.

Figure 2. Project Site and Nearby TAC Sources



Permitted stationary sources of air pollution near the project site were identified using BAAQMD's *Permitted Stationary Sources 2021* geographic information system (GIS) map website.[15] This mapping tool identifies the location of nearby stationary sources and provides their estimated cancer risk, contribution to annual $PM_{2.5}$ concentrations, and chronic HI. Six existing sources were identified within a 1,000-foot radius of the site as shown in Figure 2. All but one of the identified sources are gasoline dispensing facilities. The non-gasoline dispensing source of TACs is an auto body repair facility (Facility ID 22686).

The cancer risks, $PM_{2.5}$ concentrations, and HIs provided by BAAQMD for the auto body shop were adjusted for distance to the MEI using BAAQMD's the distance decay factors provided in Appendix E of BAAQMD's 2022 CEQA guidance. Risks from the gasoline dispensing facilities were estimated using the 2022 CARB and CAPCOA Gasoline Service Station Industrywide Risk Assessment Look-up Tool and dispensing permit limits obtained from BAAQMD through a public

[15] BAAQMD, Web: https://baaqmd.maps.arcgis.com/apps/webappviewer/index.html?id=845658c19eae4594b9f4b805fb9d89a3

information request.[16] Adjusted health risk impacts from the six identified stationary sources on the MEIs are reported in Table 3.

Mobile Sources of TACs

Table 4 shows the screening-level cancer risks, annual $PM_{2.5}$ concentrations, and HIs associated with roadways and railway sources at the MEI. Impacts were estimated using BAAQMD's GIS screening data layers, which provide visualized health risks and hazards information for CEQA practitioners conducting a cumulative health risk analysis.[17] The estimates provided in the layers represent conservative risks reflective of 2022 conditions. These risk estimates are meant to provide a conservative estimate of future conditions and do not reflect the electrification of Caltrain or the increased proportion of zero emission motor vehicles that will result in lower future emissions.[18] More information regarding the assumptions used to develop the screening layers can be found in Sections 6 and 7 in Appendix E of BAAQMD's 2022 CEQA guidance.[19]

Summary of Project and Cumulative TAC Impacts at the MEI

Table 3 reports the cumulative health risk impacts at the MEI location. The cumulative source thresholds for cancer risk, maximum annual $PM_{2.5}$ concentration and HI would not be exceeded at the MEI.

Table 4. Impacts from Combined Sources at Project Construction MEI

Source	**Cancer Risk (per million)**	**$PM_{2.5}$ Concentration ($\mu g/m^3$)**	**Hazard Index**
Project Construction	0.24 (adult)	0.18	0.02
Area Roadways (BAAQMD Screening Values)	18.61	0.43	0.06
Area Railways (BAAQMD Screening Values)	5.94	0.01	<0.01
Service King Paint & Body (Facility ID #22686, Auto Body)	NA	NA	<0.01
Oakland Alameda County Coliseum (Facility ID #109015, Fuel Dispensing)	0.01	NA	0.01
Herc Rentals (Facility ID # 111369, Fuel Dispensing)	0.04	NA	0.01
TEC of California (Facility ID # 111613, Fuel Dispensing)	0.02	NA	0.01
ARCO Facility #07026 (Facility ID # 111939, Fuel Dispensing)	0.13	NA	0.01
Coliseum Shell (Facility ID # 112521, Fuel Dispensing)	0.21	NA	0.01
Cumulative Total	25.23	0.62	<0.15
City of Oakland Cumulative Source Thresholds	***>100***	***>0.8***	***>10.0***
Exceed Threshold?	*No*	*No*	*No*

CONCLUSIONS

[16] Public Records Request 2023-10-0135 dated October 16, 2023.
[17] https://www.baaqmd.gov/plans-and-climate/california-environmental-quality-act-ceqa/ceqa-tools/health-risk-screening-and-modeling
[18] BAAQMD, 2022. BAAQMD CEQA Air Quality Guidelines Appendix E, Section 9. April 2023
[19] BAAQMD, 2022. BAAQMD CEQA Air Quality Guidelines Appendix E. April 2023. https://www.baaqmd.gov/~/media/files/planning-and-research/ceqa/ceqa-guidelines-2022/appendix-e-recommended-methods-for-screening-and-modeling-local-risks-and-hazards_final-pdf.pdf?la=en

Construction and operation of a professional soccer stadium will result in substantially less emissions than those associated with the approved CASP. As a result, the health risks associated with construction of the proposed project would not exceed the City of Oakland's significance thresholds at the MEI (HomeBase trailer resident). Regardless, the project is still subject to the City's SCAs which would further reduce construction-period and operational health risks associated with the project. Therefore. The proposed project would not have a new or more severe air quality or health risk impact than the larger project previously analyzed in the CASP EIR.

ATTACHMENTS

The supporting screening calculations and modeling information are provided in attachments to this report:

Attachment 1: Applicable City of Oakland SCAs
Attachment 2: CalEEMod Modeling Assumptions and Output
Attachment 3: Construction Health Risk Calculations
Attachment 4: Stationary Sources Health Risk Calculations

Attachment 1: City of Oakland SCAs – Air Quality (September 26, 2023)

20. Dust Controls – Construction Related

Requirement: The project applicant shall implement all of the following applicable dust control measures during construction of the project:

a) Water all exposed surfaces of active construction areas at least twice daily. Watering should be sufficient to prevent airborne dust from leaving the site. Increased watering frequency may be necessary whenever wind speeds exceed 15 miles per hour. Reclaimed water should be used whenever feasible.
b) Cover all trucks hauling soil, sand, and other loose materials or require all trucks to maintain at least two feet of freeboard (i.e., the minimum required space between the top of the load and the top of the trailer).
c) 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.
d) Limit vehicle speeds on unpaved roads to 15 miles per hour.
e) All excavation, grading, and/or demolition activities (if any) shall be suspended when average wind speeds exceed 20 mph.
f) All trucks and equipment, including tires, shall be washed off prior to leaving the site.
g) Unpaved roads providing access to sites located 100 feet or further from a paved road shall be treated with a 6 to 12 inch compacted layer of wood chips, mulch, or gravel.
h) 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.

When Required: During construction
Initial Approval: N/A
Monitoring/Inspection: Bureau of Building

[ENHANCED CONTROLS: All "Basic" controls listed above plus the following controls if the project involves:

- **Extensive site preparation (i.e., the construction site is four acres or more in size); or**
- **Extensive soil transport (i.e., 10,000 or more cubic yards of soil import/export).]**

i) Limit the simultaneous occurrence of excavation, grading, and ground-disturbing construction activities.
j) Apply and maintain vegetative ground cover (e.g., hydroseed) or non-toxic soil stabilizers to disturbed areas of soil that will be inactive for more than 10 days. Enclose, cover, water twice daily, or apply (non-toxic) soil stabilizers to exposed stockpiles (dirt, sand, etc.).
k) Designate a person or persons to monitor the dust control program and to order increased watering, as necessary, to prevent transport of dust offsite. Their duties shall include holidays and weekend periods when work may not be in progress.

l) When working at a site, install appropriate wind breaks (e.g., trees, fences) on the windward side(s) of the site, to minimize wind-blown dust. Windbreaks must have a maximum 50 percent air porosity.

m) Post a publicly visible large on-site sign that includes the contact name and phone number for the project complaint manager responsible for responding to dust complaints and the telephone numbers of the City's Code Enforcement unit and the Bay Area Air Quality Management District. When contacted, the project complaint manager shall respond and take corrective action within 48 hours.

n) All exposed surfaces shall be watered at a frequency adequate to maintain minimum soil moisture of 12 percent. Moisture content can be verified by lab samples or moisture probe.

o) Install sandbags or other erosion control measures to prevent silt runoff to public roadways from sites with a slope greater than one percent.

p) Plant vegetation in areas designated for landscaping as soon as possible and water appropriately until vegetation is established.

When Required: During construction
Initial Approval: N/A
Monitoring/Inspection: Bureau of Building

[The following condition applies to all projects involving construction activities.]

21. Criteria Air Pollutant Controls - Construction and Operation Related

Requirement: The project applicant shall implement all of the following applicable basic and enhanced control measures for criteria air pollutants during construction of the project as applicable:

a) Idling times on all diesel-fueled commercial vehicles over 10,000 lbs. shall be minimized either by shutting equipment off when not in use or reducing the maximum idling time to two minutes (as required by the California airborne toxics control measure Title 13, Section 2485, of the California Code of Regulations). Clear signage to this effect shall be provided for construction workers at all access points.

b) Idling times on all diesel-fueled off-road vehicles over 25 horsepower shall be minimized either by shutting equipment off when not in use or reducing the maximum idling time to two minutes and fleet operators must develop a written policy as required by Title 23, Section 2449, of the California Code of Regulations ("California Air Resources Board Off-Road Diesel Regulations").

c) c) All construction equipment shall be maintained and properly tuned in accordance with the manufacturer's specifications. All equipment shall be checked by a certified mechanic and determined to be running in proper condition prior to operation. Equipment check documentation should be kept at the construction site and be available for review by the City and the Bay Area Air Quality District as needed.

d) d) Portable equipment shall be powered by grid electricity if available. If electricity is not available, propane or natural gas generators shall be used if feasible. Diesel engines shall only be used if grid electricity is not available and propane or natural gas generators cannot meet the electrical demand.

e) e) Low VOC (i.e., ROG) coatings shall be used that comply with BAAQMD Regulation 8, Rule 3: Architectural Coatings.

f) f) All equipment to be used on the construction site shall comply with the requirements of Title 13, Section 2449, of the California Code of Regulations ("California Air Resources Board Off-Road Diesel Regulations") and upon request by the City (and the Air District if specifically requested), the project applicant shall provide written documentation that fleet requirements have been met.

When Required: During construction
Initial Approval: N/A
Monitoring/Inspection: Bureau of Building

[ENHANCED CONTROLS: All "Basic" controls listed above plus the following controls.]

g) Criteria Air Pollutant Reduction Measures
Requirement: Project applicants proposing projects that exceed BAAQMD screening levels (as amended to specify projects that include extensive demolition i.e., demolition greater than 100,000 square feet of building space) shall retain a qualified air quality consultant to prepare a project-level criteria air pollutant assessment of construction and operational emissions at the time the project is proposed. The project-level assessment shall either include a comparison of the project with other similar projects where a quantitative analysis has been conducted or shall provide a project-specific criteria air pollutant analysis to determine whether the project exceeds the City's criteria air pollutant thresholds.

In the event that a project-specific analysis finds that the project could result in criteria air pollutant emissions that exceed City significance thresholds (54 pounds per day of ROG, NOx, or $PM_{2.5}$ or 82 pounds per day of PM_{10}), the project applicant shall identify criteria air pollutant reduction measures to reduce the project's average daily emissions below these thresholds. The following emission reduction measures shall be implemented to the degree necessary to reduce emissions to levels below the significance thresholds. Additional measures shall be implemented if necessary. Quantified emissions and identified reduction measures shall be submitted to the City (and the Air District if specifically requested) for review and approval prior to the issuance of building permits and the approved criteria air pollutant reduction measures shall be implemented during construction.

i. *Clean Construction Equipment*

a) Where access to grid-powered electricity is reasonably available, portable diesel engines shall be prohibited and electric engines shall be used for concrete/industrial saws, sweepers/scrubbers, aerial lifts, welders, air compressors, fixed cranes, forklifts, cement and mortar mixers, pressure washers, and pumps.
b) Diesel off-road equipment shall have engines that meet the Tier 4 Final off-road emission standards, as certified by CARB, as required to reduce the emissions to less than the thresholds of significance shown in Table 2-1 of BAAQMD CEQA Guidelines (BAAQMD 2017b). This requirement shall be verified through submittal of an equipment inventory that includes the following information: (1) type of equipment; (2) engine year and age; (3) number of years since rebuild of engine (if applicable); (4) type of fuel used; (5) engine HP; (6) engine certification (tier rating); (7) verified diesel emission control strategy (VDECS) information if applicable, and

other related equipment data. A Certification Statement is also required to be made by the Contractor as documentation of compliance and for future review by the air district as necessary. The Certification Statement must state that the Contractor agrees to comply and acknowledges that a violation of this requirement shall constitute a material breach of contract.

c) Any other best available technology that reduces emissions offered at the time that future projects are reviewed may be included in the construction emissions minimization plan (e.g. alternative fuel sources, etc.).

d) Exceptions to requirements a), b), and c) above may be granted if the project sponsor has submitted information providing evidence that meeting the requirement (1) is technically not feasible, (2) would not produce desired emissions reductions due to expected operating modes, or (3) there is a compelling emergency need to use equipment that do no meet the engine standards and the sponsor has submitted documentation that the requirements of this exception provision apply. In seeking an exception, the project sponsor shall demonstrate that the project will use the cleanest piece of construction equipment available and feasible and strive to meet a performance standard of average construction emissions of ROG, NOx, $PM_{2.5}$ below 54 lbs/day, and PM_{10} emissions below 82 lbs/day.

ii. *Super-Compliant VOC Architectural Coatings during Construction.*

The Project sponsor shall use super-compliant VOC architectural coatings during construction for all interior and exterior spaces and shall include this requirement on plans submitted for review by the City's building official. "Super-Compliant" refers to paints that meet the more stringent regulatory limits in South Coast Air Quality Management District rule 1113 which requires a limit of 10 grams VOC per liter.

iii. *Use Low and Super-Compliant VOC Architectural Coatings in Maintaining Buildings.*

Subsequent projects shall use super-compliant VOC architectural coatings in maintaining buildings. "Super-Compliant" refers to paints that meet the more stringent regulatory limits in South Coast Air Quality Management District rule 1113, which requires a limit of 10 grams VOC per liter.

iv. *Promote Use of Green Consumer Products*.

To reduce ROG emissions associated with the Project, the Project Sponsor and/or future developer(s) shall provide education for residential tenants concerning green consumer products. The Project sponsor and/or future developer(s) shall develop electronic correspondence to be distributed by email annually and upon any new lease signing to residential tenants of each building on the Project site that encourages the purchase of consumer products that generate lower than typical VOC emissions. The correspondence shall encourage environmentally preferable purchasing.

v. *Best Available Control Technology for Projects with Diesel Backup Generators and Fire Pumps.*

The Project sponsor shall implement the following measures. These features shall be submitted to the City for review and approval and be included on the Project drawings submitted for the construction-related permit or on other documentation submitted to the City:

a) Pursuant to SCA 24, non-diesel fueled generators shall be installed to replace diesel-fueled generators if feasible. Alternative fuels used in generators, such as biodiesel, renewable diesel, natural gas, or other biofuels or other nondiesel emergency power systems, must be demonstrated to reduce criteria pollutant emissions compared to diesel fuel.
b) Pursuant to SCA 24, all new diesel backup generators shall have engines that meet or exceed CARB Tier 4 off-road Compression Ignition Engine Standards (title 13, CCR, section 2423). If CARB adopts future emissions standards that exceed the Tier 4 requirement, the emissions standards resulting in the lowest criteria pollutant emissions shall apply.
c) All new diesel backup generators shall have an annual maintenance testing limit of 20 hours, subject to any further restrictions as may be imposed by BAAQMD in its permitting process.
d) For each new diesel backup generator permit submitted to BAAQMD for the Project, the Project sponsor shall submit the anticipated location and engine specifications to the City for review and approval prior to issuance of a permit for the generator from the City of Oakland Department of Building Inspection. Once operational, all diesel backup generators shall be maintained in good working order for the life of the equipment and any future replacement of the diesel backup generators shall be required to be consistent with these emissions specifications. The operator of the facility at which the generator is located shall be required to maintain records of the testing schedule for each diesel backup generator for the life of that diesel backup generator and to provide this information for review to the planning department within three months of requesting such information.

vi. *Electric Vehicle Charging*

Prior to the issuance of the building's final certificate of occupancy, the project applicant shall demonstrate that the project is designed to comply with EV requirements in the most recently adopted version of CALGreen Tier 2 at the time of project-specific CEQA review. The installation of all EV charging equipment shall be included on the project drawings submitted for the construction-related permit(s) or on other documentation submitted to the City.

vii. *Additional Operational Emissions Reduction Measures*

Subsequent projects that do not meet the screening criteria and exceed the applicable criteria air pollutant thresholds of significance shall implement the following additional measures to reduce operational criteria air pollutant emissions:

a) Prohibit TRUs from operating at loading docks for more than 30 minutes by posting signs at each loading dock presenting this TRU limit.

b) All newly constructed loading docks that can accommodate trucks with TRUs shall be equipped with electric vehicle (EV) charging equipment for heavy-duty trucks. This measure does not apply to temporary street parking for loading or unloading.
c) Require that all future tenants have a plan to convert their vehicle fleet(s) to zero emission vehicles (ZEVs) no later than 2040. This would be a condition of all leases at the project site.
d) d) Other measures that become available and are shown to effectively reduce criteria air pollutant emissions on site or off site if emission reductions are realized within the air basin. Measures to reduce emissions on site are preferable to off-site emissions reductions.

h) Construction Emissions Minimization Plan
<u>Requirement:</u> For projects that involve construction activities with average daily emissions exceeding the CEQA thresholds for construction activity, currently 54 pounds per day of ROG, NOx, of $PM_{2.5}$ or 82 pounds per day of PM_{10}, the project applicant shall prepare a Construction Emissions Minimization Plan (Emissions Plan) for all identified criteria air pollutant reduction measures. The Emissions Plan shall be submitted to the City (and the Air District if specifically requested) for review and approval prior to the issuance of building permits. The Emissions Plan shall include the following:

i. An equipment inventory summarizing the type of off-road equipment required for each phase of construction, including the equipment manufacturer, equipment identification number, engine model year, engine certification (tier rating), horsepower, and engine serial number. For all Verified Diesel Emissions Control Strategies (VDECS), the equipment inventory shall also include the technology type, serial number, make, model, manufacturer, CARB verification number level, and installation date.
ii. A Certification Statement that the Contractor agrees to comply fully with the Emissions Plan and acknowledges that a significant violation of the Emissions Plan shall constitute a material breach of contract.

<u>When Required:</u> Prior to issuance of a construction related permit
<u>Initial Approval:</u> Bureau of Planning
<u>Monitoring/Inspection:</u> Bureau of Building

[The following condition applies to all projects involving construction activities involving greater than 100 dwelling units or 50,000 square feet of non-residential floor area OR for any project involving construction activities involving greater than 50 dwelling units or 25,000 square feet of non-residential floor area for any area defined as needing "Best Practices" or needing "Further Study" on the BAAQMD Healthy Places Map (http://www.baaqmd.gov/plans-and-climate/planning-healthy-places) which are typically within 1000 feet of a freeway or along major thoroughfares.]

22. Toxic Air Contaminant Controls-Construction Related
a. Particulate Matter Reduction Measures
<u>Requirement:</u> The project applicant shall implement appropriate measures during construction to reduce potential health risks to sensitive receptors due to exposure to diesel particulate

matter (DPM) and particulate matter less than 2.5 microns in diameter ($PM_{2.5}$) in exhaust and fugitive emissions from construction activities. The project applicant shall choose to implement I or both ii and iii:

i. The project applicant shall retain a qualified air quality consultant to prepare a Health Risk Assessment (HRA) in accordance with current guidance from the California Air Resources Board (CARB), the Office of Environmental Health and Hazard Assessment, and the Bay Area Air Quality Management District (BAAQMD) to determine the health risk to sensitive receptors exposed to DPM and $PM_{2.5}$ from exhaust and fugitive emissions from project construction. The HRA shall be based on project-specific construction schedule, equipment, and activity data. Estimated project-level health risks shall be compared to the City's health risk significance thresholds for projects. The HRA shall be submitted to the City (and the Air District if specifically requested) for review and approval. If the HRA concludes that the health risk is at or below the City's health risk significance thresholds for projects, then DPM and $PM_{2.5}$ reduction measures are not required. If the HRA concludes that the health risk exceeds the City's health risk significance thresholds for projects, DPM and $PM_{2.5}$ reduction measures shall be identified to reduce the health risk to below the City's health risk significance thresholds as set forth under subsection b below. Identified DPM and $PM_{2.5}$ reduction measures shall be submitted to the City for review and approval prior to the issuance of building permits and the approved DPM and $PM_{2.5}$ reduction measures shall be implemented during construction.

-or-

ii. The project applicant shall incorporate the following health risk reduction measures into the project to reduce TAC emissions from construction equipment. These features shall be submitted to the City for review and approval and be included on the project drawings submitted for the construction-related permit or on other documentation submitted to the City:

- All off-road diesel equipment shall be equipped with the most effective Verified Diesel Emission Control Strategies (VDECS) available for the engine type (Tier 4 engines automatically meet this requirement) as certified by CARB. The equipment shall be properly maintained and tuned in accordance with manufacturer specifications. This shall be verified through an equipment inventory submittal and Certification Statement that the Contractor agrees to compliance and acknowledges that a significant violation of this requirement shall constitute a material breach of contract.
- Where access to grid-powered electricity is available, portable diesel engines shall be prohibited and electric engines shall be used for concrete/industrial saws, sweepers/scrubbers, aerial lifts, welders, air compressors, fixed cranes, forklifts, cement and mortar mixers, pressure washers, and pumps.

Any other best available technology that reduces emissions offered at the time that future projects are reviewed may be included in the construction emissions minimization plan (e.g., alternative fuel sources, etc.). -and-

iii. The project applicant shall implement all enhanced control measures included in SCA 20 (Dust Controls – Construction Related).

When Required: Prior to issuance of a construction related permit (i), during construction (ii)
Initial Approval: Bureau of Planning
Monitoring/Inspection: Bureau of Building

b. Construction Emissions Minimization Plan (if required by a above)
Requirement: The project applicant shall prepare a Construction Emissions Minimization Plan (Emissions Plan) for all identified DPM reduction measures (if any). The Emissions Plan shall be submitted to the City (and the Bay Area Air Quality District if specifically requested) for review and approval prior to the issuance of building permits. The Emissions Plan shall include the following:

i. An equipment inventory summarizing the type of off-road equipment required for each phase of construction, including the equipment manufacturer, equipment identification number, engine model year, engine certification (tier rating), horsepower, and engine serial number. For all VDECS, the equipment inventory shall also include the technology type, serial number, make, model, manufacturer, CARB verification number level, and installation date.

ii. A Certification Statement that the Contractor agrees to comply fully with the Emissions Plan and acknowledges that a significant violation of the Emissions Plan shall constitute a material breach of contract.

When Required: Prior to issuance of a construction related permit
Initial Approval: Bureau of Planning
Monitoring/Inspection: Bureau of Building

Attachment 2: CalEEMod Modeling Assumptions and Output

Air Quality/Noise Construction Information Data Request

Project Name: Roots Stadium

Complete ALL Portions in Yellow

See Equipment Type TAB for type, horsepower and load factor

Project Size	____________ **Dwelling Units**	**8.74 total project acres disturbed**	
	____________ **s.f. residential**		**Pile Driving? Y/N? No**
	____________ **s.f. retail**		
	____________ **s.f. office/commercial**		**Project include on-site GENERATOR OR FIRE PUMP during project OPERATION (not construction)? Y/N? _No___**
	____________ **s.f. other, specify:**		**IF YES (if BOTH separate values) -->**
	____________ **s.f. parking garage**	________________ **spaces**	**Kilowatts/Horsepower: _________**
	____________ **s.f. parking lot**	________________ **spaces**	**Fuel Type: ____________**
Construction Days (i.e, M-F)	____________ **to**	________________	**Location in project (Plans Desired if Available):**
Construction Hours	**am to**	**pm**	

DO NOT MULTIPLY EQUIPMENT HOURS/DAY BY THE QUANTITY OF EQUIPMENT

Quantity	Description	HP	Load Factor	Hours/day	Total Work Days	Avg. Hours per day	HP Annual Hours	Comments
	Demolition	**Start Date:**	None	**Total phase:**				**Overall Import/Export Volumes**
		End Date:						
	Concrete/Industrial Saws	81	0.73			#DIV/0!	0	**Demolition Volume**
	Excavators	158	0.38			#DIV/0!	0	Square footage of buildings to be demolished =**None**
	Rubber-Tired Dozers	247	0.4			#DIV/0!	0	(*or* total tons to be hauled)
	Tractors/Loaders/Backhoes	97	0.37			#DIV/0!	0	_?_ square feet *or*
	Other Equipment?							_?_ Hauling volume (tons)
								Any pavement demolished and hauled? _?_ tons - None
	Site Preparation	**Start Date:**	None	**Total phase:**				
		End Date:						
	Graders	187	0.41			#DIV/0!	0	
	Rubber Tired Dozers	247	0.4			#DIV/0!	0	
	Tractors/Loaders/Backhoes	97	0.37			#DIV/0!	0	
	Other Equipment?							
	Grading / Excavation	**Start Date:**	**5/20/2024**	**Total phase:**	**55 days**			
		End Date:	**8/2/2024**					**Soil Hauling Volume**
	Excavators	158	0.38			#VALUE!	0	Export volume = _0_ cubic yards?
	Graders	187	0.41			#VALUE!	0	Import volume = **510 cubic yards**?
	Rubber Tired Dozers	247	0.4			#VALUE!	0	5,863 cubic yards (CY) of cut and 6,373 CY of fill
	Concrete/Industrial Saws	81	0.73			#VALUE!	0	entire 8.74-acre site
	Tractors/Loaders/Backhoes	97	0.37			#VALUE!	0	
	Other Equipment?							
	Trenching for Utilities	**Start Date:**	**8/5/2024**	**Total phase:**	**45 days**			
		End Date:	**10/4/2024**					separate trenches for:
	Tractor/Loader/Backhoe	97	0.37			#VALUE!	0	Sewer trench = 1,50 LF x 8 feet deep
	Excavators	158	0.38			#VALUE!	0	SD Trench = 1,000 LF x 8 feet deep
	Other Equipment?							Water trench = 1,650 LF x 6 feet deep
	Foundations/Concrete/Asphalt	**Start Date:**	**10/7/2024**	**Total phase:**	**45 days**			
		End Date:	**12/6/2024**					
	Gravel Trucks						see Sheet 1	under bleachers, under Soccer and Under asphalt = 236,630 sf or 2,900 CY, at 10 CY trucks = 290 trucks
	Sand trucks							under soccer = 115,270 sf or 1,280 CY, at 10 CY trucks = 128 trucks
	Concrete Trucks							building slabs = 16,000 sf or 1185 CY, at 10 CY trucks = 118 trucks
	Pourous Concrete Trucks							for Concourse = 84,200 sf or 1,560 Cy, at 10CY trucks = 156 trucks
	Pourous Asphalt Trucks							for Roads = 84,200 sf or 936 CY, at 10 CY trucks = 94 trucks
	Pavers							
	Rollers							
		Start Date:	**1/8/2025**	**Total phase:**	**35 days**			
	Grandstand Install	**End Date:**	**2/25/2025**					
		231	0.29		1			Crane - 1 day to install press box
	Cranes	89	0.2					3-5 standard 5k forklifts
	Forklift							1 8k lull, and 1 12k lull
	Cherry-picker (Lull)							assume 12 trucks, from stockton to bring modular grandstand units
	Haul Truck (in)							
		Start Date:	**1/22/2025**	**Total phase:**	**10**			
	Building Install	**End Date:**	**2/4/2025**					
		231	0.29			0	0	no cranes
	Cranes	89	0.2			0	0	Liquid Propane (LPG)? (Y/N) _No__ Otherwise Assumed diesel
	Forklifts	?	?					assume 25 trucks and 25 pilot cars, from Stockton to bring modular buildings
	HaulTrucks (in)	84	0.74			0	0	yes - temporary line power? (Y/N) ___
	Generator Sets	97	0.37			0	0	
	Tractors/Loaders/Backhoes	46	0.45		10 days	#VALUE!	#VALUE!	
	Welders							
	Other Equipment?							
Building - Interior/Architectural Coating		**Start Date:**		**Total phase:**				None
		End Date:						
		78	0.48			#DIV/0!	0	
	Air Compressors	62	0.31			#DIV/0!	0	
	Aerial Lift							
	Other Equipment?							
		Start Date:		**Total phase:**				
	Additional Phases	**Start Date:**						
						#DIV/0!	0	
						#DIV/0!	0	
						#DIV/0!	0	
						#DIV/0!	0	
						#DIV/0!	0	
Equipment ty	*Other Equipment?*							

	sf		cf	CY	10 CY trucks
Gravel under Bleachers	37,160	0.5	18,580	688	69
Gravel under Soccer	115,270	0.3	34,581	1,281	128
Gravel under Pourous Asphalt	84,200	0.3	25,260	936	94
	236,630			2,904	290
Concrete Slabs	16,000	2.0	32,000	1,185	119
Pourous Concrete Concourse	84,200	0.5	42,100	1,559	156
Pourous Asphalt road	84,200	0.3	25,260	936	94
Sand under Soccer	115,270	0.3	34,581	1,281	128
					787

Oakland Roots Stadium Detailed Report

Table of Contents

1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	Oakland Roots Stadium
Construction Start Date	5/20/2024
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	3.90
Precipitation (days)	39.0
Location	37.74696393749909, -122.199309566023
County	Alameda
City	Oakland
Air District	Bay Area AQMD
Air Basin	San Francisco Bay Area
TAZ	1481
EDFZ	1
Electric Utility	Pacific Gas & Electric Company
Gas Utility	Pacific Gas & Electric
App Version	2022.1.1.21

1.2. Land Use Types

Land Use Subtype	Size	Unit	Lot Acreage	Building Area (sq ft)	Landscape Area (sq ft)	Special Landscape Area (sq ft)	Population	Description
Arena	8.74	Acre	8.74	0.00	0.00	—	—	—

1.3. User-Selected Emission Reduction Measures by Emissions Sector

No measures selected

2. Emissions Summary

2.1. Construction Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Un/Mit.	ROG	NOx	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T
Daily, Summer (Max)	—	—	—	—	—	—	—	—
Unmit.	1.84	17.4	0.81	2.77	3.58	0.75	1.34	2.08
Daily, Winter (Max)	—	—	—	—	—	—	—	—
Unmit.	1.10	8.96	0.41	0.04	0.44	0.38	0.01	0.39
Average Daily (Max)	—	—	—	—	—	—	—	—
Unmit.	0.45	4.12	0.19	0.42	0.61	0.17	0.20	0.38
Annual (Max)	—	—	—	—	—	—	—	—
Unmit.	0.08	0.75	0.03	0.08	0.11	0.03	0.04	0.07

2.2. Construction Emissions by Year, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Year	ROG	NOx	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T
Daily - Summer (Max)	—	—	—	—	—	—	—	—
2024	1.84	17.4	0.81	2.77	3.58	0.75	1.34	2.08
Daily - Winter (Max)	—	—	—	—	—	—	—	—
2024	1.04	8.49	0.39	0.04	0.43	0.36	0.01	0.37
2025	1.10	8.96	0.41	0.03	0.44	0.38	0.01	0.39
Average Daily	—	—	—	—	—	—	—	—

2024	0.45	4.12	0.19	0.42	0.61	0.17	0.20	0.38
2025	0.07	0.61	0.03	< 0.005	0.03	0.03	< 0.005	0.03
Annual	—	—	—	—	—	—	—	—
2024	0.08	0.75	0.03	0.08	0.11	0.03	0.04	0.07
2025	0.01	0.11	0.01	< 0.005	0.01	< 0.005	< 0.005	< 0.005

3. Construction Emissions Details

3.1. Grading (2024) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	ROG	NOx	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T
Onsite	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—
Off-Road Equipment	1.80	17.4	0.81	—	0.81	0.74	—	0.74
Dust From Material Movement	—	—	—	2.76	2.76	—	1.34	1.34
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—
Off-Road Equipment	0.27	2.62	0.12	—	0.12	0.11	—	0.11
Dust From Material Movement	—	—	—	0.42	0.42	—	0.20	0.20
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—
Off-Road Equipment	0.05	0.48	0.02	—	0.02	0.02	—	0.02
Dust From Material Movement	—	—	—	0.08	0.08	—	0.04	0.04
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Offsite	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—
Worker	0.04	0.01	0.00	0.01	0.01	0.00	< 0.005	< 0.005
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	0.03	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Daily, Winter (Max)	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—
Worker	0.01	< 0.005	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Annual	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005

3.3. Grandstand Install (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	ROG	NOx	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T
Onsite	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—
Off-Road Equipment	0.60	5.26	0.25	—	0.25	0.23	—	0.23
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—
Off-Road Equipment	0.06	0.50	0.02	—	0.02	0.02	—	0.02
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—

Off-Road Equipment	0.01	0.09	< 0.005	—	< 0.005	< 0.005	—	< 0.005
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—
Worker	0.03	0.01	0.00	0.01	0.01	0.00	< 0.005	< 0.005
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Average Daily	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Annual	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005

3.5. Building Install (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	ROG	NOx	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T
Onsite	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—
Off-Road Equipment	0.42	3.56	0.16	—	0.16	0.15	—	0.15
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.10	< 0.005	—	< 0.005	< 0.005	—	< 0.005

Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	0.02	< 0.005	—	< 0.005	< 0.005	—	< 0.005
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—
Worker	0.05	0.02	0.00	0.01	0.01	0.00	< 0.005	< 0.005
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	0.09	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Average Daily	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Annual	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005

3.7. Paving (2024) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	ROG	NOx	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T
Onsite	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—
Off-Road Equipment	0.85	7.81	0.39	—	0.39	0.36	—	0.36
Paving	0.12	—	—	—	—	—	—	—

Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—
Off-Road Equipment	0.10	0.96	0.05	—	0.05	0.04	—	0.04
Paving	0.02	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.18	0.01	—	0.01	0.01	—	0.01
Paving	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—
Worker	0.04	0.02	0.00	0.01	0.01	0.00	< 0.005	< 0.005
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.02	0.66	< 0.005	0.03	0.03	< 0.005	0.01	0.01
Average Daily	—	—	—	—	—	—	—	—
Worker	0.01	< 0.005	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	0.08	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Annual	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005

3.9. Trenching (2024) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	ROG	NOx	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T

Onsite	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—
Off-Road Equipment	0.35	3.60	0.16	—	0.16	0.15	—	0.15
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—
Off-Road Equipment	0.35	3.60	0.16	—	0.16	0.15	—	0.15
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—
Off-Road Equipment	0.04	0.44	0.02	—	0.02	0.02	—	0.02
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.08	< 0.005	—	< 0.005	< 0.005	—	< 0.005
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—
Worker	0.02	0.01	0.00	0.01	0.01	0.00	< 0.005	< 0.005
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—
Worker	0.02	0.01	0.00	0.01	0.01	0.00	< 0.005	< 0.005
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—

Worker	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

4. Operations Emissions Details

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Vegetation	ROG	NOx	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T
Daily, Summer (Max)	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—

4.10.2. Above and Belowground Carbon Accumulation by Land Use Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	ROG	NOx	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T
Daily, Summer (Max)	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Species	ROG	NOx	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T
Daily, Summer (Max)	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—

5. Activity Data

5.1. Construction Schedule

Phase Name	Phase Type	Start Date	End Date	Days Per Week	Work Days per Phase	Phase Description
Grading	Grading	5/20/2024	8/2/2024	5.00	55.0	—
Grandstand Install	Building Construction	1/8/2025	2/25/2025	5.00	35.0	—
Building Install	Building Construction	1/22/2025	2/4/2025	5.00	10.0	—
Paving	Paving	10/7/2024	12/6/2024	5.00	45.0	—
Trenching	Trenching	8/5/2024	10/4/2024	5.00	45.0	—

5.2. Off-Road Equipment

5.2.1. Unmitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Grading	Graders	Diesel	Average	1.00	8.00	148	0.41
Grading	Tractors/Loaders/Backhoes	Diesel	Average	3.00	8.00	84.0	0.37
Grading	Rubber Tired Dozers	Diesel	Average	1.00	8.00	367	0.40
Grandstand Install	Forklifts	Diesel	Average	5.00	8.00	82.0	0.20
Grandstand Install	Cranes	Diesel	Average	1.00	0.03	367	0.29
Grandstand Install	Other General Industrial Equipment	Diesel	Average	2.00	8.00	35.0	0.34
Building Install	Forklifts	Diesel	Average	3.00	8.00	82.0	0.20
Building Install	Welders	Diesel	Average	1.00	8.00	46.0	0.45
Paving	Pavers	Diesel	Average	2.00	8.00	81.0	0.42
Paving	Paving Equipment	Diesel	Average	2.00	8.00	89.0	0.36
Paving	Rollers	Diesel	Average	2.00	8.00	36.0	0.38

Trenching	Tractors/Loaders/Backh	Diesel	Average	3.00	8.00	84.0	0.37

5.3. Construction Vehicles

5.3.1. Unmitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Grading	—	—	—	—
Grading	Worker	12.5	1.00	LDA,LDT1,LDT2
Grading	Vendor	—	1.00	HHDT,MHDT
Grading	Hauling	1.90	1.00	HHDT
Grading	Onsite truck	0.00	1.00	HHDT
Paving	—	—	—	—
Paving	Worker	15.0	1.00	LDA,LDT1,LDT2
Paving	Vendor	—	1.00	HHDT,MHDT
Paving	Hauling	35.0	1.00	HHDT
Paving	Onsite truck	—	—	HHDT
Grandstand Install	—	—	—	—
Grandstand Install	Worker	12.5	1.00	LDA,LDT1,LDT2
Grandstand Install	Vendor	0.00	1.00	HHDT,MHDT
Grandstand Install	Hauling	0.70	1.00	HHDT
Grandstand Install	Onsite truck	—	—	HHDT
Building Install	—	—	—	—
Building Install	Worker	17.5	1.00	LDA,LDT1,LDT2
Building Install	Vendor	0.00	1.00	HHDT,MHDT
Building Install	Hauling	5.00	1.00	HHDT
Building Install	Onsite truck	—	—	HHDT
Trenching	—	—	—	—

Trenching	Worker	7.50	1.00	LDA,LDT1,LDT2
Trenching	Vendor	—	1.00	HHDT,MHDT
Trenching	Hauling	0.00	1.00	HHDT
Trenching	Onsite truck	—	—	HHDT

5.4. Vehicles

5.4.1. Construction Vehicle Control Strategies

Control Strategies Applied	PM10 Reduction	PM2.5 Reduction
Water unpaved roads twice daily	55%	55%

5.5. Architectural Coatings

Phase Name	Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)

5.6. Dust Mitigation

5.6.1. Construction Earthmoving Activities

Phase Name	Material Imported (Cubic Yards)	Material Exported (Cubic Yards)	Acres Graded (acres)	Material Demolished (sq. ft.)	Acres Paved (acres)
Grading	510	0.00	55.0	0.00	—
Paving	0.00	0.00	0.00	0.00	4.23

5.6.2. Construction Earthmoving Control Strategies

Control Strategies Applied	Frequency (per day)	PM10 Reduction	PM2.5 Reduction
Water Exposed Area	2	61%	61%

5.7. Construction Paving

Land Use	Area Paved (acres)	% Asphalt
Arena	4.23	50%

5.8. Construction Electricity Consumption and Emissions Factors

kWh per Year and Emission Factor (lb/MWh)

Year	kWh per Year	CO2	CH4	N2O
2024	0.00	204	0.03	< 0.005
2025	0.00	204	0.03	< 0.005

5.18. Vegetation

5.18.1. Land Use Change

5.18.1.1. Unmitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres

5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

Biomass Cover Type	Initial Acres	Final Acres

5.18.2. Sequestration

5.18.2.1. Unmitigated

Tree Type	Number	Electricity Saved (kWh/year)	Natural Gas Saved (btu/year)

6. Climate Risk Detailed Report

6.1. Climate Risk Summary

Cal-Adapt midcentury 2040–2059 average projections for four hazards are reported below for your project location. These are under Representation Concentration Pathway (RCP) 8.5 which assumes GHG emissions will continue to rise strongly through 2050 and then plateau around 2100.

Climate Hazard	Result for Project Location	Unit
Temperature and Extreme Heat	7.80	annual days of extreme heat
Extreme Precipitation	5.35	annual days with precipitation above 20 mm
Sea Level Rise	—	meters of inundation depth
Wildfire	0.00	annual hectares burned

Temperature and Extreme Heat data are for grid cell in which your project are located. The projection is based on the 98th historical percentile of daily maximum/minimum temperatures from observed historical data (32 climate model ensemble from Cal-Adapt, 2040–2059 average under RCP 8.5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

Extreme Precipitation data are for the grid cell in which your project are located. The threshold of 20 mm is equivalent to about ¾ an inch of rain, which would be light to moderate rainfall if received over a full day or heavy rain if received over a period of 2 to 4 hours. Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

Sea Level Rise data are for the grid cell in which your project are located. The projections are from Radke et al. (2017), as reported in Cal-Adapt (Radke et al., 2017, CEC-500-2017-008), and consider inundation location and depth for the San Francisco Bay, the Sacramento-San Joaquin River Delta and California coast resulting different increments of sea level rise coupled with extreme storm events. Users may select from four scenarios to view the range in potential inundation depth for the grid cell. The four scenarios are: No rise, 0.5 meter, 1.0 meter, 1.41 meters

Wildfire data are for the grid cell in which your project are located. The projections are from UC Davis, as reported in Cal-Adapt (2040–2059 average under RCP 8.5), and consider historical data of climate, vegetation, population density, and large (> 400 ha) fire history. Users may select from four model simulations to view the range in potential wildfire probabilities for the grid cell. The four simulations make different assumptions about expected rainfall and temperature are: Warmer/drier (HadGEM2-ES), Cooler/wetter (CNRM-CM5), Average conditions (CanESM2), Range of different rainfall and temperature possibilities (MIROC5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

6.2. Initial Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	N/A	N/A	N/A	N/A
Extreme Precipitation	2	0	0	N/A
Sea Level Rise	1	0	0	N/A
Wildfire	1	0	0	N/A
Flooding	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A

Air Quality Degradation	0	0	0	N/A

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.
The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.
The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores do not include implementation of climate risk reduction measures.

6.3. Adjusted Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	N/A	N/A	N/A	N/A
Extreme Precipitation	2	1	1	3
Sea Level Rise	1	1	1	2
Wildfire	1	1	1	2
Flooding	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	1	1	1	2

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.
The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.
The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores include implementation of climate risk reduction measures.

6.4. Climate Risk Reduction Measures

7. Health and Equity Details

7.1. CalEnviroScreen 4.0 Scores

The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Exposure Indicators	—

AQ-Ozone	3.83
AQ-PM	30.1
AQ-DPM	91.8
Drinking Water	4.21
Lead Risk Housing	96.9
Pesticides	0.00
Toxic Releases	56.0
Traffic	82.3
Effect Indicators	—
CleanUp Sites	94.8
Groundwater	96.9
Haz Waste Facilities/Generators	95.4
Impaired Water Bodies	94.6
Solid Waste	78.2
Sensitive Population	—
Asthma	99.5
Cardio-vascular	68.1
Low Birth Weights	97.5
Socioeconomic Factor Indicators	—
Education	81.3
Housing	74.0
Linguistic	73.4
Poverty	75.7
Unemployment	70.0

7.2. Healthy Places Index Scores

The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Economic	—
Above Poverty	23.64942897
Employed	38.00846914
Median HI	31.54112665
Education	—
Bachelor's or higher	9.547029385
High school enrollment	16.8741178
Preschool enrollment	40.22841011
Transportation	—
Auto Access	28.94905685
Active commuting	63.90350314
Social	—
2-parent households	32.32388041
Voting	39.53548056
Neighborhood	—
Alcohol availability	43.71872193
Park access	62.15834723
Retail density	70.20402926
Supermarket access	22.31489799
Tree canopy	32.08007186
Housing	—
Homeownership	40.56204286
Housing habitability	21.89144104
Low-inc homeowner severe housing cost burden	50.45553702
Low-inc renter severe housing cost burden	6.890799435
Uncrowded housing	33.18362633

Health Outcomes	—
Insured adults	39.81778519
Arthritis	24.9
Asthma ER Admissions	1.5
High Blood Pressure	17.2
Cancer (excluding skin)	63.4
Asthma	8.7
Coronary Heart Disease	31.2
Chronic Obstructive Pulmonary Disease	25.1
Diagnosed Diabetes	11.9
Life Expectancy at Birth	0.4
Cognitively Disabled	19.2
Physically Disabled	50.9
Heart Attack ER Admissions	14.9
Mental Health Not Good	21.9
Chronic Kidney Disease	7.4
Obesity	10.9
Pedestrian Injuries	97.3
Physical Health Not Good	23.8
Stroke	6.5
Health Risk Behaviors	—
Binge Drinking	73.8
Current Smoker	21.4
No Leisure Time for Physical Activity	21.3
Climate Change Exposures	—
Wildfire Risk	0.0
SLR Inundation Area	18.3

Children	35.2
Elderly	71.6
English Speaking	17.8
Foreign-born	64.6
Outdoor Workers	19.5
Climate Change Adaptive Capacity	—
Impervious Surface Cover	25.9
Traffic Density	81.1
Traffic Access	69.2
Other Indices	—
Hardship	76.1
Other Decision Support	—
2016 Voting	11.5

7.3. Overall Health & Equity Scores

Metric	Result for Project Census Tract
CalEnviroScreen 4.0 Score for Project Location (a)	97.0
Healthy Places Index Score for Project Location (b)	29.0
Project Located in a Designated Disadvantaged Community (Senate Bill 535)	Yes
Project Located in a Low-Income Community (Assembly Bill 1550)	Yes
Project Located in a Community Air Protection Program Community (Assembly Bill 617)	No

a: The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.
b: The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

7.4. Health & Equity Measures

No Health & Equity Measures selected.

7.5. Evaluation Scorecard

Health & Equity Evaluation Scorecard not completed.

7.6. Health & Equity Custom Measures

No Health & Equity Custom Measures created.

8. User Changes to Default Data

Screen	Justification
Land Use	The Project includes nearly 12,000 square feet of modular buildings. No permanent landscaping.
Construction: Construction Phases	No Demolition or site prep needed. Site is an existing parking lot. Temporary buildings constructed off-site and delivered to the site.
Construction: Off-Road Equipment	Based on defaults and information provided by Scott Gregory 11- 1- 2023
Construction: Trips and VMT	Based on CalEEMod Default and trip estimated provided by Scott Gregory on 11-1-2023. Assume 1 mile on-site travel for Construction HRA.
Construction: On-Road Fugitive Dust	Limit on-site speed to 15 mph.
Construction: Paving	Based on information provided by Scott Gregory 11-1-2023

Attachment 3: Construction Health Risk Calculations

Roots Stadium, Oakland, CA

DPM Emissions and Modeling Emission Rates - No Controls

Construction Year	Activity	Area Source	DPM Emissions (ton/year)	DPM Emissions (lb/yr)	DPM Emissions (lb/hr)	DPM Emissions (g/s)	Modeled Area (m^2)	DPM Emission Rate ($g/s/m^2$)
2024	Construction	DPM_CONST	0.0399	79.8	0.04199	5.291E-03	34890.8	1.52E-07
			0.0000	0.0	0.0000	0.0000000	34890.8	0.000E+00

Construction Hours

Weekday hr/day = 10 (7am - 5pm)

days/yr = 190

hours/year = 1900

Roots Stadium, Oakland, CA

PM2.5 Fugitive Dust Emissions for Modeling - Basic Dust Basic Dust Controls

Construction Year	Activity	Area Source	PM2.5 Emissions (ton/year)	PM2.5 Emissions (lb/yr)	PM2.5 Emissions (lb/hr)	PM2.5 Emissions (g/s)	Modeled Area (m^2)	PM2.5 Emission Rate $g/s/m^2$
2024	Construction	PM25_CONST	0.0371	74.3	0.03909	4.926E-03	34890.8	1.41E-07
			0.0000	0.0	0.0000	0.0000000	34890.8	0.00E+00

Construction Hours

Weekday hr/day = 10 (7am - 5pm)

days/yr = 190

hours/year = 1900

Roots Stadium, Oakland, CA - Construction Impacts
Maximum DPM Cancer Risk and PM2.5 Calculations
Impacts at HomeBase Temporary Housing Receptors - 1.5 meter receptor height

Cancer Risk (per million) = CPF x Inhalation Dose x ASF x ED/AT x FAH x 1.0E6

Where: CPF = Cancer potency factor $(mg/kg\text{-}day)^{-1}$
ASF = Age sensitivity factor for specified age group
ED = Exposure duration (years)
AT = Averaging time for lifetime cancer risk (years)
FAH = Fraction of time spent at home (unitless)

Inhalation Dose = C_{air} x DBR x A x (EF/365) x 10^{-6}

Where: C_{air} = concentration in air $(\mu g/m^3)$
DBR = daily breathing rate (L/kg body weight-day)
A = Inhalation absorption factor
EF = Exposure frequency (days/year)
10^{-6} = Conversion factor

Values

	Adult
Age -->	**16 - 100+**
Parameter	
ASF =	1
CPF =	1.10E+00
DBR* =	261
A =	1
EF =	350
AT =	70
FAH =	0.73

Construction Cancer Risk by Year - Maximum Impact Receptor Location

		Adult			**Adult**			
	Exposure	**Modeled**		**Age**	**Cancer**			
Exposure	**Duration**	**DPM Conc (ug/m3)**		**Sensitivity**	**Risk**		**Maximum**	
Year	**(years)**	**Year**	**Annual**	**Factor**	**(per million)**		**Fugitive**	**Total**
						HI	**PM2.5**	**PM2.5**
1	1	2024	0.0838	1	0.241	0.017	0.0907	0.175
2	1	2025	0.0000	1	0.00	0.000	0.0000	0.000
3	1	2026	0.0000	1	0.00			
4	1	2027	0.0000	1	0.00			
5	1	2028	0.0000	1	0.00			
6	1	2029	0.0000	1	0.00			
7	1	2030	0.0000	1	0.00			
8	1	2031	0.0000	1	0.00			
9	1	2032	0.0000	1	0.00			
10	1	2033	0.0000	1	0.00			
11	1	2034	0.0000	1	0.00			
12	1	2035	0.0000	1	0.00			
13	1	2036	0.0000	1	0.00			
14	1	2037	0.0000	1	0.00			
15	1	2038	0.0000	1	0.00			
16	1	2039	0.0000	1	0.00			
17	1	2040	0.0000	1	0.00			
18	1	2041	0.0000	1	0.00			
19	1	2042	0.0000	1	0.00			
20	1	2043	0.0000	1	0.00			
21	1	2044	0.0000	1	0.00			
22	1	2045	0.0000	1	0.00			
23	1	2046	0.0000	1	0.00			
24	1	2047	0.0000	1	0.00			
25	1	2048	0.0000	1	0.00			
26	1	2049	0.0000	1	0.00			
27	1	2050	0.0000	1	0.00			
28	1	2051	0.0000	1	0.00			
29	1	2052	0.0000	1	0.00			
30	1	2053	0.0000	1	0.00			
Total Increased Cancer Risk					**0.241**			

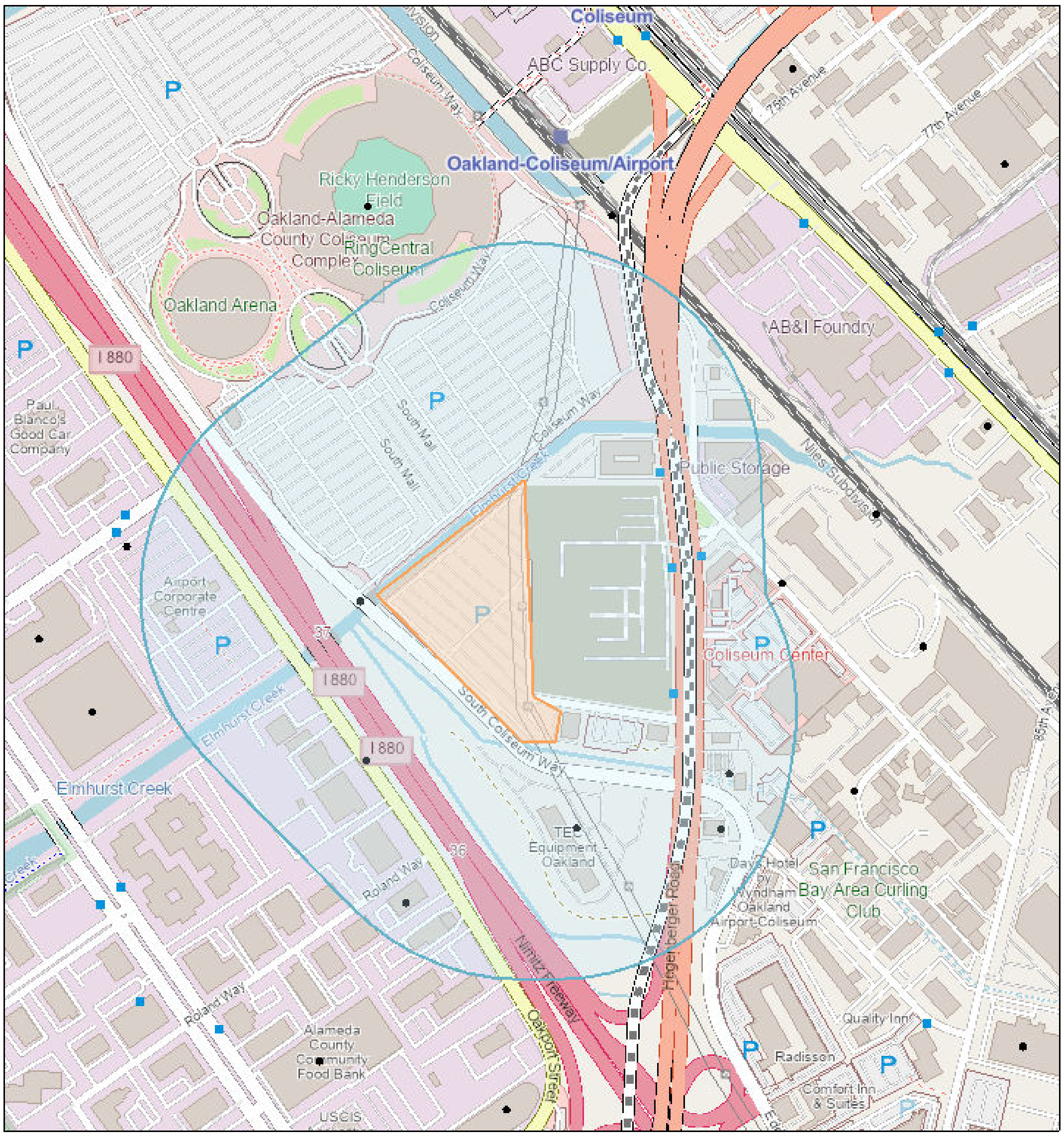
Attachment 4: Stationary Sources Health Risk Calculations

Screening Report

Area of Interest (AOI) Information

Area : 6,478,506.17 ft²

Oct 16 2023 16:18:44 Pacific Daylight Time



Permitted Stationary Sources

1:9,028

0 0.05 0.1 0.2 mi

0 0.07 0.15 0.3 km

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Summary

Name	Count	Area(ft²)	Length(ft)
Permitted Stationary Sources	6	N/A	N/A

Permitted Stationary Sources

#	Facility_I	Facility_N	Address	City	State
1	22686	Service King Paint & Body	7801 Oakport Street	Oakland	CA
2	109015	Oakland Alameda County Coliseum	7000 Coliseum Way	Oakland	CA
3	111369	Herc Rentals	7727 Oakport St	Oakland	CA
4	111613	TEC of California	8099 S Coliseum Way	Oakland	CA
5	111939	ARCO Facility #07026	566 Hegenberger Rd	Oakland	CA
6	112521	Coliseum Shell	540 Hegenberger Rd	Oakland	CA

#	Zip	County	Latitude	Longitude	Details
1	94621	Alameda	37.743388	-122.200221	*No Data*
2	94621	Alameda	37.746882	-122.200885	Gas Dispensing Facility
3	94621	Alameda	37.745037	-122.200797	Gas Dispensing Facility
4	94621	Alameda	37.744255	-122.197716	Gas Dispensing Facility
5	94621	Alameda	37.744880	-122.195484	Gas Dispensing Facility
6	94621	Alameda	37.744240	-122.195601	Gas Dispensing Facility

#	NAICS	NAICS_Sect	NAICS_Subs	NAICS_Indu	Cancer_Ris
1	811121	Other Services (except Public Administration)	Repair and Maintenance	Automotive Body, Paint, and Interior Repair and Maintenance	0.000000
2	447110	Retail Trade	Gasoline Stations	Gasoline Stations with Convenience Stores	0.098000
3	447110	Retail Trade	Gasoline Stations	Gasoline Stations with Convenience Stores	0.088000
4	447110	Retail Trade	Gasoline Stations	Gasoline Stations with Convenience Stores	0.357000
5	447110	Retail Trade	Gasoline Stations	Gasoline Stations with Convenience Stores	50.041000
6	447110	Retail Trade	Gasoline Stations	Gasoline Stations with Convenience Stores	24.318000

#	Chronic_Ha	PM25	Count
1	0.001000	0.000000	1
2	0.000000	0.000000	1
3	0.000000	0.000000	1
4	0.002000	0.000000	1
5	0.217000	0.000000	1
6	0.106000	0.000000	1

NOTE: A larger buffer than 1000 feet may be warranted depending on proximity to significant sources.

Stationary Source Data Request Form

BAY AREA AIR QUALITY MANAGEMENT DISTRICT

1) Instructions

This form is meant to provide additional detail found on the *Stationary Source Screening Map.* Please provide all the information below and submit this form with a csv. file from the Stationary Source Screening Report (found on the map) to Public Records Request. Facility level emissions are publicly available on the Air Resources Board California Emissions Inventory Development and Reporting System website. All other CEQA related questions can be emailed to CEQA@baaqmd.gov. **At minimum,** requesters are required to submit this form and the screening report csv. to make a request. **Failure to do so may delay your request.** Requests for meteorological data or other data unrelated to the information on the *Stationary Source Screening Map* should be made in a separate Public Records Request.

2) Requester Information

Public Records Request #	2023-10-0135	Project Name	Oakland Roots Stadium
Contact Name	Jordyn Bauer	Project Location: (City, County)	8000 Coliseum Way, Oakland, Alameda County
Contact Phone	707-794-0400 x106	Contact Email	jbauer@illingworthrodkin.com

3) Procedural Steps

a. Create a Public Records Request to get a request # (ex. 2022-01-0001).
b. Go to the Stationary Sources Screening Map on the CEQA Resources page.
c. Select "Draw" or "Coordinate" (top left).
d. Draw project parcel or place marker.
e. Indicate the desired buffer distance.
f. Click "Report".
g. Download .CSV and print boundary pdf.
h. Email this form and all supporting files to Public Records Request email with your request #. In the **email subject line** put "Public Records Number XXXX-XX-XXXX: Stationary Source Request".

4) Data Request Checklist

a. Is the Stationary Source Screen Map report csv. attached? ☑

b. Is a map or image of your Project boundary attached? ☑
Note: If not provided, staff will only confirm the data contained within the Stationary Source Screening Map report.

c. Other Request Details:

Hello, I have a stationary source request where 5 out of 6 sources (#109015, #111369, #111613, #111939, and #112521) are gas stations. In order to use the CARB gas station screening tool, we need to know the gas station's annual throughput (gallons/year). Can you please provide sources #109015, #111369, #111613, #111939, and #112521 annual gas throughput emissions? Thank you!

Generic Distance Multiplier Tool: This distance multiplier tool refines the screening values to represent adjusted risk and hazard impacts that can be expected with farther distances from the source of emissions.

Generic Case						
Distance (meters)	Distance (feet)	Multiplier	Enter Risk or Hazard	Adjusted Risk or Hazard	Enter PM2.5 Concentration	Adjusted PM2.5 Concentration
0	0.0	1.000	0.001	0.001	0	0
5	16.4	1.000	0.001	0.001	0	0
10	32.8	0.883	0.001	0.000883391	0	0
15	49.2	0.855	0.001	0.000854878	0	0
20	65.6	0.827	0.001	0.000827286	0	0
25	82.0	0.801	0.001	0.000800585	0	0
30	98.4	0.775	0.001	0.000774745	0	0
35	114.8	0.750	0.001	0.000749739	0	0
40	131.2	0.726	0.001	0.000725541	0	0
45	147.6	0.702	0.001	0.000702123	0	0
50	164.0	0.679	0.001	0.000679461	0	0
55	180.4	0.658	0.001	0.000657531	0	0
60	196.9	0.636	0.001	0.000636309	0	0
65	213.3	0.616	0.001	0.000615771	0	0
70	229.7	0.596	0.001	0.000595896	0	0
75	246.1	0.577	0.001	0.000576663	0	0
80	262.5	0.558	0.001	0.000558051	0	0
85	278.9	0.540	0.001	0.000540039	0	0
90	295.3	0.523	0.001	0.000522609	0	0
95	311.7	0.506	0.001	0.000505741	0	0
100	328.1	0.489	0.001	0.000489418	0	0
105	344.5	0.474	0.001	0.000473621	0	0
110	360.9	0.458	0.001	0.000458335	0	0
115	377.3	0.444	0.001	0.000443541	0	0
120	393.7	0.429	0.001	0.000429226	0	0
125	410.1	0.415	0.001	0.000415372	0	0
130	426.5	0.402	0.001	0.000401965	0	0
135	442.9	0.389	0.001	0.000388992	0	0
140	459.3	0.376	0.001	0.000376436	0	0
145	475.7	0.364	0.001	0.000364287	0	0
150	492.1	0.353	0.001	0.000352529	0	0
155	508.5	0.341	0.001	0.000341151	0	0
160	524.9	0.330	0.001	0.00033014	0	0
165	541.3	0.319	0.001	0.000319484	0	0
170	557.7	0.309	0.001	0.000309172	0	0
175	574.1	0.299	0.001	0.000299193	0	0
180	590.6	0.290	0.001	0.000289537	0	0
185	607.0	0.280	0.001	0.000280192	0	0
190	623.4	0.271	0.001	0.000271148	0	0
195	639.8	0.262	0.001	0.000262397	0	0
200	656.2	0.254	0.001	0.000253927	0	0
205	672.6	0.246	0.001	0.000245732	0	0
210	689.0	0.238	0.001	0.0002378	0	0
215	705.4	0.230	0.001	0.000230125	0	0
220	721.8	0.223	0.001	0.000222698	0	0
225	738.2	0.216	0.001	0.00021551	0	0
230	754.6	0.209	0.001	0.000208554	0	0
235	771.0	0.202	0.001	0.000201823	0	0
240	787.4	0.195	0.001	0.000195309	0	0
245	803.8	0.189	0.001	0.000189005	0	0
250	820.2	0.183	0.001	0.000182905	0	0
255	836.6	0.177	0.001	0.000177001	0	0
260	853.0	0.171	0.001	0.000171288	0	0
265	869.4	0.166	0.001	0.00016576	0	0
270	885.8	0.160	0.001	0.00016041	0	0
275	902.2	0.155	0.001	0.000155232	0	0
280	918.6	0.150	0.001	0.000150222	0	0
285	935.0	0.145	0.001	0.000145373	0	0
290	951.4	0.141	0.001	0.000140681	0	0
295	967.8	0.136	0.001	0.000136141	0	0
300	984.3	0.132	0.001	0.000131747	0	0

2022 CARB & CAPCOA Gasoline Service Station Industrywide Risk Assessment Look-up Tool
Version 1.0 - February 18, 2022

Required Value	User Defined Input	Instructions	
Annual Throughput (gallons/year)	**400000**	Enter your gas station's annual throughput in gallons of gasoline dispensed per year.	
Hourly Dispensing Throughput (gallons/hour)	**500**	The tool will calculate the maximum hourly vehicle fueling throughput based on annual throughput as defined by Table 10 of the 2020 Gasoline Service Station Industrywide Risk Assessment Technical Guidance Document (Technical Guidance). If a different value is desired please enter it into cell L4.	
Hourly Loading Throughput (gallons/hour)	**8800**	The tool will calculate the maximum hourly loading throughput based on annual throughput as defined by Table 10 of the Technical Guidance. If a different value is desired please enter it into cell L5.	
Meteorological Data	**San Jose**	Select appropriate meteorological data. Met sets provided include 2 rural (Redding and Lancaster) and 4 urban (Fresno, Ontario, San Diego, and San Jose) locations. Use whichever best correlates to your location. If you would like to use site-specific meteorological data please refer to the Variable Met Tool.	
Distance to Nearest Resident (meters)	**566.3**	Enter the distance to the nearest residential receptor in meters as measured from the edge of the station canopy. Please note that the value must be between 10 and 1000 meters. The distance you input will round down to the nearest receptor distance used in the Technical Guidance (e.g., 19m will return value at 10m distance).	
Distance to Nearest Business (meters)		Enter the distance to the nearest worker receptor in meters as measured from the edge of the station canopy. Please note that the value must be between 10 and 1000 meters. The distance you input will round down to the nearest receptor distance used in the Technical Guidance (e.g., 19m will return value at 10m distance).	
Distance to Acute Receptor (meters)	**566.3**	Enter the distance where acute impacts are expected in meters as measured from the edge of the station canopy. This can be the distance to the property boundary, nearest resident, nearest worker, or any other user defined location. Please note that the value must be between 10 and 1000 meters. The distance you input will round down to the nearest receptor distance used in the Technical Guidance (e.g., 19m will return value at 10m distance).	
Control Scenario	**EVR Phase I & EVR Phase II**	Select the appropriate control scenario for your gas station. Please refer to technical Guidance for an explanation of the different control scenarios. Almost all gas stations in California are equipped with EVR Phase I and EVR Phase II controls.	
Include Building Downwash Adjustments	**yes**	Building downwash may over estimate risk results. High results should be investigated further through site-specific health risk assessment.	

Risk Value	Results
Max Residential Cancer Risk (chances/million)	**0.01**
Max Worker Cancer Risk (chances/million)	
Chronic HI	**#N/A**
Acute HI	**0.01**

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2022 CARB & CAPCOA Gasoline Service Station Industrywide Risk Assessment Look-up Tool
Version 1.0 - February 18, 2022

Required Value	User Defined Input	Instructions
Annual Throughput (gallons/year)	**940000**	Enter your gas station's annual throughput in gallons of gasoline dispensed per year.
Hourly Dispensing Throughput (gallons/hour)	**500**	The tool will calculate the maximum hourly vehicle fueling throughput based on annual throughput as defined by Table 10 of the 2020 Gasoline Service Station Industrywide Risk Assessment Technical Guidance Document (Technical Guidance). If a different value is desired please enter it into cell L4.
Hourly Loading Throughput (gallons/hour)	**8800**	The tool will calculate the maximum hourly loading throughput based on annual throughput as defined by Table 10 of the Technical Guidance. If a different value is desired please enter it into cell L5.
Meteorological Data	**San Jose**	Select appropriate meteorological data. Met sets provided include 2 rural (Redding and Lancaster) and 4 urban (Fresno, Ontario, San Diego, and San Jose) locations. Use whichever best correlates to your location. If you would like to use site-specific meteorological data please refer to the Variable Met Tool.
Distance to Nearest Resident (meters)	**455.9**	Enter the distance to the nearest residential receptor in meters as measured from the edge of the station canopy. Please note that the value must be between 10 and 1000 meters. The distance you input will round down to the nearest receptor distance used in the Technical Guidance (e.g., 19m will return value at 10m distance).
Distance to Nearest Business (meters)		Enter the distance to the nearest worker receptor in meters as measured from the edge of the station canopy. Please note that the value must be between 10 and 1000 meters. The distance you input will round down to the nearest receptor distance used in the Technical Guidance (e.g., 19m will return value at 10m distance).
Distance to Acute Receptor (meters)	**455.9**	Enter the distance where acute impacts are expected in meters as measured from the edge of the station canopy. This can be the distance to the property boundary, nearest resident, nearest worker, or any other user defined location. Please note that the value must be between 10 and 1000 meters. The distance you input will round down to the nearest receptor distance used in the Technical Guidance (e.g., 19m will return value at 10m distance).
Control Scenario	**EVR Phase I & EVR Phase II**	Select the appropriate control scenario for your gas station. Please refer to technical Guidance for an explanation of the different control scenarios. Almost all gas stations in California are equipped with EVR Phase I and EVR Phase II controls.
Include Building Downwash Adjustments	**yes**	Building downwash may over estimate risk results. High results should be investigated further through site-specific health risk assessment.

Risk Value	Results
Max Residential Cancer Risk (chances/million)	**0.04**
Max Worker Cancer Risk (chances/million)	
Chronic HI	**#N/A**
Acute HI	**0.01**

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2022 CARB & CAPCOA Gasoline Service Station Industrywide Risk Assessment Look-up Tool
Version 1.0 - February 18, 2022

Required Value	User Defined Input	Instructions	
Annual Throughput (gallons/year)	**400000**	Enter your gas station's annual throughput in gallons of gasoline dispensed per year.	
Hourly Dispensing Throughput (gallons/hour)	**500**	The tool will calculate the maximum hourly vehicle fueling throughput based on annual throughput as defined by Table 10 of the 2020 Gasoline Service Station Industrywide Risk Assessment Technical Guidance Document (Technical Guidance). If a different value is desired please enter it into cell L4.	
Hourly Loading Throughput (gallons/hour)	**8800**	The tool will calculate the maximum hourly loading throughput based on annual throughput as defined by Table 10 of the Technical Guidance. If a different value is desired please enter it into cell L5.	
Meteorological Data	**San Jose**	Select appropriate meteorological data. Met sets provided include 2 rural (Redding and Lancaster) and 4 urban (Fresno, Ontario, San Diego, and San Jose) locations. Use whichever best correlates to your location. If you would like to use site-specific meteorological data please refer to the Variable Met Tool.	
Distance to Nearest Resident (meters)	**419.9**	Enter the distance to the nearest residential receptor in meters as measured from the edge of the station canopy. Please note that the value must be between 10 and 1000 meters. The distance you input will round down to the nearest receptor distance used in the Technical Guidance (e.g., 19m will return value at 10m distance).	
Distance to Nearest Business (meters)		Enter the distance to the nearest worker receptor in meters as measured from the edge of the station canopy. Please note that the value must be between 10 and 1000 meters. The distance you input will round down to the nearest receptor distance used in the Technical Guidance (e.g., 19m will return value at 10m distance).	
Distance to Acute Receptor (meters)	**419.9**	Enter the distance where acute impacts are expected in meters as measured from the edge of the station canopy. This can be the distance to the property boundary, nearest resident, nearest worker, or any other user defined location. Please note that the value must be between 10 and 1000 meters. The distance you input will round down to the nearest receptor distance used in the Technical Guidance (e.g., 19m will return value at 10m distance).	
Control Scenario	**EVR Phase I & EVR Phase II**	Select the appropriate control scenario for your gas station. Please refer to technical Guidance for an explanation of the different control scenarios. Almost all gas stations in California are equipped with EVR Phase I and EVR Phase II controls.	
Include Building Downwash Adjustments	**yes**	Building downwash may over estimate risk results. High results should be investigated further through site-specific health risk assessment.	

Risk Value	Results	
Max Residential Cancer Risk (chances/million)	**0.02**	11/27/2023 4:08 PM
Max Worker Cancer Risk (chances/million)		
Chronic HI	**#N/A**	
Acute HI	**0.01**	

2022 CARB & CAPCOA Gasoline Service Station Industrywide Risk Assessment Look-up Tool
Version 1.0 - February 18, 2022

Required Value	User Defined Input	Instructions	
Annual Throughput (gallons/year)	1,490,000	Enter your gas station's annual throughput in gallons of gasoline dispensed per year.	
Hourly Dispensing Throughput (gallons/hour)	700	The tool will calculate the maximum hourly vehicle fueling throughput based on annual throughput as defined by Table 10 of the 2020 Gasoline Service Station Industrywide Risk Assessment Technical Guidance Document (Technical Guidance). If a different value is desired please enter it into cell L4.	
Hourly Loading Throughput (gallons/hour)	8800	The tool will calculate the maximum hourly loading throughput based on annual throughput as defined by Table 10 of the Technical Guidance. If a different value is desired please enter it into cell L5.	
Meteorological Data	San Jose	Select appropriate meteorological data. Met sets provided include 2 rural (Redding and Lancaster) and 4 urban (Fresno, Ontario, San Diego, and San Jose) locations. Use whichever best correlates to your location. If you would like to use site-specific meteorological data please refer to the Variable Met Tool.	
Distance to Nearest Resident (meters)	309	Enter the distance to the nearest residential receptor in meters as measured from the edge of the station canopy. Please note that the value must be between 10 and 1000 meters. The distance you input will round down to the nearest receptor distance used in the Technical Guidance (e.g., 19m will return value at 10m distance).	
Distance to Nearest Business (meters)		Enter the distance to the nearest worker receptor in meters as measured from the edge of the station canopy. Please note that the value must be between 10 and 1000 meters. The distance you input will round down to the nearest receptor distance used in the Technical Guidance (e.g., 19m will return value at 10m distance).	
Distance to Acute Receptor (meters)	309	Enter the distance where acute impacts are expected in meters as measured from the edge of the station canopy. This can be the distance to the property boundary, nearest resident, nearest worker, or any other user defined location. Please note that the value must be between 10 and 1000 meters. The distance you input will round down to the nearest receptor distance used in the Technical Guidance (e.g., 19m will return value at 10m distance).	
Control Scenario	EVR Phase I & EVR Phase II	Select the appropriate control scenario for your gas station. Please refer to technical Guidance for an explanation of the different control scenarios. Almost all gas stations in California are equipped with EVR Phase I and EVR Phase II controls.	
Include Building Downwash Adjustments	yes	Building downwash may over estimate risk results. High results should be investigated further through site-specific health risk assessment.	

Risk Value	Results	
Max Residential Cancer Risk (chances/million)	0.13	11/27/2023 4:08 PM
Max Worker Cancer Risk (chances/million)		
Chronic HI	#N/A	
Acute HI	0.01	

2022 CARB & CAPCOA Gasoline Service Station Industrywide Risk Assessment Look-up Tool
Version 1.0 - February 18, 2022

Required Value	User Defined Input	Instructions
Annual Throughput (gallons/year)	**3,040,000**	Enter your gas station's annual throughput in gallons of gasoline dispensed per year.
Hourly Dispensing Throughput (gallons/hour)	**1000**	The tool will calculate the maximum hourly vehicle fueling throughput based on annual throughput as defined by Table 10 of the 2020 Gasoline Service Station Industrywide Risk Assessment Technical Guidance Document (Technical Guidance). If a different value is desired please enter it into cell L4.
Hourly Loading Throughput (gallons/hour)	**8880**	The tool will calculate the maximum hourly loading throughput based on annual throughput as defined by Table 10 of the Technical Guidance. If a different value is desired please enter it into cell L5.
Meteorological Data	**San Jose**	Select appropriate meteorological data. Met sets provided include 2 rural (Redding and Lancaster) and 4 urban (Fresno, Ontario, San Diego, and San Jose) locations. Use whichever best correlates to your location. If you would like to use site-specific meteorological data please refer to the Variable Met Tool.
Distance to Nearest Resident (meters)	**377**	Enter the distance to the nearest residential receptor in meters as measured from the edge of the station canopy. Please note that the value must be between 10 and 1000 meters. The distance you input will round down to the nearest receptor distance used in the Technical Guidance (e.g., 19m will return value at 10m distance).
Distance to Nearest Business (meters)		Enter the distance to the nearest worker receptor in meters as measured from the edge of the station canopy. Please note that the value must be between 10 and 1000 meters. The distance you input will round down to the nearest receptor distance used in the Technical Guidance (e.g., 19m will return value at 10m distance).
Distance to Acute Receptor (meters)	**377**	Enter the distance where acute impacts are expected in meters as measured from the edge of the station canopy. This can be the distance to the property boundary, nearest resident, nearest worker, or any other user defined location. Please note that the value must be between 10 and 1000 meters. The distance you input will round down to the nearest receptor distance used in the Technical Guidance (e.g., 19m will return value at 10m distance).
Control Scenario	**EVR Phase I & EVR Phase II**	Select the appropriate control scenario for your gas station. Please refer to technical Guidance for an explanation of the different control scenarios. Almost all gas stations in California are equipped with EVR Phase I and EVR Phase II controls.
Include Building Downwash Adjustments	**yes**	Building downwash may over estimate risk results. High results should be investigated further through site-specific health risk assessment.

Risk Value	Results
Max Residential Cancer Risk (chances/million)	**0.21**
Max Worker Cancer Risk (chances/million)	
Chronic HI	**#N/A**
Acute HI	**0.01**

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Appendix C

<u>CalEEMod Emissions Calculator Results, Project Operational Emissions</u>

Lamphier-Gregory, February 2024

CalEEMod 2022 - Roots, Annual Emissions Report, 2/19/24

1.1 Basic Project Information

Data Field	Value
Project Name	Roots annual v2
Operational Year	2024
Lead Agency	
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	3.9
Precipitation (days)	39
Location	37.74737296251456, -122.19874925556759
County	Alameda
City	Oakland
Air District	Bay Area AQMD
Air Basin	San Francisco Bay Area
TAZ	1481
EDFZ	1
Electric Utility	Pacific Gas & Electric Company
Gas Utility	Pacific Gas & Electric
App Version	2022.1.1.21

1.2 Land Use Types

Land Use Subtype	Size	Unit	Lot Acreage	Building Area (sq ft)	Landscape Area (sq ft)
Arena	8.74	Acre	8.74	**55720**	23320
	Bldgs	*Bleachers*	*Storage*	*Temp Restrms*	*Total*
	11,885	*31,355*	*5,760*	*6,720*	***55,720***

2. Emissions Summary

2.4 Operations Emissions (tons/yr)

	ROG	NOx	PM10E	PM2.5E
Annual	2.503	3.181	0.072	0.069
Mitigated (TDM)	*2.063*	*2.488*	*0.064*	*0.062*

2.5 Operations Emissions by Sector

		ROG	NOx	PM10E	PM2.5E
Annual					
Mobile		2.1648	2.7536	0.0425	0.0398
Area		0.2563	0.0018	0.0004	0.0003
Stationary (Generators)		0.0496	0.2588	0.0291	0.0291
	Total	**2.4707**	**3.0142**	**0.0720**	**0.0692**
Annual - Mitigated TDM					
Mobile,with TDM		1.7569	2.2273	0.0343	0.0321
Area		0.2563	0.0018	0.0004	0.0003
Stationary (Generators)		0.0496	0.2588	0.0291	0.0291
	Total	**2.0628**	**2.4879**	**0.0638**	**0.0615**

4.3.1 Area Emissions by Source

Annual	ROG	NOx	PM10E	PM2.5E
Consumer Products	0.218			
Architectural Coatings	0.003			
Landscape Equipment	0.036	0.002	0.001	0.001
Total	**0.256**	**0.002**	**0.001**	**0.001**

5.9. Operational Mobile Sources

Land Use Type	Trips Peak Weekend		VMT/Peak Weekend	
Arena	**1,086,169**		**16,054,398**	
Mitigated	**883,332**	19%	**12,970,488**	19%

CalEEMod 2022 - Roots, Annual Emissions Report, 2/19/24

8 User Changes to Default Data

Screen	Justification					
Land Use	Buildings = modulars, containers, bleachers and restrooms/storage					
Operations: Vehicle Data	annual run only, per F&P 2-1-24 (see Mobile Source Calculation, below)					
Operations: Architectural Coatings	minimal architectural coatings and reapplication - 1/yr					
Equipment Type	Fuel Type	Number	Hours/Day	Hours/Year	Horsepower	Load Factor
Food Truck Generator	Diesel	12	6	420	12	0.73
	Diesel	6	6	270	12	0.73
	Typical Bhp of between 6 and 17, average of 12					
5.11. Operational Energy Consumption	70 events with 10k attendance and with 12 food trucks x 6 hrs/event = 12 generators at (70 events x 6 hrs each) = 420 annual hrs each					
	90 events with 5k attendance and with 6 food trucks x 6 hrs/event = 6 generators at (90 events x 6 hours) = 540 annual hours each					

5.12. Operational Water and Wastewater Consumption (per Utilities section of CEQA Checklist)

Indoor Water (gal/year)	Outdoor Water (gal/year)
11,765,408	264,945

Mobile Source Calculations:

	Weekday			Weekend			
Events:	*Attned:*	*# Events*	*Ann. Attned*	*Attned:*	*# Events*	*Ann. Attned*	*Total*
Roots/Soul	*10,000*	*30*	*300,000*	*10,000*	*16*	*160,000*	
Project 510	*5000*	*30*	*150,000*	*5,000*	*10*	*50,000*	
Other Sports				*10,000*	*12*	*120,000*	
Concert/Ent.				*10,000*	*12*	*120,000*	
Corporate Events	*5000*	*10*	*50,000*	*5,000*	*40*	*200,000*	
		70	*500,000*		*90*	*650,000*	1,150,000
					160		
Staff (full)	*240*	*30*	*7,200*	*240*	*40*	*9,600*	
Staff (half)	*90*	*40*	*3,600*	*90*	*50*	*4,500*	
			10,800			*14,100*	24,900
Without TDM							
	Attend	*per car*	*Trips*				
Drive/Carpool (81% wday/82% wend)	*405,000*	*1.79*	*226,257*	*533,000*	*2.22*	*240,090*	
Ride Service (3% wday / 6% wend))	*15,000*	*2.4*	*12,500*	*39,000*	*1.84*	*42,391*	
Staff (93%)	*10,044*	*1.06*	*9,475*	*13,113*	*1.06*	*12,371*	
Trips			*248,232*			*294,852*	
Round Trips		*x 2*	*496,465*		*x 2*	*589,704*	**1,086,169**
VMT Drive Trips		*15*	*7,071,974*		*15.4*	*7,775,794*	
VMT Ride Trip		*11.3*	*282,500*		*10.9*	*924,130*	
VMT			*7,354,474*			*8,699,924*	***16,054,398***
With TDM							
	Attend	*per car*	*Trips*				
Drive/Carpool (78% wday/77% wend)	*390,000*	*2.17*	*179,724*	*500,500*	*2.73*	*183,333*	
Ride Service (3% wday / 6% wend)	*15,000*	*2.4*	*12,500*	*39,000*	*1.84*	*42,391*	
Staff (93%)	*10,044*	*1.6*	*6,278*	*13,113*	*1.33*	*17,440*	
Trips			*198,501*			*243,165*	
Round Trips		*x 2*	*397,002*		*x 2*	*486,330*	**883,332**
VMT Drive Trips		*15*	*5,580,030*		*15.4*	*6,183,828*	
VMT Ride Trip		*11.3*	*282,500*		*10.9*	*924,130*	
VMT			5,862,530			7,107,958	**12,970,488**

1. Basic Project Information

Roots - Annual Emissions

1.1. Basic Project Information

Data Field	Value
Project Name	Roots average day
Operational Year	2024
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	3.90
Precipitation (days)	39.0
Location	37.746936876422055, -122.19963976183476
County	Alameda
City	Oakland
Air District	Bay Area AQMD
Air Basin	San Francisco Bay Area
TAZ	1481
EDFZ	1
Electric Utility	Pacific Gas & Electric Company
Gas Utility	Pacific Gas & Electric
App Version	2022.1.1.21

1.2. Land Use Types

Land Use Subtype	Size	Unit	Lot Acreage	Building Area (sq ft)	Landscape Area (sq ft)	Special Landscape Area (sq ft)	Population	Description
Arena	8.74	Acre	8.74	55,720	23,320	—	—	—

2. Emissions Summary

2.4. Operations Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Un/Mit.	ROG	NOx	PM10E	PM2.5E	CO2e
Daily, Summer (Max)	—	—	—	—	—
Unmit.	15.5	21.0	1.07	1.05	37,767
Daily, Winter (Max)	—	—	—	—	—
Unmit.	14.7	23.4	1.06	1.05	35,572
Average Daily (Max)	—	—	—	—	—
Unmit.	13.5	16.5	0.39	0.38	35,213
Annual (Max)	—	—	—	—	—
Unmit.	2.47	3.01	0.07	0.07	5,830

2.5. Operations Emissions by Sector, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Sector	ROG	NOx	PM10E	PM2.5E	CO2e
Daily, Summer (Max)	—	—	—	—	—
Mobile	12.5	13.6	0.23	0.22	36,544
Area	1.61	0.02	< 0.005	< 0.005	10.0
Energy	0.00	0.00	0.00	0.00	343
Water	—	—	—	—	140
Waste	—	—	—	—	1.42
Refrig.	—	—	—	—	0.35
Stationary	1.42	7.39	0.83	0.83	728
Total	15.5	21.0	1.07	1.05	37,767

Daily, Winter (Max)	—	—	—	—	—
Mobile	12.0	16.0	0.23	0.22	34,359
Area	1.21	—	—	—	—
Energy	0.00	0.00	0.00	0.00	343
Water	—	—	—	—	140
Waste	—	—	—	—	1.42
Refrig.	—	—	—	—	0.35
Stationary	1.42	7.39	0.83	0.83	728
Total	14.7	23.4	1.06	1.05	35,572
Average Daily	—	—	—	—	—
Mobile	11.9	15.1	0.23	0.22	34,583
Area	1.40	0.01	< 0.005	< 0.005	4.93
Energy	0.00	0.00	0.00	0.00	343
Water	—	—	—	—	140
Waste	—	—	—	—	1.42
Refrig.	—	—	—	—	0.35
Stationary	0.27	1.42	0.16	0.16	140
Total	13.5	16.5	0.39	0.38	35,213
Annual	—	—	—	—	—
Mobile	2.16	2.75	0.04	0.04	5,726
Area	0.26	< 0.005	< 0.005	< 0.005	0.82
Energy	0.00	0.00	0.00	0.00	56.8
Water	—	—	—	—	23.3
Waste	—	—	—	—	0.23
Refrig.	—	—	—	—	0.06
Stationary	0.05	0.26	0.03	0.03	23.1
Total	2.47	3.01	0.07	0.07	5,830

4. Operations Emissions Details

4.1. Mobile Emissions by Land Use

4.1.1. Unmitigated

Mobile source emissions results are presented in Sections 2.6. No further detailed breakdown of emissions is available.

4.2. Energy

4.2.1. Electricity Emissions By Land Use - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	ROG	NOx	PM10E	PM2.5E	CO2e
Daily, Summer (Max)	—	—	—	—	—
Arena	—	—	—	—	343
Total	—	—	—	—	343
Daily, Winter (Max)	—	—	—	—	—
Arena	—	—	—	—	343
Total	—	—	—	—	343
Annual	—	—	—	—	—
Arena	—	—	—	—	56.8
Total	—	—	—	—	56.8

4.2.3. Natural Gas Emissions By Land Use - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	ROG	NOx	PM10E	PM2.5E	CO2e
Daily, Summer (Max)	—	—	—	—	—
Arena	0.00	0.00	0.00	0.00	0.00
Total	0.00	0.00	0.00	0.00	0.00

Daily, Winter (Max)	—	—	—	—	—
Arena	0.00	0.00	0.00	0.00	0.00
Total	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—
Arena	0.00	0.00	0.00	0.00	0.00
Total	0.00	0.00	0.00	0.00	0.00

4.3. Area Emissions by Source

4.3.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Source	ROG	NOx	PM10E	PM2.5E	CO2e
Daily, Summer (Max)	—	—	—	—	—
Consumer Products	1.19	—	—	—	—
Architectural Coatings	0.02	—	—	—	—
Landscape Equipment	0.40	0.02	< 0.005	< 0.005	10.0
Total	1.61	0.02	< 0.005	< 0.005	10.0
Daily, Winter (Max)	—	—	—	—	—
Consumer Products	1.19	—	—	—	—
Architectural Coatings	0.02	—	—	—	—
Total	1.21	—	—	—	—
Annual	—	—	—	—	—
Consumer Products	0.22	—	—	—	—
Architectural Coatings	< 0.005	—	—	—	—
Landscape Equipment	0.04	< 0.005	< 0.005	< 0.005	0.82
Total	0.26	< 0.005	< 0.005	< 0.005	0.82

4.4. Water Emissions by Land Use

4.4.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	ROG	NOx	PM10E	PM2.5E	CO2e
Daily, Summer (Max)	—	—	—	—	—
Arena	—	—	—	—	140
Total	—	—	—	—	140
Daily, Winter (Max)	—	—	—	—	—
Arena	—	—	—	—	140
Total	—	—	—	—	140
Annual	—	—	—	—	—
Arena	—	—	—	—	23.3
Total	—	—	—	—	23.3

4.5. Waste Emissions by Land Use

4.5.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	ROG	NOx	PM10E	PM2.5E	CO2e
Daily, Summer (Max)	—	—	—	—	—
Arena	—	—	—	—	1.42
Total	—	—	—	—	1.42
Daily, Winter (Max)	—	—	—	—	—
Arena	—	—	—	—	1.42
Total	—	—	—	—	1.42
Annual	—	—	—	—	—

Arena	—	—	—	—	0.23
Total	—	—	—	—	0.23

4.6. Refrigerant Emissions by Land Use

4.6.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	ROG	NOx	PM10E	PM2.5E	CO2e
Daily, Summer (Max)	—	—	—	—	—
Arena	—	—	—	—	0.35
Total	—	—	—	—	0.35
Daily, Winter (Max)	—	—	—	—	—
Arena	—	—	—	—	0.35
Total	—	—	—	—	0.35
Annual	—	—	—	—	—
Arena	—	—	—	—	0.06
Total	—	—	—	—	0.06

4.7. Offroad Emissions By Equipment Type

4.7.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	ROG	NOx	PM10E	PM2.5E	CO2e
Daily, Summer (Max)	—	—	—	—	—
Total	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—
Total	—	—	—	—	—
Annual	—	—	—	—	—
Total	—	—	—	—	—

4.8. Stationary Emissions By Equipment Type

4.8.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	ROG	NOx	PM10E	PM2.5E	CO2e
Daily, Summer (Max)	—	—	—	—	—
Emergency Generator	1.42	7.39	0.83	0.83	728
Total	1.42	7.39	0.83	0.83	728
Daily, Winter (Max)	—	—	—	—	—
Emergency Generator	1.42	7.39	0.83	0.83	728
Total	1.42	7.39	0.83	0.83	728
Annual	—	—	—	—	—
Emergency Generator	0.05	0.26	0.03	0.03	23.1
Total	0.05	0.26	0.03	0.03	23.1

5. Activity Data

5.9. Operational Mobile Sources

5.9.1. Unmitigated

Land Use Type	Trips/Weekday	Trips/Saturday	Trips/Sunday	Trips/Year	VMT/Weekday	VMT/Saturday	VMT/Sunday	VMT/Year
Total all Land Uses	2,976	2,976	2,976	1,086,169	43,985	43,985	43,985	16,054,398

5.10. Operational Area Sources

5.10.1. Hearths

5.10.1.1. Unmitigated

5.10.2. Architectural Coatings

Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
0	0.00	83,580	27,860	—

5.10.3. Landscape Equipment

Season	Unit	Value
Snow Days	day/yr	0.00
Summer Days	day/yr	180

5.11. Operational Energy Consumption

5.11.1. Unmitigated

Electricity (kWh/yr) and CO2 and CH4 and N2O and Natural Gas (kBTU/yr)

Land Use	Electricity (kWh/yr)	CO2	CH4	N2O	Natural Gas (kBTU/yr)
Arena	607,913	204	0.0330	0.0040	0.00

5.12. Operational Water and Wastewater Consumption

5.12.1. Unmitigated

Land Use	Indoor Water (gal/year)	Outdoor Water (gal/year)
Arena	11,765,409	264,946

5.13. Operational Waste Generation

5.13.1. Unmitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
Arena	0.75	—

5.14. Operational Refrigeration and Air Conditioning Equipment

5.14.1. Unmitigated

Land Use Type	Equipment Type	Refrigerant	GWP	Quantity (kg)	Operations Leak Rate	Service Leak Rate	Times Serviced
Arena	Other commercial A/C and heat pumps	R-410A	2,088	< 0.005	4.00	4.00	18.0
Arena	Stand-alone retail refrigerators and freezers	R-134a	1,430	0.04	1.00	0.00	1.00
Arena	Walk-in refrigerators and freezers	R-404A	3,922	< 0.005	7.50	7.50	20.0

5.15. Operational Off-Road Equipment

5.15.1. Unmitigated

Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor

5.16. Stationary Sources

5.16.1. Emergency Generators and Fire Pumps

Equipment Type	Fuel Type	Number per Day	Hours per Day	Hours per Year	Horsepower	Load Factor
Emergency Generator	Diesel	12.0	6.00	420	12.0	0.73

Emergency Generator	Diesel	6.00	6.00	540	12.0	0.73

8. User Changes to Default Data

Screen	Justification
Land Use	Buildings = modulars, containers, bleachers and restrooms/storage
Operations: Vehicle Data	per Trip Generation and VMT Table (see attached
Operations: Architectural Coatings	minimal architectural coatings and reapplication
Operations: Emergency Generators and Fire Pumps	Typical Bhp of between 6 and 17, average of 12 70 events with10k attendance, with 12 food trucks x 6 hours/event = 12 generators at (6 hours x 70 events) = 420 annual hours, each 90 events with 5k attendance, with 6 food trucks x 6 hours/event = 6 generators at (6 hours x 90 events) = 540 annual hours, each
Operations: Energy Use	per Utilities Chapter of CEQA Analysis

1. Basic Project Information

Roots - Annual Emissions with TDM

1.1. Basic Project Information

Data Field	Value
Project Name	Roots average day
Operational Year	2024
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	3.90
Precipitation (days)	39.0
Location	37.746936876422055, -122.19963976183476
County	Alameda
City	Oakland
Air District	Bay Area AQMD
Air Basin	San Francisco Bay Area
TAZ	1481
EDFZ	1
Electric Utility	Pacific Gas & Electric Company
Gas Utility	Pacific Gas & Electric
App Version	2022.1.1.21

1.2. Land Use Types

Land Use Subtype	Size	Unit	Lot Acreage	Building Area (sq ft)	Landscape Area (sq ft)	Special Landscape Area (sq ft)	Population	Description
Arena	8.74	Acre	8.74	55,720	23,320	—	—	—

2. Emissions Summary

2.4. Operations Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Un/Mit.	ROG	NOx	PM10E	PM2.5E	CO2e
Daily, Summer (Max)	—	—	—	—	—
Unmit.	13.1	18.4	1.02	1.01	30,751
Daily, Winter (Max)	—	—	—	—	—
Unmit.	12.4	20.3	1.02	1.01	28,976
Average Daily (Max)	—	—	—	—	—
Unmit.	11.3	13.6	0.35	0.34	28,573
Annual (Max)	—	—	—	—	—
Unmit.	2.06	2.49	0.06	0.06	4,731

2.5. Operations Emissions by Sector, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Sector	ROG	NOx	PM10E	PM2.5E	CO2e
Daily, Summer (Max)	—	—	—	—	—
Mobile	10.1	11.0	0.19	0.18	29,528
Area	1.61	0.02	< 0.005	< 0.005	10.0
Energy	0.00	0.00	0.00	0.00	343
Water	—	—	—	—	140
Waste	—	—	—	—	1.42
Refrig.	—	—	—	—	0.35
Stationary	1.42	7.39	0.83	0.83	728
Total	13.1	18.4	1.02	1.01	30,751

Daily, Winter (Max)	—	—	—	—	—
Mobile	9.77	12.9	0.19	0.18	27,762
Area	1.21	—	—	—	—
Energy	0.00	0.00	0.00	0.00	343
Water	—	—	—	—	140
Waste	—	—	—	—	1.42
Refrig.	—	—	—	—	0.35
Stationary	1.42	7.39	0.83	0.83	728
Total	12.4	20.3	1.02	1.01	28,976
Average Daily	—	—	—	—	—
Mobile	9.63	12.2	0.19	0.18	27,943
Area	1.40	0.01	< 0.005	< 0.005	4.93
Energy	0.00	0.00	0.00	0.00	343
Water	—	—	—	—	140
Waste	—	—	—	—	1.42
Refrig.	—	—	—	—	0.35
Stationary	0.27	1.42	0.16	0.16	140
Total	11.3	13.6	0.35	0.34	28,573
Annual	—	—	—	—	—
Mobile	1.76	2.23	0.03	0.03	4,626
Area	0.26	< 0.005	< 0.005	< 0.005	0.82
Energy	0.00	0.00	0.00	0.00	56.8
Water	—	—	—	—	23.3
Waste	—	—	—	—	0.23
Refrig.	—	—	—	—	0.06
Stationary	0.05	0.26	0.03	0.03	23.1
Total	2.06	2.49	0.06	0.06	4,731

CalEEMod 2022 - Roots, Typical Gameday Emissions Report, 2/19/24

1.1 Basic Project Information

Data Field	Value
Project Name	Roots average day v3
Operational Year	2024
Lead Agency	
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	3.9
Precipitation (days)	39
Location	37.74737296251456, -122.19874925556759
County	Alameda
City	Oakland
Air District	Bay Area AQMD
Air Basin	San Francisco Bay Area
TAZ	1481
EDFZ	1
Electric Utility	Pacific Gas & Electric Company
Gas Utility	Pacific Gas & Electric
App Version	2022.1.1.21

1.2 Land Use Types

Land Use Subtype	Size	Unit	Lot Acreage	Building Area (sq ft)	Landscape Area (sq ft)
Arena	8.74	Acre	8.74	**55720**	23320
	Bldgs	*Bleachers*	*Storage*	*Temp Restrms*	*Total*
	11,885	*31,355*	*5,760*	*6,720*	***55,720***

2. Emissions Summary

2.4 Operations Emissions

	ROG	NOx	PM10E	PM2.5E
Daily Summer (Max)	44.918	53.228	1.617	1.566
Daily Winter (Max)	43.052	61.235	1.614	1.564
Average Daily	29.657	36.328	0.697	0.662
Daily Summer Max with TDM	*36.108*	*42.819*	*1.436*	*1.397*

2.5 Operations Emissions by Sector

		ROG	NOx	PM10E	PM2.5E
Daily, Summer Max					
Mobile		41.894	45.815	0.783	0.733
Area		1.606	0.020	0.004	0.003
Stationary (Generators)		1.418	7.394	0.830	0.830
	Total	**44.918**	**53.228**	**1.617**	**1.566**
Daily, Summer Max with TDM					
Mobile		33.084	35.405	0.6018	0.5634
Area		1.6057	0.0204	0.0043	0.0033
Stationary (Generators)		1.4177	7.3935	0.8301	0.8301
	Total	**36.107**	**42.819**	**1.436**	**1.397**
Daily, Winter Max					
Mobile		40.426	53.841	0.783	0.733
Area		1.208	0.000	0.000	0.000
Stationary (Generators)		1.418	7.394	0.830	0.830
	Total	**43.052**	**61.235**	**1.614**	**1.563**
Average Daily (Typical)					
Mobile		27.981	34.900	0.536	0.502
Area		1.404	0.010	0.002	0.002
Stationary (Generators)		0.272	1.418	0.159	0.159
	Total	**29.657**	**36.328**	**0.697**	**0.662**

4.3.1 Area Emissions by Source

Daily Summer (Max)	ROG	NOx	PM10E	PM2.5E
Consumer Products	1.192			
Architectural Coatings	0.016			
Landscape Equipment	0.397	0.020	0.004	0.003

CalEEMod 2022 - Roots, Typical Gameday Emissions Report, 2/19/24

Total	**1.606**	**0.020**	**0.004**	**0.003**

4.8.1 Stationary Emission by Equipment Type

Daily Summer (Max)	ROG	NOx	PM10E	PM2.5E
Generators, food trucks	1.4177	7.3935	0.8301	0.8301

5.9. Operational Mobile Sources

Land Use Type	Trips Weekday		VMT/Weekday	
Arena	**9,990**		**148,004**	
Mitigated	**7,989**	20%	**113,484**	23%

8 User Changes to Default Data

Screen	Justification					
Land Use	Buildings = modulars, containers, bleachers and restrooms/storage					
Operations: Vehicle Data	weekday only run, F&P 2-1-24 (see below)					
Operations: Architectural Coatings	minimal architectural coatings and reapplication - 1/yr					
Equipment Type	Fuel Type	Number	Hours/Day	Hours/Year	Horsepower	Load Factor
Emergency Generator	Diesel	12	6	420	12	0.73
	Typical Bhp of between 6 and 17, average of 12					

5.11. Operational Energy Consumption

	Electricity (kWh/yr)	CO2	CH4	N2O	Natural Gas (kBTU/yr)
Arena	607913	203.983	0.0330	0.0040	0

5.12. Operational Water and Wastewater Consumption

Indoor Water (gal/year)	Outdoor Water (gal/year)
11,765,408	264,945

Mobile Source Calculations:

Without TDM

Weekday Day Socer	*Attned.*	*per car*	*trips*	*round trips*	*avg VMT/trip*	*VMT*
Drive/Carpool	*8,100*	*1.79*	*4,525*	*9,040*	*15*	*135,604*
Ride Service	*300*	*2.4*	*125*	*500*	*11.3*	*5,650*
Employees/Players/Other	*270*			*450*	*15*	*6,750*
			4,650	***9,990***		***148,004***

With TDM

Weekday Day Socer	*Attned.*	*per car*	*trips*	*round trips*	*avg VMT/trip*	*VMT*
Drive/Carpool	*7,800*	*2.17*	*3,594*	*7,189*	*15*	*107,834*
Ride Service	*300*	*2.4*	*250*	*500*	*11.3*	*5,650*
Employees/Players/Other	*270*			*300*	*15*	*4,500*
			3,844	***7,989***		***113,484***
				20%		

1. Basic Project Information

Roots - Tyical Game Day Emissions

1.1. Basic Project Information

Data Field	Value
Project Name	Roots average day
Operational Year	2024
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	3.90
Precipitation (days)	39.0
Location	37.746936876422055, -122.19963976183476
County	Alameda
City	Oakland
Air District	Bay Area AQMD
Air Basin	San Francisco Bay Area
TAZ	1481
EDFZ	1
Electric Utility	Pacific Gas & Electric Company
Gas Utility	Pacific Gas & Electric
App Version	2022.1.1.21

1.2. Land Use Types

Land Use Subtype	Size	Unit	Lot Acreage	Building Area (sq ft)	Landscape Area (sq ft)	Special Landscape Area (sq ft)	Population	Description
Arena	8.74	Acre	8.74	55,720	23,320	—	—	—

2. Emissions Summary

2.4. Operations Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Un/Mit.	ROG	NOx	PM10E	PM2.5E	CO2e
Daily, Summer (Max)	—	—	—	—	—
Unmit.	44.9	53.2	1.62	1.57	124,186
Daily, Winter (Max)	—	—	—	—	—
Unmit.	43.1	61.2	1.61	1.56	116,823
Average Daily (Max)	—	—	—	—	—
Unmit.	29.7	36.3	0.70	0.66	80,103
Annual (Max)	—	—	—	—	—
Unmit.	5.41	6.63	0.13	0.12	13,262

2.5. Operations Emissions by Sector, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Sector	ROG	NOx	PM10E	PM2.5E	CO2e
Daily, Summer (Max)	—	—	—	—	—
Mobile	41.9	45.8	0.78	0.73	122,963
Area	1.61	0.02	< 0.005	< 0.005	10.0
Energy	0.00	0.00	0.00	0.00	343
Water	—	—	—	—	140
Waste	—	—	—	—	1.42
Refrig.	—	—	—	—	0.35
Stationary	1.42	7.39	0.83	0.83	728
Total	44.9	53.2	1.62	1.57	124,186

Daily, Winter (Max)	—	—	—	—	—
Mobile	40.4	53.8	0.78	0.73	115,610
Area	1.21	—	—	—	—
Energy	0.00	0.00	0.00	0.00	343
Water	—	—	—	—	140
Waste	—	—	—	—	1.42
Refrig.	—	—	—	—	0.35
Stationary	1.42	7.39	0.83	0.83	728
Total	43.1	61.2	1.61	1.56	116,823
Average Daily	—	—	—	—	—
Mobile	28.0	34.9	0.54	0.50	79,473
Area	1.40	0.01	< 0.005	< 0.005	4.93
Energy	0.00	0.00	0.00	0.00	343
Water	—	—	—	—	140
Waste	—	—	—	—	1.42
Refrig.	—	—	—	—	0.35
Stationary	0.27	1.42	0.16	0.16	140
Total	29.7	36.3	0.70	0.66	80,103
Annual	—	—	—	—	—
Mobile	5.11	6.37	0.10	0.09	13,158
Area	0.26	< 0.005	< 0.005	< 0.005	0.82
Energy	0.00	0.00	0.00	0.00	56.8
Water	—	—	—	—	23.3
Waste	—	—	—	—	0.23
Refrig.	—	—	—	—	0.06
Stationary	0.05	0.26	0.03	0.03	23.1
Total	5.41	6.63	0.13	0.12	13,262

4. Operations Emissions Details

4.1. Mobile Emissions by Land Use

4.1.1. Unmitigated

Mobile source emissions results are presented in Sections 2.6. No further detailed breakdown of emissions is available.

4.2. Energy

4.2.1. Electricity Emissions By Land Use - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	ROG	NOx	PM10E	PM2.5E	CO2e
Daily, Summer (Max)	—	—	—	—	—
Arena	—	—	—	—	343
Total	—	—	—	—	343
Daily, Winter (Max)	—	—	—	—	—
Arena	—	—	—	—	343
Total	—	—	—	—	343
Annual	—	—	—	—	—
Arena	—	—	—	—	56.8
Total	—	—	—	—	56.8

4.2.3. Natural Gas Emissions By Land Use - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	ROG	NOx	PM10E	PM2.5E	CO2e
Daily, Summer (Max)	—	—	—	—	—
Arena	0.00	0.00	0.00	0.00	0.00
Total	0.00	0.00	0.00	0.00	0.00

Daily, Winter (Max)	—	—	—	—	—
Arena	0.00	0.00	0.00	0.00	0.00
Total	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—
Arena	0.00	0.00	0.00	0.00	0.00
Total	0.00	0.00	0.00	0.00	0.00

4.3. Area Emissions by Source

4.3.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Source	ROG	NOx	PM10E	PM2.5E	CO2e
Daily, Summer (Max)	—	—	—	—	—
Consumer Products	1.19	—	—	—	—
Architectural Coatings	0.02	—	—	—	—
Landscape Equipment	0.40	0.02	< 0.005	< 0.005	10.0
Total	1.61	0.02	< 0.005	< 0.005	10.0
Daily, Winter (Max)	—	—	—	—	—
Consumer Products	1.19	—	—	—	—
Architectural Coatings	0.02	—	—	—	—
Total	1.21	—	—	—	—
Annual	—	—	—	—	—
Consumer Products	0.22	—	—	—	—
Architectural Coatings	< 0.005	—	—	—	—
Landscape Equipment	0.04	< 0.005	< 0.005	< 0.005	0.82
Total	0.26	< 0.005	< 0.005	< 0.005	0.82

4.4. Water Emissions by Land Use

4.4.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	ROG	NOx	PM10E	PM2.5E	CO2e
Daily, Summer (Max)	—	—	—	—	—
Arena	—	—	—	—	140
Total	—	—	—	—	140
Daily, Winter (Max)	—	—	—	—	—
Arena	—	—	—	—	140
Total	—	—	—	—	140
Annual	—	—	—	—	—
Arena	—	—	—	—	23.3
Total	—	—	—	—	23.3

4.5. Waste Emissions by Land Use

4.5.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	ROG	NOx	PM10E	PM2.5E	CO2e
Daily, Summer (Max)	—	—	—	—	—
Arena	—	—	—	—	1.42
Total	—	—	—	—	1.42
Daily, Winter (Max)	—	—	—	—	—
Arena	—	—	—	—	1.42
Total	—	—	—	—	1.42
Annual	—	—	—	—	—

Arena	—	—	—	—	0.23
Total	—	—	—	—	0.23

4.6. Refrigerant Emissions by Land Use

4.6.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	ROG	NOx	PM10E	PM2.5E	CO2e
Daily, Summer (Max)	—	—	—	—	—
Arena	—	—	—	—	0.35
Total	—	—	—	—	0.35
Daily, Winter (Max)	—	—	—	—	—
Arena	—	—	—	—	0.35
Total	—	—	—	—	0.35
Annual	—	—	—	—	—
Arena	—	—	—	—	0.06
Total	—	—	—	—	0.06

4.7. Offroad Emissions By Equipment Type

4.7.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	ROG	NOx	PM10E	PM2.5E	CO2e
Daily, Summer (Max)	—	—	—	—	—
Total	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—
Total	—	—	—	—	—
Annual	—	—	—	—	—
Total	—	—	—	—	—

4.8. Stationary Emissions By Equipment Type

4.8.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	ROG	NOx	PM10E	PM2.5E	CO2e
Daily, Summer (Max)	—	—	—	—	—
Emergency Generator	1.42	7.39	0.83	0.83	728
Total	1.42	7.39	0.83	0.83	728
Daily, Winter (Max)	—	—	—	—	—
Emergency Generator	1.42	7.39	0.83	0.83	728
Total	1.42	7.39	0.83	0.83	728
Annual	—	—	—	—	—
Emergency Generator	0.05	0.26	0.03	0.03	23.1
Total	0.05	0.26	0.03	0.03	23.1

5. Activity Data

5.9. Operational Mobile Sources

5.9.1. Unmitigated

Land Use Type	Trips/Weekday	Trips/Saturday	Trips/Sunday	Trips/Year	VMT/Weekday	VMT/Saturday	VMT/Sunday	VMT/Year
Total all Land Uses	9,990	0.00	0.00	2,594,107	148,004	0.00	0.00	36,866,043

5.10. Operational Area Sources

5.10.1. Hearths

5.10.1.1. Unmitigated

5.10.2. Architectural Coatings

Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
0	0.00	83,580	27,860	—

5.10.3. Landscape Equipment

Season	Unit	Value
Snow Days	day/yr	0.00
Summer Days	day/yr	180

5.11. Operational Energy Consumption

5.11.1. Unmitigated

Electricity (kWh/yr) and CO2 and CH4 and N2O and Natural Gas (kBTU/yr)

Land Use	Electricity (kWh/yr)	CO2	CH4	N2O	Natural Gas (kBTU/yr)
Arena	607,913	204	0.0330	0.0040	0.00

5.12. Operational Water and Wastewater Consumption

5.12.1. Unmitigated

Land Use	Indoor Water (gal/year)	Outdoor Water (gal/year)
Arena	11,765,409	264,946

5.13. Operational Waste Generation

5.13.1. Unmitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
Arena	0.75	—

5.14. Operational Refrigeration and Air Conditioning Equipment

5.14.1. Unmitigated

Land Use Type	Equipment Type	Refrigerant	GWP	Quantity (kg)	Operations Leak Rate	Service Leak Rate	Times Serviced
Arena	Other commercial A/C and heat pumps	R-410A	2,088	< 0.005	4.00	4.00	18.0
Arena	Stand-alone retail refrigerators and freezers	R-134a	1,430	0.04	1.00	0.00	1.00
Arena	Walk-in refrigerators and freezers	R-404A	3,922	< 0.005	7.50	7.50	20.0

5.15. Operational Off-Road Equipment

5.15.1. Unmitigated

Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor

5.16. Stationary Sources

5.16.1. Emergency Generators and Fire Pumps

Equipment Type	Fuel Type	Number per Day	Hours per Day	Hours per Year	Horsepower	Load Factor
Emergency Generator	Diesel	12.0	6.00	420	12.0	0.73

8. User Changes to Default Data

Screen	Justification
Land Use	Buildings = modulars, containers, bleachers and restrooms/storage
Operations: Vehicle Data	per Trip Generation and VMT Table (see attached) weekday only run
Operations: Architectural Coatings	minimal architectural coatings and reapplication
Operations: Emergency Generators and Fire Pumps	Typical Bhp of between 6 and 17, average of 12. 70 events with10k attendance, with 12 food trucks x 6 hrs/event = 12 generators at 420 annual hrs

1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	Roots average day
Operational Year	2024
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	3.90
Precipitation (days)	39.0
Location	37.746936876422055, -122.19963976183476
County	Alameda
City	Oakland
Air District	Bay Area AQMD
Air Basin	San Francisco Bay Area
TAZ	1481
EDFZ	1
Electric Utility	Pacific Gas & Electric Company
Gas Utility	Pacific Gas & Electric
App Version	2022.1.1.21

1.2. Land Use Types

Land Use Subtype	Size	Unit	Lot Acreage	Building Area (sq ft)	Landscape Area (sq ft)	Special Landscape Area (sq ft)	Population	Description
Arena	8.74	Acre	8.74	55,720	23,320	—	—	—

2. Emissions Summary

2.4. Operations Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Un/Mit.	ROG	NOx	PM10E	PM2.5E	CO2e
Daily, Summer (Max)	—	—	—	—	—
Unmit.	36.1	42.8	1.44	1.40	95,576
Daily, Winter (Max)	—	—	—	—	—
Unmit.	34.5	49.0	1.43	1.39	89,931
Average Daily (Max)	—	—	—	—	—
Unmit.	24.1	29.4	0.59	0.56	64,412
Annual (Max)	—	—	—	—	—
Unmit.	4.41	5.37	0.11	0.10	10,664

2.5. Operations Emissions by Sector, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Sector	ROG	NOx	PM10E	PM2.5E	CO2e
Daily, Summer (Max)	—	—	—	—	—
Mobile	33.1	35.4	0.60	0.56	94,353
Area	1.61	0.02	< 0.005	< 0.005	10.0
Energy	0.00	0.00	0.00	0.00	343
Water	—	—	—	—	140
Waste	—	—	—	—	1.42
Refrig.	—	—	—	—	0.35
Stationary	1.42	7.39	0.83	0.83	728
Total	36.1	42.8	1.44	1.40	95,576

Daily, Winter (Max)	—	—	—	—	—
Mobile	31.9	41.6	0.60	0.56	88,718
Area	1.21	—	—	—	—
Energy	0.00	0.00	0.00	0.00	343
Water	—	—	—	—	140
Waste	—	—	—	—	1.42
Refrig.	—	—	—	—	0.35
Stationary	1.42	7.39	0.83	0.83	728
Total	34.5	49.0	1.43	1.39	89,931
Average Daily	—	—	—	—	—
Mobile	22.5	28.0	0.43	0.40	63,782
Area	1.40	0.01	< 0.005	< 0.005	4.93
Energy	0.00	0.00	0.00	0.00	343
Water	—	—	—	—	140
Waste	—	—	—	—	1.42
Refrig.	—	—	—	—	0.35
Stationary	0.27	1.42	0.16	0.16	140
Total	24.1	29.4	0.59	0.56	64,412
Annual	—	—	—	—	—
Mobile	4.10	5.11	0.08	0.07	10,560
Area	0.26	< 0.005	< 0.005	< 0.005	0.82
Energy	0.00	0.00	0.00	0.00	56.8
Water	—	—	—	—	23.3
Waste	—	—	—	—	0.23
Refrig.	—	—	—	—	0.06
Stationary	0.05	0.26	0.03	0.03	23.1
Total	4.41	5.37	0.11	0.10	10,664

Appendix D

Aquatic Resources Delineation Report, Oakland Roots and Soul Interim Stadium Project

Huffman-Broadway Group, Inc., November 2023

Aquatic Resources Delineation Report
Oakland Roots and Soul Sport Clubs Interim Stadium
Oakland, California

Prepared for

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November 2023

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Citation: Huffman-Broadway Group, Inc. 2023. *Aquatic Resources Delineation Report*, *Oakland Roots and Soul Sport Clubs Interim Stadium, Oakland, California.* Prepared for Keystone Development Group, LLC, Oakland, California. November. 18 pages plus appendices.

EXECUTIVE SUMMARY

At the request of Keystone Development Group (Applicant), Huffman-Broadway Group, Inc. (HBG) conducted an Aquatic Resources Delineation (ARD) within the Review Area described below for the purpose of determining whether aquatic resources are present and, if present, potentially subject to US Army Corps of Engineers (Corps) and US Environmental Protection Agency (US EPA) jurisdiction under Section 404 of the Clean Water Act (CWA) (33 U.S.C. 1344) and/or Corps jurisdiction under Section 10 of the Rivers and Harbors Act (RHA) (33 U.S.C. 403).

The Review Area for the ARD is east of Interstate-880 (Nimitz Freeway) and south of Elmhurst Creek at 8000 S. Coliseum Way, Oakland, CA, 94621 (APN: 42-4328-1-24) (Appendix A, Figures 1 - 3). The western portion of the Review Area is accessible from South Coliseum Way via Hegenberger Road. The approximate center point of the Review Area is Latitude 37.746765 ° north and Longitude 122.199111 ° west.

Data collection, analysis, identification, and delineation of aquatic resources potentially subject to CWA was conducted consistent with the August 29, 2023 WOTUS Rule and supporting Corps and US EPA guidance document including the Corps' 1987 Wetlands Delineation Manual (Corps Delineation Manual) and the Corps' 2010 Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (Version 2.0) (Regional Supplement).

Aquatic resources were found within the Review Area. Appendix A, Figure 6 shows the aquatic resources identified and delineated which are potentially subject to Corps and USEPA Section 404 CWA jurisdiction. The following table provides a summary of these findings.

Summary of the Types of Aquatic Resource Habitats Identified Within the Review Area, Why They are Potentially Subject to CWA Section 404 Jurisdiction, Size, and Cowardin Classification, Oakland Roots and Soul Sport Clubs Interim Stadium, Oakland, CA

Aquatic Resource ID #	Aquatic Habitat Type	WOTUS Definition Met?	Description of Relevant 33 CFR 328.3 WOTUS Definition Met or Why Not Met	Size		Cowardin Classification[1]
				Acres	Linear Ft	
R1, R2, R3, & R8	Tributary	Yes	Elmhurst Creek and Tributary to Elmhurst Creek are a streams that meet the WOTUS definition of Jurisdictional Tributaries which are defined by 33 CFR 328.3 as *(a)(3) jurisdictional Tributaries of waters identified in paragraph (a)(1) or (a)(2) of this section that are relatively permanent, standing or continuously flowing bodies of water; [i.e., Jurisdictional Tributaries].* **Why**: Elmhurst Creek and Tributary to Elmhurst Creek have a relatively permanent flow connection to San Francisco an (a)(1) water.	0.142	953.203	Riverine, Tidal, Unconsolidated Bottom
R10	Tributary	Yes	(a)(3) tributary (see above)	0.013	102.692	Riverine, Tidal, Artificial Streambed
R6 and R7	Tributary	Yes	(a)(3) tributary (see above)	0.010	54.404	Riverine, Tidal, Rock Bottom
R4, R5, and R9	Wetland	Yes	**R4, R5, and R9 are adjacent wetlands as defined by** (*a)(4) Wetlands adjacent to the following waters: (i) Waters identified in paragraph (a)(1) of this section; or (ii) Relatively permanent, standing or continuously flowing bodies of water identified in paragraph (a)(2) or (a)(3) of this section and with a continuous surface connection to those waters; [i.e., Jurisdictional Adjacent Wetlands].* **Why**: Wetlands (R4, R5, and R9) which are (a)(4) waters that have a relatively permanent and continuous surface connection to (a)(3) waters (Elmhurst Creek and Tributary to Elmhurst Creek) and (a)(1) waters (San Francisco Bay).	0.180	943.557	Riverine, Tidal, Emergent

[1] Cowardin et al. 1979).

It was also determined that the aquatic resources listed above are subject to RHA Section 10 jurisdiction because they are subject to the ebb and flow of the tide.

1.0 INTRODUCTION

1.1 Background

At the request of Keystone Development Group (Applicant), Huffman-Broadway Group, Inc. (HBG) conducted an Aquatic Resources Delineation (ARD) within the Review Area described below for the purpose of determining whether aquatic resources are present and, if present, potentially subject to US Army Corps of Engineers (Corps) and US Environmental Protection Agency (US EPA) jurisdiction under Section 404 of the Clean Water Act (CWA) (33 U.S.C. 1344) and/or Corps jurisdiction under Section 10 of the Rivers and Harbors Act (RHA) (33 U.S.C. 403).

This delineation will be utilized by the Applicant for planning potential development within the Review Area. The delineation is viewed as an initial step to support planning efforts which would avoid and minimize impacts to jurisdictional aquatic resources where practicable following US EPA guidelines (40 CFR Part 230). Additionally, a Corps verified delineation is required by the San Francisco Bay Regional Water Quality Control Board if CWA jurisdictional waters are impacted.

1.2 Review Area Location

The Review Area for the ARD is east of Interstate-880 (Nimitz Freeway) and south of Elmhurst Creek at 8000 S. Coliseum Way, Oakland, CA, 94621 (APN: 042-4328-001-24) (Appendix A, Figures 1 - 3). The western portion of the Review Area is accessible from South Coliseum Way via Hegenberger Road. The approximate center point of the Review Area is Latitude 37.746765 ° north and Longitude 122.199111 ° west.

1.3 Directions to the Review Area

See Appendix B for driving directions.

1.4 Contact Information

Table 1. Contact Information	
Applicant	**Wetland Consultants**
Keystone Development Group, LLC 1714 Franklin St, #100-346 Oakland, CA 94612 Contact: Art May Telephone: 510.206.9130 Email: amay@keystonedg.com	**Huffman-Broadway Group, Inc.** ATTN: Greg Huffman 523 4th St., Suite 224 San Rafael, California 94901 Telephone: 415.999.0802 Email: ghuffman@h-bgroup.com

1.5 Environmental Setting

This section presents background environmental information on the Review Area from published sources, which is augmented with observations made during the initial site reconnaissance.

1.5.1 Land Use

Land Use Classification. The current general land use classification is regional commercial.

Current Land Use. Detailed review of Google Earth Pro aerial photography and imagery from December 1985 to April 2022 shows that land use in the Review Area consists of a parking lot with portions of Elmhurst Creek forming the northern boundary and a tributary of Elmhurst Creek forming the southern boundary.

Surrounding Land Uses. Surrounding land uses include Oakland-Alameda County Coliseum and Oakland Arena parking to the north; and commercial and industrial properties to the east and south.

1.5.2 Topography

The topographic relief on the majority of the Review Area is relatively flat (USGS 7.5' San Leandro Quadrangle).

1.5.3 Geology

The Review Area consists of quaternary alluvium and marine deposits, unconsolidated, undifferentiated material (NRCS 2023).

1.5.4 Vegetation

Vegetation communities are assemblages of plant species growing in an area of similar biological and environmental factors. Vegetation communities and habitats at the Review Area were identified based on the currently accepted List of Natural Communities List (CDFW 2010). The list is based on A Manual of California Vegetation, Second Edition (Sawyer and Keeler-Wolf 2009), which is the National Vegetation Classification applied to California. Habitats can also be classified using the California Wildlife Habitat Relationships (CWHR) classification (Mayer and Laudenslayer 1988), which defines aquatic as well as terrestrial habitats but, unlike the Natural Communities List, is one of the few systems that include Urban areas. Wetland habitats onsite were further classified using the USFWS's Classification of Wetlands and Deepwater Habitats of the United States (Cowardin et al. 1979).

The Review Area contains two plant communities or habitat types according to the Natural Communities List: they are defined by the CDFW (2010) classification: (1) Coastal Brackish Marsh and (2) Urban habitat under the CWHR classification.

Northern Coastal Salt Marsh. This vegetation type is typically dominated by one or more of the following species: pickleweed (*Salicornia rubra*), alkali heath, saltgrass, creeping saltbush (*Atriplex prostrata*), and gumplant (*Grindelia stricta*).

Urban. The urban habitat in the Review Area consists of a gravel parking area and channelized drainages.

1.5.5 Soils

Soil survey information for the Review Area was obtained from the National Resources Conservation Service Web Soil Survey (NRCS 2023) (Appendix C). The soil type mapped by NRCS within the Review Area is described as Urban Land (see table below).

Table 2. Summary of Pertinent Characteristics of Soils Mapped Onsite by NRCS Oakland Roots and Soul Sport Clubs Interim Stadium Oakland, California

Soil Name	Landform/Parent Material	Typical Profile (inches)	Natural Drainage Class/Runoff Class	Depth to Water Table	Frequency of Flooding/Ponding
146 — Urban land	Basin floors	n/a	n/a	n/a	None/None

1.5.6 Climate

Based on WETS Station “OAKLAND INTERNATIONAL AIRPORT, CA” precipitation and temperature data for the period of record (1971 – 2022), the average annual precipitation amount received approximately 2.5 miles from the site is 17.20 inches received as rainfall and 0.00 inch received as snow. The average minimum and maximum precipitation amount ranges between 0.03 and 3.80 inches. The wettest months, in which average monthly rainfall exceeds 2.00 inches, are January, February, March, November, and December (2.65, 2.85, 2.56, 2.14, and 3.80 inches) with the lowest average amount occurring in July and August (0.04 and 0.03 inches). Record data also indicates that the annual average daily temperature is 58.2° F. Average high and low temperatures range between 66.0 ° F and 50.4 ° F with the coldest months typically including January and December where temperatures are in the low 40s and the hottest months being July, August, and September where temperatures are in the low 70s. The annual growing season with a 50% probability of having days above 32° F is 307 days, and with a 70% probability of having days above 32° F, is 332 days (Appendix D).

1.5.7 Hydrology

Watersheds. Review of the US Geological Survey (USGS) National Hydrography Dataset (NHD) Hydrologic Unit Code (HUC) data show that the Review Area lies within the 8-digit HUC (18050004) “San Francisco Bay” subbasin and the 12-digit HUC (180500041001) “San Francisco Bay Estuaries” subwatershed.

Direction of Surface Water Flow and Connectivity. Surface water which flows onsite is the direct result of precipitation. No evidence of groundwater discharges such as from springs or seeps was seen where observed. Drainage within the Review Area flows to the Southwest to San Francisco Bay. Both Elmhurst Creek and a tributary of Elmhurst Creek which are in the Review Area are subject to unobstructed daily tidal flooding from San Francisco Bay (Appendix G).

1.5.8 FEMA Flood Zone

FEMA Flood Insurance Rate Map for “ALAMEDA COUNTY” 06001C0252H (Effective Date: 12/21/2018) indicates the Study Area is in Zone X (0.2% Annual Chance Flood Hazard) and Zone A Special Flood Hazard Area (1% Annual Chance Flood Hazard) (Appendix A, Figure 5).

1.5.9 Aquatic Resources

National Wetlands Inventory. Appendix A, Figure 4a U.S. Fish and Wildlife Service National Wetlands Inventory (NWI) Mapping shows Riverine Tidal Wetlands within the Review Area.

1.6 Disclaimer

Huffman-Broadway Group, Inc., and the Applicant have made a good-faith effort herein to thoroughly describe and document the presence of potential factors that the Corps may consider in asserting jurisdiction pursuant to Section 404 of the Clean Water Act and Section 10 of the Rivers and Harbors Act. Nevertheless, the Applicant, reserves the right to challenge or seek revision to any areas over which the Corps may assert such jurisdiction, should such jurisdiction be further clarified or altered through formal guidance, assertions, or disclaimers of jurisdiction over other properties, court decisions, or other relevant actions.

2.0 DELINEATION METHOD

2.1 Overview

HBG's investigation focused on the identification and delineation of the landward geographical reach of Waters of the US (WOTUS) as defined under Section 404 of the Clean Water Act (33 CFR § 328.3 (a)) and Navigable Waters under Section 10 of the Rivers and Harbors Act of 1899 (33 CFR § 329.4). Delineation methods used to identify and delineate these waters are described in the following Sections. The regulatory definitions of these jurisdictional aquatic resources or waters are as follows:

WOTUS

> Waters of the United States means:
>
> (1) Waters which are:
> (i) Currently used, or were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide;
> (ii) The territorial seas; or
> (iii) Interstate waters;
> (2) Impoundments of waters otherwise defined as waters of the United States under this definition, other than impoundments of waters identified under paragraph (a)(5) of this section;
> (3) Tributaries of waters identified in paragraph (a)(1) or (2) of this section that are relatively permanent, standing or continuously flowing bodies of water;
> (4) Wetlands adjacent to the following waters:
> (i) Waters identified in paragraph (a)(1) of this section; or
> (ii) Relatively permanent, standing or continuously flowing bodies of water identified in paragraph (a)(2) or (a)(2) of this section and with a continuous surface connection to those waters;
> (5) Intrastate lakes and ponds not identified in paragraph (a)(1) through (4) of this section that are relatively permanent, standing or continuously flowing bodies of water with a continuous surface connection to the waters identified in paragraph (a)(1) or (a)(3) of this section. (33 CFR § 328.3 (a))

Navigable Waters

> Navigable waters of the United States are those waters that are subject to the ebb and flow of the tide and/or are presently used, or have been used in the past, or may be susceptible for use to transport interstate or foreign commerce. A determination of navigability, once made, applies laterally over the entire surface of the waterbody, and is not extinguished by later actions or events which impede or destroy navigable capacity. 33 CFR § 329.4

2.2 Field Investigations

2.2.1 Preparation

In preparation for detailed field investigations, HBG identified existing landforms within the Review Area that would likely contain aquatic resources which may potentially meet the definition of WOTUS (wetlands and non-wetlands) and/or Navigable Waters by reviewing available on-line information sources to include: Google Earth Pro and ESRI most current and historical aerial photography and imagery; USGS National Hydrography Dataset watershed mapping; FEMA mapping; National Wetlands Inventory mapping; a NRCS Custom Soil Resources Report; and most current and historical USGS topographic mapping. Review Area specific LIDAR topographic mapping was also reviewed.

2.2.2 Field Work

Field investigations were conducted on August 15 and September 28, 2023 with the following objectives:

1. Determine the presence or absence of vegetation, hydric soil, and hydrology indicators of wetland conditions as defined by the Corps methodology;
2. Determine if field indicators of wetland conditions may be "significantly disturbed" or "naturally problematic;" and
3. Determine the presence of either an Ordinary High Water Mark (OHWM) and/or a High Tide Line based on hydrology indicators as defined by the Corps' definitions and methodology.

2.2.3 CWA Wetlands Definition and Delineation Methodology

Wetlands are defined at 33 CFR § 328.3 (c)(1) as:

The term *wetlands* means those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas.

HBG identified and delineated aquatic resources following the methodology described in the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (Version 2.0) (Regional Supplement),* to determine the presence or absence of vegetation, soil, and hydrology indicators. If there was uncertainty regarding application of the delineation methodology or interpretation of field data, the Corps' *1987 Delineation Manual* and guidance memorandums were referred to.

Vegetation, soil, and hydrology observations were made at sampling locations determined to be representative of landform areas where the soils may potentially flood, pond, and/or saturate. Vegetation was sampled first. Depending on the size of the vegetation community in relationship to a different abutting plant community or non-vegetated zone, dominant vegetation and the presence or absence of dominant wetland vegetation were determined based on approximately 5 x 5-foot sampling plots. Soil observations were made within soil pits dug using a shovel or holes dug with a hand auger. The soil pits and/or auger holes were dug to a depth of at least 10 inches (most often to 22 inches) where permissible. Where one or more hydric soil indicator(s) were encountered, a minimum of one soil pit was dug on the inside low-lying edge of a potential wetland area and one soil pit was dug on the outside upland margin of the potential wetland area. Observations for wetland hydrology indicators were made within the same sampling plot. Soil, vegetation, and hydrology observations were recorded on Corps data forms (*Wetland Determination Data Form – Arid West Region; Version 2.0*) (Appendix E). Wetland/upland sample point locations were documented as polygonal and point features, respectfully using ESRI Apps (Field Maps) in conjunction with a Trimble DA2 Global Positioning System (GPS) receiver with sub-meter accuracy after geo-processing. The data collected was incorporated into the Project database using GIS software.

2.2.4 CWA Other Waters Definition and Delineation Methodology

Other types of CWA WOTUS aquatic resources that are not wetlands as defined at 33 CFR § 328.3 (a) have the following limits of jurisdiction as:

- (a) Territorial Seas. The limit of jurisdiction in the territorial seas is measured from the baseline in a seaward direction a distance of three nautical miles. (See 33 CFR § 329.12)
- (b) Tidal waters of the United States. The landward limits of jurisdiction in tidal waters:
  - (1) Extends to the high tide line, or
  - (2) When adjacent non-tidal waters of the United States are present, the jurisdiction extends to the limits identified in paragraph (c) of this section.
- (c) Non-tidal waters of the United States. The limits of jurisdiction in non-tidal waters:
  - (1) In the absence of adjacent wetlands, the jurisdiction extends to the ordinary high water mark, or
  - (2) When adjacent wetlands are present, the jurisdiction extends beyond the ordinary high water mark to the limit of the adjacent wetlands.
  - (3) When the water of the United States consists only of wetlands the jurisdiction extends to the limit of the wetland.

The meaning of adjacent, high tide Line, ordinary high water mark, and tidal waters as described above are defined by 33 CFR § 328.3 (c) follows:

> Adjacent means having a continuous surface connection. 33 CFR § 328.3 (c)(2)
>
> High tide line means the line of intersection of the land with the water's surface at the maximum height reached by a rising tide. The high tide line may be determined, in the absence of actual data, by a line of oil or scum along shore objects, a more or less continuous deposit of fine shell or debris on the foreshore or berm, other physical markings or characteristics, vegetation lines, tidal gages, or other suitable means that delineate the general height reached by a rising tide. The line encompasses spring high tides and other high tides that occur with periodic frequency but does not include storm surges in which there is a departure from the normal or predicted reach of the tide due to the piling up of water against a coast by strong winds such as those accompanying a hurricane or other intense storm. 33 CFR§ 328.3 (c)(3)
>
> Ordinary high water mark means that line on the shore established by the fluctuations of water and indicated by physical characteristics such as clear, natural line impressed on the bank, shelving, changes in the character of soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding areas. 33 CFR§ 328.3 (c)(4)

> Tidal waters means those waters that rise and fall in a predictable and measurable rhythm or cycle due to the gravitational pulls of the moon and sun. Tidal waters end where the rise and fall of the water surface can no longer be practically measured in a predictable rhythm due to masking by hydrologic, wind, or other effects. 33 CFR§ 328.3 (c)(5)

Field observations of physical features such as those described above which are indicative of a WOTUS High Tide Line (HTL) or Ordinary High Water (OHW) were recorded, if present, on Corps data forms (*Wetland Determination Data Form – Arid West Region; Version 2.0*) (Appendix E) and with HTL / OHWM widths recorded on a spreadsheet as shown in Appendix F. The methodology used to identify and define an OHWM, if present, was based on the OHWM Field Guide (Lichvar and McColley 2008) and the *National Ordinary High Water Mark Field Delineation Manual for Rivers and Streams: Interim Version* (Gabrielle, et al., 2022). Indicators of OHWM were observed along channel landforms and were recorded on a field data form (Appendix E). A similar approach was taken to identify the HTL. If present, HTL and/or OHWM sample point locations were documented as point features, respectfully using ESRI Apps (Field Maps) in conjunction with a Trimble DA2 Global Positioning System (GPS) receiver with sub-meter accuracy after geo-processing. The data collected was incorporated into the Project database using GIS software.

2.2.5 RHA Navigable Waters Definition and Delineation Methodology

Navigable Waters as defined at 33 CFR § 329.4 have the following limits of jurisdiction as:

Non-Tidal Waters

> …. 1. The "ordinary high water mark" on non-tidal rivers is the line on the shore established by the fluctuations of water and indicated by physical characteristics such as a clear, natural line impressed on the bank; shelving; changes in the character of soil; destruction of terrestrial vegetation; the presence of litter and debris; or other appropriate means that consider the characteristics of the surrounding areas. 33 CFR § 329.11

Tidal Waters

> …. 2. Regulatory jurisdiction in coastal areas extends to the line on the shore reached by the plane of the mean (average) high water. Where precise determination of the actual location of the line becomes necessary, it must be established by survey with reference to the available tidal datum, preferably averaged over a period of 18.6 years. Less precise methods, such as observation of the "apparent shoreline" which is determined by reference to physical markings, lines of vegetation, or changes in type of vegetation, may be used only where an estimate is needed of the line reached by the mean high water. 33 CFR § 329.12

Field observations of physical features indicative of a Navigable Water such as those described above which indicate the presence of a non-tidal Ordinary High Water (OHW) were recorded, if present, on Corps data forms (*Wetland Determination Data Form – Arid West Region; Version 2.0*) (Appendix E).

For areas subject to the ebb and flow of the tides, the nearest NOAA tide station was used to determine MHW. OHWM sample point locations were documented as point features using ESRI Apps (Field Maps) in conjunction with a Trimble DA2 Global Positioning System (GPS) receiver with sub-meter accuracy after geo-processing. The data collected was incorporated into the Project database using GIS software.

2.3 Rainfall Analysis

The Corps' Antecedent Precipitation Tool (APT) was used to assess precipitation conditions within the Review Area 90 days prior to field investigations. The rainfall analysis followed the latest Corps guidance. The purpose of the antecedent precipitation analysis was to aid in: (1) determining if the climatic/hydrologic conditions observed on the site are typical for the time of year in which field investigations were conducted (e.g., rainy season versus dry season); and (2) establishing whether observations made of surface and near-surface hydrology indicators or the lack thereof are the result of naturally problematic hydrology conditions (e.g., drought year, extreme precipitation/stormwater runoff event) preceding the field investigations. The APT assesses the presence of drought conditions and facilitates the comparison of recent rainfall conditions for a given location to the range of normal rainfall conditions that occurred during the preceding 30 years.

2.4 Mapping

2.4.1 CWA Wetland and Other Waters Observations

The GPS data collected during field sampling were incorporated into an HBG Project database using Geographic Information System (GIS) software and were geo-referenced in overlay fashion onto a digital topographic base map (LIDAR) and an orthorectified digital aerial photograph following national mapping standards. Data overlays of indicator observations were mapped to assist in the analysis to determine if areas meet the Corps' WOTUS definition. The geographic extent of areas identified as being potential wetlands or other waters were mapped and classified to the class level using the US Fish and Wildlife Service's Classification System for Wetland and Deepwater Habitats (Cowardin et al. 1979).

2.4.2 RHA Navigable Waters Observations

The GPS data collected during field sampling were incorporated into an HBG Project database using Geographic Information System (GIS) software and were geo-referenced in overlay fashion onto a digital topographic base map (LIDAR) and an orthorectified digital aerial photograph following national mapping standards. Data overlays of indicator observations were mapped to assist in the analysis to determine if areas meet the Corps' Navigable Waters definition. The geographic extent of areas identified as being potential Navigable Waters were mapped and classified to the class level using the US Fish and Wildlife Service's Classification System for Wetland and Deepwater Habitats (Cowardin et al. 1979).

3.0 TECHNICAL FINDINGS

Section 3.1 discusses technical findings regarding the presence or absence of the vegetation, soil, and hydrology indicators of wetland conditions observed within the Review Area. Section 3.2 discusses technical findings regarding the presence of physical characteristics of the landward boundary of other waters as defined by an OHWM for non-tidal waters (Section 3.2.1).

For delineation of wetlands, field data are presented on Wetland Determination Data Forms for the Arid West Region in Appendix E. The following table provides a summary of the field data provided in Appendix E with the locations of sample points shown on Appendix A, Figure 6. Appendix G provides representative Review Area photographs.

Table 3. Summary of Aquatic Resources Delineation Sampling Data
Oakland Roots and Soul Sport Clubs Interim Stadium, Oakland, CA

Representative Sampling Point	Wetland Vegetation Indicators? [1] (Y/N)	Wetland Soil Indicators? (Y/N)	Wetland Hydrology Indicators? (Y/N)	Wetland Criteria Met? (Y/N)
SP01, SP03, SP05, SP07	Y	Y – F6	Yes – B1, B2, B3	Y

Key: [1] Wetland Vegetation Indicators: OBL = Obligate Wetland, almost always occurs in wetlands; FACW = Facultative Wetland, usually occurs in wetlands, but may occur in non-wetlands; FAC = Facultative, occurs in wetlands or non-wetlands; FACU = Facultative Upland, usually occurs in non-wetlands, but may occur in wetlands; and UPL = Upland, almost never occurs in wetlands. Wetland Soil Indicators: F6 =Wetland Hydrology Indicators: B1 = Water marks; B2 = Sediment Deposits; B3 = Drift Deposits; B10 = Drainage Patterns.

3.1 CWA Wetlands

3.1.1 Precipitation Analysis

According to APT analysis results, the August and September 2023 field surveys were conducted during a normal conditions period following 90 days of normal rainfall conditions for the dry season (Appendix D).

3.1.2 Normal Circumstances

An assessment was conducted to determine if "Normal Circumstances" are present in the `Review Area. The Corps' Delineation Manual interprets "normal circumstances" as:

> the soil and hydrologic conditions that are normally present, without regard to whether the vegetation has been removed [7 CFR 12.31(b)(2)(i)] [Manual page 71].

The expired Corps Regulatory Guidance Letter (RGL 90-07) states:

> …. 4. The primary consideration in determining whether a disturbed area qualifies as a Section 404 wetland under "normal circumstances" involves an evaluation of the extent and relative permanence of the physical alteration of wetlands hydrology and hydrophytic vegetation. In addition, consideration is given to the purpose and cause of the physical alterations to hydrology and vegetation. For example, we have always maintained that areas where individuals have destroyed hydrophytic vegetation in an attempt to eliminate the regulatory requirements of Section 404 remain part of the overall aquatic system and are subject to regulation under Section 404. In such a case, where the Corps can determine or reasonably infer that the purpose of the physical disturbance to hydrophytic vegetation was to avoid regulation, the Corps will continue

to assert Section 404 jurisdictions. …..

Detailed review of Google Earth Pro aerial photography and imagery from December 1985 to March 2023 shows that land use in the Review Area has remained relatively unchanged.

3.1.3 Field Indicators of Wetland Vegetation

Based on detailed review of Google Earth Pro aerial photography and aerial imagery, and onsite inspections during August and September 2023; it was determined that vegetation conditions are not significantly disturbed[1] within the channels and banks of Elmhurst Creek and the tributary to Elmhurst Creek with the exception of small areas where rip-rap has been placed into the bank of Elmhurst Creek and portions of the tributary channel are concrete lined. The dominant vegetation was determined not to be naturally problematic.[2] The vegetation is dominated by salt grass (*Distichlis spicata*)[3] a facultative (FAC) wetland species[4], pickleweed (*Salicornia pacifica*) an obligate (OBL) species, and alkali heath (*Frankenia salina*) a facultative wet (FACW) species.

3.1.4 Field Indicators of Hydric Soils

Detailed review of Google Earth Pro aerial photography and aerial imagery, and onsite inspections during August and September 2023 indicated that soil conditions were significantly disturbed within the Elmhurst Creek and the tributary to Elmhurst Creek channels to the top of bank. The soil was found to be disturbed as a result of channel excavation and maintenance within the Elmhurst Creek Channel and the tributary to Elmhurst Creek channel. In addition, a major portion of the tributary channel is concrete lined. Soils were determined to not be naturally problematic. The NRCS Custom Soil Resources Report in Appendix C provides detailed soil mapping and soils descriptions. Onsite examination found that the NRCS soil mapping provided in the report is relatively accurate.

3.1.5 Field Indicators of Wetland Hydrology Conditions

Detailed review of Google Earth Pro aerial photography and aerial imagery, and onsite inspections during August and September 2023 indicated that wetland hydrology conditions within Elmhurst Creek and tributary to Elmhurst Creek are not significantly disturbed (Appendix D). Field indicators of wetland hydrology conditions observed (B1 – Water Marks; B2 - Sediment Deposits; B3 – Drift Deposits) were determined to not be naturally problematic. It was also observed that both Elmhurst Creek and the tributary to Elmhurst Creek receive stormwater runoff from the surrounding urban watershed and unobstructed surface water flooding from daily incoming tides from San Francisco Bay (Appendix G).

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[1] Disturbed areas consist of sites where vegetation, soil, or hydrology indicators may be impacted (obscured or absent) due to recent human activities or natural events.

[2] Naturally problematic refers to a problem area that are naturally occurring wetland types that lack indicators of hydrophytic vegetation, hydric soil, or wetland hydrology periodically due to normal seasonal or annual variability, or permanently due to the nature of the soils or plant species on the site.

[3] Taxonomic classifications follows: Greenhouse, Jeffrey, Staci Markos, Richard L. Moe, Scott Simono, Margriet Wetherwax, and Linda Ann Vorobik. *The Digital Jepson Manual: Vascular Plants of California, Second Edition, Thoroughly Revised and Expanded*. Edited by Bruce G. Baldwin, Douglas H. Goldman, David J. Keil, Robert Patterson, Thomas J. Rosatti, and Dieter H. Wilken. 2nd ed. University of California Press, 2012. http://www.jstor.org/stable/10.1525/j.ctt1pn9sv.

[4] Lichvar, R.W., D.L. Banks, W.N. Kirchner, and N.C. Melvin. 2016. The National Wetland Plant List: 2016 wetland ratings. Phytoneuron 2016-30: 1-17. Published 28 April 2016. ISSN 2153 733X. http://wetland-plants.usace.army.mil/nwpl_static/data/DOC/lists_2016/National/National_2016v2.pdf.

3.2 CWA Other Waters and RHA Navigable Waters

3.2.1 Non-Tidal Areas

CWA and RHA. No non-tidal aquatic resource areas were found within the Review Area.

3.2.2 Tidal Areas

CWA. Field indicators of a HTL were observed near the top of both Elmhurst Creek and the tributary to Elmhurst Creek. The indicators included (B1 – Water Marks; B2 - Sediment Deposits; B3 – Drift Deposits). Appendix F provides HTL widths, and beginning and end latitude/longitude locations where the widths were measured within the Review Area. Appendix A, Figure 6a shows the HTL location along the review area banks of these tidal creeks. Appendix H provides representative Review Area photographs of aquatic resource areas identified and delineated.

RHA. MHW line was determined for both Elmhurst Creek and the tributary to Elmhurst Creek based on tide data obtained from the NOAA Alameda, California Tide Station No. 9414750. Appendix A, Figure 6b shows the MHW location along the Review Area banks of these tidal creeks. Appendix H provides representative Review Area photographs of aquatic resource areas identified and delineated.

4.0 POTENTIAL CWA SECTION 404 JURISDICTION

This section presents the findings of this delineation with respect to the identification and geographic extent of aquatic resources found that meet the technical criteria for either wetlands or other types of aquatic resources that potentially could be regulated by the Corps and the US EPA as a water of the US under Section 404 of the CWA.

4.1 Potential CWA Wetlands

Aquatic resources were identified and delineated within the Review Area that would "potentially" meet the Corps' and US EPA's technical wetland criteria based on an analysis of the technical findings in Section 3.1. This analysis consisted of determining whether there was a collective presence of hydric soil, wetland hydrology, and hydrophytic vegetation as required by the Corps Delineation Manual. The wetlands were found to be adjacent to the relatively permanent continuously flowing waters of Elmhurst Creek Channel and a tributary to Elmhurst Creek. The wetlands were also found to have a continuous surface connection to these waters.

Based on this technical finding the wetlands delineated meet the definition of a WOTUS as defined by 33 CFR Section 328.3(a)(4):

> …. (a)(4) Wetlands adjacent to the following waters: (i) Waters identified in paragraph (a)(1) of this section; or (ii) Relatively permanent, standing or continuously flowing bodies of water identified in paragraph (a)(2) or (a)(3) of this section and with a continuous surface connection to those waters; [i.e., Jurisdictional Adjacent Wetlands].
> ….

4.2 Potential CWA Other Aquatic Resources

Elmhurst Creek and a tributary to Elmhurst Creek Channels were identified and delineated as aquatic resources within the Review Area that had relatively permanent continuously flowing water to San Francisco Bay (Section 3.2). Based on this technical finding both creek channels meet the definition of a WOTUS as defined by 33 CFR Section 328.3(a)(3):

> **….** (a)(3) Tributaries of waters identified in paragraph (a)(1) or (a)(2) of this section that are relatively permanent, standing or continuously flowing bodies of water; [i.e., Jurisdictional Tributaries]. ….

4.3 Summary of Aquatic Resources Identified and Delineated

The following table summarizes the types of aquatic resource habitats identified within the Review Area, why they are potentially subject to CWA Section 404 Jurisdiction, their size, and Cowardin classification. Given the number of aquatic resources identified and delineated, the table below only provides a summary listing of these waters based on aquatic resource type.

Table 4. Summary of the Types of Aquatic Resource Habitats Identified Within the Review Area, Why They are Potentially Subject to CWA Section 404 Jurisdiction, Size, and Cowardin Classification, Oakland Roots and Soul Sport Clubs Interim Stadium, Oakland, CA

Aquatic Resource ID #	Aquatic Habitat Type	WOTUS Definition Met?	Description of Relevant 33 CFR 328.3 WOTUS Definition Met or Why Not Met	Size		Cowardin Classification[1]
				Acres	Linear Ft	
R1, R2, R3, & R8	Tributary	Yes	Elmhurst Creek and Tributary to Elmhurst Creek are a streams that meet the WOTUS definition of Jurisdictional Tributaries which are defined by 33 CFR 328.3 as *(a)(3) jurisdictional Tributaries of waters identified in paragraph (a)(1) or (a)(2) of this section that are relatively permanent, standing or continuously flowing bodies of water; [i.e., Jurisdictional Tributaries].* **Why**: Elmhurst Creek and Tributary to Elmhurst Creek have a relatively permanent flow connection to San Francisco an (a)(1) water.	0.142	953.203	Riverine, Tidal, Unconsolidated Bottom
R10	Tributary	Yes	(a)(3) tributary (see above)	0.013	102.692	Riverine, Tidal, Artificial Streambed
R6 and R7	Tributary	Yes	(a)(3) tributary (see above)	0.010	54.404	Riverine, Tidal, Rock Bottom
R4, R5, and R9	Wetland	Yes	**R4, R5, and R9 are adjacent wetlands as defined by** *(a)(4) Wetlands adjacent to the following waters: (i) Waters identified in paragraph (a)(1) of this section; or (ii) Relatively permanent, standing or continuously flowing bodies of water identified in paragraph (a)(2) or (a)(3) of this section and with a continuous surface connection to those waters; [i.e., Jurisdictional Adjacent Wetlands].* **Why**: Wetlands (R4, R5, and R9) which are (a)(4) waters that have a relatively permanent and continuous surface connection to (a)(3) waters (Elmhurst Creek and Tributary to Elmhurst Creek) and (a)(1) waters (San Francisco Bay).	0.180	943.557	Riverine, Tidal, Emergent

[1] Cowardin et al. 1979).

5.0 POTENTIAL RHA SECTION 10 JURISDICTION

This section presents the findings of this delineation with respect to the identification and geographic extent of aquatic resources found that potentially meet the technical criteria for aquatic resources that potentially could be regulated by the Corps under Section 10 of the RHA as navigable waters.

5.1 Potential RHA Section 10 Aquatic Resources

Based on an analysis of the technical findings in Section 3.2, aquatic resources were also identified as being subject to the ebb and flow of the tide within the Review Area and therefore were considered potentially Subject to RHA Section 10 Jurisdiction.

The following table summarizes the types of aquatic resources identified within the Review Area potentially subject to RHA Section 10 Jurisdiction.

Table 5. Summary of Aquatic Resources Identified Within the Review Area that are Potentially Subject to RHA Section 10 Jurisdiction, Oakland Roots and Soul Sport Clubs Interim Stadium, Oakland, CA

Aquatic Resource ID # [2]	Acres	Linear ft	Cowardin Wetland Classification[1]
R1, R2, R3, & R8	0.142	953.203	Riverine, Tidal, Unconsolidated Bottom
R10	0.013	102.692	Riverine, Tidal, Artificial Streambed
R6 and R7	0.010	54.404	Riverine, Tidal, Rock Bottom
R4, R5, and R9	0.180	943.557	Riverine, Tidal, Emergent

[1] Aquatic Resources classified using the US Fish and Wildlife Service's Classification System for Wetland and Deepwater Habitats (Cowardin et al. 1979). [2] R = Riverine

6.0 REFERENCES

33 U.S.C. 403. Rivers and Harbors Appropriation Act of 1899.

33 U.S.C. 1344. Permits for Dredged or Fill Material.

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33 CFR Part 329. Definition of Navigable Waters of the United States. http://www.ecfr.gov/cgi-bin/text-idx?tpl=/ecfrbrowse/Title33/33cfr329_main_02.tpl

40 CFR Part 230. Section 404(b)(1) Guidelines for Specification of Disposal Sites for Dredged or Fill Material. http://www.ecfr.gov/cgi-bin/text-idx?tpl=/ecfrbrowse/Title40/40cfr230_main_02.tpl

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Appendix A

Figures

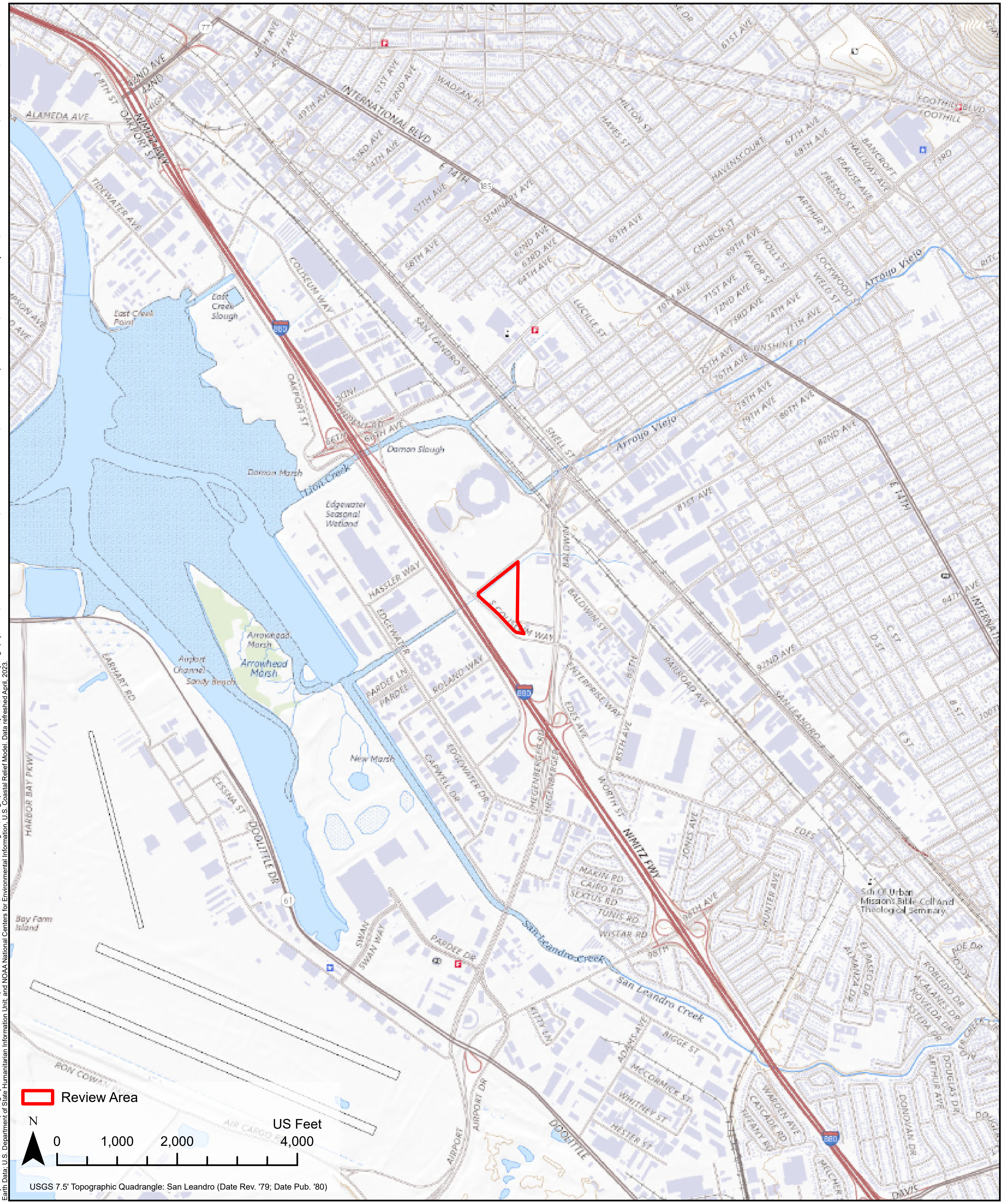
Project Data: HBG; Basemap Imagery Credits:Esri, NASA, NGA, USGS, FEMA, California State Parks, Esri, HERE, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS, Bureau of Land Management, EPA, NPS, USDA

Figure 1. Review Area Location

Oakland Roots and Soul Sport Clubs Interim Stadium
Oakland, CA

Huffman-Broadway Group, Inc.
ENVIRONMENTAL REGULATORY CONSULTANTS

Spatial Reference:
Name: NAD 1983 2011 StatePlane California III FIPS 0403 Ft US
Date: 10/31/2023
Scale: 1:50,000
HBG GIS Analyst: Deland Wing
HBG PM: Greg Huffman



Project Data: HBG; Basemap Imagery Credits:USGS The National Map: National Boundaries Dataset, 3DEP Elevation Program, Geographic Names Information System, National Hydrography Dataset, National Land Cover Database, National Structures Dataset, and National Transportation Dataset; USGS Global Ecosystems; U.S. Census Bureau TIGER/Line data; USFS Road Data; Natural Earth Data; U.S. Department of State Humanitarian Information Unit; and NOAA National Centers for Environmental Information, U.S. Coastal Relief Model. Data refreshed April, 2023.

Figure 2. USGS Topographic Map of the Review Area

Huffman-Broadway Group, Inc.
ENVIRONMENTAL REGULATORY CONSULTANTS

Oakland Roots and Soul Sport Clubs Interim Stadium
Oakland, CA

Spatial Reference:
Name: NAD 1983 2011 StatePlane California III FIPS 0403 Ft US
Scale: 1:24,000
Date Exported: 10/31/2023
HBG GIS Analyst: Deland Wing
HBG PM: Greg Huffman

Project Data: HBG; Basemap Imagery Credits:Esri Community Maps Contributors, California State Parks, Esri, HERE, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS, Bureau of Land Management, EPA, NPS, US Census Bureau, USDA, Maxar

Figure 3. Aerial Image of the Review Area

Oakland Roots and Soul Sport Clubs Interim Stadium
Oakland, CA

Huffman-Broadway Group, Inc.
ENVIRONMENTAL REGULATORY CONSULTANTS

Spatial Reference:
Name: NAD 1983 2011 StatePlane California III FIPS 0403 Ft US
Scale: 1:15,000
Date Exported: 10/31/2023
GIS Analyst: Deland Wing
HBG PM: Greg Huffman

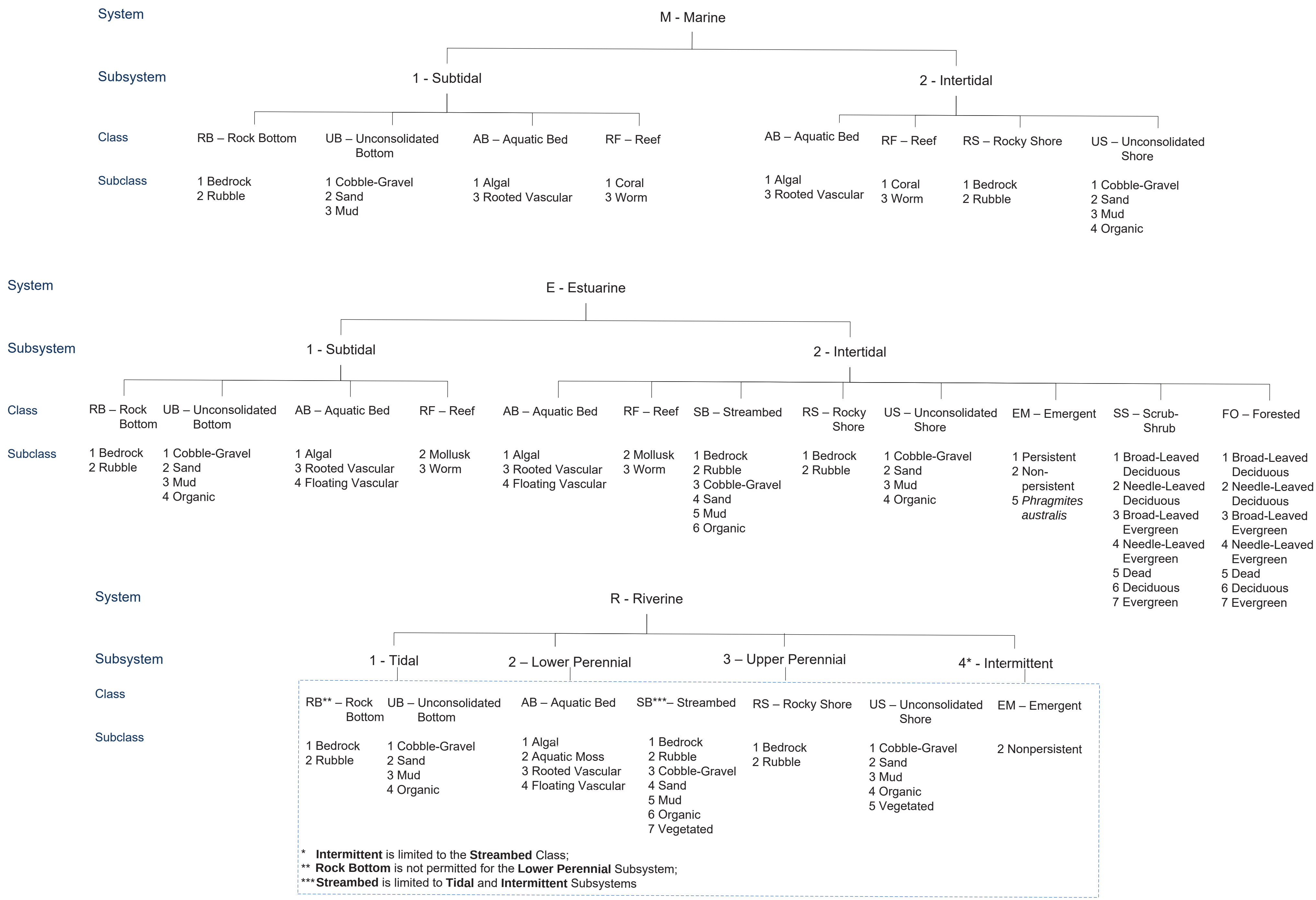
Figure 4a. USFWS National Wetlands Inventory Mapping

Oakland Roots and Soul Sport Clubs Interim Stadium
Oakland, CA

Huffman-Broadway Group, Inc.
ENVIRONMENTAL REGULATORY CONSULTANTS

Spatial Reference:
Name: NAD 1983 2011 StatePlane California III FIPS 0403 Ft US
Scale: 1:15,000
Date Exported: 10/31/2023
HBG GIS Analyst: AgieGilmore
HBG PM: Greg Huffman

Figure 4b. NWI Wetlands and Deepwater Map Code Diagram, Part 1



Classification of Wetlands and Deepwater Habitats of the United States, Cowardin et al. 1979

Figure 4c. NWI Wetlands and Deepwater Map Code Diagram, Part 2

System: L - Lacustrine

Subsystem: 1 - Limnetic

Class	RB – Rock Bottom	UB – Unconsolidated Bottom	AB – Aquatic Bed
Subclass	1 Bedrock 2 Rubble	1 Cobble-Gravel 2 Sand 3 Mud 4 Organic	1 Algal 2 Aquatic Moss 3 Rooted Vascular 4 Floating Vascular

Subsystem: 2 - Littoral

Class	RB – Rock Bottom	UB – Unconsolidated Bottom	AB – Aquatic Bed	RS – Rocky Shore	US – Unconsolidated Shore	EM – Emergent
Subclass	1 Bedrock 2 Rubble	1 Cobble-Gravel 2 Sand 3 Mud 4 Organic	1 Algal 2 Aquatic Moss 3 Rooted Vascular 4 Floating Vascular	1 Bedrock 2 Rubble	1 Cobble-Gravel 2 Sand 3 Mud 4 Organic 5 Vegetated	2 Nonpersistent

System: P - Palustrine

Class	RB – Rock Bottom	UB – Unconsolidated Bottom	AB – Aquatic Bed	US – Unconsolidated Shore	ML – Moss-Lichen	EM – Emergent	SS – Scrub-Shrub	FO – Forested
Subclass	1 Bedrock 2 Rubble	1 Cobble-Gravel 2 Sand 3 Mud 4 Organic	1 Algal 2 Aquatic Moss 3 Rooted Vascular 4 Floating Vascular	1 Cobble-Gravel 2 Sand 3 Mud 4 Organic 5 Vegetated	1 Moss 2 Lichen	1 Persistent 2 Nonpersistent 5 *Phragmites australis*	1 Broad-Leaved Deciduous 2 Needle-Leaved Deciduous 3 Broad-Leaved Evergreen 4 Needle-Leaved Evergreen 5 Dead 6 Deciduous 7 Evergreen	1 Broad-Leaved Deciduous 2 Needle-Leaved Deciduous 3 Broad-Leaved Evergreen 4 Needle-Leaved Evergreen 5 Dead 6 Deciduous 7 Evergreen

MODIFIERS

In order to more adequately describe the wetland and deepwater habitats, one or more of the water regime, water chemistry, soil, or special modifiers may be applied at the class or lower level in the hierarchy.

Water Regime			Special Modifiers	Water Chemistry		Soil
Nontidal	**Saltwater Tidal**	**Freshwater Tidal**		**Halinity/Salinity**	**pH Modifiers for Fresh Water**	
A Temporarily Flooded	L Subtidal	S Temporarily Flooded- Fresh Tidal	b Beaver	1 Hyperhaline / Hypersaline	a Acid	g Organic
B Seasonally Saturated	M Irregularly Exposed	Q Regularly Flooded-Fresh Tidal	d Partly Drained/Ditched	2 Euhaline / Eusaline	t Circumneutral	n Mineral
C Seasonally Flooded	N Regularly Flooded	R Seasonally Flooded-Fresh Tidal	f Farmed	3 Mixohaline / Mixosaline (Brackish)	i Alkaline	
D Continuously Saturated	P Irregularly Flooded	T Semipermanently Flooded-Fresh Tidal	m Managed	4 Polyhaline		
E Seasonally Flooded / Saturated		V Permanently Flooded-Fresh Tidal	h Diked/Impounded	5 Mesohaline		
F Semipermanently Flooded			r Artificial Substrate	6 Oligohaline		
G Intermittently Exposed			s Spoil	0 Fresh		
H Permanently Flooded			x Excavated			
J Intermittently Flooded						
K Artificially Flooded						

Classification of Wetlands and Deepwater Habitats of the United States, Cowardin et al. 1979

Project Data: HBG; Basemap Imagery Credits: California State Parks, Esri, HERE, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS, Bureau of Land Management, EPA, NPS, US Census Bureau, USDA, Maxar;
FEMA Data: https://services.arcgis.com/P3ePLMYs2RVChkJx/arcgis/rest/services/USA_Flood_Hazard_Reduced_Set_gdb/FeatureServer

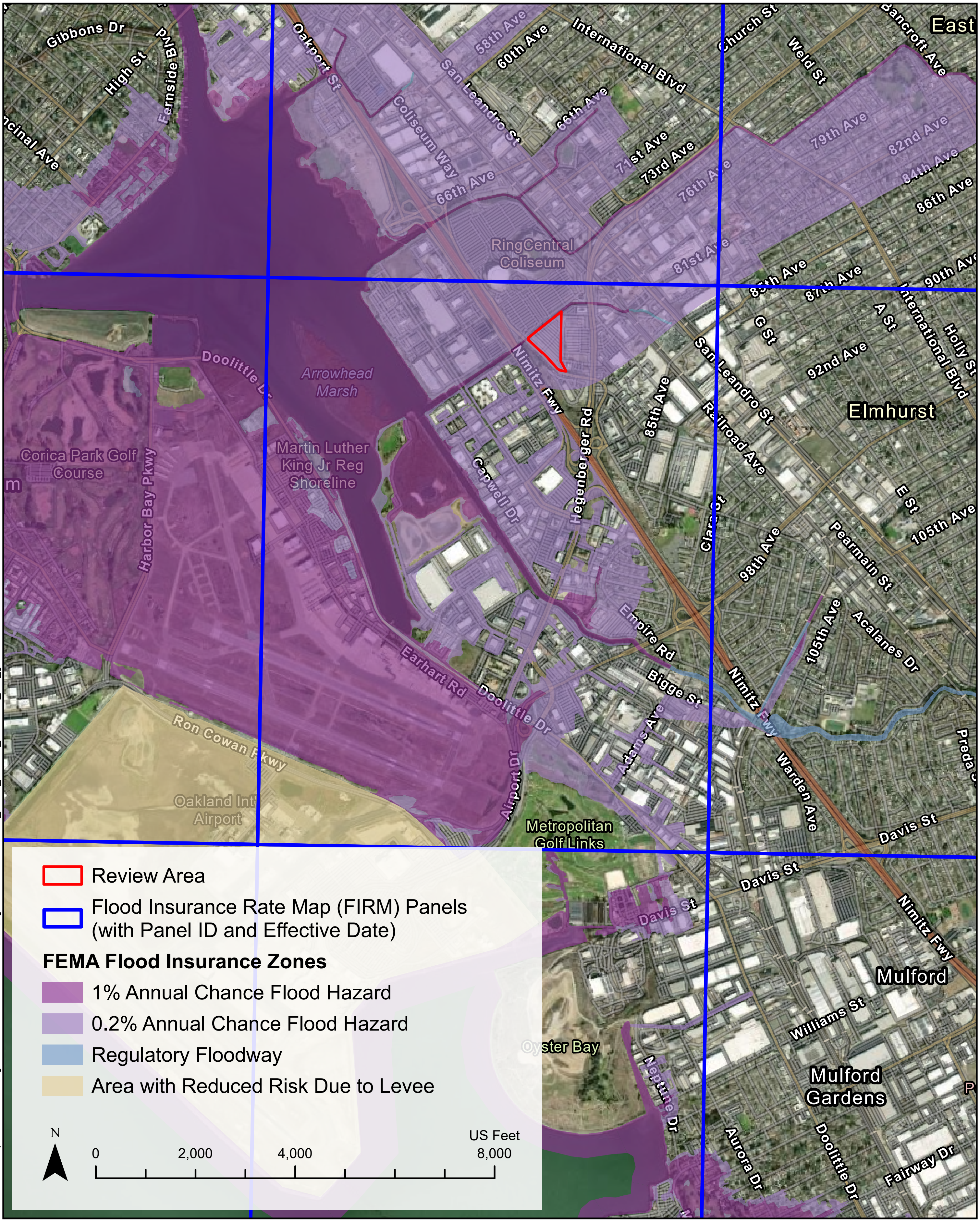


Figure 5. FEMA Flood Zone Mapping

Oakland Roots and Soul Sport Clubs Interim Stadium
Oakland, CA

Huffman-Broadway Group, Inc.
ENVIRONMENTAL REGULATORY CONSULTANTS

Spatial Reference:
Name: NAD 1983 2011 StatePlane California III FIPS 0403 Ft US
Scale: 1:30,000
Date Exported: 10/31/2023
GIS Analyst: Deland Wing
HBG PM: Greg Huffman

Project Data: HBG; Basemap Imagery Credits: © OpenStreetMap (and) contributors, CC-BY-SA; Google Earth 4/1/2022; MHW Data: National Oceanic and Atmospheric Administration, Datums for 9414750, Alameda CA

Figure 6a. CWA Aquatic Resources Delineation

Oakland Roots and Soul Sport Clubs Interim Stadium
Oakland, CA

Huffman-Broadway Group, Inc.
ENVIRONMENTAL REGULATORY CONSULTANTS

Spatial Reference:
Name: NAD 1983 2011 StatePlane California III FIPS 0403 Ft US
Vertical Datum: NAVD88 Height (Feet US)
Scale: 1:1,600
Date Exported: 11/6/2023
GIS Analyst: Agie Gilmore
HBG PM: Greg Huffman

Figure 6b. RHA Aquatic Resources Delineation

Oakland Roots and Soul Sport Clubs Interim Stadium
Oakland, CA

Huffman-Broadway Group, Inc.
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Spatial Reference:
Name: NAD 1983 2011 StatePlane California III FIPS 0403 Ft US
Vertical Datum: NAVD88 Height (Feet US)
Scale: 1:1,600
Date Exported: 11/6/2023
GIS Analyst: Agie Gilmore
HBG PM: Greg Huffman

Appendix F

CWA Other Waters of the U.S. HTL Data

Appendix F. CWA Other Waters of the U.S. HTL Data							
Name	**Location**	**HTL Present Y/N?**	**Width (Ft)***	**Latitude Start**	**Longitude Start**	**Latitude End**	**Longitude End**
Elmhurst Creek	HTL Width 1	Y	19.5	37.746992	-122.200582	37.746954	-122.200534
Elmhurst Creek	HTL Width 2	Y	13.0	37.747536	-122.199746	37.747509	-122.199718
Elmhurst Creek	HTL Width 3	Y	13.0	37.748226	-122.198686	37.748200	-122.198656
Tributary to Elmhurst Creek	HTL Width 4	Y	19.0	37.745155	-122.198088	37.745211	-122.198079

* From Review Area Boundary

Appendix G

Surface Flow Mapping: Review Area Continuous Surface Connection to Traditional Navigable Waters

Project Data: HBG; Basemap Imagery Credits: © OpenStreetMap (and) contributors, CC-BY-SA, Esri Community Maps Contributors, California State Parks, © OpenStreetMap, Microsoft, Esri, HERE, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS, Bureau of Land Management, EPA, NPS, US Census Bureau, USDA; Google Earth 4/1/2022

Appendix G. Surface Flow Mapping: Review Area Continuous Surface Connection to Traditional Navigable Waters

Oakland Roots and Soul Sport Clubs Interim Stadium
Oakland, California

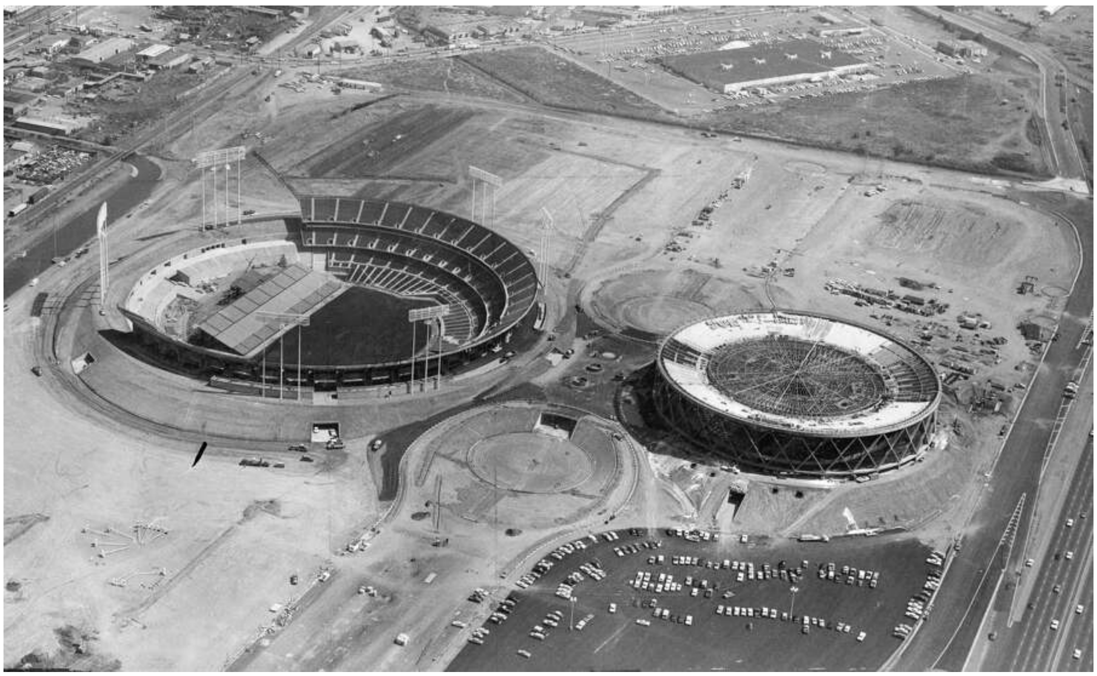
Huffman-Broadway Group, Inc.
ENVIRONMENTAL REGULATORY CONSULTANTS

Spatial Reference:
Name: NAD 1983 2011 StatePlane California III FIPS 0403 Ft US
Scale: 1:7,000
Date Exported: 10/30/2023
GIS Analyst: Agie Gilmore
HBG PM: Greg Huffman

Appendix H

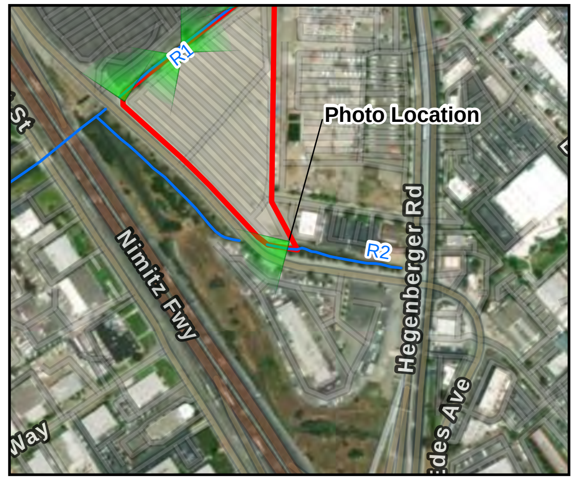
Representative Review Area Photographs

Representative Photos
Oakland Roots Interim Stadium Project
Malibu Site
Oakland, Alameda County, California

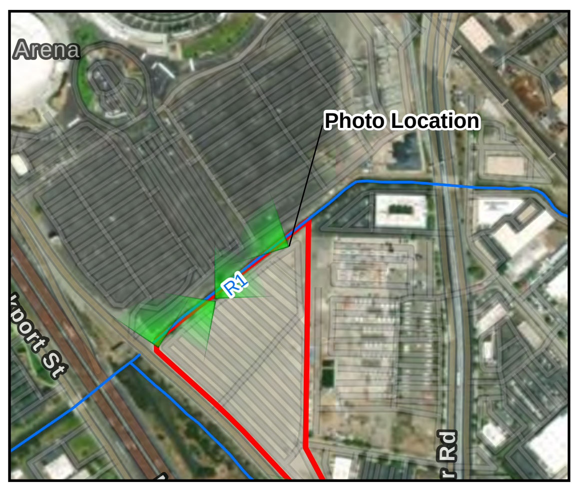

(Hearst Newspapers 1966)

Huffman-Broadway Group, Inc.
ENVIRONMENTAL REGULATORY CONSULTANTS
523 4TH ST. STE 224, SAN RAFAEL, CA 94901 · 415.925.2000 · www.h-bgroup.com

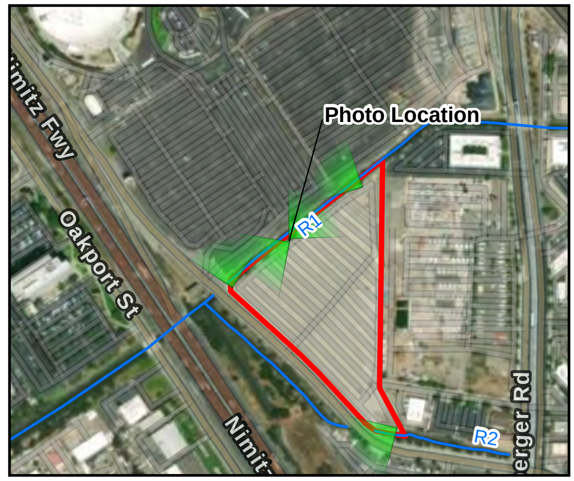
Date: 10/31/2023



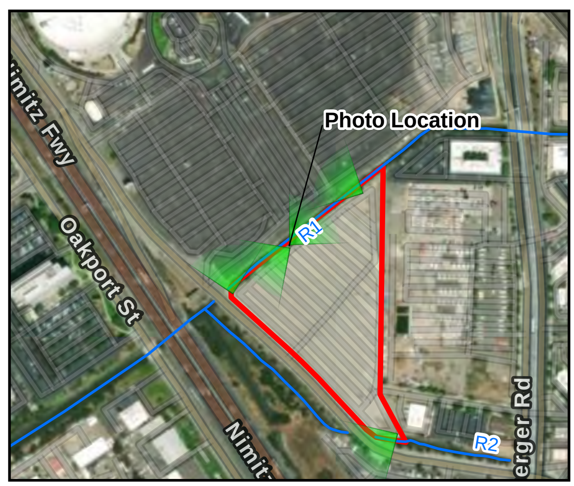
Description: Represetitive view of SP7 and SP8 areas within R2 area



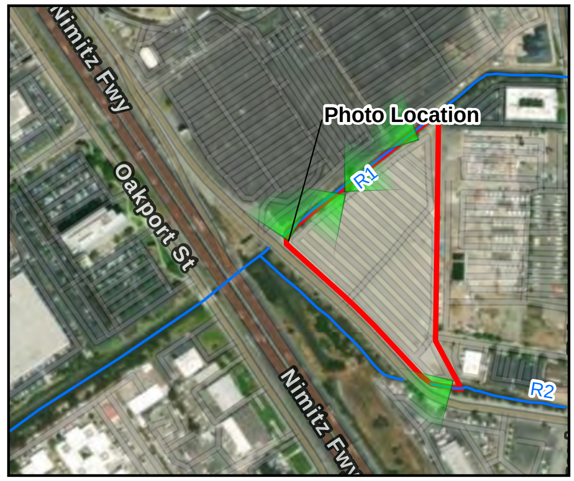
Description: Represetitive view of SP5 and SP6 areas within R1 area



Description: Represetitive view of R1 area SW



Description: Represetitive view of SP3 and SP4 areas within R1 area



Description: Represetitive view of SP1 and SP2 areas within R1 area

Appendix E

Creek Protection Plan, Oakland Roots and Soul Interim Stadium Project

Huffman-Broadway Group, Inc., October 2023

Creek Protection Plan
Oakland Roots and Soul Sport Clubs
Interim Stadum

8000 South Coliseum Way
Oakland, California

Prepared for

Oakland Pro Soccer LLC
2744 East 11th Street Unit K01
Oakland, CA 94601
Contact: Lydia Tan
Telephone: 415.407.2388
Email: lydia@rootssc.com

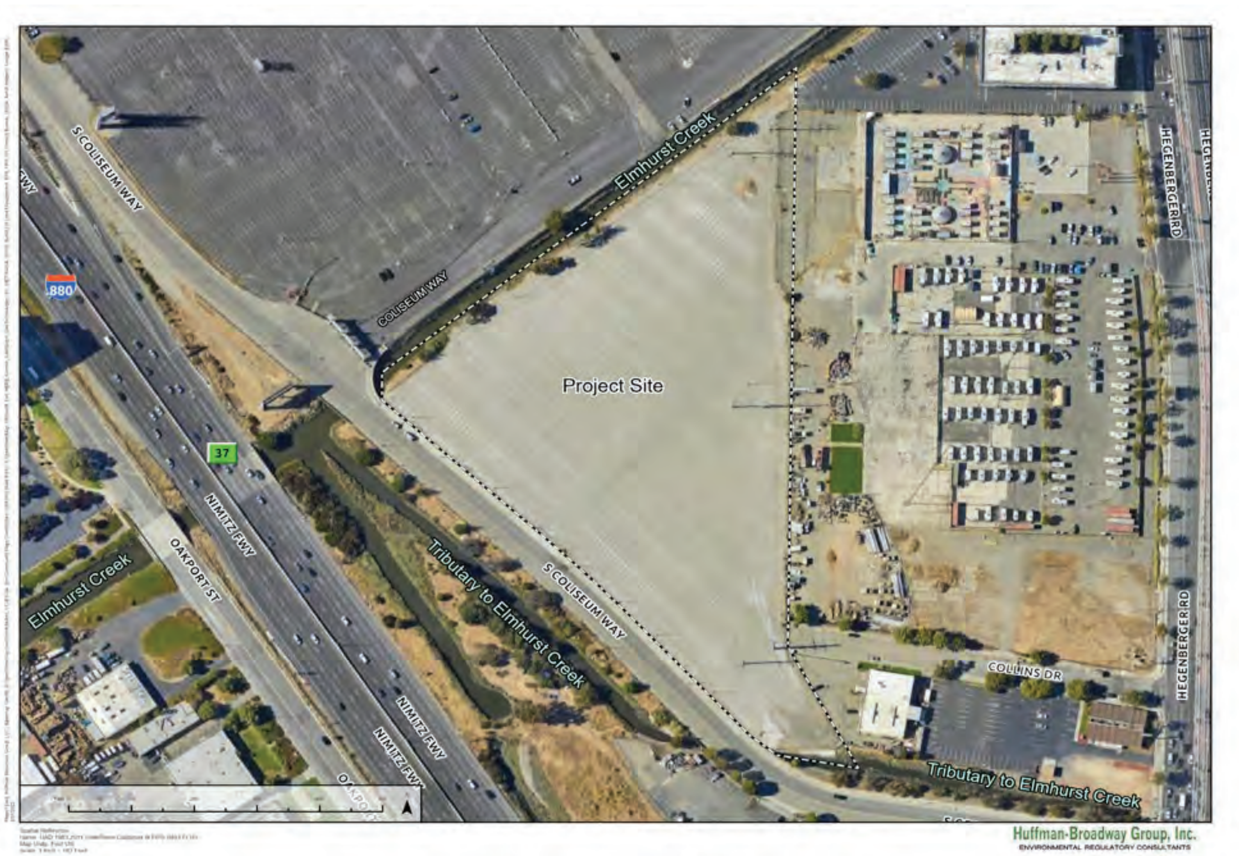
Prepared by

Huffman-Broadway Group, Inc.
ENVIRONMENTAL REGULATORY CONSULTANTS
523 4th St., Suite 224
San Rafael, California 94901
Contact: Greg Huffman
Telephone: 415.999.0802
Email: ghuffman@h-bgroup.com

October 2023

CREEK PROTECTION PLAN
OAKLAND ROOTS AND SOUL SPORT CLUBS
INTERIM STATUM

The purpose of the Creek Protection Plan (Plan) is to protect the banks, riparian vegetation, wildlife, surrounding habitat and the natural appearance of both Elmhurst Creek and a tributary to Elmhurst Creek which are adjacent to the proposed Oakland Roots and Soul Sport Clubs Interim Stadum. The mapping below shows the Project site boundary and creek locations.



The following describes the elements of the plan:

Property Identification. The property address is located is 8000 South Coliseum Way, Oakland, CA. The County Assessor's Parcel Number is 042-4328-001-24. The Project property is locally referred to as the "Malibu Lot."

Name of the Property Owner. City of Oakland and County of Alameda with each having an undivided 50% fee title interest.

Name of the General Contractor. Currently unknown, but general contractor's name will be provided prior to the commencement of construction.

Name of Subcontractors. Currently unknown, but names of subcontractors will be provided prior to the commencement of construction.

Telephone Numbers of Primary Contact People. Lydia Tan 415.407.2388 or Art May 510.206.9130.

Creek Protection Area. Both the Elmhurst Creek and the tributary to Elmhurst Creek. City of Oakland creek protection areas are shown on Project Plan Sheets C2.00 and C2.01 Existing Conditions (Attachment A). Project work for the interim stadium will only occur beyond the top of the creek banks. No work will extend from the top of bank into the channels. Representative onsite photographs of the Oakland Roots and Soul Sport Clubs Interim Stadium area are provided as Attachment B.

List of Informational Material Related to Creek Protection, Provided to Workers on the Site.

- Attachment C. Pollution Prevention Handout

Manager and Worker Training. Project managers and workers will be provided on site environmental sensitive training regarding protection of the banks, riparian vegetation, wildlife, surrounding habitat, and the natural appearance of both Elmhurst Creek and the tributary to Elmhurst Creek. Contractor and Subcontractor managers and workers will be provided a copy of Attachment C which provides specific creek pollution prevention guidelines which ensure compliance with City of Oakland and Alameda County requirements. The pollution prevention measures on the sheet will be described in detail during the training regarding where and how they will be specifically implemented within the Project construction site. In addition, all managers and workers will be shown the locations of spill kits and trained in their appropriate use. A signup sheet will be maintained where trainees acknowledge by signature, they have received the training. A copy of Attachment C will also be maintained on site and displayed for easy reference. In addition, at daily “beginning of work day” construction meetings, workers will be reminded of creek protection requirements and where and how pollution prevention measures are to specifically be implemented during the work day. Inspection and proper maintenance of the pollution prevention measures during each day’s construction operations will be stressed.

Litter Prevention Measures. All trash and food items shall be contained in animal-proof containers and removed at least once a week to avoid attracting opportunistic predators such as ravens, coyotes, and feral dogs. Contractors and Subcontractors shall not dump any litter or construction debris within the stream, or where it may pass into the stream during high stormwater flows. All removed material shall be disposed of according to state and local laws and ordinances.

Dust Control Measures. All Contractors and Subcontractors shall follow County and City dust control requirements. This includes the following measures in Attachment C:

1. Use (but don't overuse) reclaimed water for dust control as needed.
2. Reuse water from dewatering operations for dust control.

Methods of Cleaning Tools and Equipment. Water containing mud, silt, or other pollutants from equipment washing or other activities, shall not be allowed to enter Elmhurst Creek and the tributary to Elmhurst Creek or placed in locations that may be subjected to high storm flows that could flow toward the creeks. Measures described in Attachment C under “Vehicle and Equipment Maintenance & Cleaning” shall be followed. These include:

1. Inspect vehicles and equipment for leaks frequently.

2. Use drip pans to catch leaks until repairs are made; repair leaks promptly.
3. Fuel and maintain vehicles on site only in a bermed area or over a drip pan that is big enough to prevent runoff.
4. If vehicles or equipment must be cleaned on site, clean with water only in a bermed area that will not allow rinse water to run into gutters, streets, storm drains, or creeks.
5. Do not clean vehicles or equipment on-site using soaps, solvents, degreasers, steam cleaning equipment, etc.

Construction Site Fencing. Before starting construction activities, the boundary of the Project Area / ground disturbing area shall be fenced. Fencing shall be maintained until construction activities are completed.

Creek Habitat Fencing. Before starting construction activities, orange construction fencing shall be placed along the surveyed "top of bank" of Elmhurst Creek and the tributary to Elmhurst Creek. Contractors and Subcontractors shall be made aware during manager and worker training that no construction work is to occur beyond this creek habitat fencing and they are responsible for maintaining the fencing and taking active measures during each work day to prevent sediment or hazardous materials from entering the creek habitats and channels beyond this point.

Erosion Control Protection. Both construction and postconstruction erosion control protection measures are referred to below. Ongoing and postconstruction measures shall not use erosion control materials containing plastic monofilament netting (erosion control matting) or similar material containing netting within the Project area due to documented evidence of birds, small mammals, amphibians, and reptiles becoming entangled or trapped in such material. Acceptable substitutes include coconut coir matting or similar.

- **Ongoing Siltation and Erosion Control**. Attachment D contains Project Plan Sheet C8.00, the Erosion Control Plan and Sheet C8.01 Erosion Control Details. Prior to construction, a Stormwater Pollution Prevention Plan (SWPPP) shall be submitted to the County of Alameda and City of Oakland for approval.

- **Future Siltation and Erosion Control**. A proposed Postconstruction stormwater plan is provided as Attachment E which includes Project Plan Sheets C6.00 and C6.01 Stormwater Management Plan, Sheet C6.02 Stormwater Management Details, and Sheet C6.03 Stormwater Supplemental Form MRP3. The plan shall be submitted to the County of Alameda and City of Oakland for approval prior to beginning construction.

Wet Weather Protection. Wet weather protection measures as described in Attachment C will be followed. These include:

1. Establish and maintain effective perimeter erosion controls and stabilize all construction entrances and exits to sufficiently control erosion and sediment discharges from site and tracking off site.
2. Sweep or vacuum any street tracking immediately and secure sediment source to prevent further tracking.
3. All earthen construction material must be covered with a tarp and contained with a perimeter control during wet weather or when rain is forecasted or when not actively being used within 14 days.
4. Cover all dumpsters with a tarp during wet weather.
5. Contain, cover, and store on pallets all stockpiled landscape materials (mulch, compost, fertilizers, etc.) during wet weather or when rain is forecasted or when not actively being used within 14 days.
6. Discontinue the application of any erodible landscape material within 2 days of forecasted rain and during wet weather.

Stockpile Locations. Building materials and/or construction equipment shall not be stockpiled or stored where they may be washed into Elmhurst Creek and the tributary to Elmhurst Creek or adjacent riparian vegetation. Stockpiles shall be covered when measurable rain is forecasted. Measures as described in Attachment C will be followed. These include:

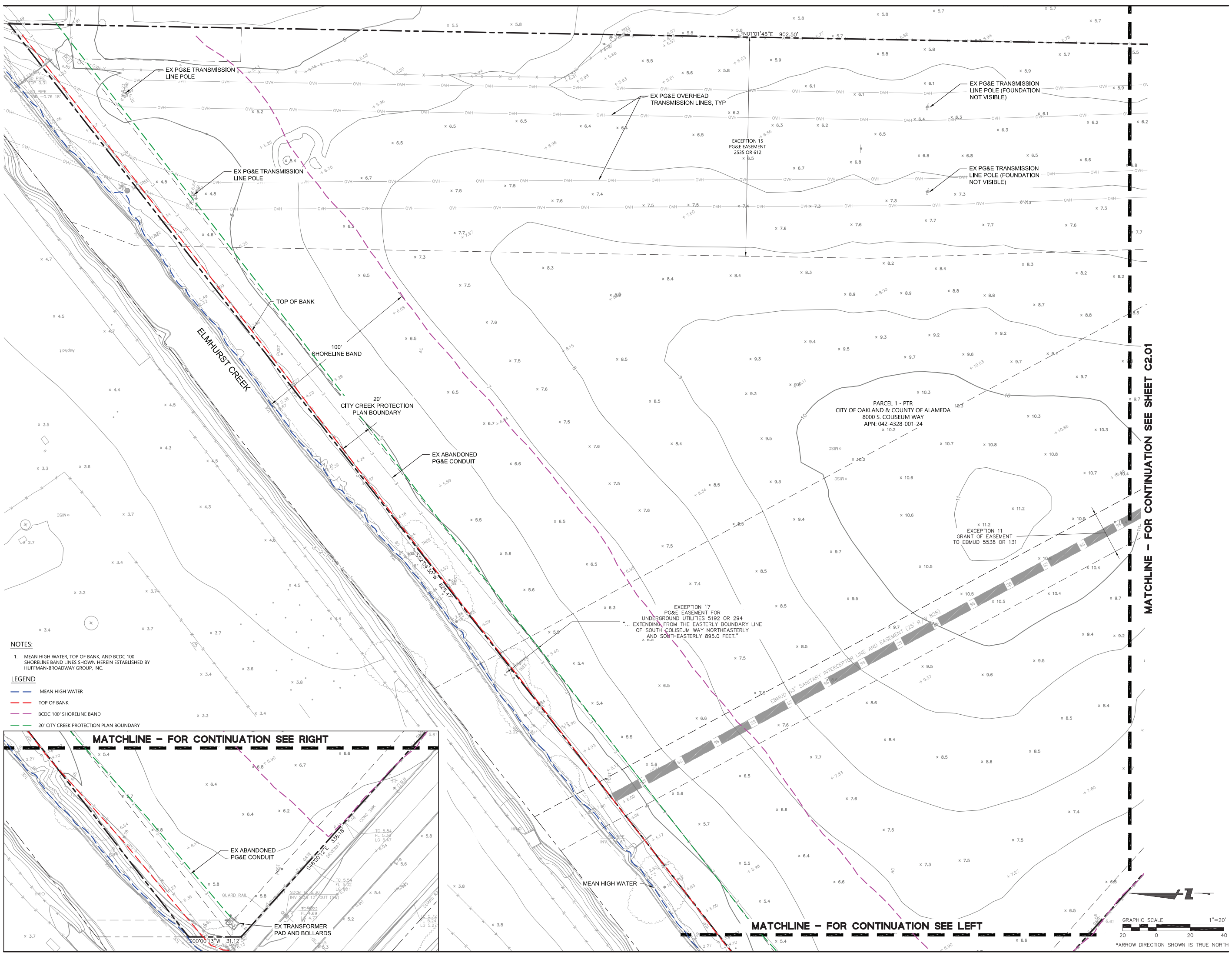
1. Sand, dirt, and similar materials shall be stored at least 10 feet (3 meters) from catch basins.
2. All earthen construction material must be covered with a tarp and contained with a perimeter BMP erosion control during wet weather or when rain is forecasted or when not actively being used within 14 days.

Special Circumstances/Additional Information. No construction ground disturbing activities, vegetation removal, or planting shall occur beyond the top of the banks of Elmhurst Creek and the tributary to Elmhurst Creek. No Project work will occur within the jurisdictions of the Corps of Engineers, State Water Resources Control Board, San Francisco Bay Regional Water Quality Control Board, or California Department of Fish and Wildlife. Attachment F provides a tree survey. Project work will occur within the jurisdiction of the San Francisco Bay Conservation and Development Commission. Project Plan Sheets C2.00 and C2.01 Existing Conditions (Attachment A) show the extent of jurisdiction from the channel Mean High Water line to 100 feet inside the Project site.

Toxic and Hazardous Materials. Any hazardous or toxic materials that could be deleterious to aquatic life that could be washed into Elmhurst Creek and the tributary to Elmhurst Creek shall be contained in watertight containers or removed from the Project site. Debris, soil, silt, bark, slash, sawdust, rubbish, creosote-treated wood, raw cement/concrete or washings thereof, asphalt, paint or other coating material, oil or other petroleum products, or any other substances which could be hazardous to aquatic life, wildlife, or riparian habitat resulting from the Project related activities shall be prevented from contaminating the soil and/or entering Elmhurst Creek and the tributary to Elmhurst Creek.

Emergency Preparations for Construction Related Spills. All activities performed near Elmhurst Creek and the tributary to Elmhurst Creek shall follow the measures described in Attachment C under “Spill Prevention and Control”. These include:

1. Keeping a stockpile of spill cleanup materials (rags, absorbents, etc.) available at the construction site at all times.
2. When spills or leaks occur, they shall be contained immediately with particular attention taken to prevent leaks and spills from reaching the gutter, street, or storm drain.
3. Never washing spilled material into a gutter, street, storm drain, or creek.
4. Dispose of all containment and cleanup materials properly.
5. Report any hazardous materials spills immediately. Dial 911 or Call Alameda County Environmental Health at (510) 567-6700.



NOTES:

1. MEAN HIGH WATER, TOP OF BANK, AND BCDC 100' SHORELINE BAND LINES SHOWN HEREIN ESTABLISHED BY HUFFMAN-BROADWAY GROUP, INC.

LEGEND

- MEAN HIGH WATER
- TOP OF BANK
- BCDC 100' SHORELINE BAND
- 20' CITY CREEK PROTECTION PLAN BOUNDARY

Project
INTERIM STADIUM for ORSSC
8000 South Coliseum Way
Oakland, CA 94621

Prepared For
OAKLAND ROOTS & SOULS SPORTS CLUB

Hellmuth, Obata & Kassabaum, Inc.
One Bush Street, Suite 200
San Francisco, CA 94104 USA
t +1 415 243 0555
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ARCHITECTURE, STRUCTURE, ELECTRICAL, INTERIORS
Hellmuth, Obata & Kassabaum, Inc.

BKF
Civil
150 California Street Suite 600
San Francisco CA 94111

Lloyd Sport + Engineering
Civil Field
605 W Knox Rd Suite 210
Tempe, AZ 85284

PGA Design
Landscape
444 17th St.
Oakland CA 94612

American Trash Management
Waste Management
1900 Powell Street, suite 220
Emeryville, CA 94608

Key Plan

Professional Seals

REGISTERED PROFESSIONAL ENGINEER MICHAEL A. O'CONNELL No. 75811 EXP. 6/30/24 CIVIL STATE OF CALIFORNIA

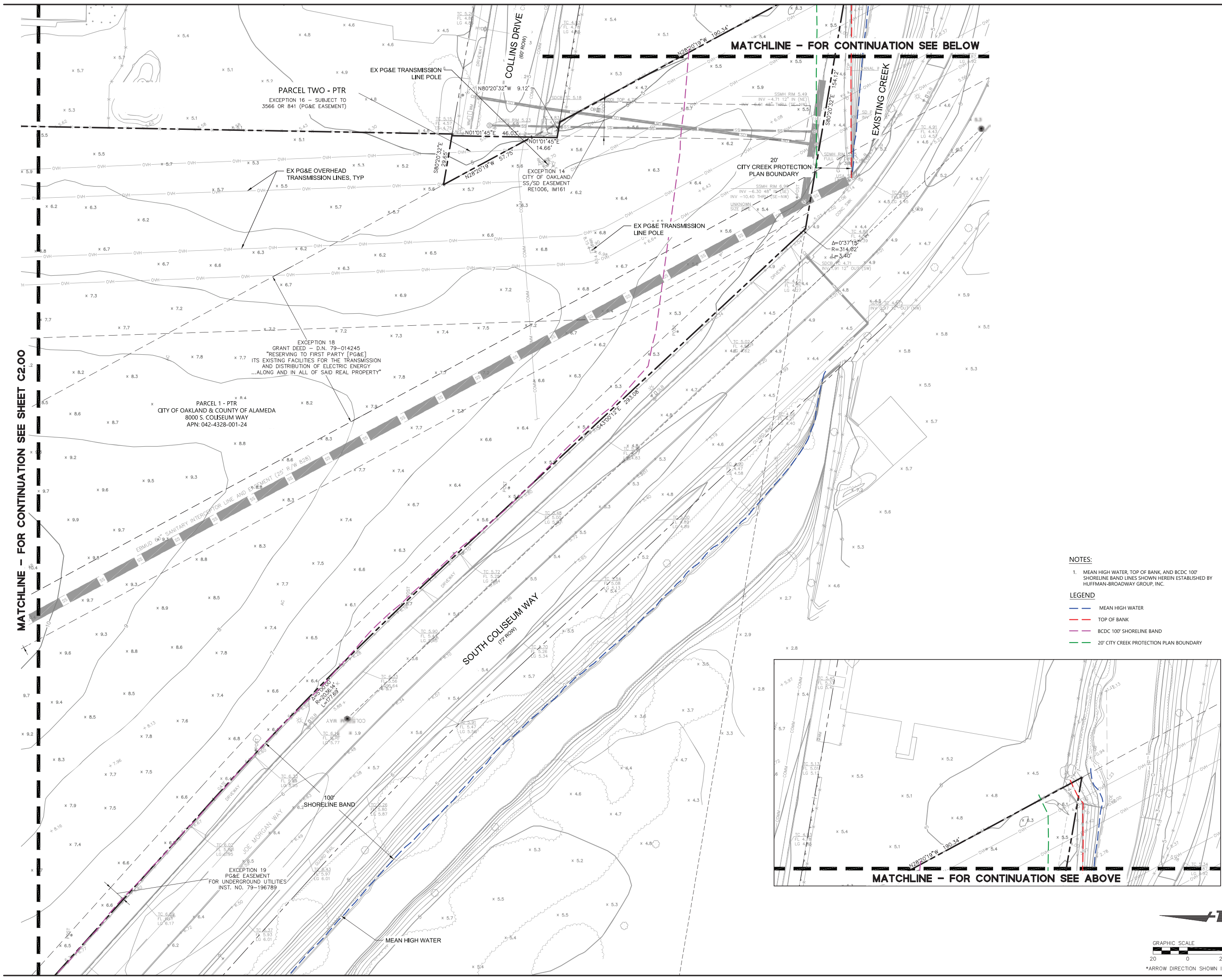
No.	Description	Date
	CUP SUBMITTAL 1	10/06/2023
	SD/ DD PRICING SET	10/24/2023

Project No: C20220888-11

Sheet Title
EXISTING CONDITIONS

Original is 42 x 30. Do not scale contents of this drawing.

Sheet Number
C2.00



NOTES:

1. MEAN HIGH WATER, TOP OF BANK, AND BCDC 100' SHORELINE BAND LINES SHOWN HEREIN ESTABLISHED BY HUFFMAN-BROADWAY GROUP, INC.

LEGEND

- MEAN HIGH WATER
- TOP OF BANK
- BCDC 100' SHORELINE BAND
- 20' CITY CREEK PROTECTION PLAN BOUNDARY

GRAPHIC SCALE 1"=20'

20 0 20 40

*ARROW DIRECTION SHOWN IS TRUE NORTH

Project

INTERIM STADIUM for ORSSC

8000 South Coliseum Way
Oakland, CA 94621

Prepared For

OAKLAND ROOTS & SOULS SPORTS CLUB

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ARCHITECTURE, STRUCTURE, ELECTRICAL, INTERIORS
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Lloyd Sport + Engineering
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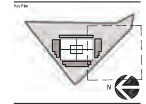
PGA Design
Landscape
444 17th St.
Oakland CA 94612

American Trash Management
Waste Management
1900 Powell Street, suite 220
Emeryville, CA 94608

Key Plan



Professional Seals

REGISTERED PROFESSIONAL ENGINEER
MICHAEL A. O'CONNELL
No. 75811
EXP. 6/30/24
CIVIL
STATE OF CALIFORNIA

No.	Description	Date
	CUP SUBMITTAL 1	10/06/2023
	SD/ DD PRICING SET	10/24/2023

Project No: C20220888-11

Sheet Title

EXISTING CONDITIONS

Original is 42 x 30. Do not scale contents of this drawing.

Sheet Number

C2.01

ATTACHMENT B

OCTOBER 2023 PHOTOGTAPHS OF THE OAKLAND ROOTS AND SOUL SPORT CLUBS INTERIM STADIUM AREA

NE View of Elmhurst Creek Looking Upstream from S. Coliseum Way Bridge

SE View Adjacent to S. Coliseum Way Bridge Across Elmhurst Creek Toward Proposed Project Site

SW View of Elmhurst Creek Looking Downstream

SE View of Tributary to Elmhurst Creek Looking Upstream

NW View of Tributary to Elmhurst Creek Looking Downstream toward S Coliseum Way

NW View of Proposed Project Site

SE View of Proposed Project Site Adjacent to Tributary to Elmhurst Creek

SE View of Proposed Project Site

NE View of Elmhurst Creek TOB and Adjacent Proposed Project Site

ATTACHMENT C

Pollution Prevention - It's Part of the Plan

Make sure your crews and subs do the job right!

Runoff from streets and other paved areas is a major source of pollution and damage to creeks and the San Francisco Bay. Construction activities can directly affect the health of creeks and the Bay unless contractors and crews plan ahead to keep dirt, debris, and other construction waste away from storm drains and local creeks. Following these guidelines and the project specifications will ensure your compliance with the City of Oakland and Alameda County requirements.

Materials storage & spill cleanup

Non-hazardous materials management

- Sand, dirt, and similar materials must be stored at least 10 feet (3 meters) from catch basins. All construction material must be covered with a tarp and contained with a perimeter control during wet weather or when rain is forecasted or when not actively being used within 14 days.
- Use (but don't overuse) reclaimed water for dust control as needed.
- Sweep or vacuum streets and other paved areas daily. Do not wash down streets or work areas with water!
- Recycle all asphalt, concrete, and aggregate base material from demolition activities. Comply with the City of Oakland and Alameda County for recycling construction materials, wood, gyp board, pipe, etc.
- Check dumpsters regularly for leaks and to make sure they are not overfilled. Repair or replace leaking dumpsters promptly.
- Cover all dumpsters with a tarp at the end of every work day or during wet weather.

Hazardous materials management

- Label all hazardous materials and hazardous wastes (such as pesticides, paints, thinners, solvents, fuel, oil, and antifreeze) in accordance with city, county, state, and federal regulations.
- Store hazardous materials and wastes in water tight containers, store in appropriate secondary containment, and cover them at the end of every work day or during wet weather or when rain is forecasted.
- Follow manufacturer's application instructions for hazardous materials and be careful not to use more than necessary. Do not apply chemicals outdoors when rain is forecasted within 24 hours.
- Be sure to arrange for appropriate disposal of all hazardous wastes.

Spill prevention and control

- Keep a stockpile of spill cleanup materials (rags, absorbents, etc.) available at the construction site at all times.
- When spills or leaks occur, contain them immediately and be particularly careful to prevent leaks and spills from reaching the gutter, street, or storm drain. Never wash spilled material into a gutter, street, storm drain, or creek!
- Dispose of all containment and cleanup materials properly.
- Report any hazardous materials spills immediately! Dial 911 or Call Alameda County Environmental Health at (510) 567-6700

Construction Entrances and Perimeter

- Establish and maintain effective perimeter controls and stabilize all construction entrances and exits to sufficiently control erosion and sediment discharges from site and tracking off site.
- Sweep or vacuum any street tracking immediately and secure sediment source to prevent further tracking.

Vehicle and equipment maintenance & cleaning

- Inspect vehicles and equipment for leaks frequently. Use drip pans to catch leaks until repairs are made; repair leaks promptly.
- Fuel and maintain vehicles on site only in a bermed area or over a drip pan that is big enough to prevent runoff.
- If you must clean vehicles or equipment on site, clean with water only in a bermed area that will not allow rinse water to run into gutters, streets, storm drains, or creeks.
- Do not clean vehicles or equipment on-site using soaps, solvents, degreasers, steam cleaning equipment, etc.

Earthwork & contaminated soils

- Keep excavated soil on the site where it will not collect in the street.
- Transfer to dump trucks should take place on the site, not in the street.
- Use fiber rolls, silt fences, or other control measures to minimize the flow of silt off the site.

- Earth moving activities are only allowed during dry weather by permit and as approved by the City and County Inspector in the Field.
- Mature vegetation is the best form of erosion control. Minimize disturbance to existing vegetation whenever possible.
- If you disturb a slope during construction, prevent erosion by securing the soil with erosion control fabric, or seed with fast-growing grasses as soon as possible. Place fiber rolls down-slope until soil is secure.
- If you suspect contamination (from site history, discoloration, odor, texture, abandoned underground tanks or pipes, or buried debris), call the Engineer for help in determining what should be done, and manage disposal of cntaminated soil according to their instructions.

Dewatering operations

- Effectively manage all run-on, all runoff within the site, and all runoff that discharges from the site. Run-on from off site shall be directed away from all disturbed areas or shall collectively be in compliance.
- Reuse water for dust control, irrigation, or another on-site purpose to the greatest extent possible.

- Be sure to notify and obtain approval from the Engineer before discharging water to a street, gutter, or storm drain. Filtration or diversion through a basin, tank, or sediment trap may be required.
- In areas of known contamination, testing is required prior to reuse or discharge of groundwater. Consult with the Engineer to determine what testing is required and how to interpret results. Contaminated groundwater must be treated or hauled off-site for proper disposal.

Saw cutting

- Always completely cover or barricade storm drain inlets when saw cutting. Use filter fabric, catch basin inlet filters, or sand/gravel bags to keep slurry out of the storm drain system.
- Shovel, absorb, or vacuum saw-cut slurry and pick up all waste as soon as you are finished in one location or at the end of each work day (whichever is sooner!).
- If saw cut slurry enters a catch basin, clean it up immediately.

Paving/asphalt work

- Always cover storm drain inlets and manholes when paving or applying seal coat, tack coat, slurry seal, or fog seal.
- Protect gutters, ditches, and drainage courses with sand/gravel bags, or earthen berms.
- Do not sweep or wash down excess sand from sand sealing into gutters, storm drains, or creeks. Collect sand and return it to the stockpile, or dispose of it as trash.
- Do not use water to wash down fresh asphalt concrete pavement.

Concrete, grout, and mortar storage & waste disposal

- Store concrete, grout, and mortar under cover, on pallets, and away from drainage areas. These materials must never reach a storm drain.
- Wash out concrete equipment/trucks off-site or into contained washout areas that will not allow discharge of wash water onto the underlying soil or onto the surrounding areas.

- Collect the wash water from washing exposed aggregate concrete and remove it for appropriate disposal off site.

Painting

- Never rinse paint brushes or materials in a gutter or street!
- Paint out excess water-based paint before rinsing brushes, rollers, or containers in a sink.
- Paint out excess oil-based paint before cleaning brushes in thinner.
- Filter paint thinners and solvents for reuse whenever possible. Dispose of oil-based paint sludge and unusable thinner as hazardous waste.

Landscape Materials

- Contain, cover, and store on pallets all stockpiled landscape materials (mulch, compost, fertilizers, etc.) during wet weather or when rain is forecasted or when not actively being used within 14 days.
- Discontinue the application of any erodible landscape material within 2 days of forecasted rain and during wet weather.

Storm drain polluters may be liable for fines of $10,000 or more per day!

For references and more detailed information:
www.cleanwaterprogram.org
www.cabmphandbooks.com

REVISIONS			
NO.	DESCRIPTION	BY	DATE	APPV'D
1				
2				
3				
4				
5				

APPROVED

COUNTY OF ALAMEDA & CITY OF OAKLAND

OAKLAND ROOTS INTERIM STADIUM PROJECT, MALIBU SITE

DATE 10/24/2023

POLLUTION PREVENTION

WORK ORDER NO.

SPECIFICATION NO.

SHEET NO. Attachment B

FILE NO.

Appendix F

Geotechnical Exploration, Interim Stadium for Roots and Soul SC

ENGEO, Inc., November 30, 2023

INTERIM STADIUM FOR OAKLAND ROOTS AND SOUL SC
OAKLAND, CALIFORNIA

GEOTECHNICAL EXPLORATION

SUBMITTED TO
Ms. Lydia Tan
Oakland Pro Soccer, LLC
2744 East 11th Street, Suite K01
Oakland, CA 94601

PREPARED BY
ENGEO Incorporated

November 13, 2023
Revised November 30, 2023

PROJECT NO.
17108.001.001

Expect Excellence

Project No.
17108.001.001

November 13, 2023
Revised November 30, 2023

Ms. Lydia Tan
Oakland Pro Soccer, LLC
2744 East 11th Street, Suite K01
Oakland, CA 94601

Subject: Interim Stadium for Oakland Roots and Soul SC
8001 S. Coliseum Way
Oakland, California

GEOTECHNICAL EXPLORATION

Dear Ms. Tan:

We prepared this geotechnical exploration report for the proposed interim soccer stadium and related improvements at the current Malibu Lot near the Oakland Coliseum in Oakland, California. We characterized the subsurface conditions at the site and developed our geotechnical conclusions and recommendations for the project.

Based on the results of our exploration, it is our professional opinion from a geotechnical viewpoint that the soccer stadium and related improvements are feasible, provided the identified geotechnical hazards are addressed and properly mitigated. The main geotechnical concerns for the proposed site development include the presence of existing fill, compressible soil, soil susceptible to seismically induced settlement, expansive soil, and shallow groundwater. Our recommendations to mitigate these hazards for the planned project are presented in the accompanying report.

Our experience and that of our profession clearly indicate that the risk of costly design, construction, and maintenance problems can be significantly lowered by retaining the design geotechnical engineering firm to review the project plans and specifications and provide geotechnical observation and testing services during construction. Please let us know when the working drawings are nearing completion, and we will be glad to discuss these additional services with you.

If you have any questions or comments regarding this report, please contact us and we will be glad to discuss them with you.

Sincerely,

ENGEO Incorporated

Lydia Kelley

Csilla Kenny, PE

REGISTERED PROFESSIONAL ENGINEER CSILLA TOTH KENNY No. 87367 CIVIL STATE OF CALIFORNIA

Jeff Fippin, GE

REGISTERED PROFESSIONAL ENGINEER JEFFREY A. FIPPIN No. 2631 GEOTECHNICAL STATE OF CALIFORNIA

lk/ck/ds/jaf/ca

TABLE OF CONTENTS

TABLE OF CONTENTS (Continued)

1.0 INTRODUCTION

1.1 PURPOSE AND SCOPE

We prepared this geotechnical exploration report for the design and construction of the interim soccer stadium and related improvements project at the current Malibu Lot near the Oakland Coliseum in Oakland, California. As outlined in our consultant agreement dated August 30, 2023, you authorized us to prepare a geotechnical report.

Our scope included a review of published geologic maps and historical aerial photographs, advancing one boring up to a maximum depth of 60 feet, and advancing two cone penetration tests (CPTs) up to approximately 100 feet deep, and preparation of this report. We receive the following documents.

- "Oakland SC Stadium – Concept Design." HOK Architecture, August 2023.
- "Interim Stadium for ORSSC, 8000 South Coliseum Way, Oakland, California." CUP Submittal 1, Sheets C4.00 and C4.01. BKF Engineers dated October 6, 2023.
- "Cut/Fill Exhibit – Subgrade, Oakland Roots and Soul SC – Interim Stadium, Oakland, California." BKF Engineers dated October 2023.
- "Grading Cross Sections, Oakland Roots and Soul SC – Interim Stadium, Oakland, California." BKF Engineers dated October 2023.

We prepared this report for the exclusive use of our client and their consultants for the design of this project. If any changes are made in the character, design, or layout of the development, we must be contacted to review the conclusions and recommendations contained in this report to evaluate whether modifications are recommended. This document may not be reproduced in whole or in part by any means whatsoever, nor may it be quoted or excerpted without our express written consent.

1.2 PROJECT LOCATION AND DESCRIPTION

We understand the proposed development will include a new 90,000-square-foot artificial turf soccer field, temporary grandstands, field lighting, and prefabricated auxiliary structures for concessions, storage, restrooms, locker rooms, and press. The Cut/Fill Exhibit shows minor grading including up to 4 feet of cut and 4 feet of fill, and underground utilities. Based on discussions with the design team, we understand that structural loads for the stands are approximately 100 pounds per square feet (psf).

2.0 FINDINGS

2.1 SITE HISTORY

To characterize and understand site development history and geomorphology, we reviewed historical aerial photographs and topographic maps. We viewed numerous historical aerial photographs flown from 1946 to present, available on Google Earth and www.historicaerials.com. We also reviewed published historical topographic maps dating back to 1899 to consider the site history before aerial photographic coverage was available.

Based on our review, the site was an undeveloped marshland adjacent to the San Leandro Bay before the mid-1950s. In a photograph from the mid-1950s the site and surrounding areas appear to be in the process of marshland reclamation; however, various meandering creeks and streams are still present at the westernmost corner of the site until the late-1950s. By 1968, South Coliseum Way and the Oakland Coliseum were constructed. By 1980 the site was developed as a Malibu Grand Prix Go-Kart Center. By 2000 the site appears to have been converted to a parking lot. Subsequent photographs indicate the site has remained relatively unchanged in the past 23 years. We understand that the Malibu Grand Prix Go-Kart Center ceased operations in the mid-1990s and, after demolition, the site was operated as an overflow lot for the nearby Oakland Coliseum.

2.2 GEOLOGY AND SEISMICITY

2.2.1 Geology

The site is located in the northern portion of the California Coast Ranges, which are a series of northwesterly trending uplifted ranges and intervening valleys. The Coast Ranges were formed by Miocene to Quaternary tectonic activity within the San Andreas Fault zone at the boundary between the North American and Pacific Plates.

Based on geologic mapping by Graymer et al. (2000), the project site is underlain by artificial fill (Qaf) over Holocene Bay Mud deposits (Qhbm), as shown in Figure 4. Graymer describes the Holocene Bay Mud deposits as consisting primarily of soft, high plasticity clay with variable levels of organics; these deposits are described as generally saturated and unconsolidated. Artificial fill is described as generally consisting of clay, silt, sand rock fragments, and man-made debris.

2.2.2 Seismicity

Numerous small earthquakes occur every year in the San Francisco Bay region, and larger earthquakes have been recorded and can be expected to occur in the future. The San Francisco Bay Area contains numerous active earthquake faults. A Holocene-active fault is defined by the California Geologic Survey as one that experienced surface displacement within Holocene time (about the last 11,700 years) (CGS, 2018).

To identify nearby active faults that can generate strong seismic ground shaking at the site, we utilized the USGS Earthquake Hazard Toolbox and disaggregated the seismic hazard at the peak ground acceleration (PGA) for a return period of 2,475 years. The resulting faults are listed below in Table 2.2.2-1. Figure 6 shows the approximate locations of these faults and significant historical earthquakes recorded within the San Francisco Bay region.

TABLE 2.2.2-1: Active Faults Capable of Producing Significant Ground Shaking at the Site

SOURCE	RUPTURE DISTANCE, R_{RUP}		MOMENT MAGNITUDE, M_W
	(km)	(mi)	
Hayward (North) [0]	4.8	3.0	7.2
Hayward (South) [7]	5.2	3.2	6.8
San Andreas (Peninsula) [10]	25.6	15.9	7.9
Calaveras (North) [0]	17.2	10.7	7.1

These results represent sources contributing at least 1 percent to the seismic hazard at the site PGA and for the given return period. Background seismicity zones, such as gridded or areal sources, are not presented. The mean moment magnitudes (M_W) listed are based on values assigned according to the Uniform California Earthquake Rupture Forecast version 3 (UCERF3) (Field et al., 2015), and the numbers in square brackets after the fault names correspond to fault subsections assigned by UCERF3. Magnitudes and source contributions to the seismic hazard vary slightly between the two fault models (FM 3.1 and 3.2) utilized by UCERF3 and from one spectral period to another. Therefore, for each source we present the maximum mean magnitude of the spectral periods considered where that source contributes significantly to the hazard.

In 2014, the UCERF3 working group estimated the 30-year probability for a magnitude 6.7 or greater earthquake in San Francisco Bay region at approximately 72 percent, considering the known active seismic sources in the region.

2.3 FIELD EXPLORATION

Our field exploration included drilling one boring within the project site on September 27, 2023, and advancing two CPTs to approximately 100 and 50 feet. We permitted the explorations with the Alameda County Public Works Agency and backfilled them with cement grout under the observation of an Alameda County Public Works Agency inspector.

The approximate locations of our borings are shown in Figure 2. We estimated the approximate location and elevations of our explorations based on distances from existing site features and the site topography previously referenced; they should be considered accurate only to the degree implied by the method used.

2.3.1 Boring

A representative of our firm observed the drilling and logged the subsurface conditions at the boring location. We retained the services of a drilling contractor who provided a crew operating a truck-mounted drill rig to advance the boring using 6-inch-diameter mud rotary wash drilling method. We advanced the borings to a depth of approximately 61½ feet below the existing ground surface (bgs).

We obtained soil samples at various intervals using standard penetration test (SPT) samplers with a 2-inch outside diameter (O.D. split-spoon sampler), California-modified samplers with 2½-inch inside diameter (I.D.), or Shelby Tube samples with 3-inch I.D. We obtained the blow counts shown on our boring logs with an automatic trip, 140-pound hammer with a 30-inch free fall. We drove the sampler 18 inches and recorded the number of blows for each 6 inches of penetration. Unless otherwise indicated, the blows per foot recorded on the boring log represent the accumulated number of blows to drive the last 1 foot of penetration. We have not converted the blow counts presented on the boring logs using any correction factors.

We provide additional information about specific subsurface conditions at each location in our exploration logs in Appendix A. The soil type, color, consistency, and visual classification provided in the logs are in general accordance with the Unified Soil Classification System

2.3.2 Cone Penetration Tests

We retained the services of a subcontractor operating a CPT rig to advance two CPTs to depths ranging between 50 and 100 feet, in general accordance with ASTM D5778. Measurements include the tip resistance to penetration of the cone (Qc), the resistance of the surface sleeve (Fs), and undrained pore pressure (U) (Robertson and Campanella, 1988).

The CPT contractor performed pore pressure dissipation (PPD) tests to measure piezometric water pressure in each CPT at various depths and collected seismic shear-wave velocity (V_S) measurements in one CPT using the downhole seismic method specified in ASTM D7400. We include the CPT report and logs in Appendix B.

2.3.3 Laboratory Testing

We performed laboratory tests on select soil samples to evaluate their engineering properties; we include the laboratory test and standard procedures shown in the following table.

TABLE 2.3.3-1: Laboratory Testing

SOIL CHARACTERISTIC	TESTING METHOD
Dry Density (Unit Weight)	ASTM D7263
Water (Moisture) Content by Mass	ASTM D2216
Plasticity Index (Wet Method)	ASTM D4318
Soil Finer than No. 200 Sieve	ASTM D1140
Constant Rate of Strain Consolidation	ASTM D4186
Isotropic Unconsolidated Undrained Triaxial Report	ASTM D2850
R-Value Test	CTM 301
Corrosivity Testing (Redox, pH, Resistivity, Chloride, Sulfide, Sulfate)	ASTM Methods

Select laboratory test results are shown in the boring logs (Appendix A), with individual test results presented in Appendix B. Soil corrosivity test results are presented in Appendix C.

2.4 SURFACE AND SUBSURFACE CONDITIONS

As previously discussed, the site is currently developed as an existing overflow parking lot for the nearby Oakland Coliseum; the surface of the entire site was covered with gravel at the time of our exploration. Based on topographic information by BKF Engineers, the ground surface of the site is relatively flat and ranges from approximately 11 feet (City of Oakland Vertical Datum) in the central portion of the site and Elevation 5 feet at the corners of the site.

Our explorations encountered a section of approximately 6 inches of aggregate base rock (AB). We encountered fill material below the aggregate base section which extended to depths of approximately 6 to 8½ feet bgs. The fill material we encountered during our exploration was heterogenous and consisted of dark brown to black lean and fat clay with varying amounts of sand, gravel, glass fragments, wood debris, and miscellaneous debris.

We encountered Young Bay Mud (YBM) deposits below the existing fill that extended to a depth of approximately 26 feet bgs. The YBM deposits layer was approximately 16½ feet in thickness in 1-B1, approximately 19 feet in thickness in 1-sCPT1 and 16 feet in thickness in 1-CPT2. The YBM deposits we encountered generally consisted of soft to medium stiff high plasticity clay with some interbedded sand layers, trace shells, and noted organics. The testing we performed in this YBM deposit indicates the clay is lightly overconsolidated, with an OCR of approximately 2, with shear strengths of 300 to 650 pounds per square foot (psf). Additionally testing indicates moisture content in this layer ranges from 38 to 59 percent. In 1-B1 we encountered the transition from YBM to Old Bay Clay (OBC) at around 26 feet bgs. The OBC encountered was generally highly plastic, medium stiff to stiff, overconsolidated, and with shear strengths above 1,000 psf.

Below the OBC deposits, we encountered medium dense to very dense poorly graded alluvial sand with clay and gravel approximately 13 feet in thickness, extending from 48½ to 61½ feet bgs in 1-B1. In 1-sCPT this layer is approximately 9 feet in thickness and extends to 43 feet bgs. In 1-CPT2 this layer is approximately 7 feet in thickness and extends to 47 feet bgs.

Below this sand layer, we encountered stiff OBC extending to approximately 70 feet bgs, followed by dense sand and gravel extending to 100 feet bgs.

2.5 GROUNDWATER

We estimated groundwater elevation using pore pressure dissipation tests in our CPTs. Based on measurements recorded during our exploration, the groundwater level at the site is approximately 6 feet bgs, which approximately corresponds to Elevation 1 to 4 feet.

For our analyses and recommendations, we consider an appropriate design groundwater depth of 5 feet bgs. Fluctuations in the level of groundwater may occur due to variations in rainfall, irrigation practice, and other factors not evident at the time measurements were made.

2.6 SEISMIC HAZARDS

Potential seismic hazards resulting from a nearby moderate to major earthquake can generally be classified as primary and secondary. The primary effect is ground rupture, also called surface faulting. The common secondary seismic hazards include ground shaking and ground lurching. The following sections present a discussion of these hazards as they apply to the site. Based on topographic and lithologic data, the risk of regional subsidence or uplift, landslides, tsunamis, or seiches is considered low to negligible at the site.

2.6.1 Ground Rupture

The site is not located within a currently designated Alquist-Priolo Earthquake Fault Zone and no known surface expression of active faults is believed to exist within the site. Therefore, it is our opinion that ground rupture is unlikely at the subject property.

2.6.2 Ground Shaking

An earthquake of moderate to high magnitude generated within the San Francisco Bay region could cause considerable ground shaking at the site, like that which has occurred in the past. To mitigate the shaking effects, structures should be designed using sound engineering judgment and the 2022 California Building Code (CBC) requirements, as a minimum.

Seismic design provisions of current building codes generally prescribe minimum lateral forces, applied statically to the structure, combined with the gravity forces of dead and live loads. The code-prescribed lateral forces are generally considered to be substantially smaller than the comparable forces that would be associated with a major earthquake. Therefore, structures should be able to: (1) resist minor earthquakes without damage, (2) resist moderate earthquakes without structural damage but with some nonstructural damage, and (3) resist major earthquakes without collapse but with some structural as well as nonstructural damage. Conformance to the current building code recommendations does not constitute any kind of guarantee that significant structural damage would not occur in the event of a maximum magnitude earthquake; however, it is reasonable to expect that a well-designed and well-constructed structure will not collapse or cause loss of life in a major earthquake (SEAOC, 1996).

2.6.3 Liquefaction/Cyclic Softening

According to mapping of liquefaction susceptibility shown on the "Seismic Hazard Zones" map of the San Leandro Quadrangle by the California Geological Survey (CGS, 2003), the site is located within a mapped zone of potential liquefaction (Figure 5).

Soil liquefaction results from the temporary loss of shear strength during cyclic loading, such as imposed by earthquakes. The soil most susceptible to liquefaction is clean, loose, saturated, uniformly graded fine sand below the groundwater table. Empirical evidence indicates that loose silty sand is also potentially liquefiable. When seismic ground shaking occurs, the saturated sandy soil is subjected to cyclic shear stresses that can cause excess pore-water pressures to develop due to volumetric repositioning of soil particles. As excess pore-water pressures approach the effective confining stress from the overlying soil, the sand will experience a reduction in effective shear strength and may undergo deformation. If the pore-water pressures exceed the effective confining stress, the sand particles are free to move within the soil-water matrix without significant resistance, at which point the soil is said to have liquefied. If the sand consolidates or vents to the surface (known as "sand boils") during and following liquefaction, ground settlement and surface deformation may occur. In some cases, settlements of approximately 2 to 3 percent of the thickness of the liquefiable layer have been measured. In addition to liquefaction of sandy materials, clayey soil can also undergo "cyclic softening" or strength loss as a result of cyclic loading.

During our exploration, we encountered three- to five-foot-thick layers of medium dense poorly graded sand with clay and gravel within the alluvium material encountered from approximately 35 to 61½ feet bgs. These layers of liquefiable sand are discontinuous and not persistent throughout the site. We performed an analysis of liquefaction potential at the site based on our CPT data using the computer software CLiq, which incorporates the procedure introduced by the 1996 National Center for Earthquake Engineering Research (NCEER) workshop and the 1998 NCEER/National Science Foundation (NSF) workshop. The workshops are summarized by Youd et al. (2001) and updated by Robertson (2009). This software also incorporates the method introduced by Idriss and Boulanger (2008) and updated by Boulanger and Idriss (2014).

We performed our liquefaction assessment based on the methodology by NCEER (Youd et al., 2001) and the liquefaction triggering procedure by Boulanger and Idriss (2014). We elected not to use the Robertson (2009) methodology to consider the sand and clay-like behavior as testing and experience with YBM indicates the clay-like soil at the site is not susceptible to liquefaction. We assumed an earthquake moment magnitude of 7.2 based on a 2 percent in 50 years probability disaggregation and used the mapped maximum considered earthquake (MCE) geometric mean peak ground acceleration (PGA_M) of 0.89g, based on the 2022 California

Building Code as listed in Table 3.6-1. Since we predrilled the upper 6 to 7 feet in both CPTs we used a groundwater depth of 6 feet bgs in our analysis. Our analysis results indicate that the liquefiable layers are relatively thin and discontinuous. We expect up to 2½ inches of total liquefaction-induced settlement could occur during an MCE seismic event.

In addition to the above analysis, we also evaluated the capping effect of the near-surface non-liquefiable soil to assess the potential for ground-surface disruption. Based the thickness of potentially liquefiable deposits and thickness of non-liquefiable cap materials above, the risk for ground surface rupture and sand boils is low.

2.6.4 Lateral Spreading

Lateral spreading is a failure within a nearly horizontal soil zone (possibly due to liquefaction) that causes the overlying soil mass to move towards a free face or down a gentle slope. Generally, the effects of lateral spreading are most significant at the free face or the crest of a slope and diminish with distance from the slope. Since Elmhurst Creek runs along the northwestern boundary of the site, we discuss seismic slope stability and lateral displacement in Section 3.4. The potentially liquefiable material that we encountered is at an elevation below the bottom of Elmhurst Creek so flow failure of liquefiable soil exposed at a free face is not a hazard for this site.

2.6.5 Ground Lurching

Ground lurching is a result of the rolling motion imparted to the ground surface during energy released by an earthquake. Such rolling motion can cause ground cracks to form in weaker soil. The potential for the formation of these cracks is considered greater at contacts between deep alluvium and bedrock. Such an occurrence is possible at the site as in other locations in the San Francisco Bay Area region, but based on the site location, the offset should be minor.

2.7 SOIL CORROSION POTENTIAL

We submitted one representative soil samples from the near-surface soil in 1-B1 and depths to a California state-certified analytical lab for determination of redox potential, pH, resistivity, sulfide, chloride, and sulfate. The results are included in Appendix C and summarized in the table below.

TABLE 2.7-1: Corrosivity Test Results

SAMPLE LOCATION	DEPTH (feet)	REDOX (mV)	pH	RESISTIVITY (OHMS-CM)	SULFIDE (MG/KG)	CHLORIDE (MG/KG)	SULFATE (MG/KG)
1-B1	3 ½	-	8.17	1,800	N.D.	27	52

*N.D. – None detected

The 2022 CBC references the 2019 American Concrete Institute Manual, ACI 318-14, Chapter 19, Sections 19.3.1 for concrete durability requirements. Based on the test results and ACI criteria, the tested soil classifies as ‘Not Applicable – S0’ for sulfate exposure; there is no requirement for cement type or water-cement ratio for this category; however, a minimum concrete compressive strength of 2,500 psi is specified by the building code. It should be noted, however, that the structural engineering design requirements for concrete may result in more stringent concrete specifications.

The following corrosion assessment was provided by CERCO analytical in a brief corrosion evaluation.

> "Given the resistivity measurements, the near surface soil at the site is classified as "corrosive". All buried iron, steel, cast iron, ductile iron, galvanized steel and dielectric coated steel or iron should be properly protected against corrosion depending on the critical nature of the structure."

These recommendations provided are for general reference. If it is desired to investigate this further, we recommend a corrosion consultant be retained to evaluate whether specific corrosion recommendations are advised for the project.

3.0 CONCLUSIONS

Based on the results of our exploration, it is our professional opinion from a geotechnical viewpoint that the planned stadium and related improvements are feasible, provided the identified geotechnical hazards are addressed and properly mitigated. The main geotechnical concerns for the proposed site development include presence of existing fill, compressible soil, soil susceptible to seismic induced settlement, and shallow groundwater.

Further discussion of the hazards and our recommendations to mitigate these hazards for the planned project are presented in the following sections of this report.

3.1 EXISTING NON-ENGINEERED FILL

The majority of existing fill at the site was placed in the 1950s. Due to the era of placement as well as variable consistency encountered in the boring, it is our opinion that the fill was likely not placed in an engineered manner. Existing non-engineered fill may perform variably when loaded. We encountered up to 8½ feet of fill in our boring and CPTs. The existing fill thickness is relatively constant across the explorations, ranging from 6 to 8½ feet in thickness. We understand excavation within the fill is not feasible due to environmental constraints as well as a desire to minimize site disturbance. We recommend designing for an additional 2 inches of total settlement throughout the design lifetime of the stadium due to compression of this fill. Settlement of the non-engineered fill can occur anywhere new load is added. The exact location and magnitude of the settlement is difficult to predict due to the variable material composition and density of the fill.

3.2 COMPRESSIBLE SOIL

As previously discussed, our explorations encountered compressible YBM deposits up to 19 feet in thickness underlying portions of the project site. These soft marine sediments may be compressible due to loading from any new fill or structures. The amount of settlement is dependent on the imposed load and thickness of the YBM Deposits but will likely take approximately 6 months or less for most of the settlement to occur. We estimate the YBM Deposits will experience up to 3 inches of total settlement due to planned fill and structure loads. The settlement will likely be greater in areas of planned thicker fill and zero in areas of cut. We recommend grading the field as early in site development as possible and delaying field placement until as late as possible so that differential settlement can be graded out of the site and ongoing settlement after field placement will be reduced. To mitigate settlement of the existing 63-inch sanitary sewer line from additional overburden, we provide recommendations for overexcavation and lightweight fill replacement, in Section 5.4.

3.3 SEISMICALLY INDUCED SETTLEMENT POTENTIAL

As previously discussed, we encountered layers of medium dense poorly graded sand with clay and gravel, which are potentially susceptible to liquefaction. The results of our analysis indicate that liquefaction-induced settlement at the site could be up to approximately 2½ inches during a CBC-defined Maximum Considered Earthquake. We encountered the potentially liquefiable layers at each exploration location and anticipate that the potential for seismic settlement exists throughout the site. The potential differential settlement associated with the liquefaction is likely about half of the total settlement over a span of 30 feet.

3.4 SLOPE STABILITY ANALYSIS

To assess the risk of slope movement into the Elmhurst Creek under static or seismic loads, we performed slope stability analyses based on the locations described in the table below. The analysis conditions (static and seismic) are also summarized in the table. We used the computer slope stability software Slide2 (version 9.027) by Rocscience and analyzed the stability of the slopes using Spencer's method of slices (Spencer, 1967) with circular failure searches. Recommendations for construction of the fill slopes along the northwestern boundary of the site are provided in Section 5.5.

TABLE 3.4-1: Conditions Considered in Slope Stability Analysis

CROSS SECTION*	CROSS-SECTION DESCRIPTION	CONDITIONS ANALYZED
Section A-A'	Roughly 1 to 2 feet of engineered fill to be placed atop the existing slope along Elmhurst Creek. Modular buildings will be placed within approximately 12 feet of the slope.	- Static analysis in final grading condition with distributed building load - Seismic* analysis
Section B-B'	Roughly 3 to 4 feet of engineered fill to be placed up to the existing slope along Elmhurst Creek. The stadium bleachers will be erected within approximately 20 feet of the new slope.	- Static analysis in final grading condition with distributed stadium load - Seismic* analysis
Section C-C'	Up to 1 foot of cut will be removed from existing grade along Elmhurst Creek. A modular building will be installed within approximately 2 feet of the slope.	- Static analysis in final grading condition with distributed building load - Seismic* analysis

*Pseudo-static analysis methodology

Special Publication 117A "Guidelines for Evaluating and Mitigating Seismic Hazards in California" (CGS, 2008), is currently used in practice to evaluate seismic stability of slopes in California. Note 48, which is used as a guideline for evaluating seismic hazards for public schools, hospitals, and essential services buildings, advises the procedure recommended in SP117A, in addition to using a design-level ground motion based on geometric mean and without risk coefficient (i.e., $PGA_M/1.5$). We estimate the geo-mean peak ground acceleration (PGA_M) to be 0.81g in accordance with the 2022 CBC and ASCE 7-16, and we estimate the design-level PGA to be 0.54g. SP117A states that slopes that have a pseudo-static factor of safety greater than 1.0 using a seismic coefficient derived from the screening analysis procedure of Stewart and others (2003) can be considered stable. Based on the above and the procedure in SP117A, we used a pseudo-static coefficient of 0.29g for the seismic loading condition based on a 2-inch (5-centimeter) threshold of displacement.

3.4.1 Soil Strength Parameters

For the slope stability analysis, we estimated the strength of the subsurface soil based on laboratory testing and various field test correlations. We assigned strength values listed in Table 3.4.1-1.

TABLE 3.4.1-1: Soil Strength Parameters

SOIL LAYER	UNIT WEIGHT (pcf)	COHESION (psf)	FRICTION ANGLE (degrees)
Engineered Fill	125	1500	0
Existing Fill	120	1000	-
Young Bay Mud	105	646	-
Old Bay Clay	110	3000	-
Sand	120	0	35

3.4.2 Results of Slope Stability Analyses

Appendix D graphically shows the results of our slope stability analyses. In general, a factor of safety of 1.5 under static conditions and 1.0 under seismic conditions is considered acceptable for slope stability analyses. We summarize the results in the table below. Based on our results, the analyzed conditions achieve the minimum factors of safety.

TABLE 3.4.2-1: Results of Slope Stability Analysis

CROSS SECTION*	ANALYSIS CONDITION	MINIMUM REQUIRED FACTOR OF SAFETY	CALCULATED FACTOR OF SAFETY
Section A-A’	Static analysis in final grading condition	1.5	3.6
	Seismic* analysis	1.0	1.1
Section B-B’	Static analysis in final grading condition	1.5	3.0
	Seismic* analysis	1.0	1.0
Section C-C’	Static analysis in final grading condition	1.5	2.9
	Seismic* analysis	1.0	1.0

*Pseudo-static analysis methodology

Our results indicate that in a seismic event the site could experience up to 2 inches of lateral movement in the direction of the creek. Based on our experience, this lateral displacement is acceptable for the project.

3.5 SHALLOW GROUNDWATER

Based on observed groundwater at the time of drilling and within the site vicinity, we anticipate groundwater at the site could be as shallow as Elevation 5 feet. Dewatering will likely be necessary for excavations for utility construction below this elevation.

3.6 2022 CBC SEISMIC DESIGN PARAMETERS

The 2022 CBC utilizes seismic design criteria established in the ASCE/SEI Standard "Minimum Design Loads and Associated Criteria for Buildings and Other Structures," (ASCE 7-16). Based on the subsurface conditions encountered, we characterized the site as Site Class E per Chapter 20 of ASCE 7-16. While a potentially liquefiable layer was encountered in Boring 1-B1, as discussed in Section 2.6.3, this layer is relatively thin and likely discontinuous and will not significantly alter the ground response of the overall site during an earthquake.

ASCE 7-16 requires a site-specific ground-motion hazard analysis for Site Class E sites with a mapped S_S value greater than or equal to 1.0 or S_1 value greater than or equal to 0.2. However, Section 11.4.8 of ASCE 7-16 and Supplement No. 3 provide an exception to this requirement. A site-specific ground-motion hazard analysis is not required where the equivalent lateral force procedure is used for design and the value of C_s is determined by equation 12.8-2 of ASCE 7-16 for all values of period, *T*. Refer to Supplement No. 3 of ASCE 7-16 for the requirements pertaining to the exception for non-building structures.

We provide ASCE 7-16 seismic design parameters based on the United States Geological Survey's (USGS') Seismic Design Maps for your use. When using this table, considerations should be given to exceptions in Section 11.4.8 of ASCE 7-16, as described in this report.

TABLE 3.6-1: 2022 CBC Seismic Design Parameters (Latitude: 37.74682, Longitude: -122.19909)

PARAMETER	DESIGN VALUE WITH EXCEPTION 11.4.8
Site Class	E
Mapped MCE_R Spectral Response Acceleration at Short Periods, S_S (g)	1.92
Mapped MCE_R Spectral Response Acceleration at 1-second Period, S_1 (g)	0.73
Short-Period Site Coefficient, F_a	1.2
Long-Period Site Coefficient, F_v	2.0*
MCE_R Spectral Response Accelerations at Short Periods, S_{MS} (g)	2.30
MCE_R Spectral Response Accelerations at 1-second Period, S_{M1} (g)	1.46*
Design Spectral Response Acceleration at Short Periods, S_{DS} (g)	1.54
Design Spectral Response Acceleration at 1-second period, S_{D1} (g)	0.97*
MCE_G Peak Ground Acceleration Adjusted for Site Class Effects, PGA_M (g)	0.89

*The parameters above should only be used for calculation of T_s, determination of Seismic Design Category, and when taking the exceptions under Items 1 and 2 of ASCE 7-16 Section 11.4.8. (Supplement Number 3 https://ascelibrary.org/doi/epdf/10.1061/9780784414248.sup3).

We recommend that we collaborate with the structural engineer of record to further evaluate the effects of taking the exception on the structural design and identify the need for performing a site-specific ground-motion hazard analysis. We can prepare a proposal for a site-specific ground-motion hazard analysis, if requested.

4.0 SHALLOW FOUNDATION RECOMMENDATIONS

We understand that owing to the temporary nature of the facility, the prefabricated buildings, bleachers, and light poles will all be founded on grade with no below-grade construction. In order to maximize the potential bearing capacity, we recommend that at least the upper foot of the site consist of engineered fill. Ideally, the ground can be graded to slope away from the planned foundations for a distance of 10 feet to assist in minimizing the potential for ponding of water below the foundations. If a leveling pad is desired by the supplier, a 4-inch-thick layer of aggregate base could be placed in the bearing area.

The foundations for bleachers, light poles and other items that sit of footers can be designed for a maximum allowable bearing pressure of 1,500 pounds per square foot (psf) for dead-plus-live loads. Prefabricated structures that sit on grade should be designed for a bearing capacity of 750 psf because the loading will be felt deeper and the bearing capacity will be impacted by the presence of the Young Bay Mud. The allowable bearing pressures can be increased by one-third for short-term effects including wind or seismic loading.

Lateral loads may be resisted by friction along the base of the foundations. We recommend the following ultimate value for design.

- Coefficient of Friction: 0.30

Provided our report recommendations are followed and given the proposed construction, we estimate total and differential foundation settlement under static loading will be less than approximately 5 inch and 2½ inch, respectively. When evaluating seismic loading, the liquefaction settlement previously discussed should be added to these static estimates.

We recommend performing monitoring of the bleachers and light poles for settlement and levelness and being prepared to address excessive differential settlement or tilting if needed.

5.0 EARTHWORK RECOMMENDATIONS

As used in this report, relative compaction refers to the in-place dry unit weight of soil expressed as a percentage of the maximum dry unit weight of the same soil, as determined by the ASTM D1557 laboratory compaction test procedure, latest edition. Compacted soil is not acceptable if it is unstable; it should exhibit only minimal flexing or pumping, as observed by our representative. The term “moisture condition” refers to adjusting the moisture content of the soil by either drying if too wet or adding water if too dry.

5.1 OVER-OPTIMUM SOIL MOISTURE CONDITIONS

The contractor may encounter excessively over-optimum (wet) soil moisture conditions due to shallow groundwater conditions and/or during or following periods of rain. Wet soil can make yielding subgrade and impact the ability to provide structural support. Wet soil conditions can be mitigated by:

1. Frequent spreading and mixing during warm dry weather;
2. Mixing with drier materials;
3. Mixing with a lime or cement product; or
4. Stabilizing with aggregate, geotextile stabilization fabric, or both.

We should be allowed to evaluate options 3 and 4 prior to implementation.

5.2 ACCEPTABLE FILL

5.2.1 Soil

The on-site soil is acceptable for reuse as engineered fill, provided the compaction recommendations in Section 5.3 are achieved and the soil is processed to remove any construction debris (wood, brick, asphalt, concrete, metal, etc), organically contaminated materials (soil which contains more than 3 percent organic content by weight), and particles greater than 6 inches in maximum dimension.

We understand import material is not planned during grading. However, any imported fill materials should be free of construction debris, organically contaminated materials, environmentally impacted soil, and particles greater than 6 inches in maximum dimension. Additionally, imported fill material should have a plasticity index (PI) of less than 20 and at least 20 percent passing the No. 200 sieve. It is important that we be allowed to sample and test proposed imported fill materials at least 5 days prior to delivery to the site.

5.2.2 Reuse of On-site Recycled Materials

If desired, the existing aggregate base can be considered for use as recycled aggregate base for pavements. The material should conform to the gradations and specifications by Caltrans if used as pavement aggregate base.

5.3 FILL COMPACTION

5.3.1 Grading in Structural Areas

We define “structural areas” as any area sensitive to settlement of compacted soil. These areas include but are not limited to areas to receive bearing loads, sidewalks, and pavement areas. We recommend that all areas to receive bearing loads should be underlain by a minimum of 12 inches of compacted fill. Areas to receive fill should be scarified to a depth of 8 inches, moisture conditioned, and recompacted to provide adequate bonding with the initial lift of fill. Areas of excavation to final grade should be scarified to a depth of 12 inches, moisture conditioned and recompacted. Fill should be placed with a lift thickness no greater than 8 inches or the depth of penetration of the compaction equipment used, whichever is less. The following compaction recommendations should be used for the placement and compaction of fill.

TABLE 5.3.1-1: Compaction and Moisture Content Requirements

DESCRIPTION	RECOMMENDED RELATIVE COMPACTION (%)	MINIMUM MOISTURE CONTENT (percentage points above optimum)
Grading in Structural Areas	Not less than 90	2

The contractor should compact the upper 12 inches of engineered fill in pavement areas to 95 percent relative compaction prior to aggregate base placement at the moisture content specified in Table 5.3.1-1. Additionally, the contractor should compact the pavement Caltrans Class 2 aggregate base section to at least 95 percent relative compaction. The aggregate base should be moisture conditioned to or slightly above the optimum moisture content prior to compaction.

5.3.2 Synthetic Turf Subgrade

We understand the planned field will comprise synthetic turf over a foam pad layer and layer of aggregate base. The base will be permeable to allow for infiltration. We understand this base material should allow for between 10 to 20 inches of drainage per hour; the synthetic turf subgrade section should include an underdrain system, as the infiltration rates of the site soil will likely be below 0.5 inches per hour when saturated. In order to allow for at least some infiltration, we recommend that the underdrain be placed near the top of the permeable base material to take advantage of the storage capacity and only drain when the infiltration rate of the site is exceeded. The turf will be subject to periodic traffic from pickups for maintenance and setup for events; the underdrain should comprise perforated schedule 40 (or stronger) pipe.

Based on the amount of required rainfall storage and vehicle traffic, we recommend the synthetic turf be underlain by a minimum of 6 inches of permeable base material. We understand that below the turf, and over the permeable base, there will be a ¾-inch foam pad layer and an approximately 1¼-inch layer of sand/cork infill material. The permeable base material should conform to the gradation presented in the table below and be compacted to a minimum relative compaction of 93 percent. The subgrade below the permeable base layer should be prepared in accordance with the recommendations in Section 5.3.1 above.

TABLE 5.3.2-1 Permeable Base Gradation Requirements

SIEVE SIZE	PERCENT PASSING
2”	
1½”	100
1”	95 to 100
¾”	75 to 90
½”	55 to 75
3/8”	40 to 70
#4	25 to 40
#8	15 to 30
#16	10 to 25
#30	5 to 12
#50/60	3 to 9
#100	2 to 7
#200	0 to 3

5.3.3 Underground Utility Backfill

The contractor is responsible for conducting trenching and shoring in accordance with Cal/OSHA requirements. Project consultants involved in utility design should specify pipe-bedding materials.

Jetting of backfill is not an acceptable means of compaction. Thicker loose lift thicknesses may be allowed based on acceptable density test results or for the first lift of fill over pipe bedding.

5.3.4 Landscape Fill

In landscaping areas, the contractor should process, place, and compact fill in accordance with the earthwork recommendations discussed above, except compact fill to at least 85 percent relative compaction.

5.4 LIGHTWEIGHT CELLULAR CONCRETE FILL REPLACEMENT

As discussed in Section 3.2, due to the presence of compressible soil beneath the existing 63-inch sanitary sewer pipeline, we recommend the use of lightweight fill in the form of lightweight cellular concrete (LWCC) to mitigate the increase in overburden over the sensitive utility. LWCC should be used to raise grades over the sensitive utility, within the limits outlined in Figure 3. In addition to using LWCC to raise grades, the existing fill should be overexcavated to the depths provided in Table 5.4-1 and replaced with LWCC. The width of the LWCC section should extend the entire width of the easement, approximately 25 feet.

TABLE 5.4-1: LWCC Replacement Requirements

PROPOSED GRADE RAISE (feet)	DEPTH OF LWCC REPLACEMENT BELOW EXISTING GRADE (inches)
1	4
2	8
3	12
3 (under bleachers)	26
4	16

5.5 TEMPORARY SLOPES

Temporary slopes are typically the responsibility of the contractor to design, construct, maintain and monitor, and should be in conformance with applicable OSHA Excavation and Trench Safety Standards. The soil at the site is “Type C” soil and, as such, temporary slopes should be no steeper than 1½:1. The contractor should establish appropriate setback distances from the top of the slope for vehicles, equipment and spoil piles, and should establish appropriate protective measures for exposed slope faces.

5.6 TEMPORARY DEWATERING CONSIDERATIONS

As previously discussed, during exploration we encountered groundwater at approximately Elevation 5 feet. Any excavations planned below this elevation; planning should consider potential dewatering. Some form of dewatering should be considered to maintain a relatively dry stable work environment and a firm subgrade. We recommend dewatering systems be designed to keep the water table 2 feet below the bottom of the excavation. Dewatering systems should be designed by a qualified contractor.

5.7 SITE DRAINAGE

The project civil engineer is responsible for designing surface drainage improvements. With regard to geotechnical engineering issues, finish grades should be sloped away from buildings and pavements to the maximum extent practical. The latest California Building Code Section 1804.4 specifies minimum slopes of 5 percent away from foundations within 10 feet for pervious surfaces.

6.0 PERVIOUS PAVEMENT DESIGN

All pervious pavement sections described below should include an underdrain system below the base course layer, as the infiltration rates of the site soil will likely be below 0.5 inches per hour when saturated. The subgrade should be prepared and compacted to 95 percent relative compaction within the top 12 inches below the base course layer. The subgrade should be firm and unyielding. Tensar TX140 geogrid should be placed atop the prepared subgrade prior to constructing the base course and underdrain system.

If the area needs to be considered self-retaining, the underdrain should be placed near the top of the section such that the reservoir section will fill completely prior to water flowing into the underdrain.

The final design of pervious pavement sections should be performed based on estimated traffic loads and frequencies. The final thickness of the base course layer should be based on the C3.d rainfall runoff volume. It should be noted that permeable surfacing will require construction by specialty contractors experienced in that type of construction and periodic maintenance such as vacuum cleaning as needed.

6.1 PERVIOUS ASPHALT PAVEMENT

General Traffic Loads

We recommend the following minimum design sections for pervious asphalt pavements.

- A minimum section of 3 inches of open-graded asphalt over 2 inches of asphalt-treated permeable base, over 6 inches of No. 57 base course

Heavy Traffic Loads

Pervious asphalt pavement can be used to resist heavy loads in areas such as fire lanes, routes for heavy equipment trucks, or trash truck routes. Pervious asphalt pavement cannot be used to resist turning forces. We recommend the following minimum design sections for pervious asphalt pavements.

- A minimum section of 3 inches of open-graded asphalt over 4 inches of asphalt-treated permeable base, over 6 inches of No. 57 base course

6.2 PERVIOUS CONCRETE PAVEMENT

It should be noted that permeable surfacing will require construction by specialty contractors experienced in that type of construction and periodic maintenance such as vacuum cleaning as needed.

General Traffic Loads

We recommend the following minimum design sections for pervious concrete pavements.

- A minimum section of 5½ inches of Pervious Concrete Pavement concrete over 6 inches of No. 57 base course

Heavy Traffic Loads

Pervious concrete pavement can be used to resist heavy loads and turning forces in areas such as fire lanes, routes for heavy equipment trucks, or trash truck routes. We recommend the following minimum design sections for pervious concrete pavements.

- A minimum section of 7½ inches of Pervious Concrete Pavement concrete over 6 inches of No. 57 base course

6.3 PERMEABLE PAVERS

We recommend the following minimum design sections for pervious interlocking pavements for either general or heavy traffic loads.

- Permeable pavers, over 2 inches of crushed stone bedding material, over 12 inches of No. 57 base course

The use of permeable pavers will require periodic maintenance. Impacts from "man-made" factors, such as over-irrigation, poor drainage, and other issues, may prematurely impact the subgrade soil, causing surface irregularities in the pavers. Maintenance programs should be performed in accordance with the manufacturer's requirements.

6.4 GRASS GRID

Grass Grid is a concrete grid that is filled with topsoil and planted with grass. Grass Grid should only be used in parking stalls and not drive lanes. We recommend the following minimum design sections for Grass Grid.

- Grass Grid over 1 inch of bedding sand, over 12 inches of No. 57 base course

7.0 CONSTRUCTION MONITORING

Our experience and that of our profession clearly indicate that the risk of costly design, construction, and maintenance problems can be significantly lowered by retaining the design geotechnical engineering firm to:

1. Review the final grading and foundation plans and specifications prior to construction to evaluate whether our recommendations have been implemented, and to provide additional or modified recommendations, as needed. This also allows us to check if any changes have occurred in the nature, design, or location of the proposed improvements and provides the opportunity to prepare a written response with updated recommendations.
2. Perform construction monitoring to check the validity of the assumptions we made to prepare this report. Earthwork operations should be performed under the observation of our representative to check that the site is properly prepared, the selected fill materials are satisfactory, and that placement and compaction of the fill has been performed in accordance with our recommendations and the project specifications. Sufficient notification to us prior to earthwork is important.

If we are not retained to perform the services described above, then we are not responsible for any party's interpretation of our report (and subsequent addenda, letters, and verbal discussions).

8.0 LIMITATIONS AND UNIFORMITY OF CONDITIONS

This report presents geotechnical recommendations for design of the improvements discussed in Section 1.2. If changes occur in the nature or design of the project, we should be allowed to review this report and provide additional recommendations, if any. It is the responsibility of the owner to transmit the information and recommendations of this report to the appropriate organizations or people involved in design of the project, including but not limited to developers, owners, buyers, architects, engineers, and designers. The conclusions and recommendations contained in this report are solely professional opinions and are valid for a period of no more than 2 years from the date of report issuance.

We strive to provide our professional services in accordance with generally accepted principles and practices currently employed in the area; there is no warranty, express or implied. There are risks of earth movement and property damages inherent in building on or with earth materials. We are unable to eliminate all risks; therefore, we are unable to guarantee or warrant the results of our services.

This report is based upon conditions discovered at the time of report preparation. We developed this report with limited subsurface exploration data. We assumed that our subsurface exploration data are representative of the actual subsurface conditions across the site. Considering possible underground variability of soil and groundwater, additional costs may be required to complete the project. We recommend that the owner establish a contingency fund to cover such costs. If unexpected conditions are encountered, we must be notified immediately to review these conditions and provide additional and/or modified recommendations, as necessary.

Our services did not include excavation sloping or shoring, soil volume change factors, or flood potential. In addition, our geotechnical exploration did not include work to assess the existence of possible hazardous materials.

This document must not be subject to unauthorized reuse, that is, reusing without our written authorization. Such authorization is essential because it requires us to evaluate the document's applicability given new circumstances, not the least of which is passage of time.

The actual field or other conditions will necessitate clarifications, adjustments, modifications or other changes to our documents. Therefore, we must be engaged to prepare the necessary clarifications, adjustments, modifications, or other changes before construction activities commence or further activity proceeds. If our scope of services does not include on-site construction observation, or if other persons or entities are retained to provide such services, we cannot be held responsible for any or all claims arising from or resulting from the performance of such services by other persons or entities, and from any or all claims arising from or resulting from clarifications, adjustments, modifications, discrepancies or other changes necessary to reflect changed field or other conditions.

We assigned the lines designating the interface between layers on the exploration logs using visual observations. The transition between the materials may be abrupt or gradual. The exploration logs contain information concerning samples recovered, indications of the presence of various materials such as clay, sand, silt, rock, existing fill, etc., and observations of groundwater encountered. The logs also contain our interpretation of the subsurface conditions between sample locations. Therefore, the logs contain both factual and interpretative information.

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FIGURES

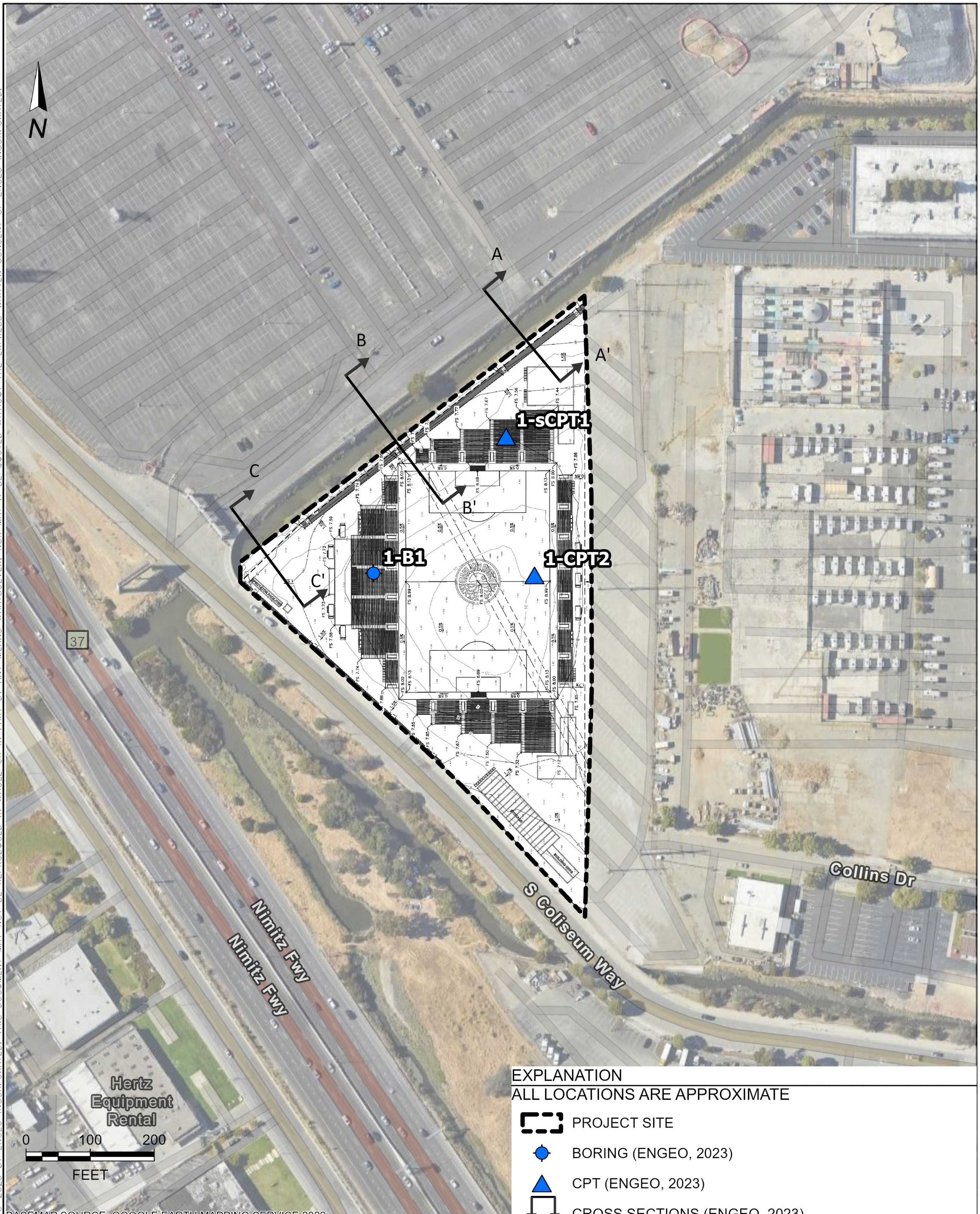
BASEMAP SOURCE: ESRI MAPPING SERVICE

ENGEO
Expect Excellence

VICINITY MAP
INTERIM STADIUM FOR OAKLAND ROOTS AND SOUL SC
OAKLAND, CALIFORNIA

PROJECT NO. : 17108.001.001	FIGURE NO. 1
SCALE: AS SHOWN	
DRAWN BY: CMG	CHECKED BY: CK

PATH: G:\DRAFTING\PROJECTS_16000 TO 17999\17108\17108001001\GEOTECH\GEX\17108.001.001_OAKLAND ROOTS TEMPORARY SOCCER STADIUM_1023_GEX.APRX
LAYOUT: VICINITY USER: CGUERIN
ORIGINAL FIGURE PRINTED IN COLOR

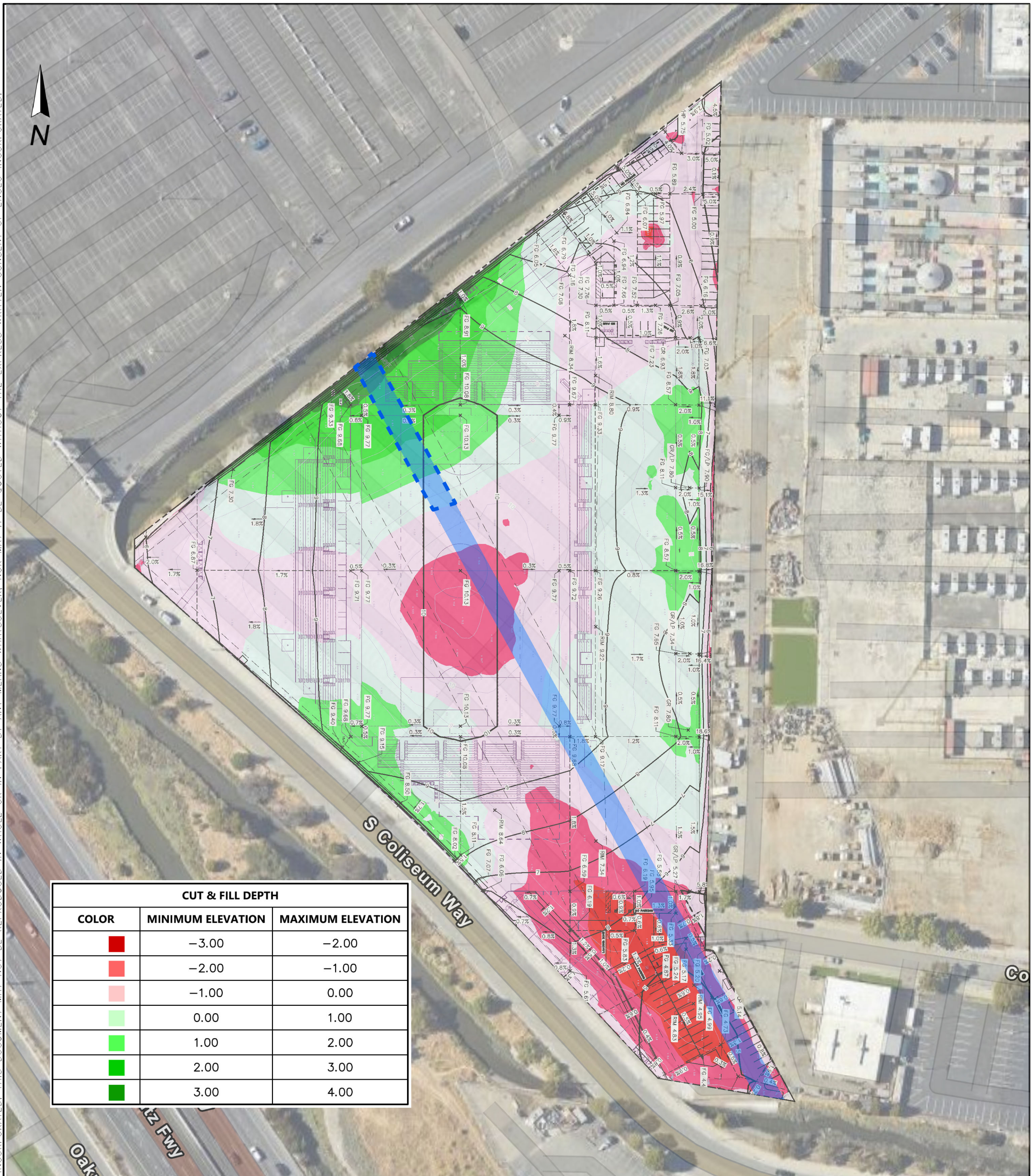


ENGEO
Expect Excellence

SITE PLAN
INTERIM STADIUM FOR OAKLAND ROOTS AND SOUL SC
OAKLAND, CALIFORNIA

PROJECT NO. : 17108.001.001
SCALE: AS SHOWN
DRAWN BY: CMG
CHECKED BY: CK
FIGURE NO. 2

PATH: G:\DRAFTING\PROJECTS_16000 TO 17999\17108\17108001001\GEOTECH\GEX\17108.001.001_OAKLAND ROOTS TEMPORARY SOCCER STADIUM_1023_GEX.DWG
LAYOUT: SITE PLAN PORTRAIT LETTER 8.5 X 11 USER: CGUERIN
ORIGINAL FIGURE PRINTED IN COLOR



CUT & FILL DEPTH		
COLOR	MINIMUM ELEVATION	MAXIMUM ELEVATION
(dark red)	−3.00	−2.00
(red)	−2.00	−1.00
(pink)	−1.00	0.00
(pale green)	0.00	1.00
(light green)	1.00	2.00
(green)	2.00	3.00
(dark green)	3.00	4.00

EXPLANATION

ALL LOCATIONS ARE APPROXIMATE

Sewer Easement

Area of Lightweight Cellular Concrete Fill Replacement, per Section 5.4 of Report

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LIGHTWEIGHT CELLULAR CONCRETE FILL AREA

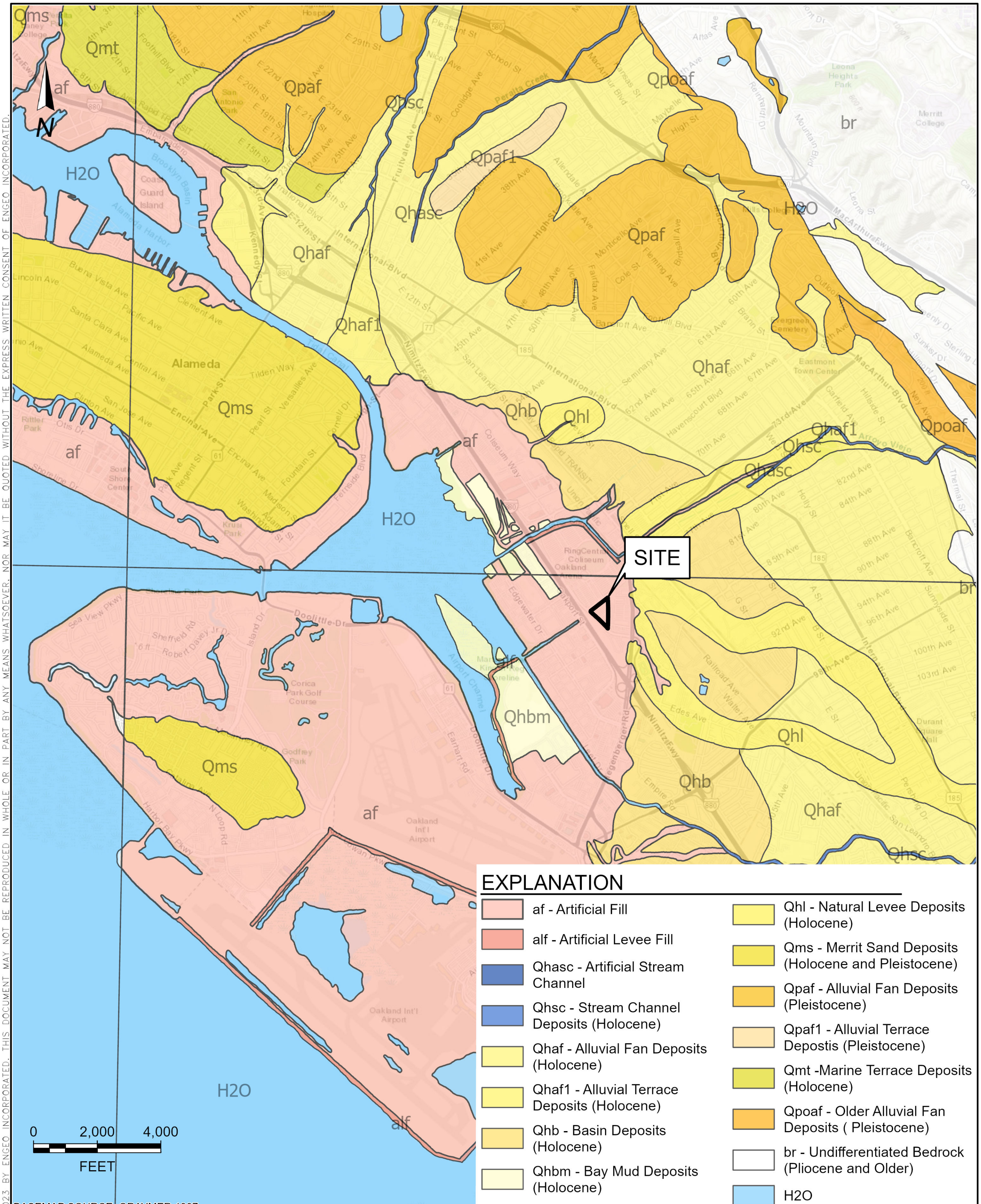
INTERIM STADIUM FOR OAKLAND ROOTS AND SOUL SC

OAKLAND, CALIFORNIA

PROJECT NO.: 17108.001.001	FIGURE NO. 3
SCALE: AS SHOWN	
DRAWN BY: CMG	CHECKED BY: CK

PATH: G:\DRAFTING\PROJECTS_16000 TO 17999\17108\17108001001\GEOTECH\GEX\17108.001.001_OAKLAND ROOTS TEMPORARY SOCCER STADIUM_1023_GEX.DWG
LAYOUT: FILLREPLACEMENT USER: CGUERIN

ORIGINAL FIGURE PRINTED IN COLOR



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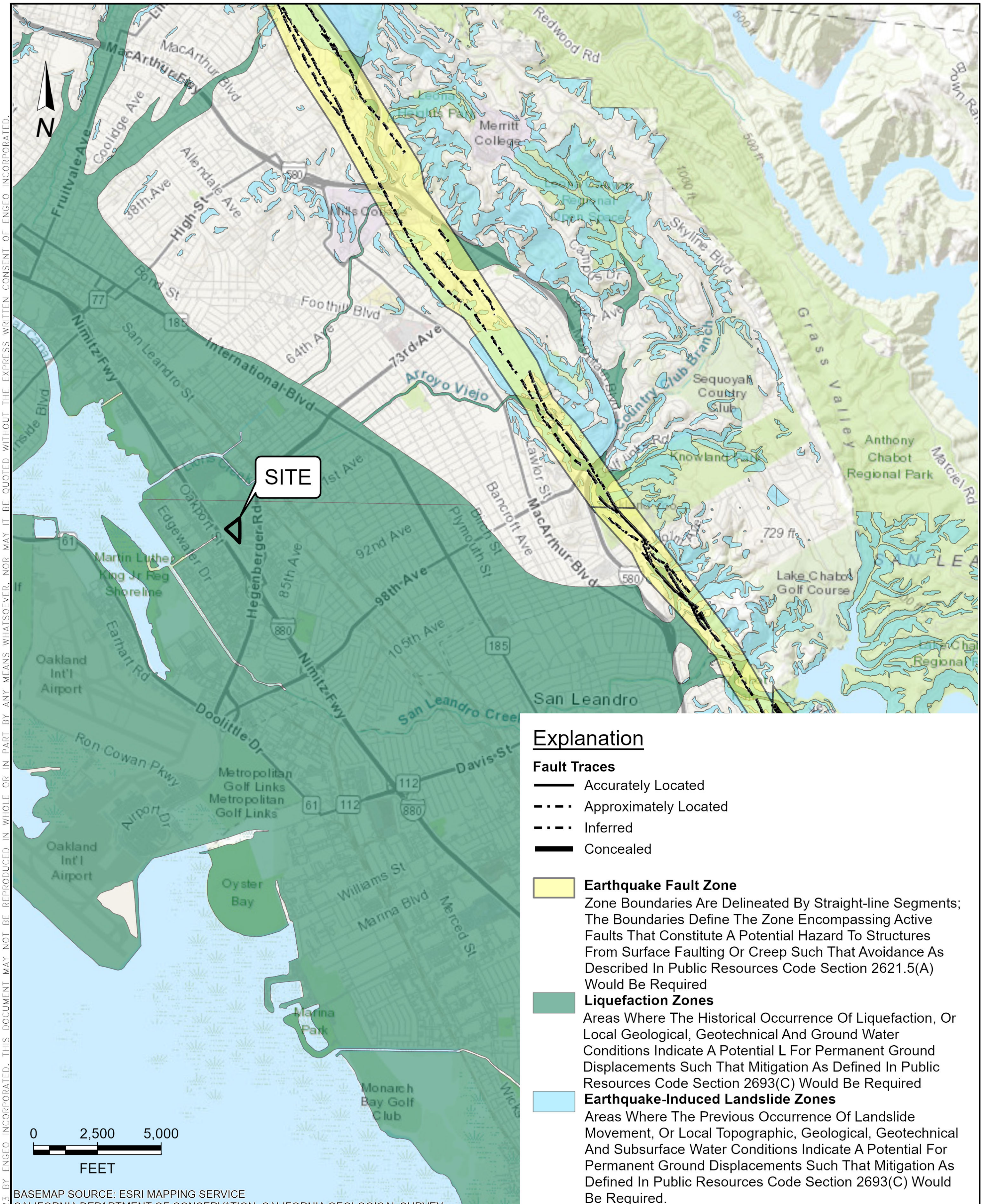
REGIONAL GEOLOGIC MAP
INTERIM STADIUM FOR OAKLAND ROOTS AND SOUL SC
OAKLAND, CALIFORNIA

PROJECT NO. : 17108.001.001
SCALE: AS SHOWN
DRAWN BY: CMG
CHECKED BY: CK
FIGURE NO. 4

PATH: G:\DRAFTING\PROJECTS_16000 TO 17999\17108\17108001001\GEOTECH\GEX\17108.001.001_OAKLAND ROOTS TEMPORARY SOCCER STADIUM_1023_GEX.DWG
LAYOUT: GEOLOGIC USER: CGUERIN
ORIGINAL FIGURE PRINTED IN COLOR



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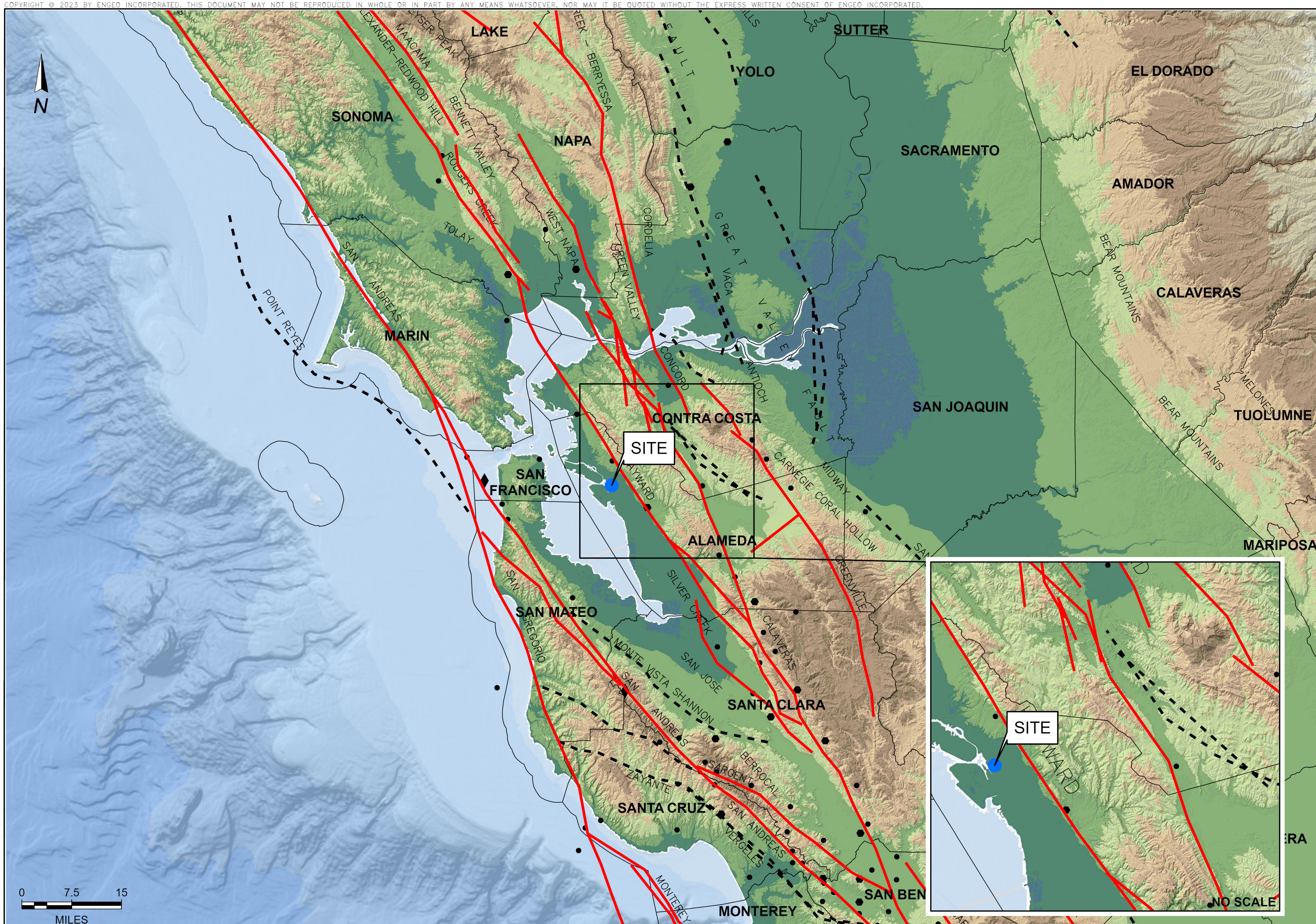
SEISMIC HAZARDS ZONE MAP

INTERIM STADIUM FOR OAKLAND ROOTS AND SOUL SC

OAKLAND, CALIFORNIA

PROJECT NO.: 17108.001.001	FIGURE NO. 5
SCALE: AS SHOWN	
DRAWN BY: CMG	CHECKED BY: CK

PATH: G:\DRAFTING\PROJECTS_16000 TO 17999\17108\17108001001\GEOTECH\GEX\17108.001.001_OAKLAND ROOTS TEMPORARY SOCCER STADIUM_1023_GEX.DWG ORIGINAL FIGURE PRINTED IN COLOR
LAYOUT: SEISMIC HAZARD USER: CGUERIN



EXPLANATION

- Project Site

FAULT TYPES

- Normal
- Reverse
- Strike Slip
- Thrust

HISTORICAL EARTHQUAKE

- Magnitude 7+
- Magnitude 6-7
- Magnitude 5-6

BASE MAP SOURCE:
Color Hill shade Image Based on the National Elevation Data Set (NED) at 30 Meter Resolution
Uniform California Earthquake Rupture Forecast, Version 3 (UCERF3)

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REGIONAL FAULTING AND SEISMICITY MAP
INTERIM STADIUM FOR OAKLAND ROOTS AND SOUL SC
OAKLAND, CALIFORNIA

PROJECT NO.:	17108.001.001
SCALE:	AS SHOWN
DRAWN BY: CMG	CHECKED BY: CK

FIGURE NO. 6

PATH: G:\DRAFTING\PROJECTS_16000 TO 17999\17108\17108001001\GEOTECH\GEX\17108.001.001_OAKLAND ROOTS TEMPORARY SOCCER STADIUM_1023_GEX.APRX
LAYOUT: FAULT&SEISMICITY USER: CGUERIN

ORIGINAL FIGURE PRINTED IN COLOR

APPENDIX A

KEY TO BORING LOGS
BORING LOGS
CONE PENETRATION TESTS

KEY TO BORING LOGS

MAJOR TYPES			DESCRIPTION
COARSE-GRAINED SOILS MORE THAN HALF OF MAT'L LARGER THAN #200 SIEVE	GRAVELS MORE THAN HALF COARSE FRACTION IS LARGER THAN NO. 4 SIEVE SIZE	CLEAN GRAVELS WITH LESS THAN 5% FINES	GW - Well graded gravels or gravel-sand mixtures GP - Poorly graded gravels or gravel-sand mixtures
		GRAVELS WITH OVER 12 % FINES	GM - Silty gravels, gravel-sand and silt mixtures GC - Clayey gravels, gravel-sand and clay mixtures
	SANDS MORE THAN HALF COARSE FRACTION IS SMALLER THAN NO. 4 SIEVE SIZE	CLEAN SANDS WITH LESS THAN 5% FINES	SW - Well graded sands, or gravelly sand mixtures SP - Poorly graded sands or gravelly sand mixtures
		SANDS WITH OVER 12 % FINES	SM - Silty sand, sand-silt mixtures SC - Clayey sand, sand-clay mixtures
FINE-GRAINED SOILS MORE THAN HALF OF MAT'L SMALLER THAN #200 SIEVE	SILTS AND CLAYS LIQUID LIMIT 50 % OR LESS		ML - Inorganic silt with low to medium plasticity CL - Inorganic clay with low to medium plasticity OL - Low plasticity organic silts and clays
	SILTS AND CLAYS LIQUID LIMIT GREATER THAN 50 %		MH - Elastic silt with high plasticity CH - Fat clay with high plasticity OH - Highly plastic organic silts and clays
	HIGHLY ORGANIC SOILS		PT - Peat and other highly organic soils

For fine-grained soils with 15 to 29% retained on the #200 sieve, the words "with sand" or "with gravel" (whichever is predominant) are added to the group name.

For fine-grained soil with >30% retained on the #200 sieve, the words "sandy" or "gravelly" (whichever is predominant) are added to the group name.

GRAIN SIZES

U.S. STANDARD SERIES SIEVE SIZE — CLEAR SQUARE SIEVE OPENINGS

	200	40	10	4	3/4 "	3"	12"	
SILTS AND CLAYS	SAND			GRAVEL		COBBLES	BOULDERS
	FINE	MEDIUM	COARSE	FINE	COARSE		

RELATIVE DENSITY

SANDS AND GRAVELS	BLOWS/FOOT (S.P.T.)
VERY LOOSE	0-4
LOOSE	4-10
MEDIUM DENSE	10-30
DENSE	30-50
VERY DENSE	OVER 50

CONSISTENCY

SILTS AND CLAYS	STRENGTH*
VERY SOFT	0-1/4
SOFT	1/4-1/2
MEDIUM STIFF	1/2-1
STIFF	1-2
VERY STIFF	2-4
HARD	OVER 4

SAMPLER SYMBOLS

- Modified California (3" O.D.) sampler
- California (2.5" O.D.) sampler
- S.P.T. - Split spoon sampler
- Shelby Tube
- Dames and Moore Piston
- Continuous Core
- Bag Samples
- Grab Samples
- NR No Recovery

MOISTURE CONDITION

DRY	Dusty, dry to touch
MOIST	Damp but no visible water
WET	Visible freewater

LINE TYPES

Solid - Layer Break

Dashed - Gradational or approximate layer break

GROUNDWATER SYMBOLS

Groundwater level during drilling

Stabilized groundwater level

(S.P.T.) Number of blows of 140 lb. hammer falling 30" to drive a 2-inch O.D. (1-3/8 inch I.D.) sampler

* Unconfined compressive strength in tons/sq. ft., asterisk on log means determined by pocket penetrometer

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LOG OF BORING 1-B1

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LATITUDE: 37.7469 LONGITUDE: -122.1999

Geotechnical Exploration
Interim Stadium for Oakland Roots and Soul SC
Oakland, CA
17108.001.001

DATE DRILLED: 9/27/2023
HOLE DEPTH: Approx. 61½ ft.
HOLE DIAMETER: 6.0 in.
SURF ELEV (COOVD): Approx. 8 ft.

LOGGED / REVIEWED BY: Derek S. / JAF
DRILLING CONTRACTOR: Pitcher Drilling
DRILLING METHOD: SFA, Switch to Mud
HAMMER TYPE: 140 lb. Auto Trip

Depth in Feet	Elevation in Feet	DESCRIPTION	Blow Count/Foot	Atterberg Limits: Liquid Limit	Plastic Limit	Plasticity Index	Fines Content (% passing #200 sieve)	Moisture Content (% dry weight)	Dry Unit Weight (pcf)	Shear Strength (psf) *field approximation	Unconfined Strength (tsf) *field approximation	Strength Test Type
		AGGREGATE BASE (AB), light gray [AGGREGATE BASE]		33	15	18						
		SANDY LEAN CLAY WITH GRAVEL (CL), dark brown, dry, low plasticity [FILL]										
	5		44									
		FAT CLAY WITH GRAVEL (CH), black, moist, fine to coarse gravel, small glass fragments [FILL]										
5			29									
								15	115		3.75*	PP
		Abundant wood and other debris										
	0	SANDY FAT CLAY (CH), black, soft, wet, fine-grained sand, trace organics [FILL]	7	39	18	21						
		FAT CLAY (CH), dark greenish gray, soft to medium stiff, wet, trace gravel, some iron oxide staining [YOUNG BAY MUD]						25	100		0.75*	PP
10		FAT CLAY (CH), black, soft, wet, strong odor [YOUNG BAY MUD]										
			6									
		FAT CLAY (CH), dark gray, soft, wet, high plasticity [YOUNG BAY MUD]										
	-5							38	78	300*	0.5*	PP+TV
											0.5*	PP
15												
		Very soft, organic odor										
								54	68	650		UU
	-10											
											0.25*	PP
20												

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LOG OF BORING 1-B1

LATITUDE: 37.7469 LONGITUDE: -122.1999

Geotechnical Exploration
Interim Stadium for Oakland Roots and Soul SC
Oakland, CA
17108.001.001

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LOGGED / REVIEWED BY: Derek S. / JAF
DRILLING CONTRACTOR: Pitcher Drilling
DRILLING METHOD: SFA, Switch to Mud
HAMMER TYPE: 140 lb. Auto Trip

Depth in Feet	Elevation in Feet	Sample Type	DESCRIPTION	Log Symbol	Water Level	Blow Count/Foot	Atterberg Limits: Liquid Limit	Atterberg Limits: Plastic Limit	Atterberg Limits: Plasticity Index	Fines Content (% passing #200 sieve)	Moisture Content (% dry weight)	Dry Unit Weight (pcf)	Shear Strength (psf) *field approximation	Unconfined Strength (tsf) *field approximation	Strength Test Type
			FAT CLAY (CH), dark gray, soft, wet, high plasticity [YOUNG BAY MUD] Soft, strong organic odor												
			Increased sand content, trace shells								59	63		0.5*	PP
	-15														
25			Light gray, some dry inclusions			9									
													300*	1.25*	PP+TV
	-20														
30			FAT CLAY (CH), dark bluish gray, soft to medium stiff, wet, high plasticity [OLD BAY CLAY]			6									
											33	91	650		UU
													500*	1.0*	PP+TV
	-25														
35			FAT CLAY WITH SAND (CH), dark bluish gray, medium stiff to stiff, wet, fine- to medium-grained sand [OLD BAY CLAY]			18				54					
	-30														
40															

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LOG OF BORING 1-B1

LATITUDE: 37.7469 LONGITUDE: -122.1999

Geotechnical Exploration
Interim Stadium for Oakland Roots and Soul SC
Oakland, CA
17108.001.001

DATE DRILLED: 9/27/2023
HOLE DEPTH: Approx. 61½ ft.
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LOGGED / REVIEWED BY: Derek S. / JAF
DRILLING CONTRACTOR: Pitcher Drilling
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HAMMER TYPE: 140 lb. Auto Trip

Depth in Feet	Elevation in Feet	DESCRIPTION	Blow Count/Foot	Atterberg Limits: Liquid Limit	Atterberg Limits: Plastic Limit	Atterberg Limits: Plasticity Index	Fines Content (% passing #200 sieve)	Moisture Content (% dry weight)	Dry Unit Weight (pcf)	Shear Strength (psf) *field approximation	Unconfined Strength (tsf) *field approximation	Strength Test Type
		CLAYEY SAND (SC), dark gray, loose, wet, fine- to medium-grained sand, poorly graded, fine gravel	6	25	16	9	47	20				
	-35	FAT CLAY (CH), dark gray, medium stiff, wet [OLD BAY CLAY]										
45		FAT CLAY (CH), brown, very stiff, moist, high plasticity, trace angular gravels [ALLUVIUM]	29								3.5*	PP
50	-40	CLAYEY SAND WITH GRAVEL (SC), brown, medium dense, wet, fine- to medium-grained sand, sub-angular gravels [ALLUVIUM]										
55	-45		26	27	19	8	18	16				
		FAT CLAY (CH), brown [ALLUVIUM]										
60	-50	CLAYEY SAND WITH GRAVEL (SC), brown, very dense, wet, fine- to medium-grained sand, sub-angular gravels [ALLUVIUM]										

LOG OF BORING 1-B1

ENGEO
Expect Excellence

LATITUDE: 37.7469 LONGITUDE: -122.1999

Geotechnical Exploration
Interim Stadium for Oakland Roots and Soul SC
Oakland, CA
17108.001.001

DATE DRILLED: 9/27/2023
HOLE DEPTH: Approx. 61½ ft.
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SURF ELEV (COOVD): Approx. 8 ft.

LOGGED / REVIEWED BY: Derek S. / JAF
DRILLING CONTRACTOR: Pitcher Drilling
DRILLING METHOD: SFA, Switch to Mud
HAMMER TYPE: 140 lb. Auto Trip

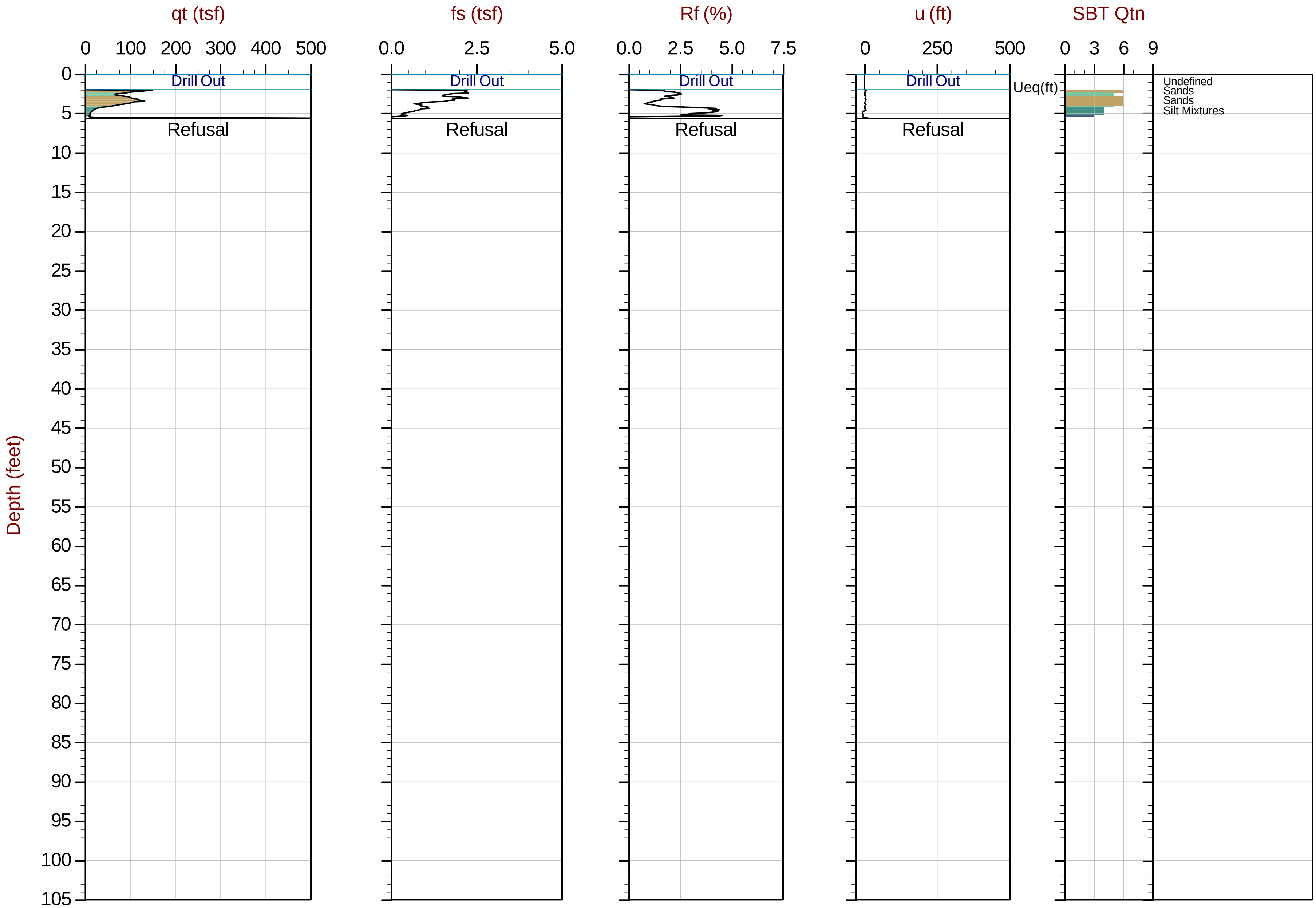
Depth in Feet	Elevation in Feet	Sample Type	DESCRIPTION	Log Symbol	Water Level	Blow Count/Foot	Atterberg Limits: Liquid Limit	Atterberg Limits: Plastic Limit	Atterberg Limits: Plasticity Index	Fines Content (% passing #200 sieve)	Moisture Content (% dry weight)	Dry Unit Weight (pcf)	Shear Strength (psf) *field approximation	Unconfined Strength (tsf) *field approximation	Strength Test Type
			CLAYEY SAND WITH GRAVEL (SC), brown, very dense, wet, fine- to medium-grained sand, sub-angular gravels [ALLUVIUM]			51									
			Boring terminated at approximately 61 1/2 feet below the ground surface. Groundwater table not measured at the time of drilling due to drilling method.												

LOG - GEOTECHNICAL_SU+QU W/ ELEV 17108001001-BORINGS.GPJ ENGEO INC.GDT 11/9/23

Engeo

Job No: 23-56-26631
Date: 2023-10-06 08:07
Site: Interim Stadium for Oakland Roots and Soul SC

Sounding: 1-SCPT-01
Cone: 817:T1500F15U35



Max Depth: 1.725 m / 5.66 ft
Depth Inc: 0.025 m / 0.082 ft
Avg Int: Every Point

File: 23-56-26631_SP01.COR
Unit Wt: SBTQtn (PKR2009)

SBT: Robertson, 2009 and 2010
Coords: (UTM Zone 10) N: 4178135m E: 570579m

Hydrostatic Line   Ueq   Assumed Ueq   PPD, Ueq achieved   PPD, Ueq not achieved

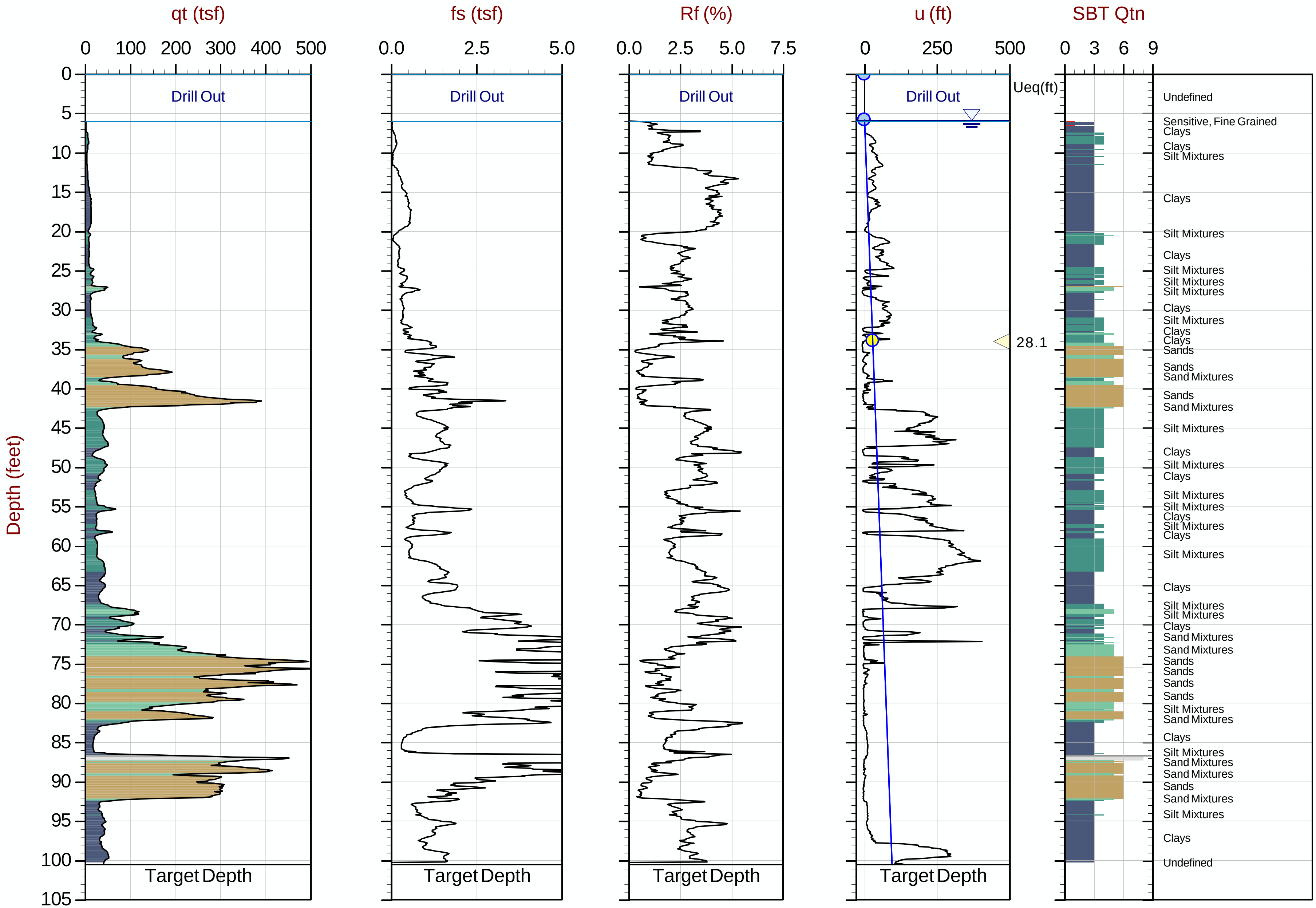
The reported coordinates were acquired from consumer-grade GPS equipment and are only approximate locations. The coordinates should not be used for design purposes.

CONETEC

Engeo

Job No: 23-56-26631
Date: 2023-10-06 09:09
Site: Interim Stadium for Oakland Roots and Soul SC

Sounding: 1-SCPT-01-OFF01
Cone: 817:T1500F15U35



Max Depth: 30.650 m / 100.56 ft
Depth Inc: 0.025 m / 0.082 ft
Avg Int: Every Point

File: 23-56-26631_SP01-OFF01.COR
Unit Wt: SBTQtn (PKR2009)

SBT: Robertson, 2009 and 2010
Coords: (UTM Zone 10) N: 4178134m E: 570581m

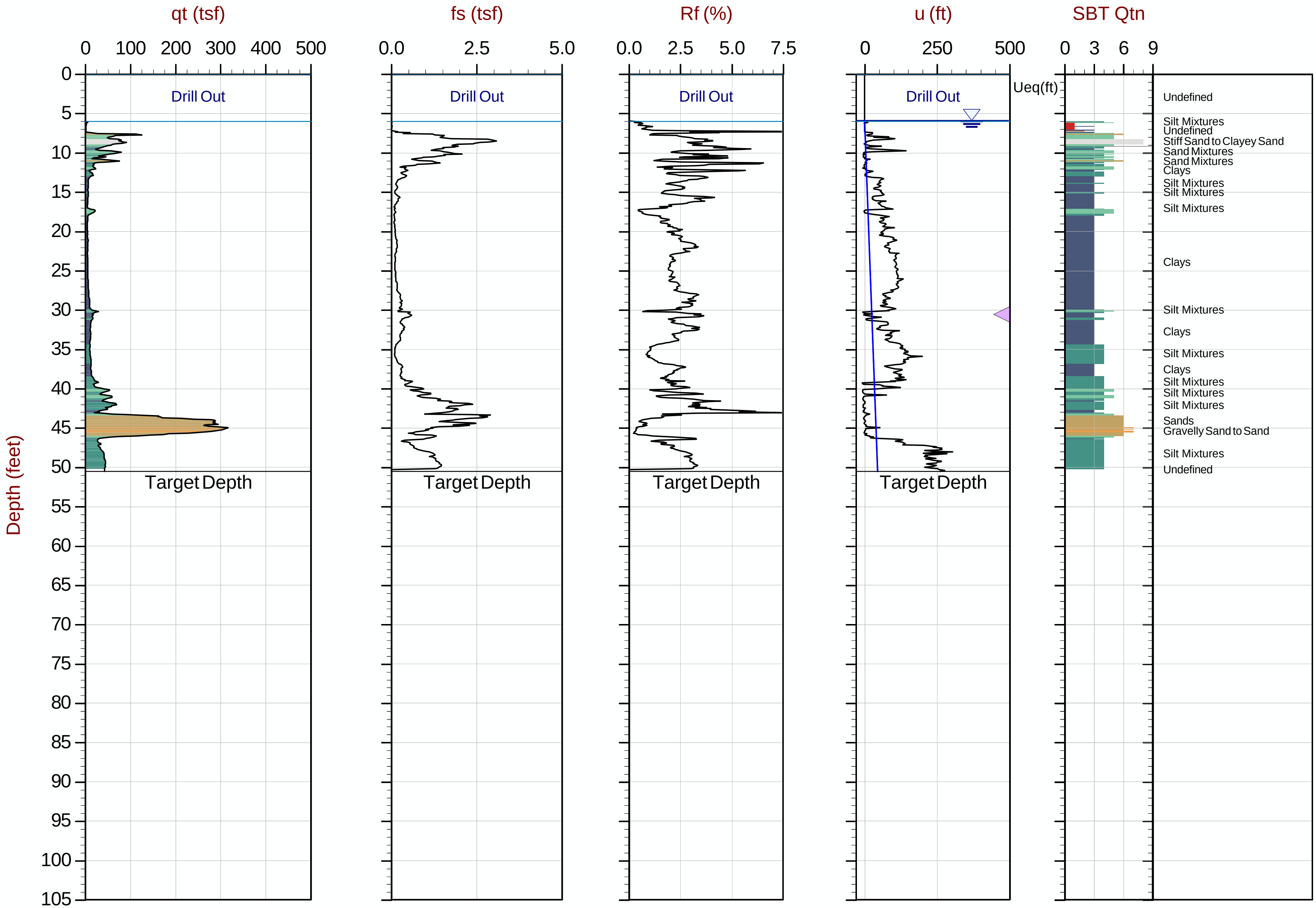
Hydrostatic Line   Ueq   Assumed Ueq   PPD, Ueq achieved   PPD, Ueq not achieved

The reported coordinates were acquired from consumer-grade GPS equipment and are only approximate locations. The coordinates should not be used for design purposes.

ConeTec

Engeo

Job No: 23-56-26631
Date: 2023-10-06 12:18
Site: Interim Stadium for Oakland Roots and Soul SC
Sounding: 1-CPT-02
Cone: 817:T1500F15U35



Max Depth: 15.400 m / 50.52 ft
Depth Inc: 0.025 m / 0.082 ft
Avg Int: Every Point

File: 23-56-26631_CP02.COR
Unit Wt: SBTQtn (PKR2009)

SBT: Robertson, 2009 and 2010
Coords: (UTM Zone 10) N: 4178030m E: 570538m

Hydrostatic Line Ueq Assumed Ueq PPD, Ueq achieved PPD, Ueq not achieved

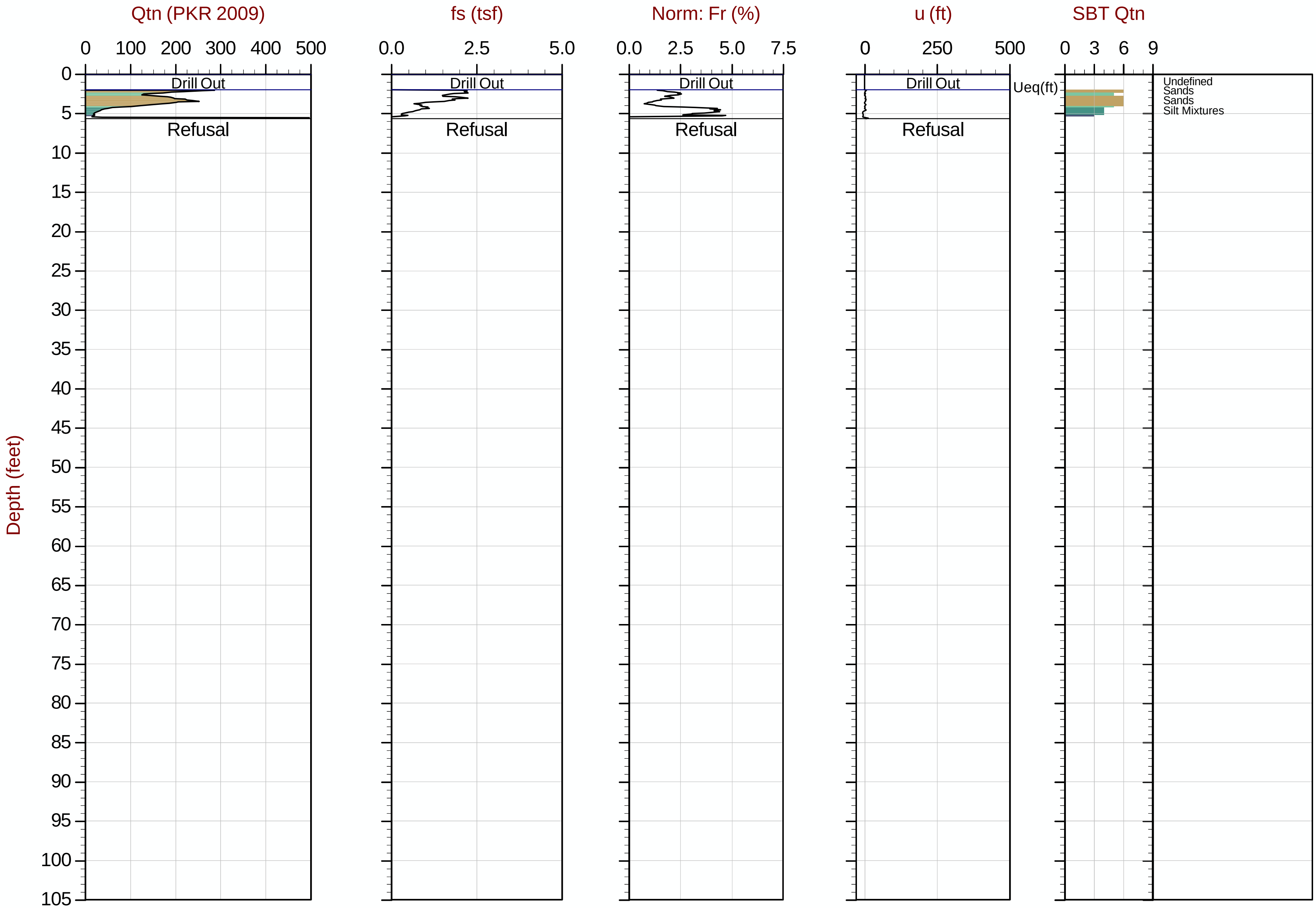
The reported coordinates were acquired from consumer-grade GPS equipment and are only approximate locations. The coordinates should not be used for design purposes.

Normalized Cone Penetration Test Plots

CONETEC

Engeo

Job No: 23-56-26631
Date: 2023-10-06 08:07
Site: Interim Stadium for Oakland Roots and Soul SC
Sounding: 1-SCPT-01
Cone: 817:T1500F15U35



Max Depth: 1.725 m / 5.66 ft
Depth Inc: 0.025 m / 0.082 ft
Avg Int: Every Point

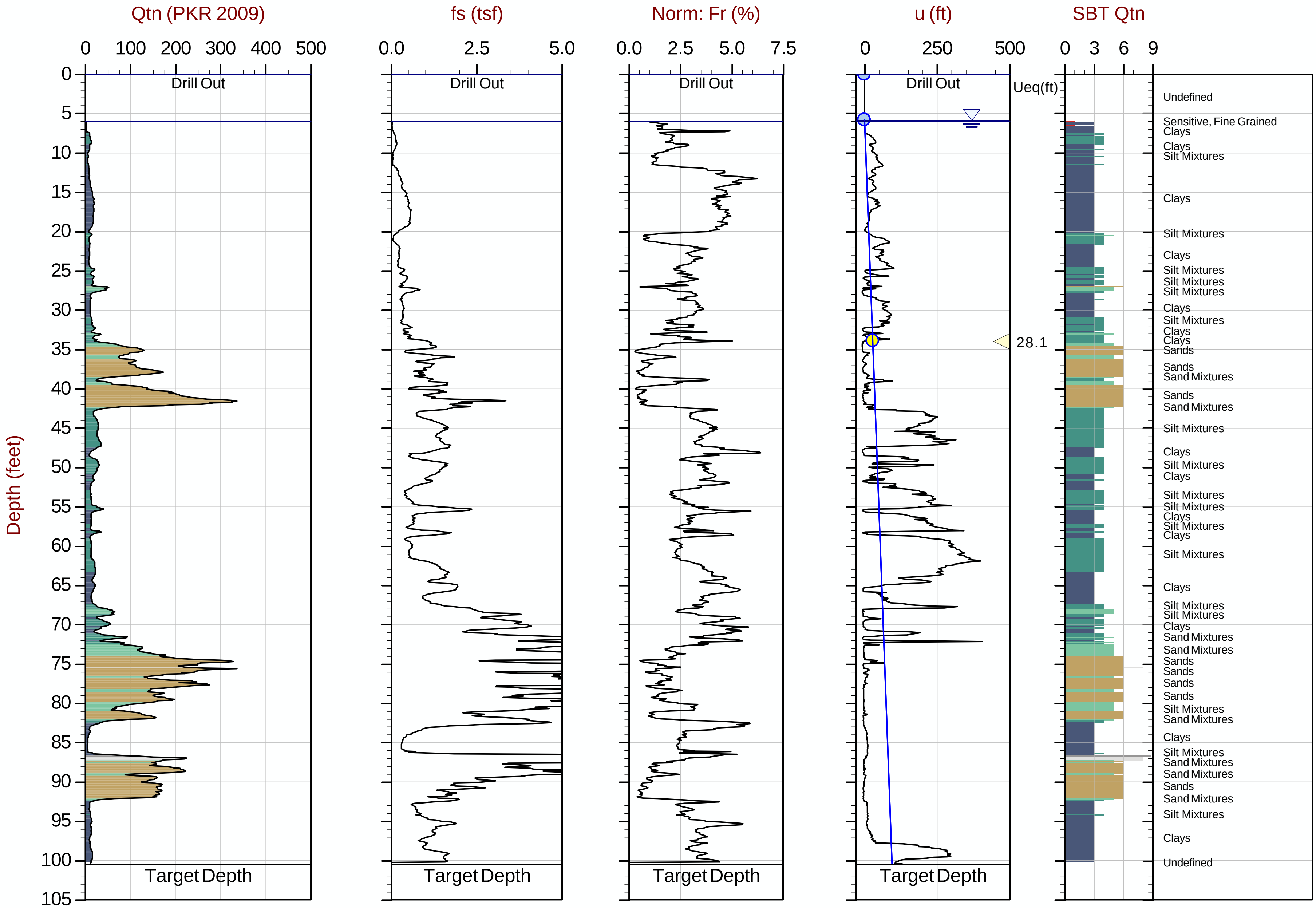
File: 23-56-26631_SP01.COR
Unit Wt: SBTQtn (PKR2009)

SBT: Robertson, 2009 and 2010
Coords: (UTM Zone 10) N: 4178135m E: 570579m

Hydrostatic Line | Ueq | Assumed Ueq | PPD, Ueq achieved | PPD, Ueq not achieved

The reported coordinates were acquired from consumer-grade GPS equipment and are only approximate locations. The coordinates should not be used for design purposes.

CONETEC	Job No: 23-56-26631	Sounding: 1-SCPT-01-OFF01
Engeo	Date: 2023-10-06 09:09	Cone: 817:T1500F15U35
	Site: Interim Stadium for Oakland Roots and Soul SC	



Max Depth: 30.650 m / 100.56 ft
Depth Inc: 0.025 m / 0.082 ft
Avg Int: Every Point

File: 23-56-26631_SP01-OFF01.COR
Unit Wt: SBTQtn (PKR2009)

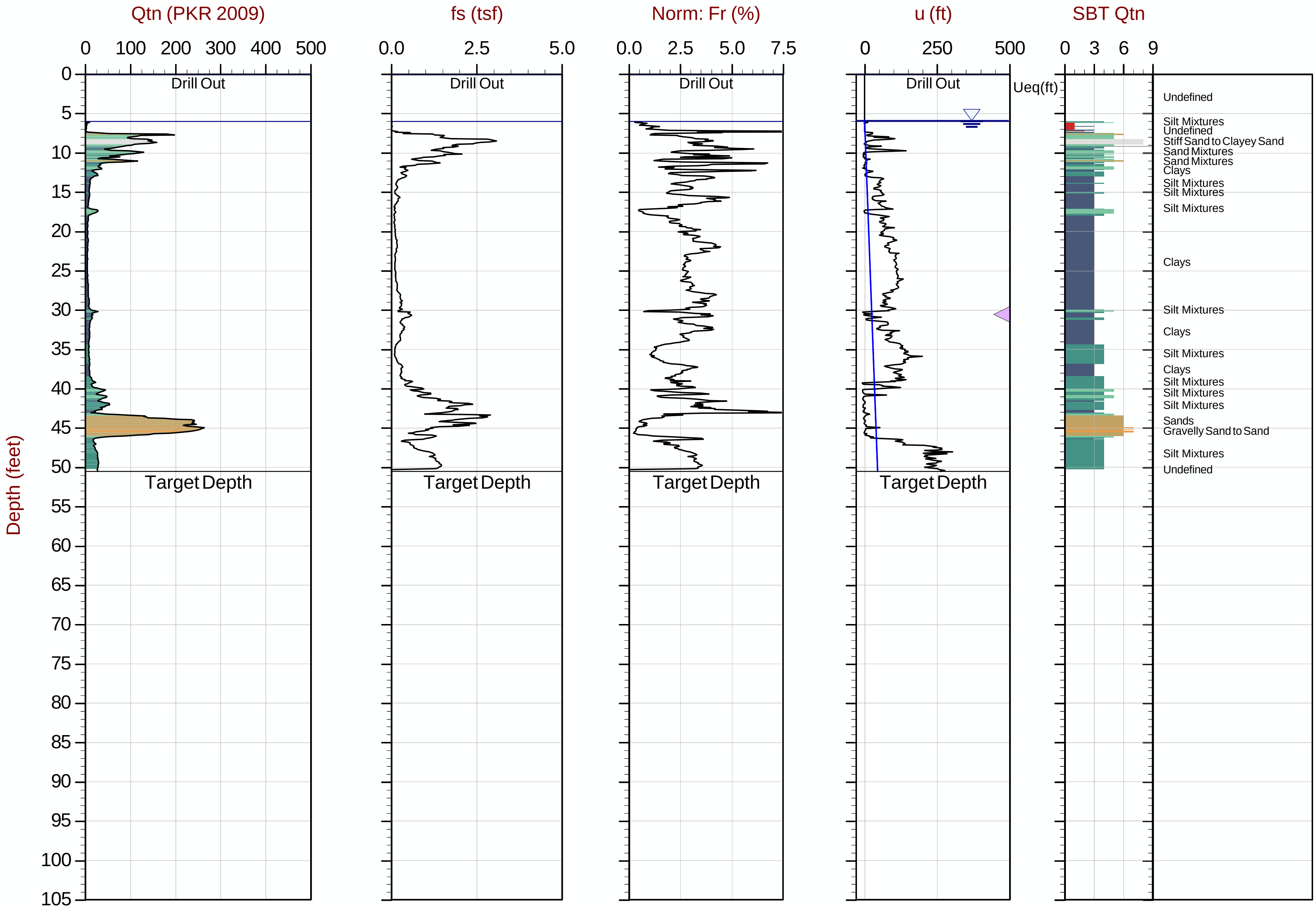
SBT: Robertson, 2009 and 2010
Coords: (UTM Zone 10) N: 4178134m E: 570581m

Hydrostatic Line · Ueq · Assumed Ueq · PPD, Ueq achieved · PPD, Ueq not achieved

The reported coordinates were acquired from consumer-grade GPS equipment and are only approximate locations. The coordinates should not be used for design purposes.

Engeo

Job No: 23-56-26631
Date: 2023-10-06 12:18
Site: Interim Stadium for Oakland Roots and Soul SC
Sounding: 1-CPT-02
Cone: 817:T1500F15U35



Max Depth: 15.400 m / 50.52 ft
Depth Inc: 0.025 m / 0.082 ft
Avg Int: Every Point

File: 23-56-26631_CP02.COR
Unit Wt: SBTQtn (PKR2009)

SBT: Robertson, 2009 and 2010
Coords: (UTM Zone 10) N: 4178030m E: 570538m

Hydrostatic Line   Ueq   Assumed Ueq   PPD, Ueq achieved   PPD, Ueq not achieved

The reported coordinates were acquired from consumer-grade GPS equipment and are only approximate locations. The coordinates should not be used for design purposes.

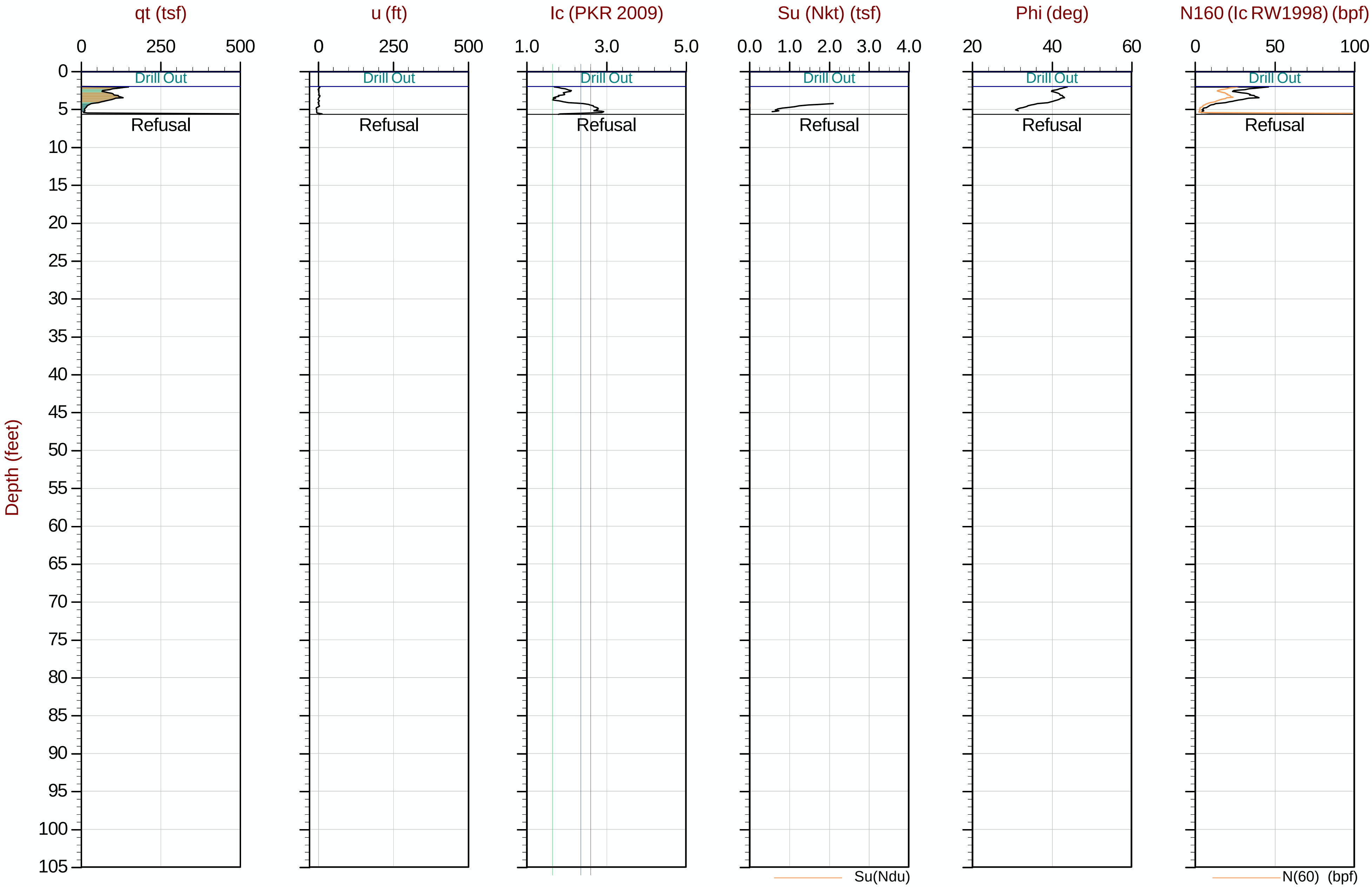
Advanced Cone Penetration Test Plots

CONETEC

Engeo

Job No: 23-56-26631
Date: 2023-10-06 08:07
Site: Interim Stadium for Oakland Roots and Soul SC

Sounding: 1-SCPT-01
Cone: 817:T1500F15U35



Max Depth: 1.725 m / 5.66 ft
Depth Inc: 0.025 m / 0.082 ft
Avg Int: Every Point

File: 23-56-26631_SP01.COR
Unit Wt: SBTQtn (PKR2009)
Su Nkt/Ndu: 15.0 / 6.0

SBT: Robertson, 2009 and 2010
Coords: (UTM Zone 10) N: 4178135m E: 570579m

Hydrostatic Line · Ueq · Assumed Ueq · PPD, Ueq achieved · PPD, Ueq not achieved

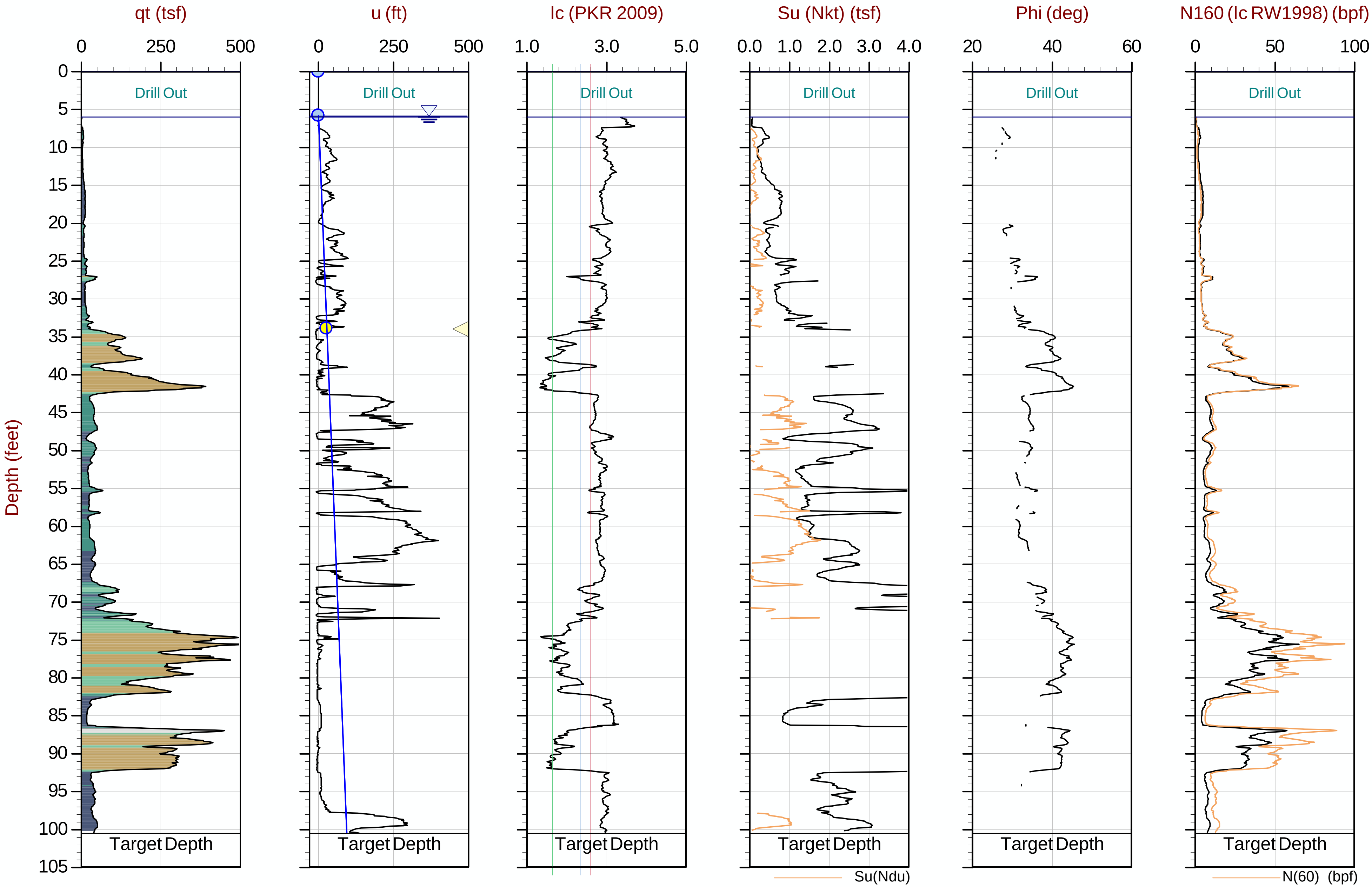
The reported coordinates were acquired from consumer-grade GPS equipment and are only approximate locations. The coordinates should not be used for design purposes.

CONETEC

Engeo

Job No: 23-56-26631
Date: 2023-10-06 09:09
Site: Interim Stadium for Oakland Roots and Soul SC

Sounding: 1-SCPT-01-OFF01
Cone: 817:T1500F15U35



Max Depth: 30.650 m / 100.56 ft
Depth Inc: 0.025 m / 0.082 ft
Avg Int: Every Point

File: 23-56-26631_SP01-OFF01.COR
Unit Wt: SBTQtn (PKR2009)
Su Nkt/Ndu: 15.0 / 6.0

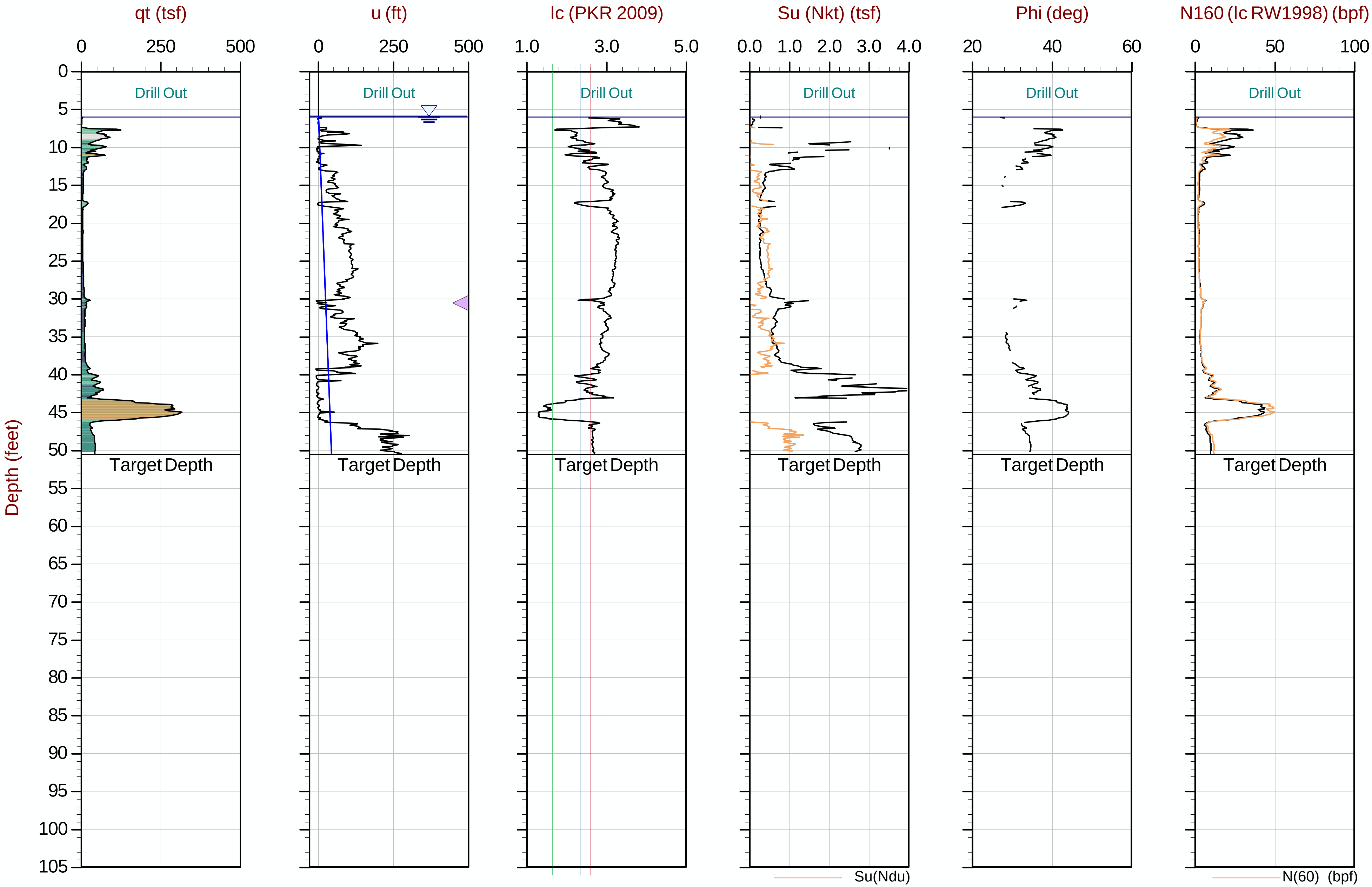
SBT: Robertson, 2009 and 2010
Coords: (UTM Zone 10) N: 4178134m E: 570581m

Hydrostatic Line   Ueq   Assumed Ueq   PPD, Ueq achieved   PPD, Ueq not achieved

The reported coordinates were acquired from consumer-grade GPS equipment and are only approximate locations. The coordinates should not be used for design purposes.

Engeo

Job No: 23-56-26631
Date: 2023-10-06 12:18
Site: Interim Stadium for Oakland Roots and Soul SC
Sounding: 1-CPT-02
Cone: 817:T1500F15U35



Max Depth: 15.400 m / 50.52 ft
Depth Inc: 0.025 m / 0.082 ft
Avg Int: Every Point

File: 23-56-26631_CP02.COR
Unit Wt: SBTQtn (PKR2009)
Su Nkt/Ndu: 15.0 / 6.0

SBT: Robertson, 2009 and 2010
Coords: (UTM Zone 10) N: 4178030m E: 570538m

Hydrostatic Line · Ueq · Assumed Ueq · PPD, Ueq achieved · PPD, Ueq not achieved

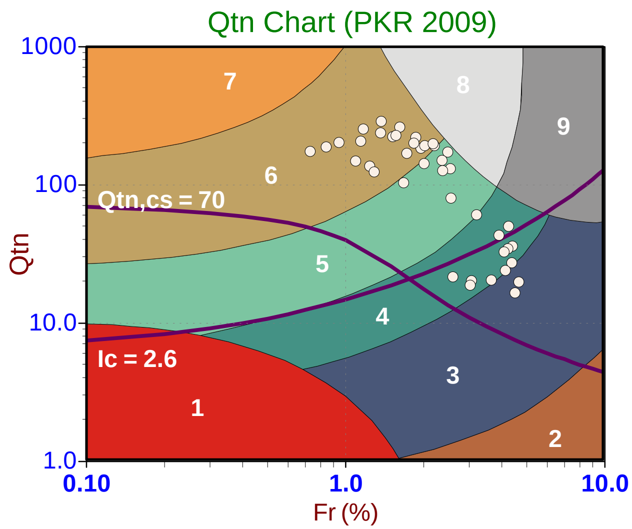
The reported coordinates were acquired from consumer-grade GPS equipment and are only approximate locations. The coordinates should not be used for design purposes.

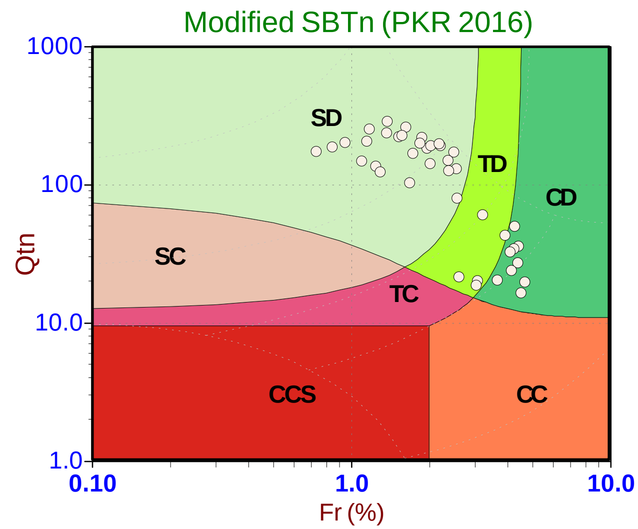
Soil Behavior Type (SBT) Scatter Plots

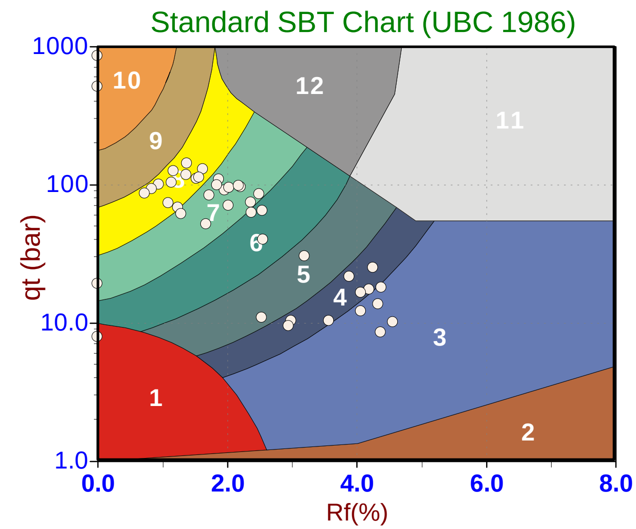
CONETEC

Engeo

Job No: 23-56-26631
Date: 2023-10-06 08:07
Site: Interim Stadium for Oakland Roots and Soul SC
Sounding: 1-SCPT-01
Cone: 817:T1500F15U35







Depth Ranges

- >0.0 to 7.5 ft
- >7.5 to 15.0 ft
- >15.0 to 22.5 ft
- >22.5 to 30.0 ft
- >30.0 to 37.5 ft
- >37.5 to 45.0 ft
- >45.0 to 52.5 ft
- >52.5 to 60.0 ft
- >60.0 to 67.5 ft
- >67.5 to 75.0 ft
- >75.0 ft

Legend

- Sensitive, Fine Grained
- Organic Soils
- Clays
- Silt Mixtures
- Sand Mixtures
- Sands
- Gravelly Sand to Sand
- Stiff Sand to Clayey Sand
- Very Stiff Fine Grained

Legend

- CCS (Cont. sensitive clay like)
- CC (Cont. clay like)
- TC (Cont. transitional)
- SC (Cont. sand like)
- CD (Dil. clay like)
- TD (Dil. transitional)
- SD (Dil. sand like)

Legend

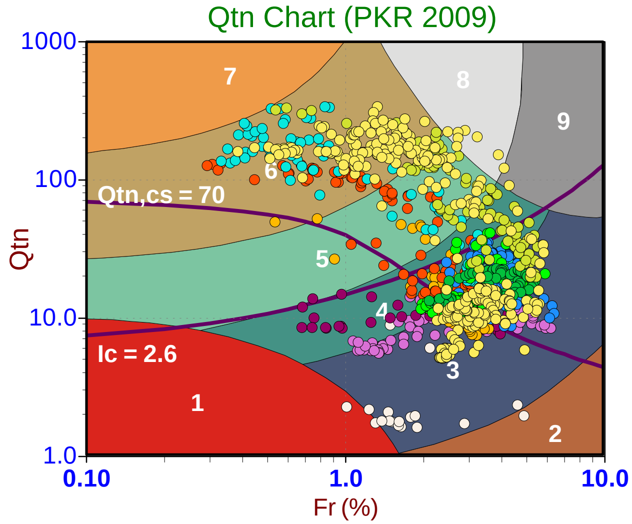
- Sensitive Fines
- Organic Soil
- Clay
- Silty Clay
- Clayey Silt
- Silt
- Sandy Silt
- Silty Sand/Sand
- Sand
- Gravelly Sand
- Stiff Fine Grained
- Cemented Sand

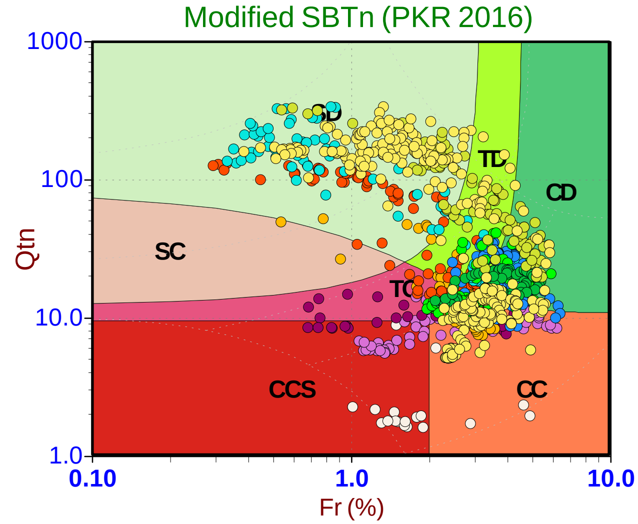
CONETEC

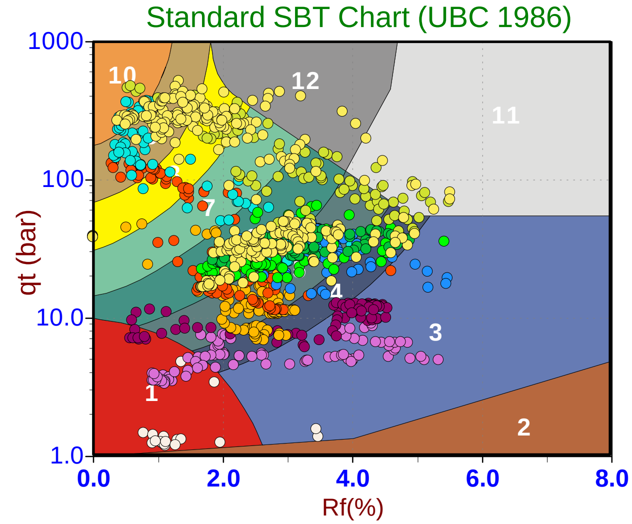
Engeo

Job No: 23-56-26631
Date: 2023-10-06 09:09
Site: Interim Stadium for Oakland Roots and Soul SC

Sounding: 1-SCPT-01-OFF01
Cone: 817:T1500F15U35







Depth Ranges
- >0.0 to 7.5 ft
- >7.5 to 15.0 ft
- >15.0 to 22.5 ft
- >22.5 to 30.0 ft
- >30.0 to 37.5 ft
- >37.5 to 45.0 ft
- >45.0 to 52.5 ft
- >52.5 to 60.0 ft
- >60.0 to 67.5 ft
- >67.5 to 75.0 ft
- >75.0 ft

Legend
- Sensitive, Fine Grained
- Organic Soils
- Clays
- Silt Mixtures
- Sand Mixtures
- Sands
- Gravelly Sand to Sand
- Stiff Sand to Clayey Sand
- Very Stiff Fine Grained

Legend
- CCS (Cont. sensitive clay like)
- CC (Cont. clay like)
- TC (Cont. transitional)
- SC (Cont. sand like)
- CD (Dil. clay like)
- TD (Dil. transitional)
- SD (Dil. sand like)

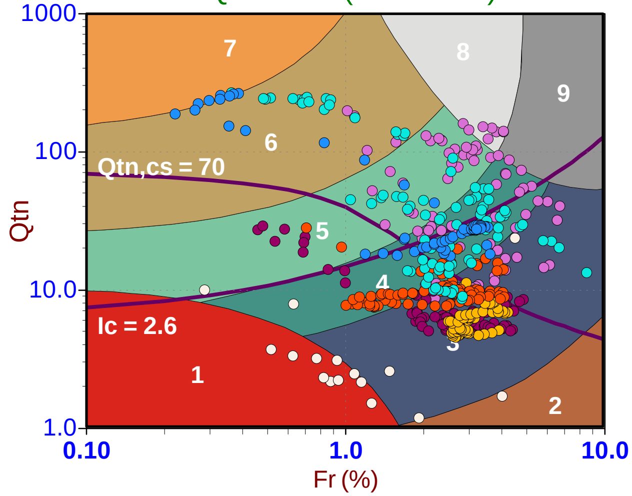
Legend
- Sensitive Fines
- Organic Soil
- Clay
- Silty Clay
- Clayey Silt
- Silt
- Sandy Silt
- Silty Sand/Sand
- Sand
- Gravelly Sand
- Stiff Fine Grained
- Cemented Sand

CONETEC

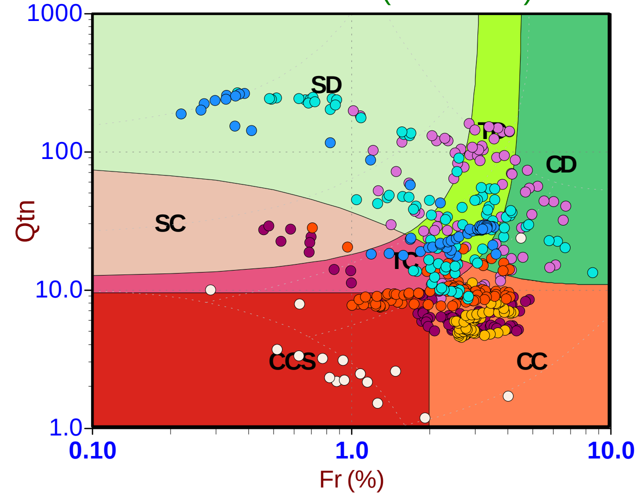
Engeo

Job No: 23-56-26631
Date: 2023-10-06 12:18
Site: Interim Stadium for Oakland Roots and Soul SC
Sounding: 1-CPT-02
Cone: 817:T1500F15U35

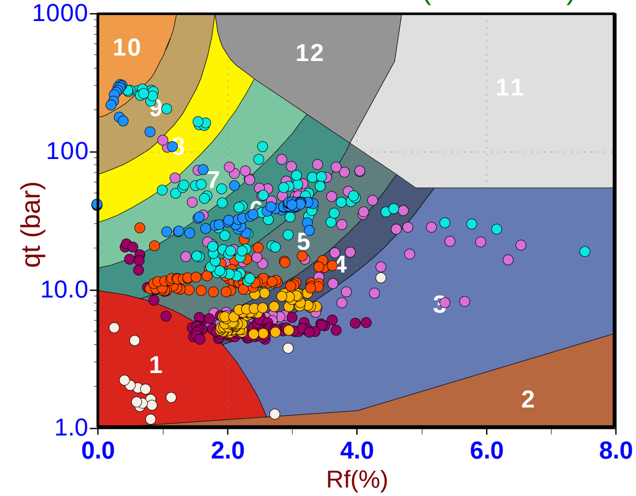
Qtn Chart (PKR 2009)



Modified SBTn (PKR 2016)



Standard SBT Chart (UBC 1986)



Depth Ranges

- >0.0 to 7.5 ft
- >7.5 to 15.0 ft
- >15.0 to 22.5 ft
- >22.5 to 30.0 ft
- >30.0 to 37.5 ft
- >37.5 to 45.0 ft
- >45.0 to 52.5 ft
- >52.5 to 60.0 ft
- >60.0 to 67.5 ft
- >67.5 to 75.0 ft
- >75.0 ft

Legend

- Sensitive, Fine Grained
- Organic Soils
- Clays
- Silt Mixtures
- Sand Mixtures
- Sands
- Gravelly Sand to Sand
- Stiff Sand to Clayey Sand
- Very Stiff Fine Grained

Legend

- CCS (Cont. sensitive clay like)
- CC (Cont. clay like)
- TC (Cont. transitional)
- SC (Cont. sand like)
- CD (Dil. clay like)
- TD (Dil. transitional)
- SD (Dil. sand like)

Legend

- Sensitive Fines
- Organic Soil
- Clay
- Silty Clay
- Clayey Silt
- Silt
- Sandy Silt
- Silty Sand/Sand
- Sand
- Gravelly Sand
- Stiff Fine Grained
- Cemented Sand

Pore Pressure Dissipation Summary and Pore Pressure Dissipation Plots

ConeTec

Job No: 23-56-26631
Client: Engeo
Project: Interim Stadium for Oakland Roots and Soul SC
Start Date: 2023-10-06
End Date: 2023-10-06

CPTu PORE PRESSURE DISSIPATION SUMMARY

Sounding ID	File Name	Cone Area (cm^2)	Duration (s)	Test Depth (ft)	Estimated Equilibrium Pore Pressure U_{eq} (ft.)	Calculated Phreatic Surface (ft.)	Refer to Notation Number
1-SCPT-01-OFF01	23-56-26631_SP01-OFF01	15	600	34.0	28.1	5.9	
1-CPT-02	23-56-26631_CP02	15	900	30.5			1
Total:			**25.0 Mins**				

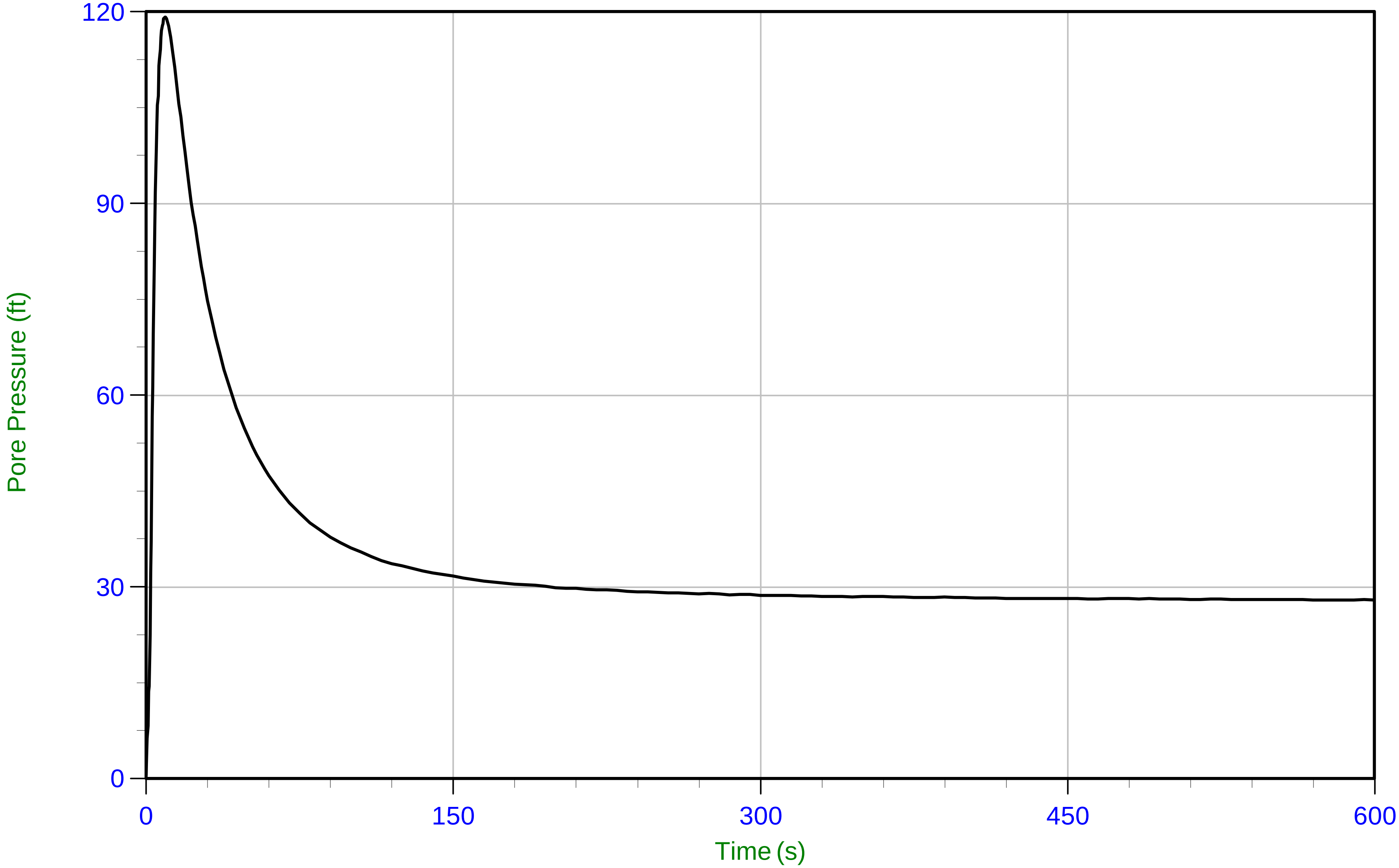
1. Equilibrium pore pressure not achieved.

CONETEC

Engeo

Job No: 23-56-26631
Date: 10/06/2023 09:09
Site: Interim Stadium for Oakland Roots and Soul SC

Sounding: 1-SCPT-01-OFF01
Cone: 817:T1500F15U35 Area=15 cm²



Trace Summary:

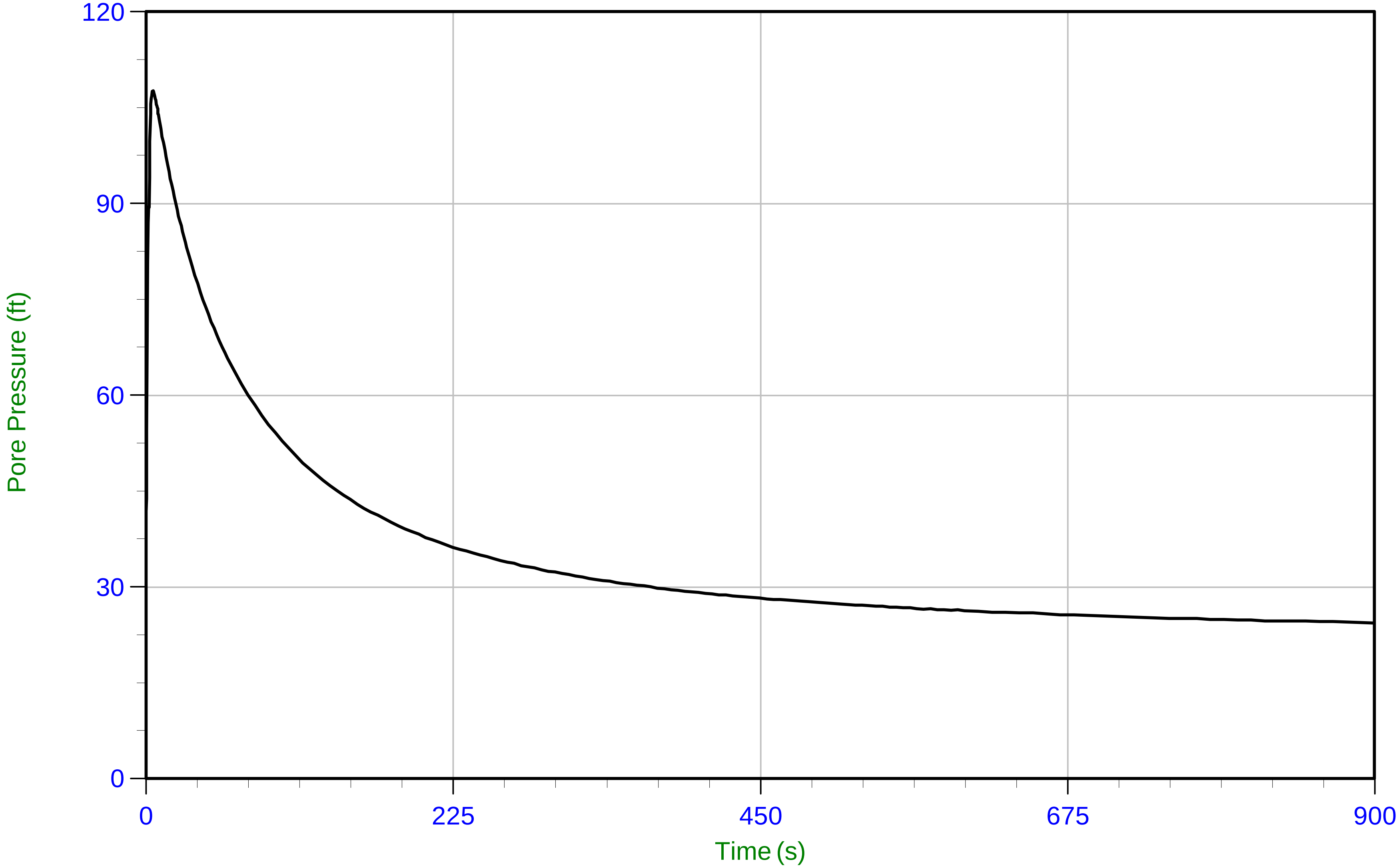
Filename: 23-56-26631_SP01-OFF01.ppd2
Depth: 10.350 m / 33.956 ft
Duration: 600.0 s

u Min: 0.5 ft
u Max: 119.1 ft
u Final: 28.0 ft

WT: 1.784 m / 5.853 ft
Ueq: 28.1 ft

Job No: 23-56-26631	Sounding: 1-CPT-02
Date: 10/06/2023 12:18	Cone: 817:T1500F15U35 Area=15 cm²
Site: Interim Stadium for Oakland Roots and Soul SC	

Engeo



Trace Summary:

Filename: 23-56-26631_CP02.ppd2
Depth: 9.300 m / 30.511 ft
Duration: 900.0 s

u Min: 24.4 ft
u Max: 107.6 ft
u Final: 24.4 ft

Seismic Cone Penetration Test Tabular Results

Job No:	23-56-26631
Client:	Engeo
Project:	Interim Stadium for Oakland Roots and Soul SC
Sounding ID:	1-SCPT-01-OFF01
Date:	2023-10-06
Seismic Source:	Beam
Seismic Offset (ft):	2.05
Source Depth (ft):	0.00
Geophone Offset (ft):	0.66

SCPTu SHEAR WAVE VELOCITY TEST RESULTS - Vs

Tip Depth (ft)	Geophone Depth (ft)	Ray Path (ft)	Ray Path Difference (ft)	Travel Time Interval (ms)	Interval Velocity (ft/s)
5.91	5.25	5.64			
8.86	8.20	8.45	2.82	7.29	387
12.47	11.81	11.99	3.53	8.42	420
15.75	15.09	15.23	3.24	9.24	351
19.03	18.37	18.49	3.26	7.44	438
22.31	21.65	21.75	3.26	6.93	471
28.87	28.22	28.29	6.54	13.16	497
32.15	31.50	31.56	3.27	5.92	553
35.37	34.71	34.77	3.21	5.14	624
38.71	38.06	38.11	3.34	4.54	737
41.99	41.34	41.39	3.28	4.09	800
45.28	44.62	44.67	3.28	3.46	948
48.56	47.90	47.94	3.28	3.10	1058
51.84	51.18	51.22	3.28	4.03	814
55.12	54.46	54.50	3.28	4.02	815
58.40	57.74	57.78	3.28	3.90	840
61.68	61.02	61.06	3.28	3.63	903
64.96	64.30	64.34	3.28	3.67	892
68.24	67.58	67.62	3.28	3.72	882
71.52	70.87	70.90	3.28	2.35	1398
74.80	74.15	74.17	3.28	2.68	1225
78.08	77.43	77.45	3.28	2.42	1355
81.36	80.71	80.73	3.28	2.78	1179
84.65	83.99	84.01	3.28	2.73	1202
87.93	87.27	87.29	3.28	4.02	817
91.21	90.55	90.57	3.28	2.42	1355
94.49	93.83	93.85	3.28	2.42	1355
97.77	97.11	97.13	3.28	2.73	1202
100.56	99.90	99.92	2.79	2.57	1083

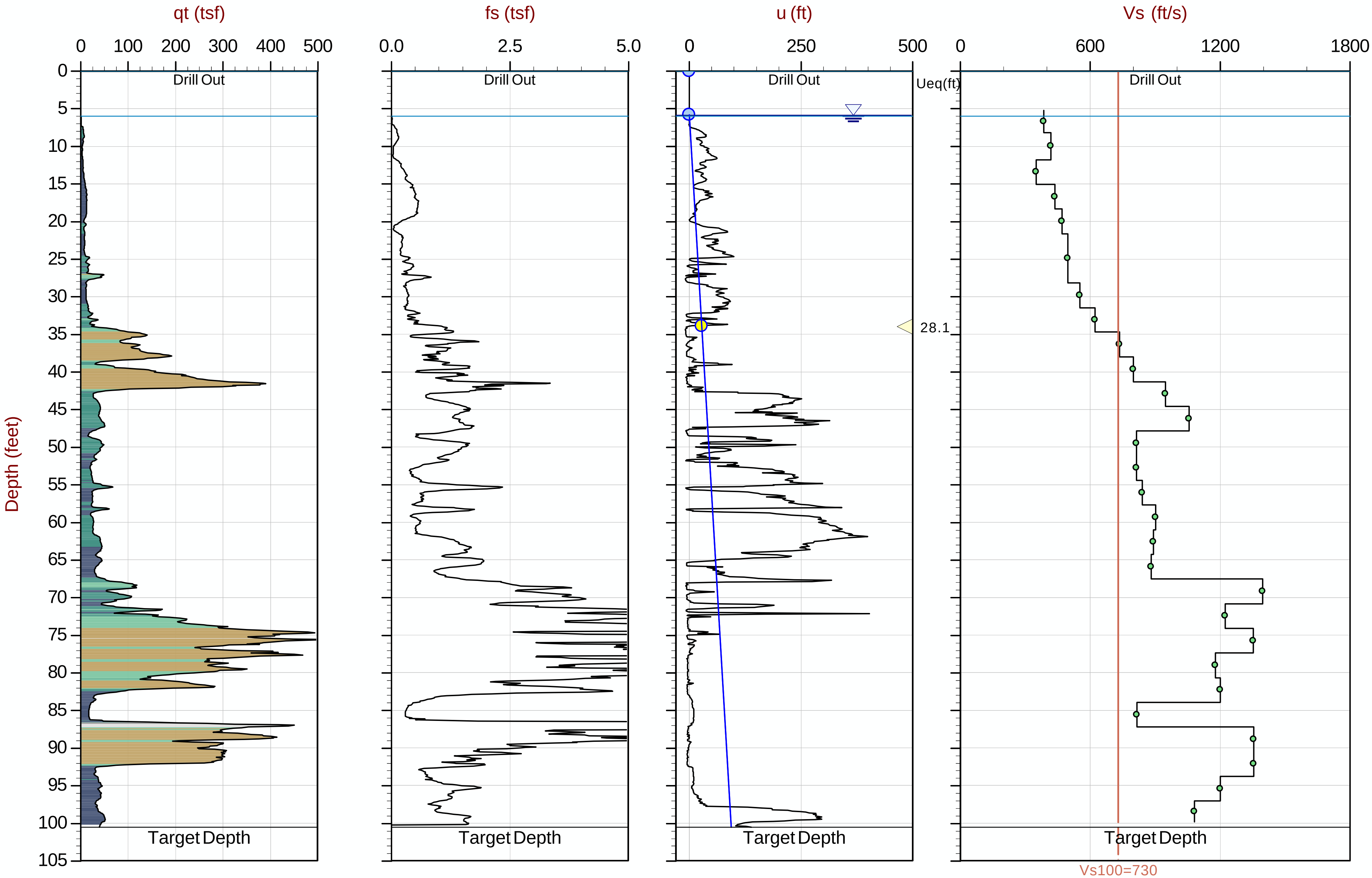
Seismic Cone Penetration Test Plots

CONETEC

Engeo

Job No: 23-56-26631
Date: 2023-10-06 09:09
Site: Interim Stadium for Oakland Roots and Soul SC

Sounding: 1-SCPT-01-OFF01
Cone: 817:T1500F15U35



Max Depth: 30.650 m / 100.56 ft
Depth Inc: 0.025 m / 0.082 ft
Avg Int: Every Point

File: 23-56-26631_SP01-OFF01.COR
Unit Wt: SBTQtn (PKR2009)

SBT: Robertson, 2009 and 2010
Coords: (UTM Zone 10) N: 4178134m E: 570581m

Hydrostatic Line · Ueq · Assumed Ueq · PPD, Ueq achieved · PPD, Ueq not achieved

The reported coordinates were acquired from consumer-grade GPS equipment and are only approximate locations. The coordinates should not be used for design purposes.

Seismic Cone Penetration Test Shear Wave (Vs) Traces

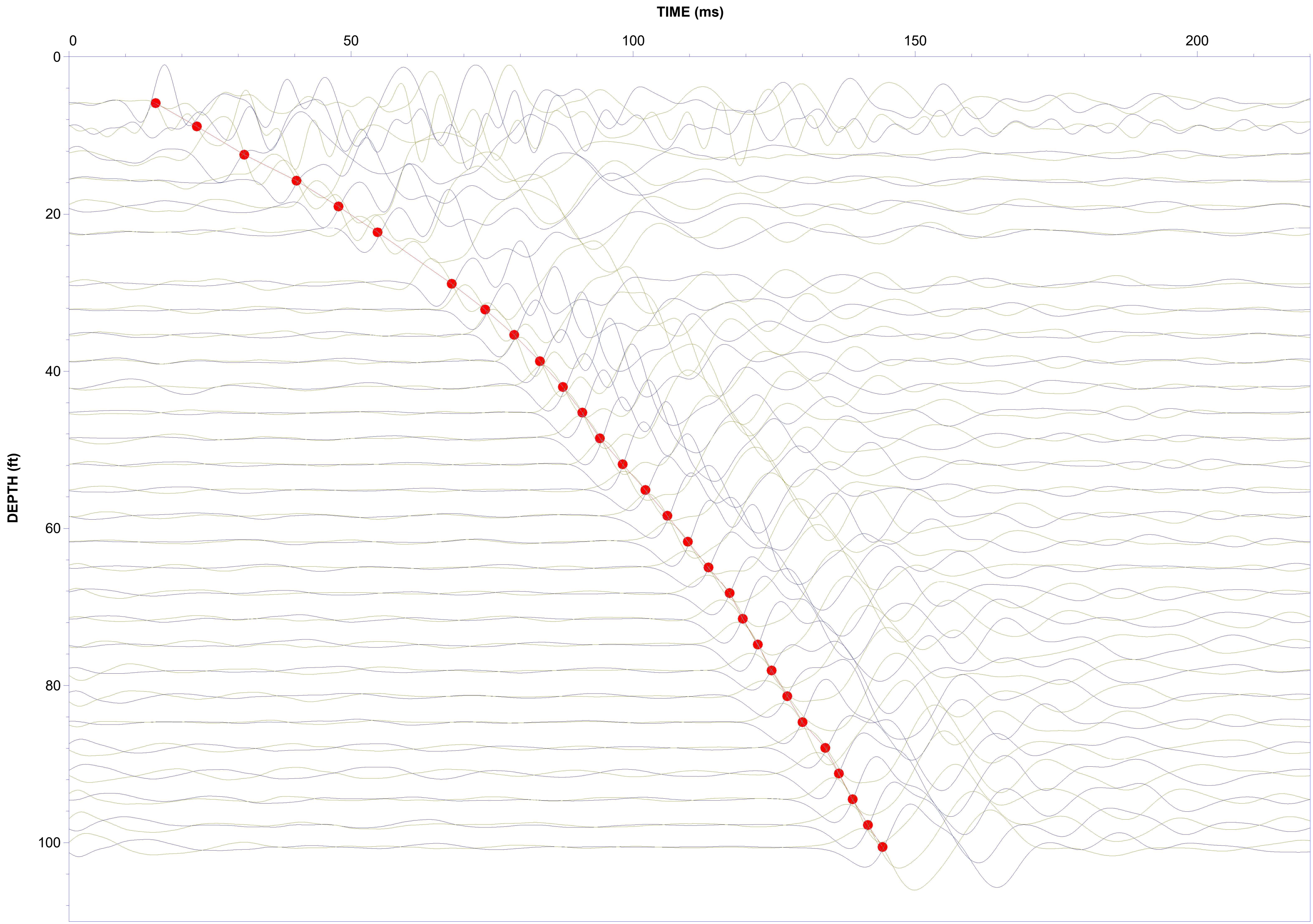
Job No: 23-56-26631
Filter: 0 Hz to 200 Hz

Client: Engeo
Date: 10:06:23 09:09

Project: Interim Stadium for Oakland Roots and Soul SC

Analysis: Shear Wave
Cone: 817:T1500F15U35

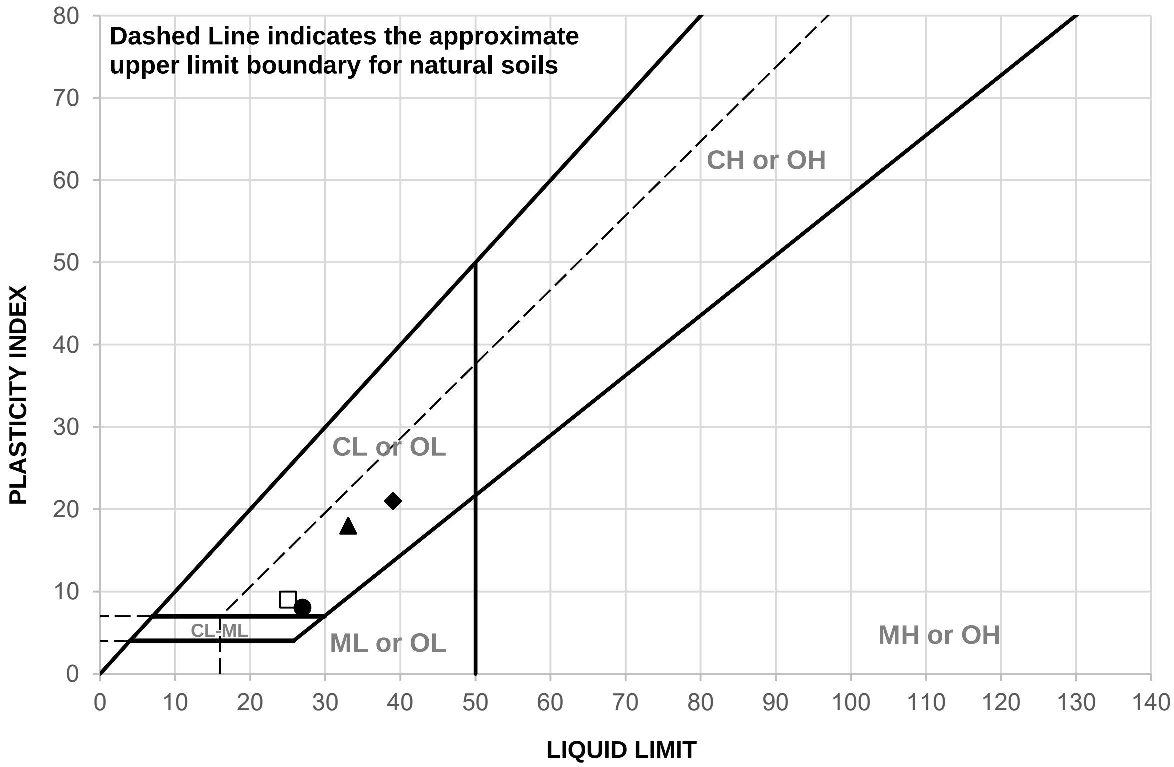
Sounding: 1-SCPT-01-OFF01



APPENDIX B

LABORATORY TEST RESULTS

LIQUID AND PLASTIC LIMITS TEST REPORT
ASTM D4318



	SAMPLE ID	DEPTH (ft)	MATERIAL DESCRIPTION	LL	PL	PI
▲	1-B1@0.5	0.5	See exploration logs	33	15	18
◆	1-B1@8	8	See exploration logs	39	18	21
□	1-B1@40.5	40.6	See exploration logs	25	16	9
●	1-B1@55	55	See exploration logs	27	19	8

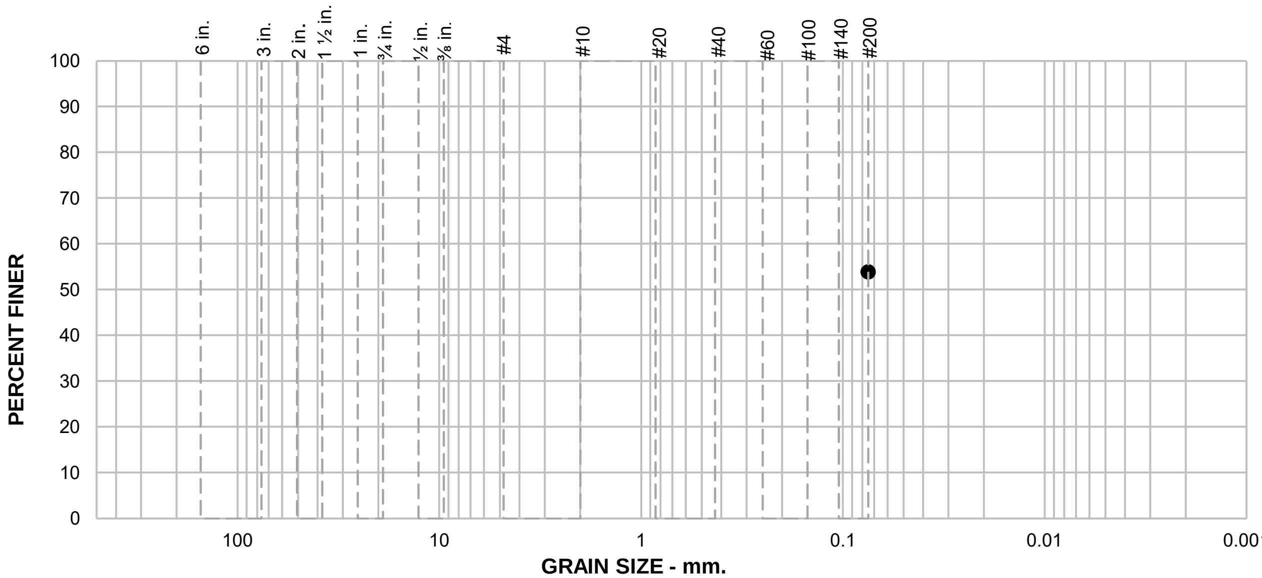
	SAMPLE ID	TEST METHOD	REMARKS
▲	1-B1@0.5	PI: ASTM D4318, Wet Method	
◆	1-B1@8	PI: ASTM D4318, Wet Method	
□	1-B1@40.5	PI: ASTM D4318, Wet Method	
●	1-B1@55	PI: ASTM D4318, Wet Method	

ENGEO
Expect Excellence

CLIENT: Oakland Pro Soccer, LLC
PROJECT NAME: Interim Stadium for Oakland Roots and Soul SC
PROJECT NO: 17108.001.001 GEX
PROJECT LOCATION: Oakland, CA
REPORT DATE: 10/17/2023
TESTED BY: K. Nguyen
REVIEWED BY: W. Miller

PARTICLE SIZE DISTRIBUTION REPORT

ASTM D1140, Method B



SAMPLE ID: 1-B1@36

DEPTH (ft): 36

% +75mm	% GRAVEL		% SAND			% FINES	
	COARSE	FINE	COARSE	MEDIUM	FINE	SILT	CLAY
						53.9	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	53.9		

SOIL DESCRIPTION

See exploration logs

ATTERBERG LIMITS

PL = LL = PI =

COEFFICIENTS

D_{90} =	D_{85} =	D_{60} =
D_{50} =	D_{30} =	D_{15} =
D_{10} =	C_u =	C_c =

CLASSIFICATION

USCS =

REMARKS

Soak time = 3420 min
Dry sample weight = 84.11 g
Largest particle size ≥ No. 4 Sieve

* (no specification provided)

CLIENT: Oakland Pro Soccer, LLC

PROJECT NAME: Interim Stadium for Oakland Roots and Soul SC

PROJECT NO: 17108.001.001 GEX

PROJECT LOCATION: Oakland, CA

REPORT DATE: 10/18/2023

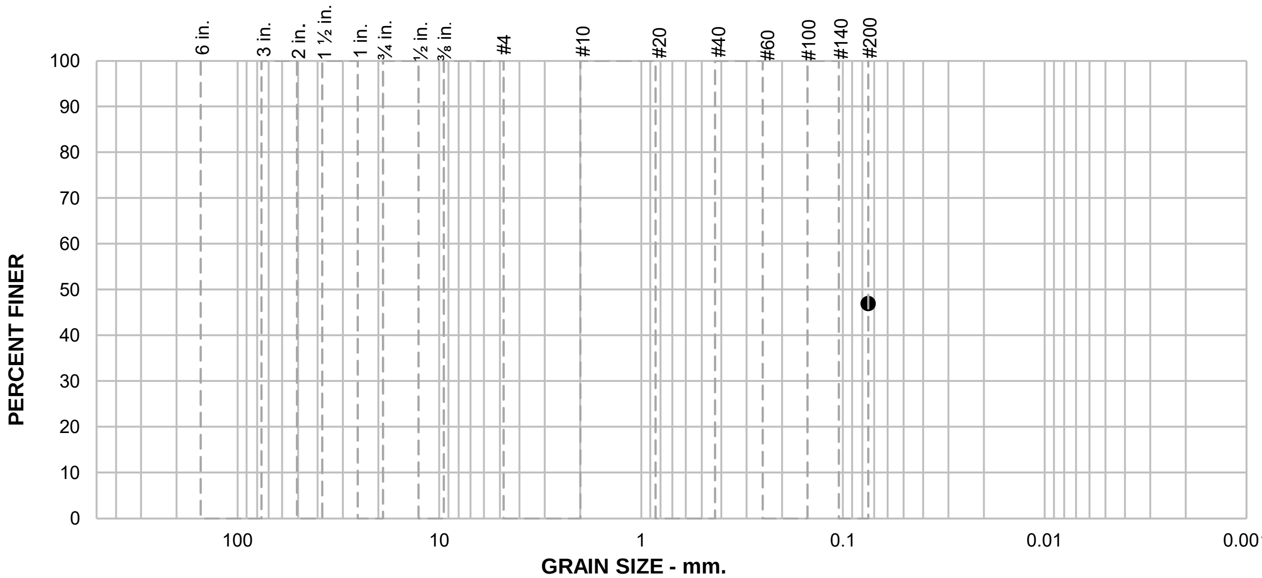
TESTED BY: K. Nguyen

REVIEWED BY: D. Seibold

ENGEO Expect Excellence

PARTICLE SIZE DISTRIBUTION REPORT

ASTM D1140, Method B



SAMPLE ID: 1-B1@40.5

DEPTH (ft): 40.5

% +75mm	% GRAVEL		% SAND			% FINES	
	COARSE	FINE	COARSE	MEDIUM	FINE	SILT	CLAY
						47.0	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	47.0		

* (no specification provided)

SOIL DESCRIPTION

See exploration logs

ATTERBERG LIMITS

PL = 16 LL = 25 PI = 9

COEFFICIENTS

D_{90} = D_{85} = D_{60} =
D_{50} = D_{30} = D_{15} =
D_{10} = C_u = C_c =

CLASSIFICATION

USCS =

REMARKS

PI: ASTM D4318, Wet Method

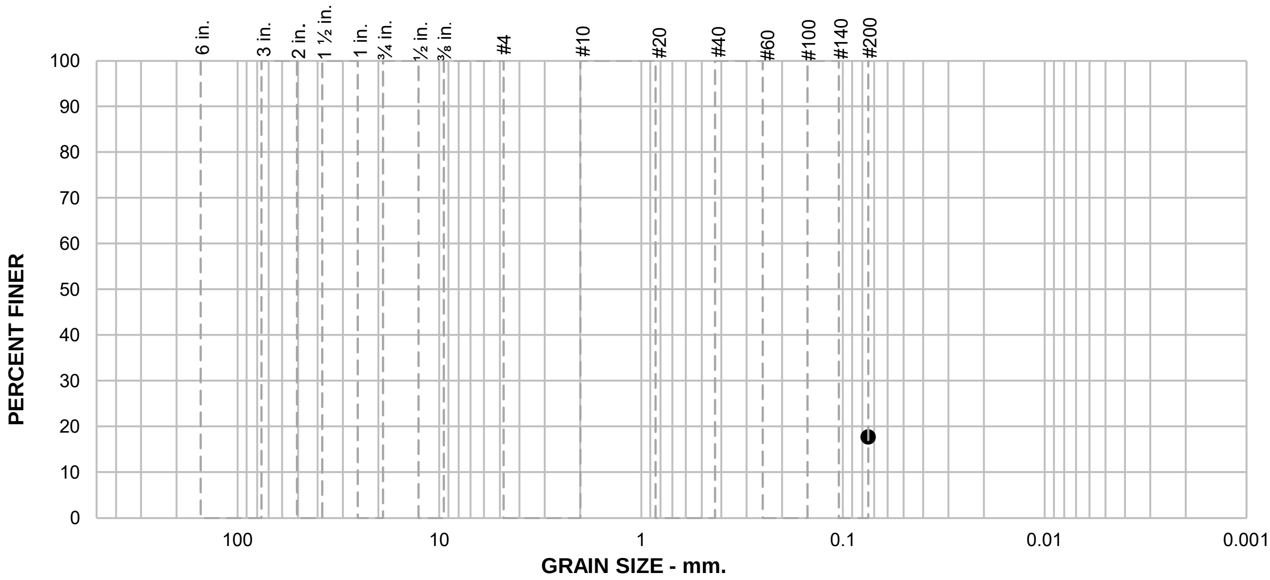
Soak time = 3420 min
Dry sample weight = 28.1 g
Largest particle size < No. 4 Sieve

ENGEO
Expect Excellence

CLIENT: Oakland Pro Soccer, LLC
PROJECT NAME: Interim Stadium for Oakland Roots and Soul SC
PROJECT NO: 17108.001.001 GEX
PROJECT LOCATION: Oakland, CA
REPORT DATE: 10/12/2023
TESTED BY: G. Criste
REVIEWED BY: D. Seibold

PARTICLE SIZE DISTRIBUTION REPORT

ASTM D1140, Method B



SAMPLE ID: 1-B1@55

DEPTH (ft): 55

% +75mm	% GRAVEL		% SAND			% FINES	
	COARSE	FINE	COARSE	MEDIUM	FINE	SILT	CLAY
						17.7	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	17.7		

SOIL DESCRIPTION

See exploration logs

ATTERBERG LIMITS

PL = 19 LL = 27 PI = 8

COEFFICIENTS

D_{90} =	D_{85} =	D_{60} =
D_{50} =	D_{30} =	D_{15} =
D_{10} =	C_u =	C_c =

CLASSIFICATION

USCS =

REMARKS

PI: ASTM D4318, Wet Method

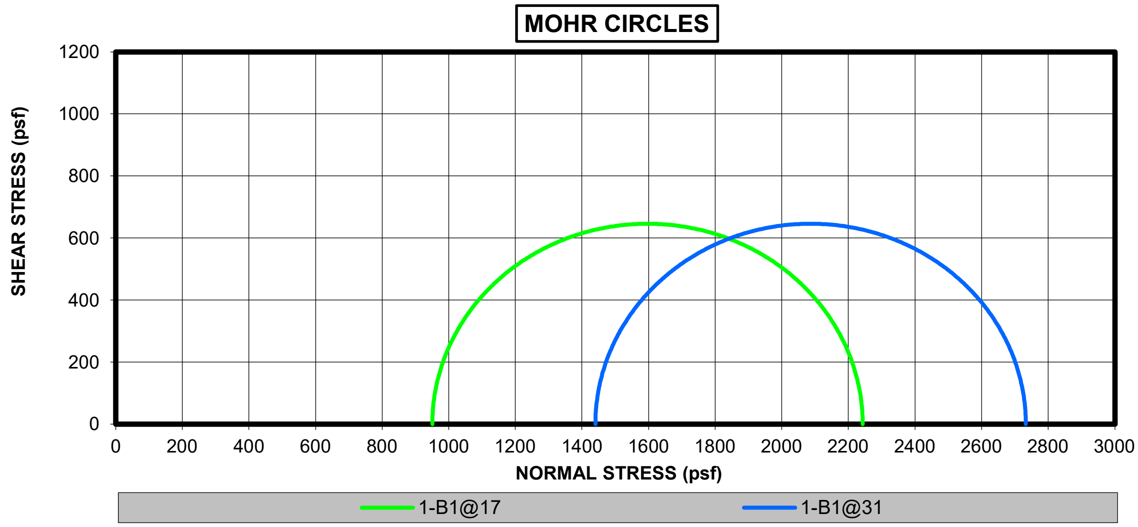
Soak time = 3420 min
Dry sample weight = 107.2 g
Largest particle size ≥ No. 4 Sieve

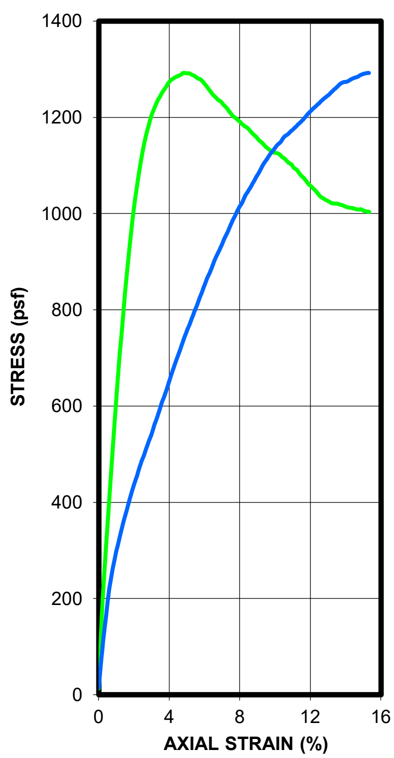
* (no specification provided)

ENGEO
Expect Excellence

CLIENT: Oakland Pro Soccer, LLC
PROJECT NAME: Interim Stadium for Oakland Roots and Soul SC
PROJECT NO: 17108.001.001 GEX
PROJECT LOCATION: Oakland, CA
REPORT DATE: 10/12/2023
TESTED BY: G. Criste
REVIEWED BY: D. Seibold

ISOTROPIC UNCONSOLIDATED UNDRAINED TRIAXIAL REPORT
ASTM D2850





	SPECIMEN			
INITIAL PARAMETERS	1-B1@17	1-B1@31		
MOISTURE (%)	54.16	32.66		
DRY DENSITY (PCF)	68.10	90.90		
SATURATION (%)	98.54	99.88		
VOID RATIO	1.495	0.909		
DIAMETER (IN.)	2.851	2.383		
HEIGHT (IN.)	6.053	5.047		
DIAMETER-TO-HEIGHT RATIO	2.123	2.118		
LIQUID LIMIT (ASTM D4318)	n/a	n/a		
PLASTIC LIMIT (ASTM D4318)	n/a	n/a		
SPECIFIC GRAVITY (ASTM D854)	2.720	2.780		
FINAL PARAMETERS	1-B1@17	1-B1@31		
MOISTURE (%)	54.16	32.66		
SATURATION (%)	98.53	99.88		
STRAIN RATE (%/MIN.)	1.000	1.000		
PEAK DEVIATOR STRESS (PSF)	1292.2	1292.5		
AXIAL STRAIN AT FAILURE (%)	4.791	15.257		
CELL PRESSURE				
CELL PRESSURE (PSF)	950.4	1440.0	0.0	0.0
BACK PRESSURE (PSF)	n/a	n/a	n/a	n/a
PRINCIPLE STRESSES AT FAILURE				
σ1 (PSF)	2242.6	2732.5	0.0	0.0
σ3 (PSF)	950.4	1440.0	0.0	0.0
COHESION AT FAILURE WITH A ZERO FRICTION ANGLE (Ø=0)				
COHESION, C (PSF)	646.1	646.2	0.0	0.0
REMARKS				

ENGEO
Expect Excellence

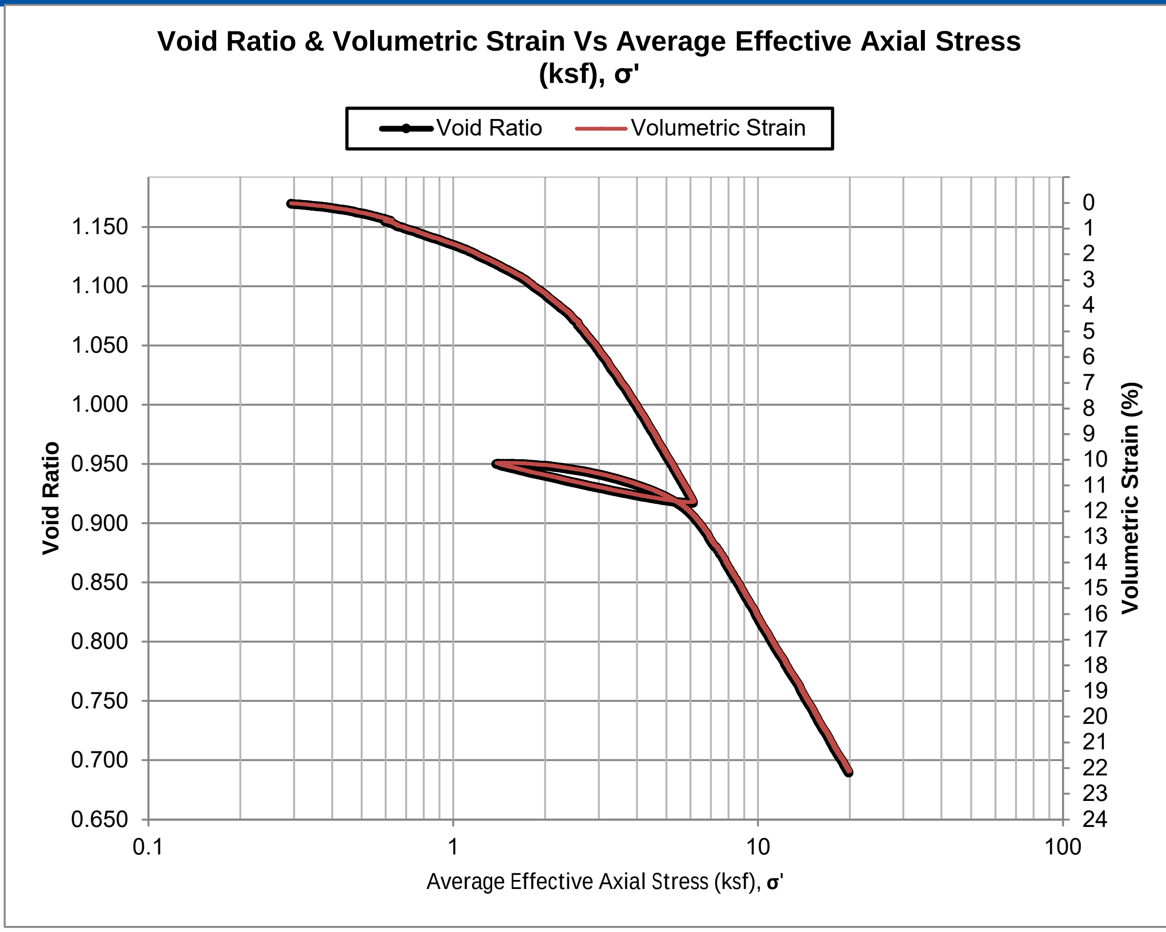
CLIENT: Oakland Pro Soccer, LLC
PROJECT NAME: Interim Stadium for Oakland Roots and Soul SC
PROJECT NO: 17108.001.001 GEX
PROJECT LOCATION: Oakland, CA
REPORT DATE: 10/13/2023
TESTED BY: O. Espinoza
REVIEWED BY: G. Criste

ISOTROPIC UNCONSOLIDATED UNDRAINED TRIAXIAL REPORT
ASTM D2850

ENGEO
Expect Excellence

CLIENT: Oakland Pro Soccer, LLC
PROJECT NAME: Interim Stadium for Oakland Roots and Soul SC
PROJECT NO: 17108.001.001 GEX
PROJECT LOCATION: Oakland, CA
REPORT DATE: 10/13/2023
TESTED BY: O. Espinoza
REVIEWED BY: G. Criste

Constant Rate of Strain Consolidation
ASTM D4186



SPECIMEN INFORMATION

SAMPLE ID: 1-B1 @ 11.5-14 **DEPTH:** 12.5-13 ft.

SOIL DESCRIPTION: See exploration logs

REMARKS:

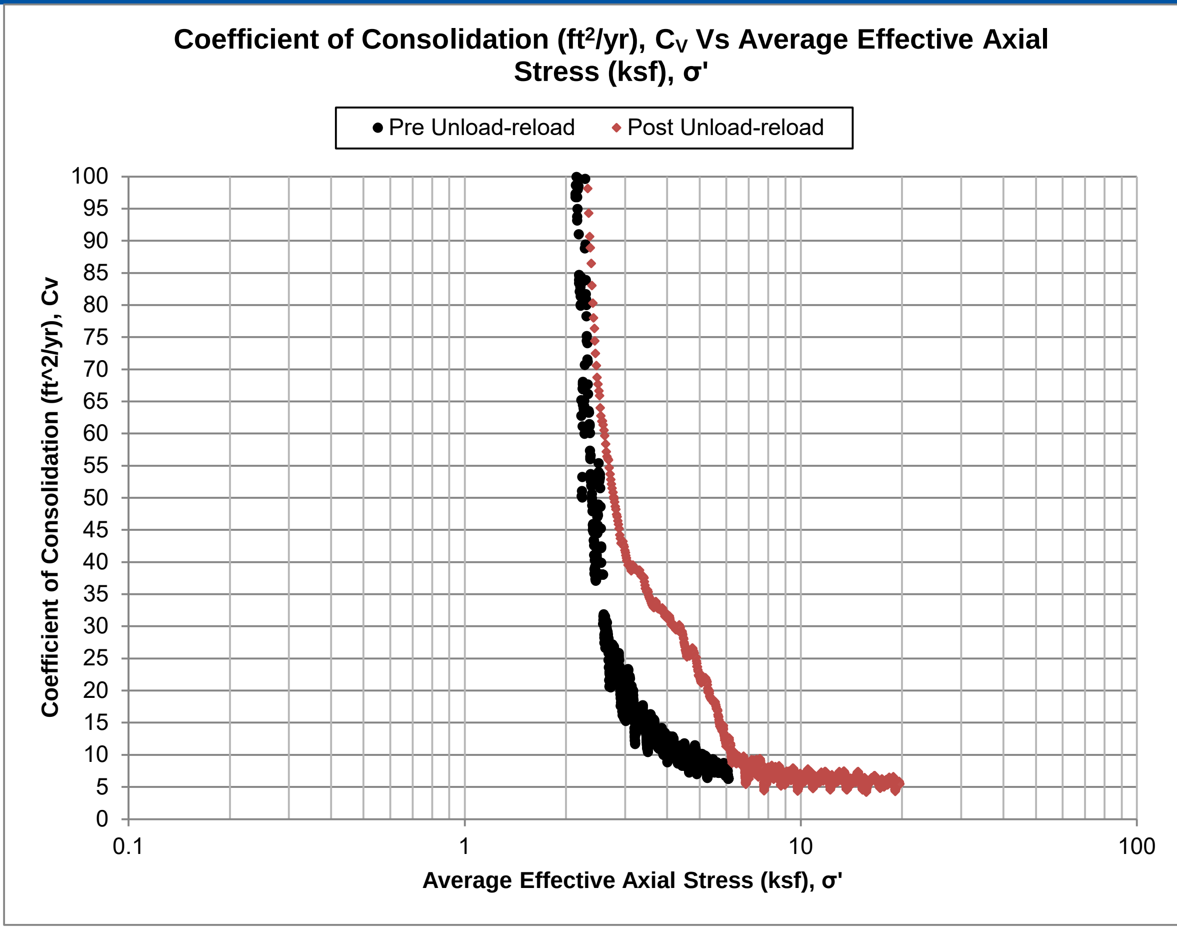
TEST DATA

	INITIAL	FINAL	ASTM D4318 - Wet Method	
MOISTURE CONTENT (%):	37.53	35.65	LIQUID LIMIT:	
DRY DENSITY (pcf):	78.03	100.22	PLASTIC LIMIT:	
SATURATION (%):	87.17	100.00	ASTM D854 - Measured	
VOID RATIO:	1.170	0.689	SPECIFIC GRAVITY	2.717
STRAIN RATE (in/min):	0.000060			

ENGEO
Expect Excellence

CLIENT: Oakland Pro Soccer, LLC
PROJECT NAME: Interim Stadium for Oakland Roots and Soul SC
PROJECT NO: 17108.001.001 GEX
PROJECT LOCATION: Oakland, California
REPORT DATE: 10/13/2023
TESTED BY: D. Seibold
REVIEWED BY: O. Espinoza

Constant Rate of Strain Consolidation
ASTM D4186



SPECIMEN INFORMATION

SAMPLE ID:	1-B1 @ 11.5-14	**DEPTH:**	12.5-13 ft.
SOIL DESCRIPTION:	See exploration logs		
REMARKS:			

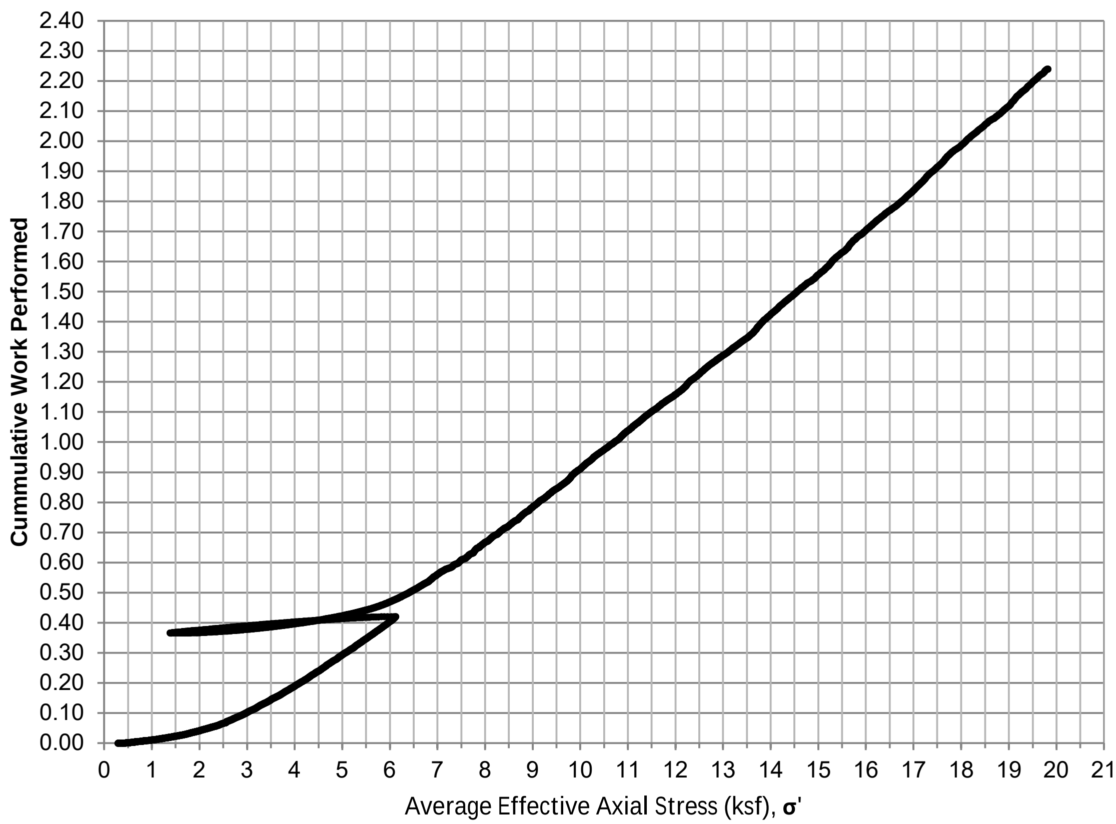
TEST DATA

	INITIAL	FINAL	<u>ASTM D4318 - Wet Method</u>	
MOISTURE CONTENT (%):	37.53	35.65	**LIQUID LIMIT:**	
DRY DENSITY (pcf):	78.03	100.22	**PLASTIC LIMIT:**	
SATURATION (%):	87.17	100.00	<u>ASTM D854 - Measured</u>	
VOID RATIO:	1.170	0.689	**SPECIFIC GRAVITY**	2.717
STRAIN RATE (in/min):	0.000060			

ENGEO
Expect Excellence

CLIENT: Oakland Pro Soccer, LLC
PROJECT NAME: Interim Stadium for Oakland Roots and Soul SC
PROJECT NO: 17108.001.001 GEX
PROJECT LOCATION: Oakland, California
REPORT DATE: 10/13/2023
TESTED BY: D. Seibold
REVIEWED BY: O. Espinoza

Constant Rate of Strain Consolidation
ASTM D4186



SPECIMEN INFORMATION

SAMPLE ID:	1-B1 @ 11.5-14	**DEPTH:**	12.5-13 ft.
SOIL DESCRIPTION:	See exploration logs		
REMARKS:			

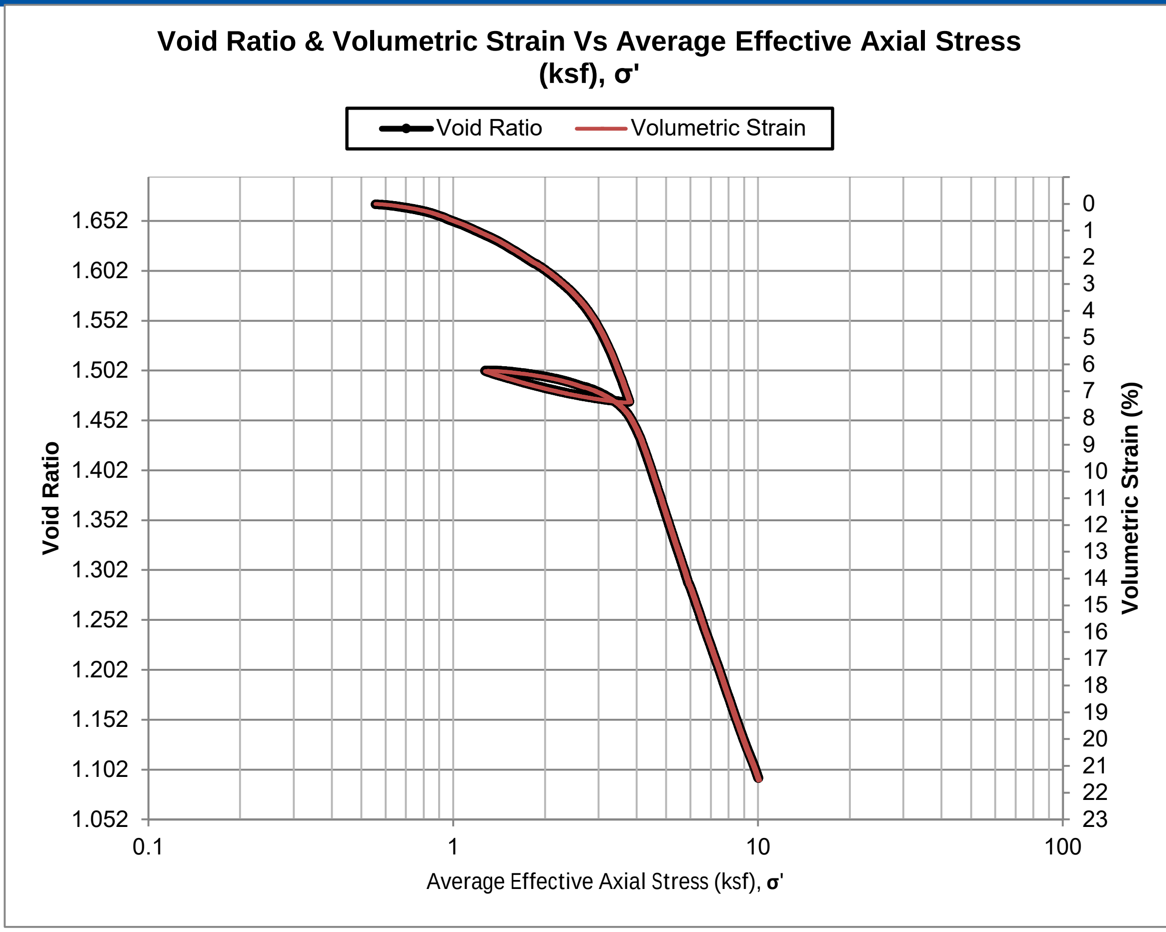
TEST DATA

	INITIAL	FINAL	**ASTM D4318 - Wet Method**	
MOISTURE CONTENT (%):	37.53	35.65	**LIQUID LIMIT:**	
DRY DENSITY (pcf):	78.03	100.22	**PLASTIC LIMIT:**	
SATURATION (%):	87.17	100.00	**ASTM D854 - Measured**	
VOID RATIO:	1.170	0.689	**SPECIFIC GRAVITY**	2.717
STRAIN RATE (in/min):	0.000060			

ENGEO
Expect Excellence

CLIENT: Oakland Pro Soccer, LLC
PROJECT NAME: Interim Stadium for Oakland Roots and Soul SC
PROJECT NO: 17108.001.001 GEX
PROJECT LOCATION: Oakland, California
REPORT DATE: 10/13/2023
TESTED BY: D. Seibold
REVIEWED BY: O. Espinoza

Constant Rate of Strain Consolidation
ASTM D4186



SPECIMEN INFORMATION

SAMPLE ID:	1-B1 @ 20-22.5	**DEPTH:**	22-22.5 ft
SOIL DESCRIPTION:	See exploration logs		
REMARKS:			

TEST DATA

	INITIAL	FINAL	ASTM D4318 - Wet Method	
MOISTURE CONTENT (%):	59.44	52.50	**LIQUID LIMIT:**	
DRY DENSITY (pcf):	62.76	80.01	**PLASTIC LIMIT:**	
SATURATION (%):	95.73	100.00	ASTM D854 - Measured	
VOID RATIO:	1.669	1.094	**SPECIFIC GRAVITY**	2.688
STRAIN RATE (in/min):	0.000041			

ENGEO
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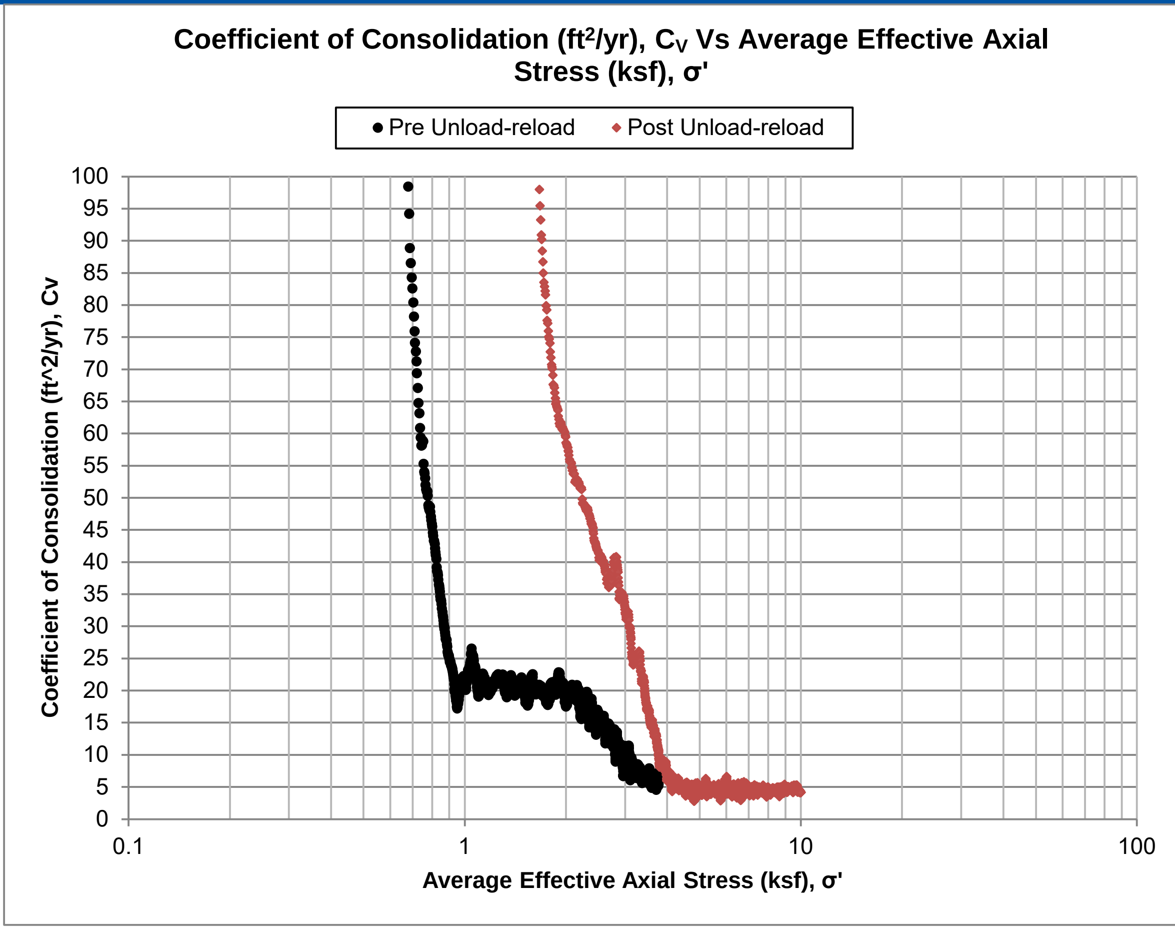
CLIENT: Oakland Pro Soccer, LLC
PROJECT NAME: Interim Stadium for Oakland Roots and Soul SC
PROJECT NO: 17108.001.001 GEX
PROJECT LOCATION: Oakland, California
REPORT DATE: 10/20/2023
TESTED BY: D. Seibold
REVIEWED BY: O. Espinoza

Constant Rate of Strain Consolidation
ASTM D4186



SPECIMEN INFORMATION

SAMPLE ID:	1-B1 @ 20-22.5	**DEPTH:**	22-22.5 ft
SOIL DESCRIPTION:	See exploration logs		
REMARKS:			

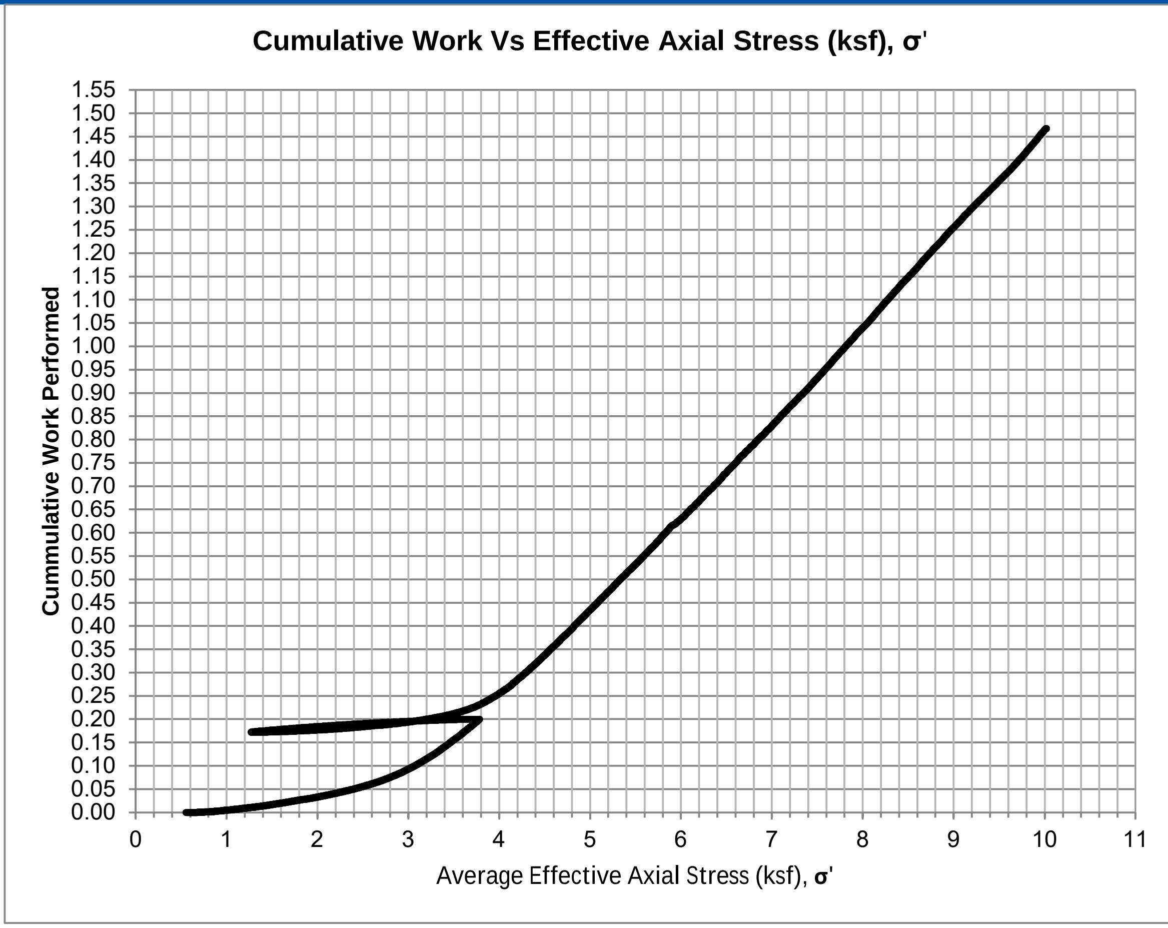
TEST DATA

	INITIAL	FINAL	ASTM D4318 - Wet Method	
MOISTURE CONTENT (%):	59.44	52.50	**LIQUID LIMIT:**	
DRY DENSITY (pcf):	62.76	80.01	**PLASTIC LIMIT:**	
SATURATION (%):	95.73	100.00	**ASTM D854 - Measured**	
VOID RATIO:	1.669	1.094	**SPECIFIC GRAVITY**	2.688
STRAIN RATE (in/min):	0.000041			

ENGEO
Expect Excellence

CLIENT: Oakland Pro Soccer, LLC
PROJECT NAME: Interim Stadium for Oakland Roots and Soul SC
PROJECT NO: 17108.001.001 GEX
PROJECT LOCATION: Oakland, California
REPORT DATE: 10/20/2023
TESTED BY: D. Seibold
REVIEWED BY: O. Espinoza

Constant Rate of Strain Consolidation
ASTM D4186



SPECIMEN INFORMATION

SAMPLE ID: 1-B1 @ 20-22.5 **DEPTH:** 22-22.5 ft

SOIL DESCRIPTION: See exploration logs

REMARKS:

TEST DATA

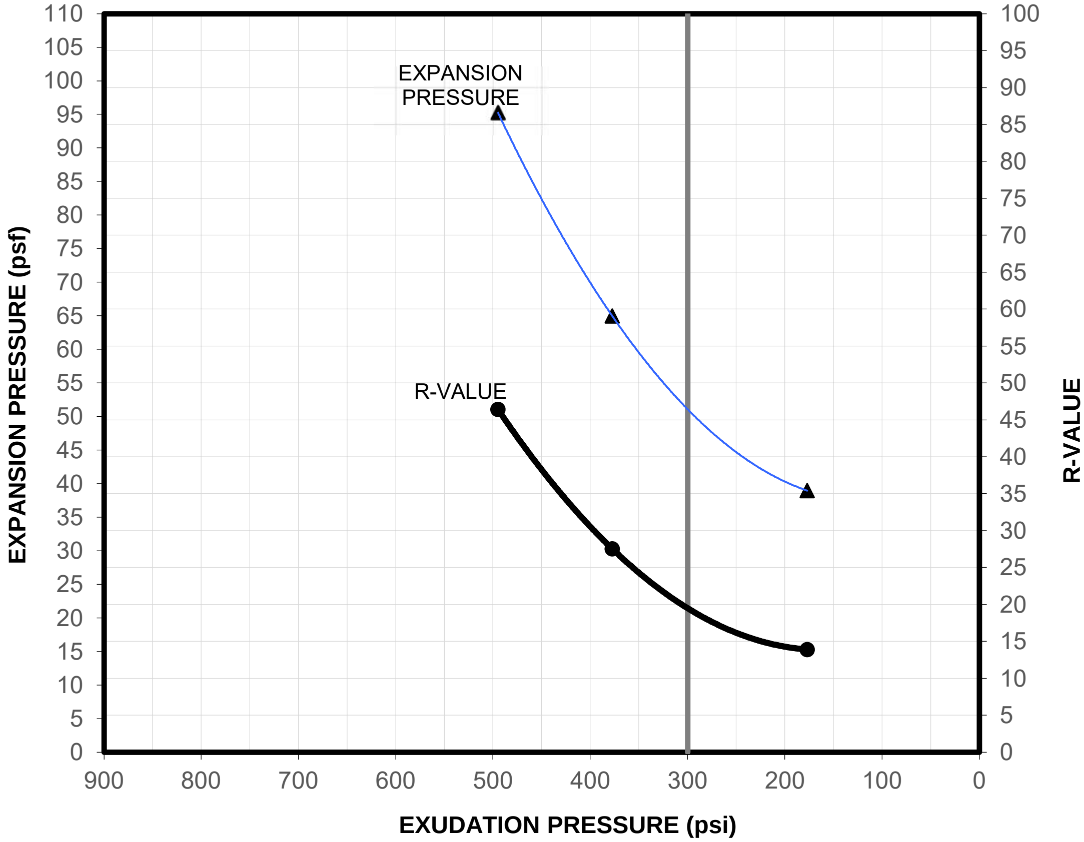
	INITIAL	FINAL	ASTM D4318 - Wet Method	
MOISTURE CONTENT (%):	59.44	52.50	LIQUID LIMIT:	
DRY DENSITY (pcf):	62.76	80.01	PLASTIC LIMIT:	
SATURATION (%):	95.73	100.00	ASTM D854 - Measured	
VOID RATIO:	1.669	1.094	SPECIFIC GRAVITY	2.688
STRAIN RATE (in/min):	0.000041			

ENGEO
Expect Excellence

CLIENT: Oakland Pro Soccer, LLC
PROJECT NAME: Interim Stadium for Oakland Roots and Soul SC
PROJECT NO: 17108.001.001 GEX
PROJECT LOCATION: Oakland, California
REPORT DATE: 10/20/2023
TESTED BY: D. Seibold
REVIEWED BY: O. Espinoza

R-VALUE TEST REPORT

CTM 301



SAMPLE ID	MATERIAL DESCRIPTION	SAMPLE LOCATION		
1-B1@0.5	See exploration logs	1-B1@0.5/ Bulk Surface		
SPECIMENS		**1**	**2**	**3**
EXUDATION PRESSURE (psi)		495	377	177
EXPANSION PRESSURE (psf)		95	65	39
R-VALUE		46	28	14
MOISTURE CONTENT (%)		12.2	13.4	14.7
DRY DENSITY (pcf)		124.0	119.5	117.1
EXPANSION PRESSURE (psf) AT EXUDATION PRESSURE OF 300 psi			52	
R-VALUE AT EXUDATION PRESSURE OF 300 psi			**TEST RESULT**	
			19	

ENGEO
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CLIENT: Oakland Pro Soccer, LLC
PROJECT NAME: Interim Stadium for Oakland Roots and Soul SC
PROJECT NO: 17108.001.001 GEX
PROJECT LOCATION: Oakland, CA
REPORT DATE: 10/12/2023
TESTED BY: K. Nguyen
REVIEWED BY: D. Seibold

APPENDIX C

CORROSIVITY TEST RESULTS
(CERCO Analytical)

CERCO analytical
1100 Willow Pass Court, Suite A
Concord, CA 94520-1006
925 462 2771 Fax. 925 462 2775
www.cercoanalytical.com

Client: ENGEO, Incorporated
Client's Project No.: 17108.001.001
Client's Project Name: Interim Stadium for Oakland Roots and Soul SC
Date Sampled: 27-Sep-23
Date Received: 10-Oct-23
Matrix: Soil
Authorization: Signed Chain of Custody

Date of Report: 13-Oct-2023

Job/Sample No.	Sample I.D.	Redox (mV)	pH	Conductivity (umhos/cm)*	Resistivity (100% Saturation) (ohms-cm)	Sulfide (mg/kg)*	Chloride (mg/kg)*	Sulfate (mg/kg)*
2310017-001	1-B01 @ 3.5ft bgs	-	8.17	-	1,800	N.D.	27	52

Method:	ASTM D1498	ASTM D4972	ASTM D1125M	ASTM G57	ASTM D4658M	ASTM D4327	ASTM D4327
Reporting Limit:	-	-	10	-	50	15	15
Date Analyzed:	-	11-Oct-2023	-	10-Oct-2023	10-Oct-2023	11-Oct-2023	11-Oct-2023

* Results Reported on "As Received" Basis

N.D. - None Detected

Julia Clauson
Chemist

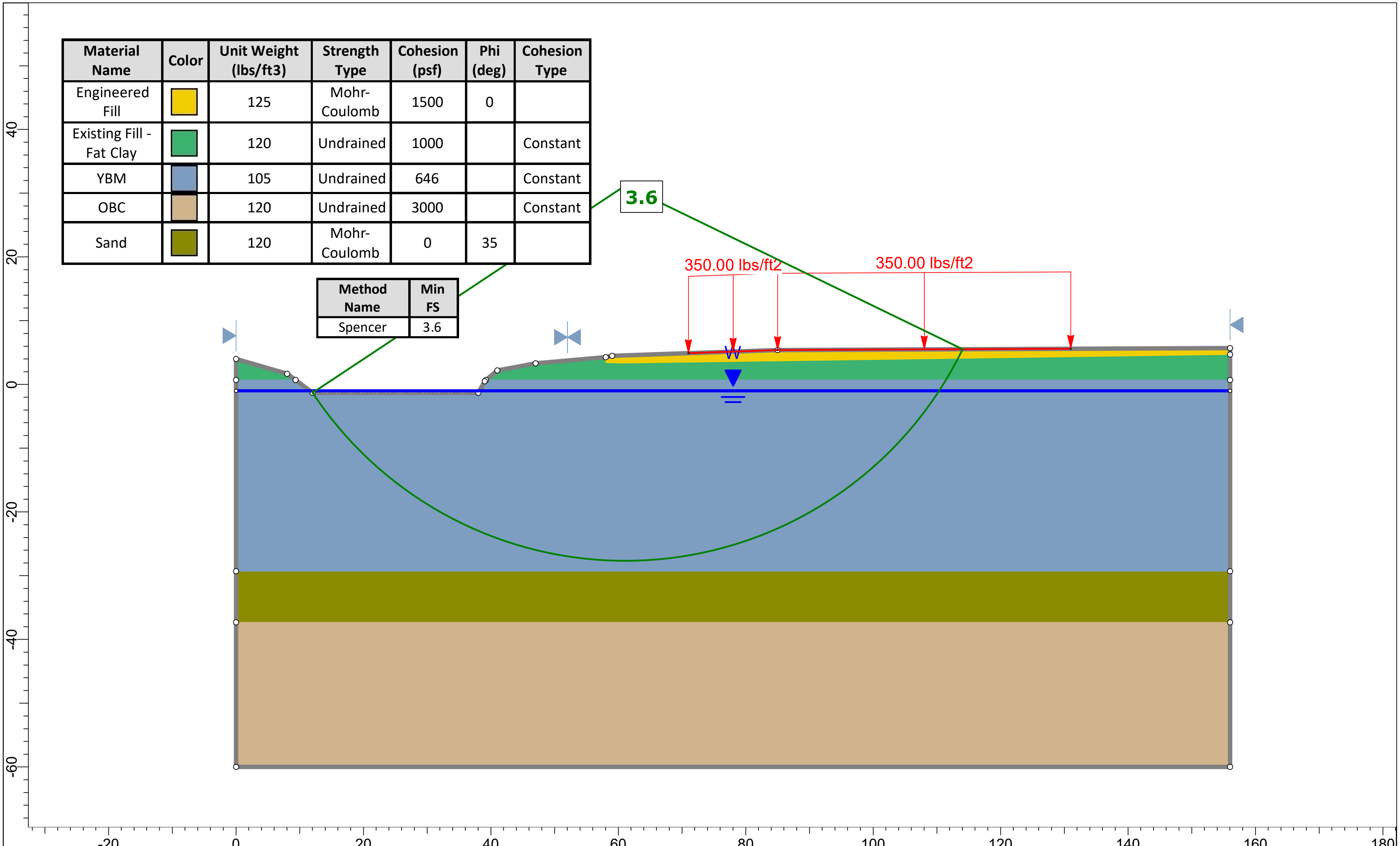
Quality Control Summary - **All laboratory quality control parameters were found to be within established limits**

APPENDIX D

SLOPE STABILITY ANALYSIS RESULTS

Material Name	Color	Unit Weight (lbs/ft3)	Strength Type	Cohesion (psf)	Phi (deg)	Cohesion Type
Engineered Fill		125	Mohr-Coulomb	1500	0	
Existing Fill - Fat Clay		120	Undrained	1000		Constant
YBM		105	Undrained	646		Constant
OBC		120	Undrained	3000		Constant
Sand		120	Mohr-Coulomb	0	35	

Method Name	Min FS
Spencer	3.6



ENGEO
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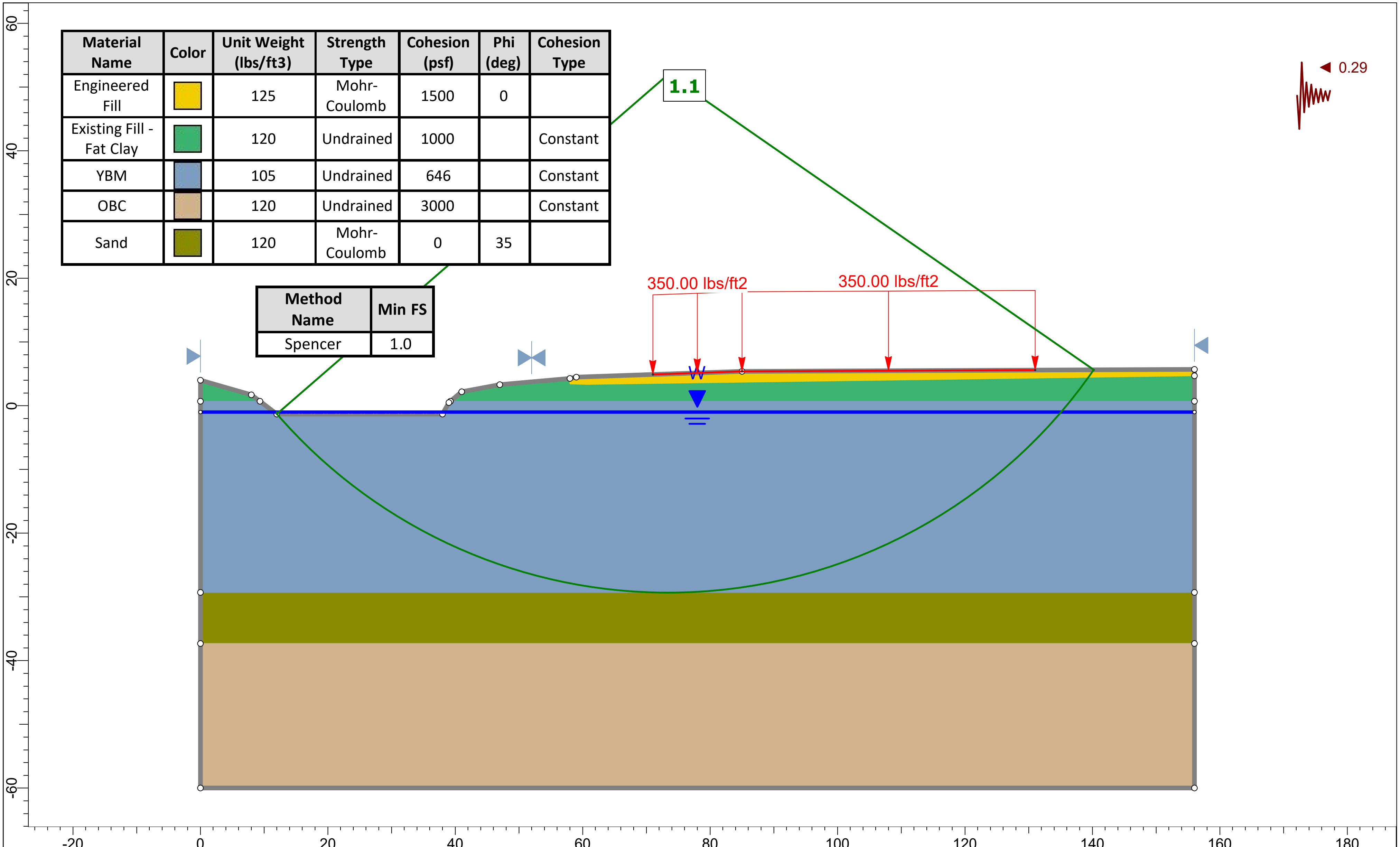
SLIDEINTERPRET 9.027

Project	Interim Stadium for Oakland Roots and Soul SC		
Analysis Description	Section A-A' - Static Analysis		
Drawn By	DRS	*Scale* 1:250	*Company* ENGEO
Date	10/25/2023, 9:23:58 AM		*File Name* Elmhurst Creek Stability.slmd



Material Name	Color	Unit Weight (lbs/ft3)	Strength Type	Cohesion (psf)	Phi (deg)	Cohesion Type
Engineered Fill		125	Mohr-Coulomb	1500	0	
Existing Fill - Fat Clay		120	Undrained	1000		Constant
YBM		105	Undrained	646		Constant
OBC		120	Undrained	3000		Constant
Sand		120	Mohr-Coulomb	0	35	

Method Name	Min FS
Spencer	1.0

ENGEO
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SLIDEINTERPRET 9.027

Project
Interim Stadium for Oakland Roots and Soul SC

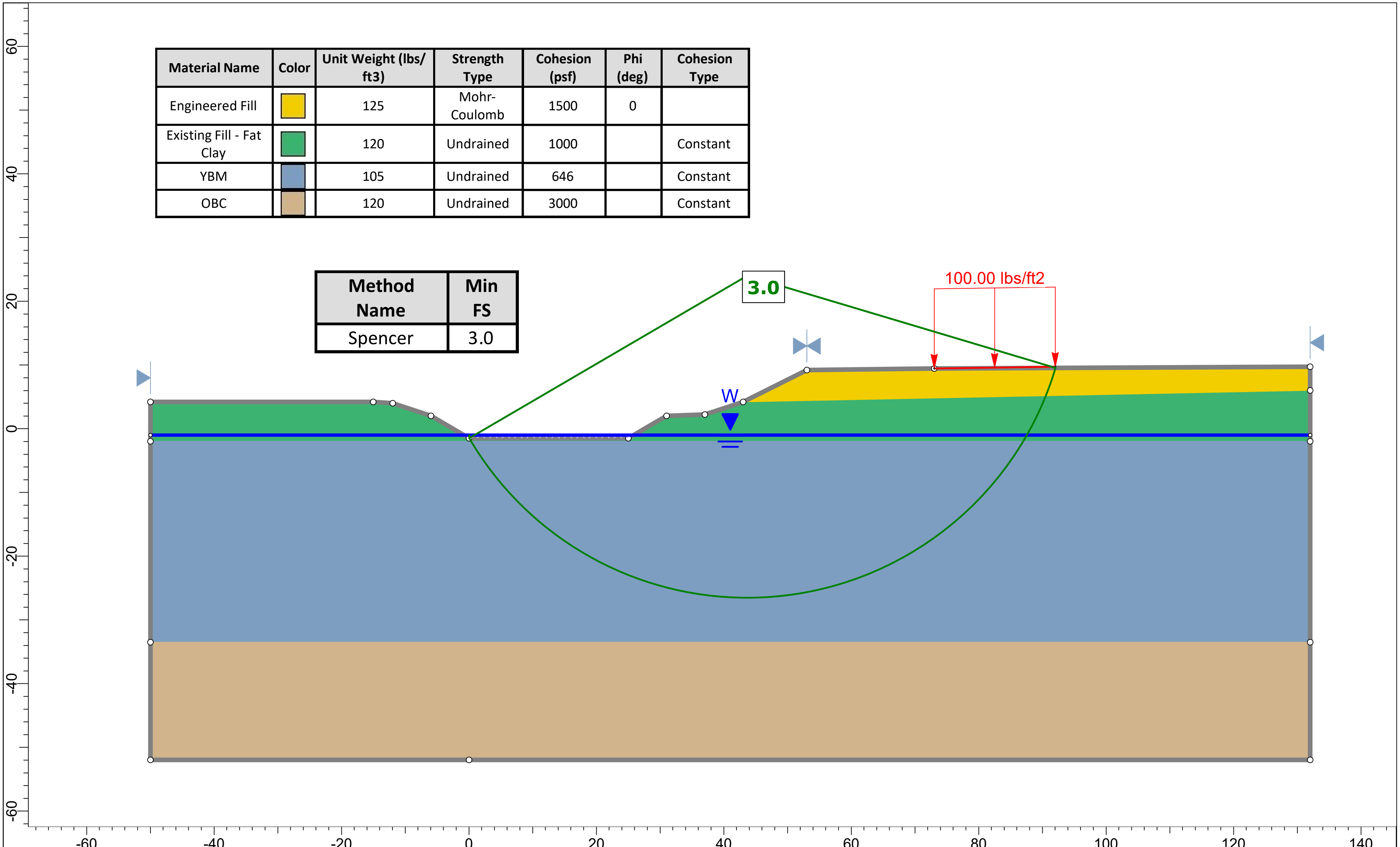
Analysis Description
Section A-A' - Pseudo-static Analysis

Drawn By DRS | *Scale* 1:250 | *Company* ENGEO

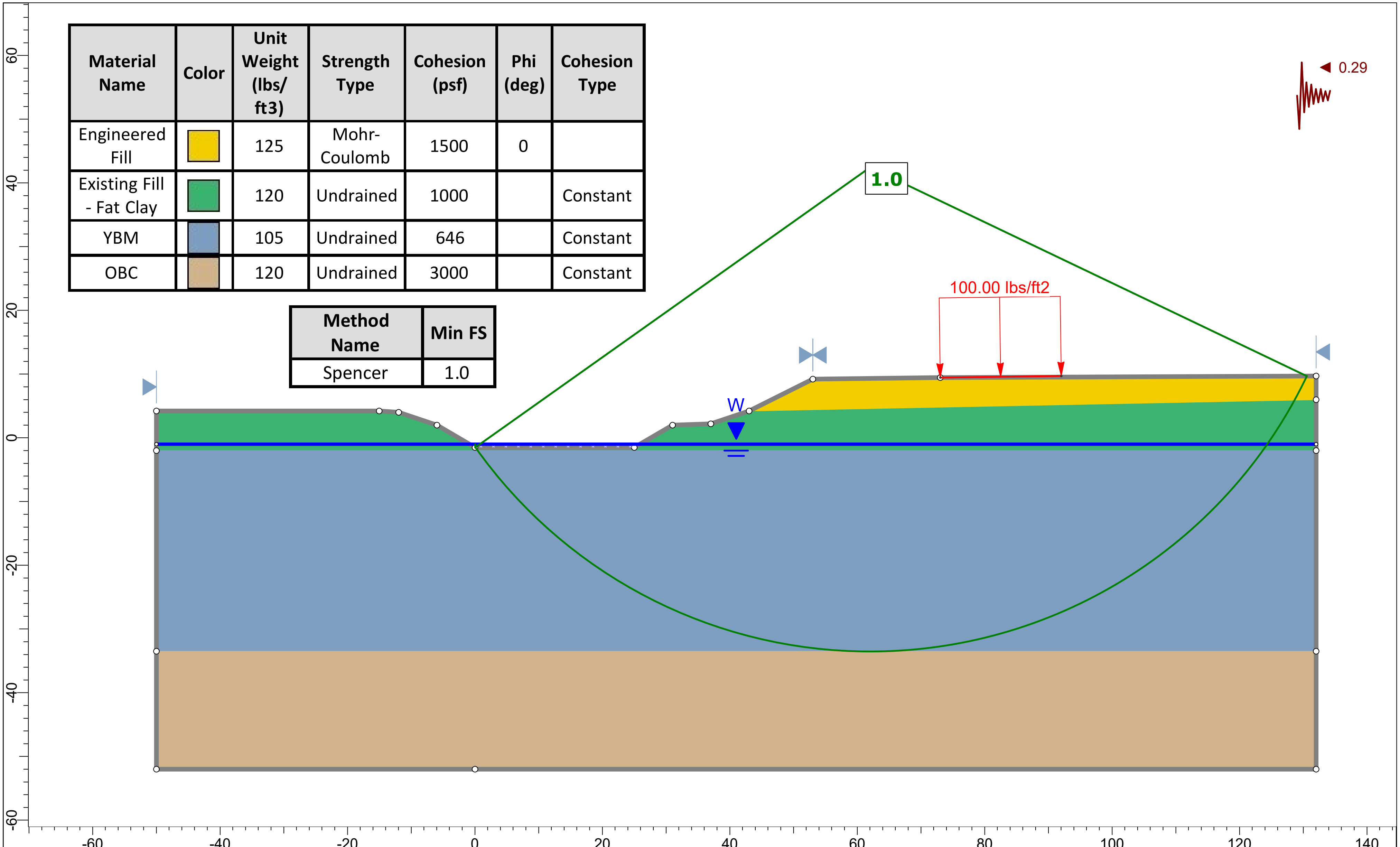
Date 10/25/2023, 9:23:58 AM | *File Name* Elmhurst Creek Stability.slmd

Material Name	Color	Unit Weight (lbs/ ft3)	Strength Type	Cohesion (psf)	Phi (deg)	Cohesion Type
Engineered Fill		125	Mohr-Coulomb	1500	0	
Existing Fill - Fat Clay		120	Undrained	1000		Constant
YBM		105	Undrained	646		Constant
OBC		120	Undrained	3000		Constant

Method Name	Min FS
Spencer	3.0



ENGEO Expect Excellence	*Project* Interim Stadium for Oakland Roots and Soul SC
	Analysis Description: Section B-B' - Static Analysis
	Drawn By: DRS · Scale: 1:250 · Company: ENGEO
SLIDEINTERPRET 9.027	Date: 10/25/2023, 9:23:58 AM · File Name: Elmhurst Creek Stability.slmd



Material Name	Color	Unit Weight (lbs/ ft3)	Strength Type	Cohesion (psf)	Phi (deg)	Cohesion Type
Engineered Fill		125	Mohr-Coulomb	1500	0	
Existing Fill - Fat Clay		120	Undrained	1000		Constant
YBM		105	Undrained	646		Constant
OBC		120	Undrained	3000		Constant

Method Name	Min FS
Spencer	1.0

ENGEO
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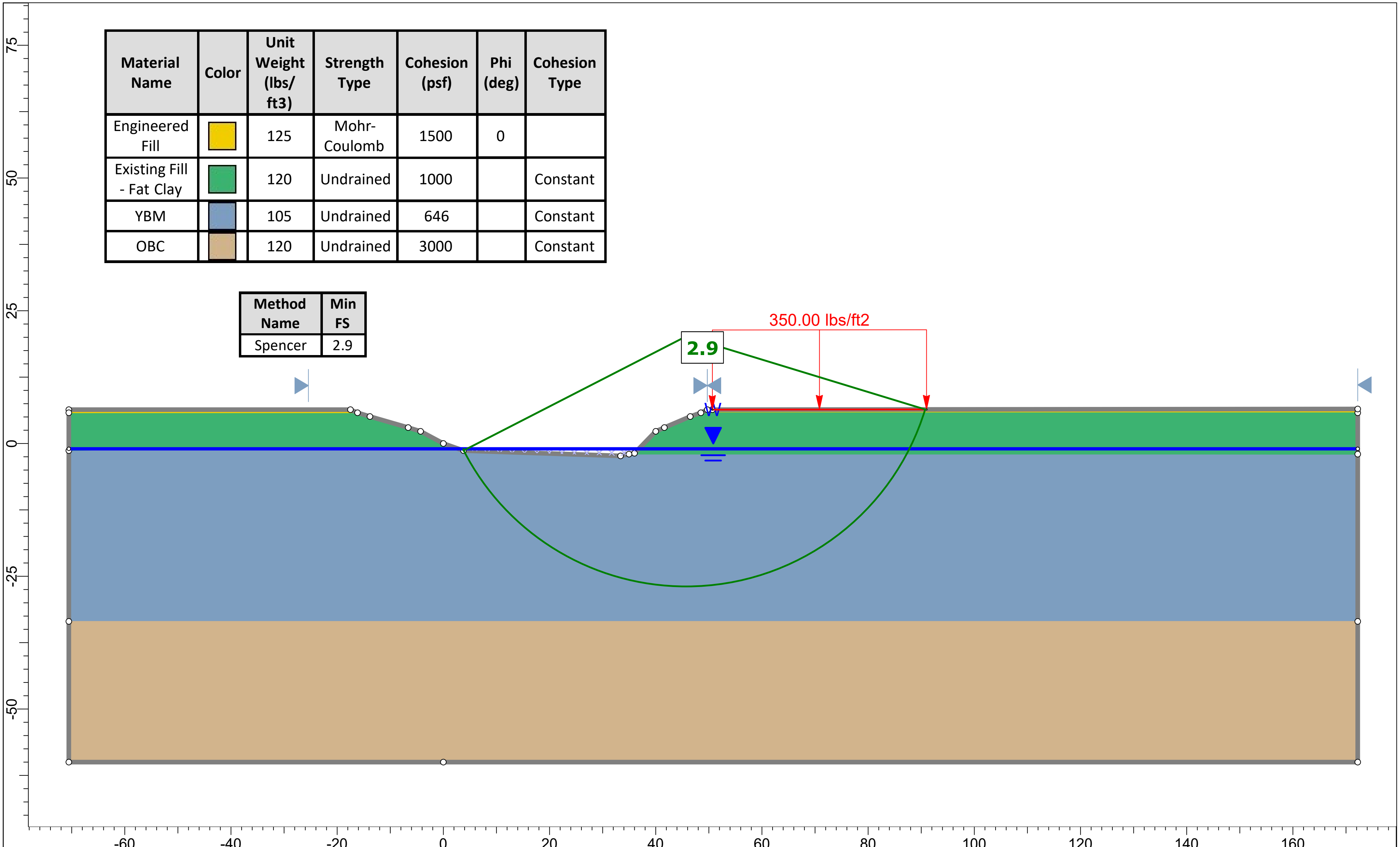
SLIDEINTERPRET 9.027

Project	Interim Stadium for Oakland Roots and Soul SC
Analysis Description	Section B-B' - Psuedo-static Analysis
Drawn By	DRS
Scale	1:250
Company	ENGEO
Date	10/25/2023, 9:23:58 AM
File Name	Elmhurst Creek Stability.slmd

Material Name	Color	Unit Weight (lbs/ ft3)	Strength Type	Cohesion (psf)	Phi (deg)	Cohesion Type
Engineered Fill		125	Mohr-Coulomb	1500	0	
Existing Fill - Fat Clay		120	Undrained	1000		Constant
YBM		105	Undrained	646		Constant
OBC		120	Undrained	3000		Constant

Method Name	Min FS
Spencer	2.9



ENGEO
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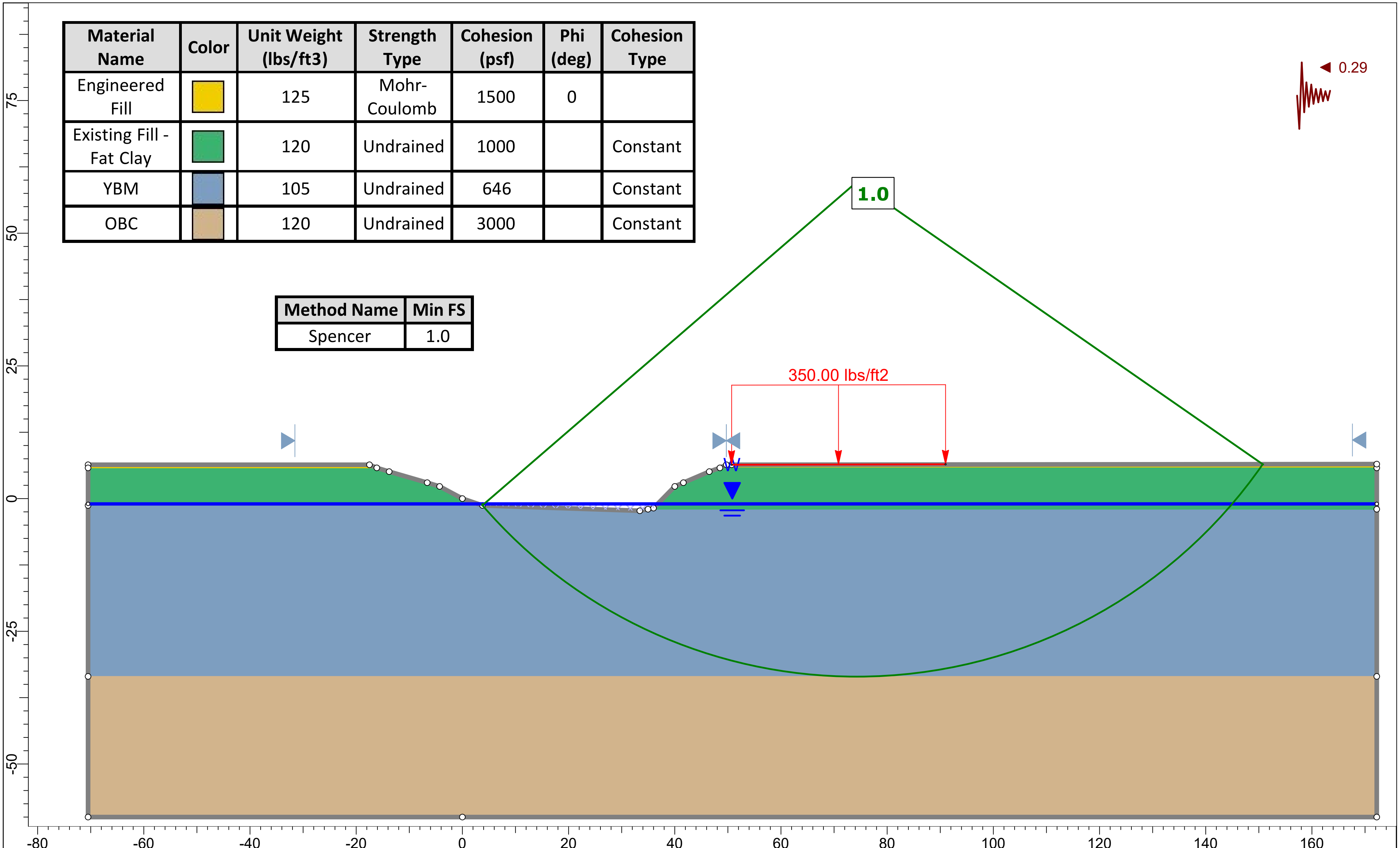
SLIDEINTERPRET 9.027

Project	Interim Stadium for Oakland Roots and Soul SC		
Analysis Description	Section C-C' - Static Analysis		
Drawn By	DRS	*Scale* 1:300	*Company* ENGEO
Date	10/25/2023, 9:23:58 AM	*File Name*	Elmhurst Creek Stability.slmd

Material Name	Color	Unit Weight (lbs/ft3)	Strength Type	Cohesion (psf)	Phi (deg)	Cohesion Type
Engineered Fill		125	Mohr-Coulomb	1500	0	
Existing Fill - Fat Clay		120	Undrained	1000		Constant
YBM		105	Undrained	646		Constant
OBC		120	Undrained	3000		Constant

Method Name	Min FS
Spencer	1.0



ENGEO
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SLIDEINTERPRET 9.027

Project	Interim Stadium for Oakland Roots and Soul SC
Analysis Description	Section C-C' - Psuedo-static Analysis

Drawn By	DRS	*Scale*	1:300	*Company*	ENGEO
Date	10/25/2023, 9:23:58 AM			*File Name*	Elmhurst Creek Stability.slmd

ENGEO

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Appendix G

ECAP Consistency Checklist and Green Building Features

Oakland Pro Soccer LLC, March 2024

CITY OF OAKLAND

CITY OF OAKLAND
Equitable Climate Action Plan Consistency Checklist

250 Frank H. Ogawa Plaza, Suite 2114, Oakland, CA 94612-2031
Zoning Information: 510-238-3911
https://www.oaklandca.gov/topics/planning

The purpose of this Equitable Climate Action Plan Consistency Review Checklist is to determine, for purposes of compliance with the California Environmental Quality Act (CEQA), whether a development project complies with the City of Oakland Equitable Climate Action Plan (ECAP) and the City of Oakland's greenhouse gas (GHG) emissions reduction targets. CEQA Guidelines require the analysis of GHG emissions and potential climate change impacts from new development.

- If a development project completes this Checklist and can qualitatively demonstrate compliance with the Checklist items as part of the project's design, or alternatively, demonstrate to the City's satisfaction why the item is not applicable, then the project will be considered in compliance with the City's CEQA GHG Threshold of Significance.
- If a development project cannot meet all of the Checklist items, the project will alternatively need to demonstrate consistency with the ECAP by complying with the City of Oakland GHG Reduction Plan Condition of Approval.
- If the project cannot demonstrate consistency with the ECAP in either of those two ways, the City will consider the project to have a significant effect on the environment related to GHG emissions.

Application Submittal Requirements

1. The ECAP Consistency Checklist applies to all development projects needing a CEQA GHG emissions analysis, including a specific plan consistency analysis.
2. If required, the ECAP Consistency Review Checklist must be submitted concurrently with the City of Oakland Basic Application.

Application Information

Applicant's Name/Company: Oakland Pro Soccer LLC

Property Address: 8000 South Coliseum Way, Oakland, CA 94621

Assessor's Parcel Number: 042 432800 124

Phone Number: 415-407-2388

E-mail: lydia@rootssc.com

Checklist Item (Check the appropriate box and provide explanation for your answer).			
Transportation & Land Use			
1. Is the proposed project substantially consistent with the City's over-all goals for land use and urban form, and/or taking advantage of allowable density and/or floor area ratio (FAR) standards in the City's General Plan? (TLU1)	**Yes**	**No**	**N/A**
	Y		
Please explain how the proposed project is substantially consistent with the City's General Plan with respect to density and FAR standards, land use, and urban form. Proposed Interim Modular Stadium is consistent with City of Oakland's land use for Coliseum Area Specific Plan, providing a sports venue that is within the parameters set for the Coliseum District.			
2. For developments in "Transit Accessible Areas" as defined in the Planning Code, would the project provide: i) less than half the maximum allowable parking, ii) the minimum allowable parking, or iii) take advantage of available parking reductions? (TLU1)	**Yes**	**No**	**N/A**
	Y		
Please explain how the proposed project meets this action item. There is no minimum or maximum parking requirement set for the project as it is at the discretion of the planning director. We are planning to provide incentives to reduce parking demand from our current baseline, in conformance with the TIRG.			
3. For projects including structured parking, would the structured parking be designed for future adaptation to other uses? (Examples include, but are not limited to: the use of speed ramps instead of sloped floors.). (TLU1)	**Yes**	**No**	**N/A**
			NA
Please explain how the proposed project meets this action item.			
4. For projects that ***are*** subject to a Transportation Demand Management Program, would the project include transit passes for employees and/or residents? (TLU1)	**Yes**	**No**	**N/A**
	Y		
Please explain how the proposed project meets this action item. Transit passes will be provided for employees, see TDM for more info.			

5. For projects that are ***not*** subject to a Transportation Demand Management Program, would the project incorporate one or more of the optional Transportation Demand Management measures that reduce dependency on single-occupancy vehicles? (Examples include but are not limited to transit passes or subsidies to employees and/or residents; carpooling; vanpooling; or shuttle programs; on-site carshare program; guaranteed ride home programs) (TLU1 & TLU8)	**Yes**	**No**	**N/A**
			NA
Please explain how the proposed project meets this action item. Project is subject to TDM.			
6. Does the project comply with the Plug-In Electric Vehicle (PEV) Charging Infrastructure requirements (Chapter 15.04 of the Oakland Municipal Code), if applicable? (TLU2 & TLU-5)	**Yes**	**No**	**N/A**
	Y		
Please explain how the proposed project meets this action item. The project will comply with the PEV Charging Infrastructure requirements.			
7. Would the project reduce or prevent the direct displacement of residents and essential businesses? (For residential projects, would the project comply with SB 330, if applicable? For projects that demolish an existing commercial space, would the project include comparable square footage of neighborhood serving commercial floor space.) (TLU3)	**Yes**	**No**	**N/A**
			NA
Please explain how the proposed project meets this action item. Project will be occupying a vacant lot, no residences or businesses are onsite, and will not be displacing any residents or businesses.			

	Yes	No	N/A
8. Would the project prioritize sidewalk and curb space consistent with the City's adopted Bike and Pedestrian Plans? (The project should not prevent the City's Bike and Pedestrian Plans from being implemented. For example, do not install a garage entrance where a planned bike path would be unless otherwise infeasible due to Planning Code requirements, limited frontage or other constraints.) (TLU7)	Y		

Please explain how the proposed project meets this action item.

Project automobile entrances does not interfere with any bike lane, bike path, or recommended bike lane or bike path.

Buildings

	Yes	No	N/A
9. Does the project not create any new natural gas connections/hook-ups? (B1 & B2)	Y		

Please explain how the proposed project meets this action item.

Project does not utilize any natural gas connections and does not create any new natural gas connections.

	Yes	No	N/A
10. Does the project comply with the City of Oakland Green Building Ordinance (Chapter 18.02 of the Oakland Municipal Code), if applicable? (B4)	Y		

Please explain how the proposed project meets this action item.

See Addedendum 3.

	Yes	No	N/A
11. For retrofits of City-owned or City-controlled buildings: Would the project be all-electric, eliminate gas infrastructure from the building, and integrate energy storage wherever technically feasible and appropriate? (B5)			NA

Please explain how the proposed project meets this action item.

Project is not a retrofit.

Material Consumption & Waste			
12. Would the project reduce demolition waste from construction and renovation and facilitate material reuse in compliance with the Construction Demolition Ordinance (Chapter 15.34 of the Oakland Municipal Code)? (MCW6)	**Yes**	**No**	**N/A**
	Y		
Please explain how the proposed project meets this action item. A minimum of 65% of construction and demolition debris will be diverted from landfill towards reuse and recycling. 100% of demolished ashpalt and concrete will be recylecd or reused. 100% of any plant material will be composted.			

City Leadership			
13. For City projects: Have opportunities to eliminate/minimize fossil fuel dependency been analyzed in project design and construction? (CL2)	**Yes**	**No**	**N/A**
			NA
Please explain how the proposed project meets this action item.			

Adaptation			
14. For new projects in the Designated Very High Wildfire Severity Zone: Would the project incorporate wildfire safety requirements such creation of defensible space around the house, pruning, clearing and removal of vegetation, replacement of fire resistant plants, as required in the Vegetation Management Plan? (A4)	**Yes**	**No**	**N/A**
			NA
Please explain how the proposed project meets this action item. Project is not in a designated Very High Wildfire Severity Zone.			

Carbon Removal			
15. Would the project replace a greater number of trees than will be removed in compliance with the Tree Preservation Ordinance (Chapter 12.36 of the Oakland Municipal Code) and Planning Code if applicable and feasible given competing site constraints? (CR-2)	**Yes**	**No**	**N/A**
	Y		
Please explain how the proposed project meets this action item. The project will comply with the Tree Preservation Ordinance and Planning Code.			
16. Does the project comply with the Creek Protection, Stormwater Management and Discharge Control Ordinance (Chapter 13.16 of the Oakland Municipal Code), as applicable? (CR-3)	**Yes**	**No**	**N/A**
	Y		
Please explain how the proposed project meets this action item. The project will not impact the creek and we will be submitting a creek protection permit to the City for their review and approval. The permit application will document the proposed project and the actions proposed to insure there are no impacts. We have no non-stormwater discharges to the storm drain or creek. The storm drains will be marked "No Dumping Drains to Bay" to discourage disposal of nonstorm water discharges to the creek. We are reducing pollutants to the maximum extent possible by using LID bioretention treatment planters. We're not performing work beyond the top of bank, thereby preserving the creek. Our erosion control plan will include BMPs to control erosion and sedimentation.			

I understand that answering ***yes*** to all of these questions, means that the project ***is in compliance with*** the City's Energy and Climate Action Plan as adopted on to July 28, 2020 and requires that staff apply the Project Compliance with the Equitable Climate Action Plan (ECAP) Consistency Checklist Condition of Approval as adopted by the Planning Commission on December 16, 2020 and all Checklist items must be incorporated into the project

I understand that answering ***no*** to any of these questions, means that the project ***is not in compliance*** with the City's Energy and Climate Action Plan as adopted on to July 28, 2020 and requires that staff apply the Greenhouse Gas (GHG) Reduction Plan Condition of Approval as adopted by the Planning Commission on December 16, 2020 which will require that the applicant prepare a quantitative GHG analysis and GHG Reduction Plan for staff's review and approval. The GHG Reduction Plan and all GHG Reduction measures shall be incorporated into the project and implemented during construction and after construction for the life of the project.

DocuSigned by:
Lydia Tan
55FC0D3F2A9B470...

Name and Signature of Preparer

3/10/2024
Date

Addendum 3: Green Building Features

10. GREEN BUILING ORDINANCE

E. GREEN BUILDING FEATURES NOT SHOWN ON PLANS BUT PART OF CHECKLIST

General Requirements

A. Commercial Checklist

The Commercial Checklist is included in the building plans and will be attached to the set that will go into the field for verification.

B. Operations & Maintenance Plan

A sustainable Operations & Maintenance Plan will be developed for this project and will be signed and submitted from the Owner, certifying that the Plan will be followed once occupied.

Site

1. Alternative Transportation Access

A. Public Transit

The project is located within 1/4 mile of two or more bus lines and within 1/2 mile of a commuter rail transit stop (BART): Coliseum Station. A map showing map showing distances to public transit stops from the main entry of the buildings will be provided.

B. Bicycle Parking

The project will include at least 6 long-term and 6 short-term bicycle racks and storage areas for use by building occupants (workers) and visitors and will meet the requirement of CALGreen 5.106.4, based on motorized vehicle parking capacity. Bike racks and storage areas will be placed in a secure and covered area for use by building occupants within 200 feet of the building entrance. Permanently anchored bike racks within 200 feet of the visitor's entrance, readily visible to passers-by will be provided.

2. Reduced Parking

The project will not exceed the maximum local parking requirements. Preferred parking spaces will be designated for electric vehicle charging stations, equivalent to 10% of the total parking spaces. Additional parking spaces will be designated for future electric vehicle charging stations, equivalent to 10% of the total parking spaces. Preferred parking spaces will be designated for fuel efficient vehicles, car share vehicles, carpools and electric vehicle charging stations for 10% of the total parking spaces.

3. Reduced Heat Island Effect

A. Nonroof Heat Islands

Cool site techniques will be used and combined for 75% of site area being impacted by construction in line with CALGreen Section A5.106.11.1. These techniques will include:

- Pervious surfaces
- Light colored concrete

A combination of strategies will be used for 50% of the site, including:

- Tree shading
- Light-colored/high-albedo materials

B. Roof Heat Islands

A cool roof for 75% of the roof area being impacted by construction will be provided and roofing materials with a minimum aged Solar Reflectance Index (SRI) of 78 will be used in line with CALGreen Section A5.106.11.

Water

4. Water Efficient Plumbing Fixtures

Path 2: Performance Measures

New plumbing fixtures will be installed in line with CALGreen Base Code, Section 5.303.2.3. A calculation demonstrating a minimum 20% reduction in the building "water use baseline" will be provided based on the required flow rates.

Energy

5. Improved Energy Efficiency

Path 2: For projects that DO NOT require building energy modelling:

Lighting

Lighting Power Density (LPD) in the facility will be reduced to 90% of code. Automatic daylight sensors will be installed in at least 75% of spaces with exterior windows for buildings with more than 50% of occupied space within 30 feet of the building perimeter. All new exit signs in the project will be LED or luminescent.

HVAC

All new HVAC Equipment will comply with the Consortium for Energy Efficiency (CEE) Tier 1 commercial HVAC standards. All new installed ductwork will be tested and sealed.

Equipment, Appliances, Water Heating

The project will install ENERGY STAR rated equipment and appliances. For eligible equipment, at least 75% of all new office equipment and 90% of all new appliances will be ENERGY STAR rated. The project will not have gas water heaters.

Materials

6. Construction Waste Management

Prior to construction, a construction waste management plan will be completed. During construction, a minimum of 65% of construction and demolition debris will be diverted from landfill towards reuse and recycling, 100% of demolished asphalt and concrete will be recycled or reused and 100% of any plant material will be composted in line with the Construction Demolition Ordinance (Chapter 15.34 of the Oakland Municipal Code). After construction, the final waste management plan and verification will be provided.

7. Environmental Preferable Materials

i. Low-Emitting Resilient Flooring

The project will meet or exceed the minimum requirements for new flooring to be low-emitting and be certified under the FloorScore program of the Resilient Floor Covering Institute. This will exceed the 50% requirement of CALGreen section 5.504.4.6.

ii. Exterior Paint

The project will comply with the CALGreen low-emitting paint requirements.

iii. Low-Emitting Interior Paint

The project will use low-emitting interior paint in line with CALGreen Section 5.504.4.3. This includes the following:

- < 50 grams/liter for flat paints,
- < 150 g/L for non-flat high gloss coatings, and
- < 100 g/L for non-flat coatings.

iv. Low-Emitting Adhesives and Sealants

All adhesives and sealants will be low-emitting according to the South Coast Air Quality Management District Rule 1168 and are in line with CALGreen Section 5.504.4.1.

v. Low-Emitting Carpeting

All carpet installed in the building interior shall meet the testing and product requirements of one of the following:

1. Carpet and Rug Institute's Green Label Plus Program. See www.carpet-rug.org for label requirements and product lists.
2. California Department of Public Health Standard Practice for the testing of VOCs (Specification 01350).
3. NSF/ANSI 140 at the Gold level
4. Scientific Certifications Systems Sustainable Choice.

All carpet cushion installed in the building interior shall mee the requirements of Carpet and Rug Institute Green Label Program. All carpet adhesive shall meet 50 g/L VOC limit.

8. Collection of Recyclables

The project will encourage ongoing recycling by providing at least as much bin volume for recycling as for waste. The project will provide readily accessible areas that serve the entire building and are identified for the depositing, storage, and collection of non-hazardous materials for recycling, including paper, corrugated cardboard, glass, plastics, and metals.
Additionally, where feasible, the project will recycle at least 1 of the following material streams: food scraps, household hazardous waste (fluorescent lamps, batteries, oil, etc.), or e-waste (computer equipment).

Indoor Environment & Air

9. Fresh Air Monitors for Densely Occupied Spaces

The project will provide CO_2 monitors with alarms and the ability to manually adjust air flow.

Appendix H

Green Building Checklist

Oakland Roots and Souls Soccer Club and HOK et.al, October 2023

The **Commercial Green Building Checklist** provides 10 green building strategies applicable to most commercial construction projects in Alameda County.

Instructions: Applicants must fill out the entire checklist based on the planned scope of work, and projects must meet all applicable measures (including "A" and "B" portions of number measures unless otherwise stated). The Commercial Checklist includes three check-boxes per measure. Indicate selections for "Yes," "No," or "N/A" (Not Applicable) depending on the scope of work for the project. Indicate where on the plans and/or specifications a particular measure can be located by providing a reference or description in the "Notes" field. Use additional space on Page 10 if more notes are needed. The Documentation column provides suggested ways to document compliance for applicants. The Verification column provides suggested verification steps that the enforcing agency will undertake during review.

Note for Projects that trigger the California Green Building Standards Code (CALGreen, Title 24, Part 11) mandatory requirements: *The Small Commercial Checklist measures herein are required in addition to the CALGreen requirements and are not a substitute for meeting CALGreen mandatory provisions. Several of the green strategies in this Checklist are similar or equivalent to CALGreen requirements and have been marked as such. Measures with overlap are notated with a reference to the similar CALGreen section and the designation "relates to" CALGreen. Measures which are equivalent to CALGreen are notated with a reference to the CALGreen section and the designation "aligns with" CALGreen. Find CALGreen code provisions at www.bsc.ca.gov/CALGreen .*

About the Checklist: *The Commercial Green Building Checklist was developed for Alameda County jurisdictions by StopWaste.Org (the Alameda County Waste Management Authority & Recycling Board acting as one public agency). This Checklist leverages incentives and resources available in Alameda County, including the Small Commercial Green Materials Rebate Program. To view rebate program details, download an electronic copy of this Checklist, or find links to referenced information in this Checklist, visit www.StopWaste.org/SmallCommercial .*

Project: Interim Stadium for ORSSC **Date:** 10/6/23

Address: 8000 S Colesium Way, Oakland, CA 94612

General Requirements

Yes	No	N/A	Measure & Requirement	Documentation	Verification	References & Notes
✔	☐	☐	**A. Required for All Projects: Include This Checklist on Plans**			
			Include a copy of the completed Commercial Green Building Checklist on building plans.	The Commercial Checklist is available as a fillable PDF form from the Commercial Checklist website. Complete the form and insert it into the building plan set. Indicate the location of the Checklist within the plans in the box at right.	Review at Plan Check: Review the plan page indicated on the Checklist and verify it is attached to the set that will go into the field for verification.	See Addendum 3: Green Building Features
✔	☐	☐	**B. Operations & Maintenance Plan**			
			For all projects, develop an Operations & Maintenance (O&M) Plan for the building. Download a guide to green O&M at www.stopwaste.org/docs/greenmaintguide.pdf. Also investigate participation in the following: Alameda County Green Business Program (www.greenbiz.ca.gov), Small Commercial Green Material Rebate program (www.stopwaste.org/smallcommercial), and local utility incentive programs. Participation in EnergyStar's portfolio manager benchmarking and performance tracking program is strongly encouraged (www.energystar.gov/buildings). Consider utilizing a green lease. Numerous guidebooks, best practices, toolkits and samples of green leases are available from the Green Lease Library (www.greenleaselibrary.com).	Develop an O&M plan for the project. The plan should address all that apply: building lighting, heating, cooling, plumbing, solar, rainwater catchment, irrigation/landscaping practices and other systems as well as more general building policies (such as green cleaning, environmental purchasing, etc). The plan should describe accessibility of units, proper maintenance techniques, descriptions of proper use, model numbers & cut sheets, manufacturer contact information for replacement/repair/questions. The plan should include switching/controls diagrams, lighting plans, heating, cooling, plumbing, solar, rainwater, irrigation/landscaping practices. Submit signed O&M plan from the owner saying that the O&M plan will be followed once occupied.	Review at Plan Check: Review O&M plan. Verify that all applicable parts of the building are listed in the plan (lighting, heating, maintenance, etc.) Verify On-Site: Verify that all systems are included in the plan. Identify any areas missing and inform owner to correct or supplement the plan as necessary.	See Addendum 3: Green Building Features

Yes No N/A	Measure & Requirement	Documentation	Verification	References & Notes
Site				

Access to alternative transportation sources reduces the number of single passenger vehicle trips, reduces traffic congestion, and saves fuel and associated greenhouse gas emissions. Allowing space for bike parking increases participation in alternative transportation services. Cool sites and roofs reduce the amount of heat stored and re-radiated during summer days in urban environments that contribute to higher energy use and pollution.

1. Alternative Transportation Access

☑ ☐ ☐ **A. Public transit**

Measure & Requirement	Documentation	Verification	References & Notes
All projects are located within 1/4 mile of two or more bus lines AND/OR within 1/2 mile of a light rail or commuter rail transit stop (BART, Amtrak, etc.).	Provide a simple map showing distances to public transit stops from the main entry of the buildings. Use the "Nearby Routes & Services" calculator on the www.511.org website or other transit agency website to calculate distances from the project address.	Review at Plan Check: Review transit distances map. If results are questionable, inspect in person looking for mass transit stops or bus stops in vicinity.	See Addendum 3: Green Building Features

☑ ☐ ☐ **B. Bicycle parking* [Relates to CALGreen base code Section 5.106.4]**

*Required regardless of the project's scope of work.

Measure & Requirement	Documentation	Verification	References & Notes
All projects include bicycle racks or storage areas for use by building occupants (workers) and visitors (if applicable). *For new construction projects:* Meet the requirement of CALGreen 5.106.4 for short-term and long-term bicycle parking, based on motorized vehicle parking capacity. *For existing building improvements or renovations:* Meet the requirements of CALGreen 5.710.6.2.1 and 5.710.6.2.2 or the applicable local ordinance, whichever is stricter. -OR- Provide at least 1 bike rack for every 2,000 sf of the total building footprint/interior area (with a min. of 1 rack) as occupied by the tenant/owner. This requirement is independent of the project scope of work square footage (i.e. if the scope of work is only 2,000sf of a 10,000sf office, then provide racks for the entire 10,000sf space). Existing racks within 200 feet of a building entrance can count towards compliance. Additionally, **for projects over 7,500 square feet**, a designated changing area must be provided.	**For all projects** bike racks and storage areas must be placed in a secure and covered area for use by building occupants within 200 feet of the building entrance. If the project anticipates visitor traffic, provide permanently anchored bike racks within 200 feet of the visitor's entrance, readily visible to passers-by (or provide proof of adequate existing racks for existing building improvements/renovations). Construction documents (plans & specifications and/or site plan) must reflect the location of the required number of short-term and long-term bike parking facilities. Provide a calculation table or note on the plans showing the calculated number of spaces required as per CALGreen or based on total building square footage. Round-up to the next whole number for calculations. **For projects over 7,500 square feet** *(total site) p* rovide a floor plan noting the designated changing area. A changing area is any space that allows privacy but does not cause lengthy wait times or other privacy concerns to occupants (such as single occupant restrooms in small buildings).	Review at Plan Check: Review the plans and confirm that the correct number of bike parking racks and/or secured areas, as well as changing areas where applicable, are included with the drawings and meet the requirements. At least 1 rack must be provided for all projects. *Note: special circumstances may make adding bike racks outside impossible, such as for tenant improvement projects in multi-story buildings. Outside racks may require special permits as well that are outside the scope of work. Take into consideration the need for bike racks in the area (i.e. are existing racks suitable for the intended users?), and only relax the standards if bike parking is deemed unnecessary and/or overly burdensome to the project.* Verify On-Site: Based on Permit Set, verify that all required bike parking requirements as shown on the plans have been provided and installed.	See Addendum 3: Green Building Features

☑ ☐ ☐ 2. Reduced Parking [Relates to CALGreen 5.106.5]

Measure & Requirement	Documentation	Verification	References & Notes
For projects adding vehicular parking, project does not exceed minimum local parking requirements. OR Designate preferred parking spaces for fuel efficient vehicles, car share vehicles, carpools and electric vehicle charging stations for 5% of the total parking spaces or per CALGreen 5.106.5 designated parking requirements if applicable.	1. Provide proof of the minimum local parking requirements for the site 2. If parking is added, provide a site plan with parking areas highlighted. Total and highlight the number of existing and new parking spaces and total and highlight any designated spaces.	Review at Plan Check: 1. Submitted proof of the minimum local parking requirements 2. Site plan showing total parking spaces existing and new. The number of parking spaces must either not exceed the minimum or demonstrate that sufficient spaces are designated to fuel efficient alternatives to earn this credit. Verify On-Site: Verify count of total and designated parking spaces. *Note:* CALGreen requires specific signage or striping to comply with elements of this credit.	See Addendum 3: Green Building Features

Yes No N/A	Measure & Requirement	Documentation	Verification	References & Notes
	3. Reduced Heat Island Effect			
☑ ☐ ☐	**A. Nonroof heat islands [Aligns with CALGreen Section A5.106.11.1]**			
	For projects impacting the building site, combine cool site techniques for 75% of site area being impacted by construction (including all landscaping/hardscapes on site). Cool site techniques include pervious surfaces (including open grid pavement and vegetation) and light colored concrete. Hardscape alternatives: Use one of a combination of strategies 1 through 3 for 50% of site hardscaping or put 50% of parking underground. 1. Provide shade (mature within 5 years of occupancy). 2. Use light-colored/high-albedo materials. 3. Use open-grid pavement system, decomposed granite, or other pervious paving option.	1. Site plan with the following areas calculated and clearly visible (if applicable): total site area, landscape area, area of hardscapes under shade (from trees or awnings, etc.), and hardscape area. 2. Calculate the percent of the total site area that includes cool site techniques. Where hardscape alternatives are used in lieu of 75% of total site, provide a site plan showing each of the paving material use and calculations that demonstrate compliance with the applicable strategy(ies).	Review at Plan Check: 1. Review site plan and calculation of percentage for compliance with 75% threshold. 2. Review the construction documents for the hardscape design calculations. Verify On-Site: 1. Verify the specified products for cool paving are installed on-site. Verify pervious surfaces (landscapes, porous paving, etc.) are installed in the areas as outlined on plans. 2. Based on the permit set of plans, verify that hardscape alternatives are constructed as calculated.	See Addendum 3: Green Building Features
☑ ☐ ☐	**B. Roof heat islands [Aligns with CALGreen Section A5.106.11.2]**			
	For projects adding or replacing a roof, provide a cool roof for 75% of the roof area being impacted by construction. Cool roofs are reflective surfaces applied to the roof. To find cool roof products, go to www.coolroofs.org and use the "Rated Products Directory". Cool roof: A roofing materials having a minimum aged Solar Reflectance Index (SRI) of 78.	1. Roof plan with the following areas calculated and clearly visible: total building/roof area, photovoltaic array area 2. Calculate the percent of the total area that includes a cool roof. Photovoltaic panels are exempt from the calculation if mounted on the roof (subtract the photovoltaic array area from the total site area). For low-sloped roofs (<2:12), eligible cool roof materials must have a Solar Reflective Index (SRI) of 78 or higher. If SRI is not available for the cool roof product, then products with an initial solar reflectance of 0.70 or higher AND an initial thermal emittance of 0.75 or higher are acceptable. Steep sloped roofs (>2:12) do not need to comply and should have their square footage removed from calculation. 3. Provide manufacturer literature stating the cool roof SRI.	Review at Plan Check: 1. Review cool roof plan and calculation of percentage for compliance with 75% threshold. Review submitted literature for compliance with SRI (or reflectivity and emissivity) values. 2. Review the energy compliance forms and specifications for compliance with the cool roof provisions. Verify On-Site: 1. Verify the specified products for cool roof are installed on-site. 2. Check product data sheets for the roofing materials for compliance with cool roof values.	See Addendum 3: Green Building Features

Yes No N/A	Measure & Requirement	Documentation	Verification	References & Notes
	Water			
	Water-efficient fixtures reduce water use and sewer costs and reduce demand on water supplies and treatment facilities.			
	4. Water Efficient Plumbing Fixtures [Aligns with CALGreen Base Code, Section 5.303.2.3] There are 2 paths for improving water efficiency: Choose one path (Prescriptive or Performance) and mark the other path as "N/A."			
☐ ☐ ■	**Path 1: Prescriptive measures [Aligns with CALGreen Table 5.303.2.3, mandatory 20% reduction max flow rates]**			
	For projects installing new plumbing fixtures, the following maximum thresholds are required for all new fixtures: 1. Toilets (water closets): High Efficiency Toilets (HETs) with flush rate ≤1.28 gallons per flush (gpf). 2. Urinals: Waterless or low-flow with flush rate ≤ 0.5 gpf. 3. Lavatory Faucets: flow rates ≤ 0.4 gallons per minute (gpm) @ 60 psi for all faucets except kitchen sinks. 4. Kitchen faucets: flow rates 1.8 gpm @ 60 psi. 5. Wash fountains: flow rates 1.8 [rim space (in.)/20 gpm @60 psi] 6. Metering faucets: flow rates 0.2 gallons/cycle 7. Metering faucets for wash fountains: 0.20 [rim space (in)/20 gpm @60 psi] 8. Pre-rinse Spray Valves: flow rates ≤ 2.0 gpm. 9. Showerheads: flow rates 2.0 gpm @80 psi	1. Floor plan(s) showing location of all new toilets, urinals, faucets and kitchen pre-rinse spray valves in the project. 2. Specification sections or fixture schedules showing that low-flow fixtures are specified for all new fixtures (if specifications are created for the project). 3. Manufacturer literature (cut sheets) showing flush rate of toilets and urinals to be installed, and flow rates for faucets and spray valves. *See the CALGreen code section 5.303.2 for more on the prescriptive requirements for water efficient fixtures.*	<u>Review at Plan Check:</u> 1. Floor plan to ensure that all new fixtures are identified. 2. Specifications or fixture schedule clearly states that new fixtures are comply with maximum flush and flow rates. 3. Cross-check the specified fixtures to the manufacturer cut sheets to verify flow and flush rates. <u>Verify On-Site:</u> 1. Verify flow and flush rates. Flush rates for toilets and urinals should be printed on the units or on the flush valve. Flow rates on faucets may be printed on the aerators or elsewhere, but not likely. Match the picture from the manufacturer cut sheet to the installed unit to be sure.	
☑ ☐ ☐	**Path 2: Performance measures**			
	For projects installing new plumbing fixtures, provide a calculation demonstrating a minimum 20% reduction in the building "water use baseline" based on the following flow rates: 1. Showerheads: 2.5 gpm @ 80 psi 2. Lavatory faucets: 0.5 gpm @ 60 psi 3. Kitchen faucets: 2.2 gpm @ 60 psi 4. Wash fountains: 2.2 [rim space (in.)/20 gpm @ 60 psi] 5. Metering faucets: 0.25 gallons/cycle 6. Metering faucets for wash fountains: 0.25 [rim space (in.)/20 gpm @60 psi] 7. Gravity tank type water closets, flushometer tank water closets, flushometer valve water closets, electromechanical hydraulic water closets: 1.6 gallons/flush 8. Urinals: 1.0 gpf	Provide a plumbing calculation on the plans demonstrating an overall minimum 20% water use reduction for all fixture types 1-8. *Utilize the CALGreen water calculation guidelines to determine percent savings, found in code section table 5.303.2.2.*	<u>Review at Plan Check:</u> Review water reduction calculations and confirm that performance calculations achieve the minimum 20% water reduction compliance. <u>Verify On-Site:</u> Verify that fixtures or systems used to reduce overall water use by 20% have been installed. The inspector may review the fixture specifications to verify compliance or accept self-certification form.	See Addendum 3: Green Building Features
	Energy			
	Exceeding energy efficiency minimums results in reduced greenhouse gas emissions, lower utility costs and increased comfort. Another benefit is higher quality construction, thanks to better air sealing, increased insulation, and high efficiency equipment.			
	5. Improved Energy Efficiency [Relates to CALGreen Section 5.201.1] There are 2 paths for improving energy efficiency: **Path 1. Performance:** Buildings for which energy code compliance modeling is performed, complete Path 1. Check "N/A" in the Path 2 box. **Path 2. Prescriptive:** Projects for which energy modeling is not employed, complete Path 2. Check "N/A" in the Path 1 box.			
	Path 1: Building Energy Modeling or On-site Power Generation			
☐ ☐ ■	**For all whole building or comprehensive system projects,** beat California minimum energy efficiency standards (Title 24, Part 6) by 10% or more.	Submit Title 24 report for whole building or by component. Percent better than code is determined by TDV from ECON-1 report.	<u>Review at Plan Check:</u> Review T24 report and check for percent margin better than code. Review ECON-1 report. <u>Verify On-Site:</u> Verify Title 24 report by inspecting in the field.	

Yes No N/A	Measure & Requirement	Documentation	Verification	References & Notes
☐ ☐ ■	OR, offset the total project energy demand that exceeds the annual average of 10% better than Title 24, Part 6 threshold via an on-site renewable energy generation (solar, wind, etc.) system.	1. Provide estimated output and percent of building load to be offset with renewable energy system. Calculations to be provided by a licensed solar installer, electrical contractor, or from the CEC rebate application. 2. Provide manufacturer cut sheets for generation equipment including inverters.	Review at Plan Check: Review estimate of energy generation. Verify On-Site: 1. Verify panels/equipment: manufacturer, model number, and quantity. 2. Verify inverter: manufacturer, model number, quantity.	
	Path 2: For projects that DO NOT require building energy modeling: Complete all parts below as applicable per project scope.			
	LIGHTING			
☑ ☐ ☐	**For projects retrofitting existing and/or installing all new lighting,** reduce Lighting Power Density (LPD) in the facility to 90% of code.	1. Provide lighting design plans and/or specifications. 2. Calculate the total LPD and include on plans or in other format. The LPD can be calculated from lighting design plans or from Title 24 submissions. Must be a maximum of 90% of Title 24 LPD. Do not include occupancy sensor or other switches/control strategies in this calculation. 3. Where display lighting is used it must be calculated separately and installed lighting shall not exceed the 90% of the maximum display lighting allowed by Title 24 part 6.	Review at Plan Check: Ensure that lighting power density is no more than 90% of that allowed by code by reviewing lighting plans. Verify On-Site: Compare lighting plan to actual installed lighting. Verify wattages, fixture counts, placement, etc.	See Addendum 3: Green Building Features
☑ ☐ ☐	**For projects with 50% or more occupied space within 30 feet of building perimeter and installing new lighting controls** Automatic daylight sensors are installed in at least 75% of spaces with exterior windows, automatic sensors must turn lights on, off, or dim depending on amount of daylight.	1. Highlight areas to be daylit on plans (those areas or rooms within 15 feet of skylights or exterior windows). 2. Highlight locations of daylight sensors. 3. Provide calculation showing that 75% or more of the space in daylit areas (by square feet or rooms) are under daylighting control.	Review at Plan Check: Review plans for daylight area calculation and sensor/control placement. Verify On-Site: Verify correct placement of daylight sensors.	See Addendum 3: Green Building Features
☐ ☐ ■	**For projects where lighting replacement occurs in outside of occupied space,** locate occupancy sensors in 40% of intermittent or non-regularly occupied spaces (hallways, bathrooms, closets, conference rooms). Exclude areas containing mechanical equipment or electrical panels which require light for maintenance activities.	1. Provide lighting plans with intermittent/non-regularly occupied spaces highlighted. 2. Highlight occupancy sensors on plans that serve these spaces. 3. Provide calculation showing that 40% or more of the spaces are controlled by occupancy sensors.	Review at Plan Check: Review plans for intermittent/non-regularly occupied area calculation. Verify On-Site: Verify placement of occupancy controls.	
☑ ☐ ☐	**For projects installing exit signs,** all new exit signs in the project are to be LED or luminescent. Recommend replacing all existing exit signs as well, even if not in project scope.	Provide lighting plans specifying correct signage product.	Review at Plan Check: Review plans for correct signage. Verify On-Site: Verify correct product was installed.	See Addendum 3: Green Building Features
	ENVELOPE			
☐ ☐ ■	**For projects replacing windows**, all new windows must have a U-factor no higher than 0.47. Solar Heat Gain Coefficient (SHGC) is dependent on glazing percentage and climate zone. Climate Zone 3, for buildings with: - less than 20% glazing, SHGC ≤ 0.41. - more than 20% glazing, SHGC ≤ 0.35. Climate Zone 12, for buildings with: - less than 20% glazing, SHGC ≤ 0.35. - more than 20% glazing, SHGC ≤ 0.31. *Glazing: non-north window-wall ratio.*	1. Provide plans and/or specifications with a window schedule. 2. Provide manufacturer cut sheets, NFRC label or other documentation showing U-factor and SHGC for windows chosen.	Review at Plan Check: 1. Review plans and/or specifications and manufacturer literature to ensure compliance with U-factor and SHGC. 2. Check the window-wall ratio against the applicable U-factor and SHGC. Verify On-Site: Verify U-factor and SHGC on-site. Inspect before stickers are removed from windows.	

Yes No N/A	Measure & Requirement	Documentation	Verification	References & Notes
	HVAC			
☑ ☐ ☐	**For projects installing new HVAC Equipment,** all new HVAC equipment must comply with the Consortium for Energy Efficiency (CEE) Tier 1 commercial HVAC standards. See www.stopwaste.org/CommercialChecklist for a link to the CEE standards or download them at www.cee1.org/com/com-main.php3.	1. Provide plans and specifications showing equipment schedule and performance specifications. 2. Provide manufacturer literature confirming compliance with CEE Tier 1 standards.	Review at Plan Check: Review efficiency, model number, and HVAC equipment type. Verify On-Site: Confirm installation of correct equipment.	See Addendum 3: Green Building Features
☐ ☐ ☒	**For projects replacing a furnace**, meet the following high performance minimums. when units being replaced were manufactured after 2001 (<10 years old), replace with units that have a minimum energy efficiency of 92 AFUE. For furnace replacements to units manufactured before 2001 (>10 years old), replace with at least the code required minimum efficiency units.	1. Submit plans or specifications highlighting efficiency of forced air furnace(s). 2. Submit manufacturer cut sheet for furnace(s) and highlight efficiency.	Review at Plan Check: Review plans/specs for furnace efficiency. Verify On-Site: Check nameplate data and model number to verify equipment efficiency.	
☐ ☐ ☒	**For projects where existing HVAC equipment will be used** that is dedicated to the project tenant or space, tune-up HVAC by verifying outside air economizer operation.	1. Evaluate economizer operation upon startup. Confirm operation of actuator from minimum position to 100% open. 2. Verify economizer operates per control sequence (outside air, room set point) to meet space requirements.	Review at Plan Check: Review economizer start up documentation. Verify On-Site: Verify damper operation: check that damper moves and has the proper stops installed.	
☑ ☐ ☐	**For projects where new ductwork will be installed** that is dedicated to the project tenant or space, test and seal all ductwork.	1. Submit evidence (HERS duct testing contract or report or other documentation that ducts will been sealed and tested) that duct sealing and testing will be performed. 2. Provide final Title 24-2008 Non-Residential Acceptance Form for Duct Testing.	Review at Plan Check: Review documentation of planned duct testing/sealing. Verify On-Site: Review final duct testing report to verify duct testing was completed.	See Addendum 3: Green Building Features
	EQUIPMENT, APPLIANCES, WATER HEATING			
☑ ☐ ☐	**For projects installing new equipment or appliances**, install ENERGY STAR rated office equipment and appliances. For eligible equipment, at least 75% of all new office equipment and 90% of all new appliances must be ENERGY STAR rated. See www.energystar.gov for product lists.	1. Submit list of all planned new office equipment and appliances. 2. Calculate the percent of planned office equipment and appliances that are to be ENERGY STAR. If ENERGY STAR products are not available for a particular appliance or piece of equipment, note that on the list and do not include those in the percentage calculation.	Review at Plan Check: Review list of appliances and office equipment. Confirm the 75%/90% mark has been reached. Verify On-Site: Look for the ENERGY STAR label on new office equipment and appliances.	See Addendum 3: Green Building Features
☐ ☐ ☒	**For projects installing new water heating systems,** specify gas water heaters above 0.65 EF or preferably a condensing water heater at 0.86. Specify boilers with efficiency of 90% or more. (This excludes all tankless water heaters and any small kitchen or bathroom water heaters under 5 gallons.)	1. Submit plans or specifications highlighting efficiency of water heater(s) or boiler(s). 2. Submit manufacturer cut sheet for water heaters/boilers and highlight efficiency.	Review at Plan Check: 1. Review plans/specs for efficiency of water heater/boiler. Verify On-Site: 1. Check nameplate data and model number to verify equipment efficiency.	The project will not have gas water heaters.

Yes	No	N/A	Measure & Requirement	Documentation	Verification	References & Notes
Materials						
Construction materials constitute about 22% of the disposed waste stream statewide. Many of these materials can be reduced, reused or recycled. Recycling reduces the amount of material entering landfills and can save money for building owners through reduced disposal and operating fees. Buying environmentally preferable new products can reduce the impact on raw materials extraction and disposal at end of life.						
✔	☐	☐	**6. Construction Waste Management [Aligns with CALGreen Section 5.408]**			
			For all projects, during construction, divert at least 50% of job site construction and demolition waste from landfill via recycling or reuse. Check local ordinances for more stringent requirements and additional tools for compliance, such as online submittal and tracking forms.	1. Prior to construction, complete a construction waste management plan. The City should provide a sample template, or one can be downloaded at www.stopwaste.org/C&D. 2. After construction, provide final waste management plan and verification (service provider weight tags and/or receipts) that 100% of concrete and asphalt concrete were diverted and at least 50% of remaining job site construction waste diverted from landfill via recycling or reuse. If material was taken to a transfer station, a facility average recycling rate must be applied to the amount of material sent to that facility. See www.RecyclingRulesAC.org for a list of mixed-waste diversion recycling rates and locations.	Review at Plan Check: 1. Review the pre-construction waste management plan. 2. Verify final waste management plan once completed. Verify On-Site: Check that materials are being sorted (if applicable) and collected and that contractor is keeping track of waste tags.	See Addendum 3: Green Building Features
			7. Environmentally Preferable Materials When the materials listed below are within the scope of a building renovation or construction project, follow the guidelines as listed. **Renovation projects:** At least 2 items in scope achieve the thresholds listed below; **New Construction projects:** At least 5 of items in scope achieve the thresholds listed below. *Measures in this section may qualify for a rebate under the Green Materials Rebate Program. Visit www.StopWaste.org/SmallCommercial for details.*			
☐	☐	☐	i. Salvaged and Reclaimed Materials. *Reuse and/ repurpose materials salvaged from the site, other sites, or purchased at a local salvage yard.*	1. Provide finish schedule or specifications with applicable material(s) highlighted. 2. Provide manufacturer literature to support environmental claims of material. 3. Provide calculation of applicable material percentage.	Review at Plan Check: Finish schedule, manufacturer literature, and quantity calculation. Verify On-Site: Verify manufacturer, product name, and quantity.	
☐	☐	☐	ii. Recycled Content. *Use products with a minimum recycled content of 25% by weight. Post-consumer recycled content is preferable.*	1. Provide finish schedule or specifications with applicable material(s) highlighted. 2. Provide manufacturer literature to support environmental claims of material. 3. Provide calculation of applicable material percentage.	Review at Plan Check: Finish schedule, manufacturer literature, and quantity calculation. Verify On-Site: Verify manufacturer, product name, and quantity.	
✔	☐	☐	iii. Low-Emitting Resilient Flooring. (Exceeds the 50% requirement of CALGreen section 5.504.4.6) *At least 75% of new flooring should be low-emitting and meet the 2009 Collaborative for High Performance Schools (CHPS) VOC criteria and listed on its Low-Emitting Materials List or certified under the FloorScore program of the Resilient Floor Covering Institute.*	1. Provide finish schedule or specifications with applicable material(s) highlighted. 2. Provide manufacturer literature to support environmental claims of material. 3. Provide calculation of applicable material percentage.	Review at Plan Check: Finish schedule, manufacturer literature, and quantity calculation. Verify On-Site: Verify manufacturer, product name, and quantity.	See Addendum 3: Green Building Features

Yes No N/A	Measure & Requirement	Documentation	Verification	References & Notes
☑ ☐ ☐	iv. Exterior Paint. *At least 50% of all exterior paint (by square footage or volume) is recycled content (40%+). For new construction projects, this credit is superseded by CALGreen's low-emitting paint requirements and may not be achievable.*	1. Provide finish schedule or specifications with applicable material(s) highlighted. 2. Provide manufacturer literature showing recycled content. 3. Provide calculation of applicable material percentage.	Review at Plan Check: Finish schedule, manufacturer literature, and quantity calculation. Verify On-Site: Verify manufacturer, product name, and quantity.	See Addendum 3: Green Building Feature
☑ ☐ ☐	v. Low-Emitting Interior Paint. (Relates to CALGreen Section 5.504.4.3) *All interior paints are low emitting:* *≤ 50 grams/liter for flat paints,* *≤ 150 g/L for non-flat high gloss coatings, and* *≤ 100 g/L for non-flat coatings.*	1. Provide finish schedule or specifications with applicable material(s) highlighted. 2. Provide manufacturer literature to support environmental claims of material. 3. Provide documentation that all paints and coatings are low-emitting. Provide MSDS sheets.	Review at Plan Check: Finish schedule and manufacturer literature. Verify On-Site: Verify manufacturer and product name.	See Addendum 3: Green Building Features
☑ ☐ ☐	vi. Low-Emitting Adhesives & Sealants. (Aligns with CALGreen Section 5.504.4.1) *All adhesives and sealants are low-emitting according to the South Coast Air Quality Management District Rule 1168 (see www.aqmd.gov/rules/reg/reg11/r1168.pdf for VOC limits).*	1. Provide finish schedule or specifications with applicable material(s) highlighted. 2. Provide manufacturer literature to support environmental claims of material. 3. Provide documentation that all adhesives and sealants are low-emitting. Provide MSDS sheets.	Review at Plan Check: Finish schedule and manufacturer literature. Verify On-Site: Verify manufacturer and product name.	See Addendum 3: Green Building Features
☑ ☐ ☐	vii. Low-Emitting Carpeting. (Aligns with CALGreen section 5.504.4.4) *All carpet installed in the building interior shall meet the testing and product requirements of one of the following:* *1. Carpet and Rug Institute's Green Label Plus Program. See www.carpet-rug.org for label requirements and product lists.* *2. California Department of Public Health Standard Practice for the testing of VOCs (Specification 01350).* *3. NSF/ANSI 140 at the Gold level* *4. Scientific Certifications Systems Sustainable Choice.* *All carpet cushion installed in the building interior shall meet the requirements of Carpet and Rug Institute Green Label Program. All carpet adhesive shall meet 50 g/L VOC limit.*	1. Provide finish schedule or specifications with applicable material(s) highlighted. 2. Provide manufacturer literature to support environmental claims of material. 3. Provide CRI Green Label Plus, Spec 01350, NSF/ANSI 140 Gold, or SCS Sustainable Choice documentation.	Review at Plan Check: Finish schedule and manufacturer literature. Verify On-Site: Verify manufacturer and product name.	See Addendum 3: Green Building Features
☐ ☐ ☐	viii. Low-Emitting Composite Wood. (Aligns with CALGreen section 5.504.4.5) *Where complying composite wood product is readily available for non-residential occupancies, meet current formaldehyde limits (ppm) as specified in ARB's Air Toxics Control Measure for Composite Wood (17 CCR 93120 et seq.):* *Hardwood plywood veneer core: 0.05* *Hardwood plywood composite core: 0.08* *Particle board: 0.09* *Medium density fiberboard: 0.11* *Thin medium density fiberboard: 0.21*	1. Provide finish schedule or specifications with applicable material(s) highlighted. (Specify levels of formaldehyde in composite wood products on the plans or in the project specifications.) 2. Provide manufacturer literature to support environmental claims of material. 3. Provide MSDS sheets of composite wood.	Review at Plan Check: Finish schedule and manufacturer literature. Review plans and specifications to confirm that the composite wood products and/or resins are specified to beat the CARB timetable or meet the ultra-low formaldehyde limits. Verify On-Site: Verify manufacturer, product name, and quantity, or at least stored on site with the ability to be verified.	

Yes No N/A	Measure & Requirement	Documentation	Verification	References & Notes
☐ ☐ ☐	ix. Responsible Sourcing of New Materials. Purchase materials that include responsible extraction, harvesting, and manufacturing processes with reputable standards and tracking, such as Forest Stewardship Council (FSC) wood products.	1. Provide finish schedule or specifications with applicable material(s) highlighted. 2. Provide manufacturer literature to support environmental claims of material (recycled content %, FSC certification, etc.). 3. Provide calculation of applicable material percentage.	Review at Plan Check: Finish schedule, manufacturer literature, and quantity calculation. Verify On-Site: Verify manufacturer, product name, and quantity.	
☑ ☐ ☐	**8. Collection of Recyclables [CALGreen Section 5.410.1]**			
	For all projects, encourage ongoing recycling by providing at least as much bin volume for recycling as for waste. Provide readily accessible areas that serve the entire building and are identified for the depositing, storage, and collection of non-hazardous materials for recycling, including paper, corrugated cardboard, glass, plastics, and metals. Additionally, where feasible, recycle at least 1 of the following material streams: food scraps, household hazardous waste (fluorescent lamps, batteries, oil, etc.), or e-waste (computer equipment).	1. Provide plans showing recycling receptacles and signage are provided in all applicable areas: offices, private rooms, meeting rooms, kitchens, etc. 2. Recycling areas shall be secure; be protected from the elements, such as rain; and be adequately separated from occupied spaces for protection against impacts such as noise, odor, and pests. 3. Where feasible, recycling areas should be located adjacent to solid waste collection areas. 4. Provide calculation of adequate recycling volume. 5. Provide evidence of recycling for at least 6 (the 5 required materials plus the additional 1) of the material streams. Submit recycling hauler information for recyclables and food scraps. Provide a short narrative on how the facility will collect and recycle hazardous and e-waste.	Review at Plan Check: 1. Review plans and confirm that the appropriate recycling areas and signage for those areas have been provided on the plans. 2. Assess that the central collection space is large enough to fit recycling and waste bins and that it is appropriately sized to fit commercial space (including tenants, if applicable.). At least half the total bin volume must be dedicated to recycling. 3. Verify recycling hauler/collection information. Verify On-Site: 1. Look for recycling bins throughout the site and verify that the central collection area has at least half its volume dedicated to recycling. 2. Based on the permit set, verify recycling areas and signage for those areas on the plans and specifications are installed.	See Addendum 3: Green Building Features

Indoor Environment & Air

Effective daylighting and natural ventilation may improve indoor environmental quality. Natural ventilation can reduce heating and cooling requirements and may justify smaller, simpler HVAC systems, which can reduce the project's first costs. Ventilation (natural or mechanical) improves indoor air quality. Daylighting can offset some of the electric lighting load.

Yes No N/A	Measure & Requirement	Documentation	Verification	References & Notes
☐ ☐ ■	**9. Daylight, Views & Natural Ventilation**			
	For projects that are replacing windows and (re)configuring interior work spaces/layout, provide access to views to the outdoors (any window or skylight can provide a view) from 80% of regularly occupied areas (i.e. offices, reception areas, bedrooms, kitchens, living rooms, dining rooms, but not bathrooms or storage areas). Operable windows are recommended for all projects but are strongly encouraged in spaces where 2 or more walls have windows or access to outdoor air and there is not a security compromise by having operable windows.	*For spaces where windows are installed or replaced:* 1. Provide window schedule showing operable and non-operable windows. 2. Provide site plan and/or calculation on the number of occupants within 15 feet of windows, showing that at least half of the workers have access to an operable window. 3. Calculate percent of regularly occupied areas with/without access to views.	Review at Plan Check: 1. Check submitted plans for views and operable windows. 2. Review the calculation of views. Verify On-Site: Look for windows and skylights and test that some windows on every floor are operable. Ensure that there are appropriate extension tools necessary for opening hard-to-reach windows.	

Yes No N/A	Measure & Requirement	Documentation	Verification	References & Notes
☑ ☐ ☐	**10. Fresh Air Monitors for Densely Occupied Spaces [Relates to CALGreen Section 5.506.2]**			
	For new building systems with moveable outside air dampers, provide the following: For all densely occupied spaces, such as multi-purpose rooms or conference rooms, provide CO2 monitors with alarms (example: small visual indicator such as a light to alert building occupants or building operator), and the ability to manually adjust air flow. *[Note that for buildings equipped with demand control ventilation, CO2 sensors and ventilation controls are required, under CALGreen and Title 24, Part 6, Section 121(c).]*	1. Provide mechanical plans with CO2 monitors highlighted. 2. Confirm alarm function (user adjustable) of Building Automation System. Verify control sequence resulting from "alarm" in Sequence of Operations. 3. Provide Title 24 "Acceptance" forms. 4. Written confirmation that testing, adjusting and balancing (TAB) contractor will adjust and balance the moveable outside air damper to provide cooling as required for air conditioning the space. When CO2 monitor located within referenced AC unit's conditioned space sends an alarm signal the economizer damper actuator shall open outside air damper to provide 30% more air than the minimum damper setting.	Review at Plan Check: 1. Check plans for airflow adjustment technology and alarming potential. 2. Review Title 24 "Acceptance" forms. Verify On-Site: 1. Confirm operation of CO2 monitors. 2. Ensure that the AC system has a movable outside air damper and CO2 monitor and that the AC control sequence specifies that the CO2 monitor alarm overrides outside air damper position.	See Addendum 3: Green Building Features

Additional Notes & References

Use this section to provide additional comments, notes, or indicate references to plan or specification sheet numbers.

Measure Number/Title	Additional Notes & References

Addendum 3: Green Building Features

10. GREEN BUILING ORDINANCE

E. GREEN BUILDING FEATURES NOT SHOWN ON PLANS BUT PART OF CHECKLIST

General Requirements

A. Commercial Checklist

The Commercial Checklist is included in the building plans and will be attached to the set that will go into the field for verification.

B. Operations & Maintenance Plan

A sustainable Operations & Maintenance Plan will be developed for this project and will be signed and submitted from the Owner, certifying that the Plan will be followed once occupied.

Site

1. Alternative Transportation Access

A. Public Transit

The project is located within 1/4 mile of two or more bus lines and within 1/2 mile of a commuter rail transit stop (BART): Coliseum Station. A map showing map showing distances to public transit stops from the main entry of the buildings will be provided.

B. Bicycle Parking

The project will include at least 6 long-term and 6 short-term bicycle racks and storage areas for use by building occupants (workers) and visitors and will meet the requirement of CALGreen 5.106.4, based on motorized vehicle parking capacity. Bike racks and storage areas will be placed in a secure and covered area for use by building occupants within 200 feet of the building entrance. Permanently anchored bike racks within 200 feet of the visitor's entrance, readily visible to passers-by will be provided.

2. Reduced Parking

The project will not exceed the maximum local parking requirements. Preferred parking spaces will be designated for electric vehicle charging stations, equivalent to 10% of the total parking spaces. Additional parking spaces will be designated for future electric vehicle charging stations, equivalent to 10% of the total parking spaces. Preferred parking spaces will be designated for fuel efficient vehicles, car share vehicles, carpools and electric vehicle charging stations for 10% of the total parking spaces.

3. Reduced Heat Island Effect

A. Nonroof Heat Islands

Cool site techniques will be used and combined for 75% of site area being impacted by construction in line with CALGreen Section A5.106.11.1. These techniques will include:

- Pervious surfaces
- Light colored concrete

A combination of strategies will be used for 50% of the site, including:

- Tree shading
- Light-colored/high-albedo materials

B. Roof Heat Islands

A cool roof for 75% of the roof area being impacted by construction will be provided and roofing materials with a minimum aged Solar Reflectance Index (SRI) of 78 will be used in line with CALGreen Section A5.106.11.

Water

4. Water Efficient Plumbing Fixtures

Path 2: Performance Measures

New plumbing fixtures will be installed in line with CALGreen Base Code, Section 5.303.2.3. A calculation demonstrating a minimum 20% reduction in the building "water use baseline" will be provided based on the required flow rates.

Energy

5. Improved Energy Efficiency

Path 2: For projects that DO NOT require building energy modelling:

Lighting

Lighting Power Density (LPD) in the facility will be reduced to 90% of code. Automatic daylight sensors will be installed in at least 75% of spaces with exterior windows for buildings with more than 50% of occupied space within 30 feet of the building perimeter. All new exit signs in the project will be LED or luminescent.

HVAC

All new HVAC Equipment will comply with the Consortium for Energy Efficiency (CEE) Tier 1 commercial HVAC standards. All new installed ductwork will be tested and sealed.

Equipment, Appliances, Water Heating

The project will install ENERGY STAR rated equipment and appliances. For eligible equipment, at least 75% of all new office equipment and 90% of all new appliances will be ENERGY STAR rated. The project will not have gas water heaters.

Materials

6. Construction Waste Management

Prior to construction, a construction waste management plan will be completed. During construction, a minimum of 65% of construction and demolition debris will be diverted from landfill towards reuse and recycling, 100% of demolished asphalt and concrete will be recycled or reused and 100% of any plant material will be composted in line with the Construction Demolition Ordinance (Chapter 15.34 of the Oakland Municipal Code). After construction, the final waste management plan and verification will be provided.

7. Environmental Preferable Materials

i. Low-Emitting Resilient Flooring

The project will meet or exceed the minimum requirements for new flooring to be low-emitting and be certified under the FloorScore program of the Resilient Floor Covering Institute. This will exceed the 50% requirement of CALGreen section 5.504.4.6.

ii. Exterior Paint

The project will comply with the CALGreen low-emitting paint requirements.

iii. Low-Emitting Interior Paint

The project will use low-emitting interior paint in line with CALGreen Section 5.504.4.3. This includes the following:

- < 50 grams/liter for flat paints,
- < 150 g/L for non-flat high gloss coatings, and
- < 100 g/L for non-flat coatings.

iv. Low-Emitting Adhesives and Sealants

All adhesives and sealants will be low-emitting according to the South Coast Air Quality Management District Rule 1168 and are in line with CALGreen Section 5.504.4.1.

v. Low-Emitting Carpeting

All carpet installed in the building interior shall meet the testing and product requirements of one of the following:

1. Carpet and Rug Institute's Green Label Plus Program. See www.carpet-rug.org for label requirements and product lists.
2. California Department of Public Health Standard Practice for the testing of VOCs (Specification 01350).
3. NSF/ANSI 140 at the Gold level
4. Scientific Certifications Systems Sustainable Choice.

All carpet cushion installed in the building interior shall mee the requirements of Carpet and Rug Institute Green Label Program. All carpet adhesive shall meet 50 g/L VOC limit.

8. Collection of Recyclables

The project will encourage ongoing recycling by providing at least as much bin volume for recycling as for waste. The project will provide readily accessible areas that serve the entire building and are identified for the depositing, storage, and collection of non-hazardous materials for recycling, including paper, corrugated cardboard, glass, plastics, and metals.
Additionally, where feasible, the project will recycle at least 1 of the following material streams: food scraps, household hazardous waste (fluorescent lamps, batteries, oil, etc.), or e-waste (computer equipment).

Indoor Environment & Air

9. Fresh Air Monitors for Densely Occupied Spaces

The project will provide CO2 monitors with alarms and the ability to manually adjust air flow.

Appendix I

<u>Risk Management Plan, Former Malibu Grand Prix Site</u>

Haley & Aldrich, Inc., June 2023

www.haleyaldrich.com

RISK MANAGEMENT PLAN
FORMER MALIBU GRAND PRIX
8000 SOUTH COLISEUM WAY
OAKLAND, CALIFORNIA

by
Haley & Aldrich, Inc.
Oakland, California

for
City of Oakland, California
Alameda County, California

Submitted to
Alameda County Department of Environmental Health
Alameda, California

File No. 133413-001
June 2023

HALEY & ALDRICH, INC.
426 17th Street
Suite 700
Oakland, CA 94612
510.879.4544

22 June 2023
File No. 133413-001

Alameda County Department of Environmental Health
1131 Harbor Bay Parkway
Alameda, California 94502

Attention: Paresh C. Khatri

Subject: Risk Management Plan
Former Malibu Grand Prix
8000 South Coliseum Way, Oakland, California
ACDEH SCP Case No. RO0003382, GeoTracker Global ID T10000013236

Dear Mr. Khatri:

Haley & Aldrich, Inc. (Haley & Aldrich), on behalf of the City of Oakland (City) and Alameda County, has prepared this *Risk Management Plan* (RMP) for the property located at 8000 South Coliseum Way, Oakland, California (Site). The purpose of this RMP is to summarize the existing Site environmental conditions and present the environmental risk mitigation measures to be implemented to manage the Site's residual environmental concerns.

Sincerely yours,
HALEY & ALDRICH, INC.

Akash Caveney
Project Scientist

Jason Grant, P.E. (CA)
Senior Project Manager | Engineer

Enclosures

c: City of Oakland; Attn: M. Arniola
Alameda County; Attn: J. Garrison

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HALEY & ALDRICH, INC.
426 17TH STREET
SUITE 700
OAKLAND, CA 94612
510.879.4544

SIGNATURE PAGE FOR

RISK MANAGEMENT PLAN
FORMER MALIBU GRAND PRIX
8000 SOUTH COLISEUM WAY
OAKLAND, CALIFORNIA

PREPARED FOR
CITY OF OAKLAND, CALIFORNIA
ALAMEDA COUNTY, CALIFORNIA

SUBMITTED TO
ALAMEDA COUNTY DEPARTMENT OF ENVIRONMENTAL HEALTH
ALAMEDA, CALIFORNIA

PREPARED BY:

Akash Caveney
Project Scientist
Haley & Aldrich, Inc.

Michael Zlotoff, P.E.
Technical Specialist
Haley & Aldrich, Inc.

REVIEWED AND APPROVED BY:

Jason Grant, P.E. (CA)
Senior Project Manager | Engineer
Haley & Aldrich, Inc.

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1. Introduction

Haley & Aldrich, Inc. (Haley & Aldrich) prepared this *Risk Management Plan* (RMP) on behalf of the City of Oakland (City) and Alameda County (County) as requested by the Alameda County Department of Environmental Health (ACDEH) for the ACDEH-regulated property located at 8000 South Coliseum Way in Oakland, California (Site; Figure 1). This RMP is being submitted in response to a letter from ACDEH dated 23 December 2019 requesting an RMP be prepared, along with a land use covenant (LUC), to facilitate closure of the Site. This RMP is being submitted under ACDEH Site Cleanup Program (SCP) Case No. RO0003382.

The purpose of the RMP is to describe the risk management measures to be implemented at the Site to minimize risks associated with the residual chemicals of concern (COCs) in the Site soil and groundwater. In addition, the RMP presents monitoring and maintenance requirements for the long-term management of the Site's asphalt cap to mitigate risks and reduce/minimize potential exposure to construction workers and Site occupants. This document serves as a planning document and is not intended to replace any laws, rules, regulations, or other regulatory requirements.

Following this introductory section, this RMP is organized as follows:

- Section 2 – Site Background; and
- Section 3 – Risk Management Measures.

This RMP was prepared for the exclusive use of the City and the County in connection with the Site. The observations and conclusions described in this document are based solely on the authorized Scope of Services conducted and the sources of information referenced in this RMP. Any additional information that becomes available concerning this Site should be provided to Haley & Aldrich, and our conclusions and recommendations may be reviewed and modified, as necessary.

2. Site Background

A description of the Site, including its location, features, and known environmental conditions, is provided below.

2.1 SITE DESCRIPTION

The Site is located at 8000 South Coliseum Way in Oakland, California, and includes one Alameda County parcel designated Assessor's Parcel Number 42-4328-1-24, encompassing an area of approximately 8.8 acres. The Site currently consists of an asphalt parking lot. The Site is located in a mixed commercial/industrial area, and is bounded by South Coliseum Way to the southwest, commercial properties to the east, and Elmhurst Creek flood control channels to the northwest and south. The Site and surroundings are shown on Figure 2.

The Site is underlain by approximately 5 to 8 feet of imported fill placed above bay mud. According to historical reports documenting Site activities conducted by multiple environmental consultants, groundwater beneath the Site has been encountered at approximately 5 to 12 feet below ground surface (bgs) and flows toward the west to the San Leandro Bay and is tidally influenced.

2.2 SITE USE HISTORY

The Site has a known history of commercial uses dating back to the 1980s. The Site is currently used as a surface parking lot and was formerly occupied by Malibu Grand Prix (MGP) in the 1980s and 1990s. MGP operated two amusement park facilities onsite, which ceased operations by January 1995. The Site was purchased from MGP by the City and the County jointly in 1994 as an entity named "Oakland Alameda County Coliseum."

2.3 PREVIOUS SITE INVESTIGATIONS

Previous environmental investigations were conducted at the Site, the results of which were referenced to prepare this RMP. The findings of these activities identified impacted soil and groundwater, with residually impacted conditions expected to be currently present beneath the Site's asphalt cap.

Environmental investigations have previously been conducted at the Site by environmental consultants, including Groundwater Resources Inc. (GRI), RESNA Industries Inc. (RESNA), Smith Environmental Technologies Corporation (Smith), and Science and Engineering Analysis Corporation (SEACOR). Previous investigations, beginning in 1989, were conducted to delineate soil and groundwater impacts and included installing and sampling groundwater monitoring wells. Two 6,000-gallon underground storage tanks (USTs) containing marine mix gasoline were operated by MGP at the Site and were removed in 1989 and 1990. Closure reports were submitted to ACDEH.[1]

Previous environmental investigations and remedial actions completed at the Site are summarized in the following sections. Historical environmental features are depicted on Figure 2. Key Site data summary

---

[1] The Site's UST removal and cleanup activities are separately overseen by ACDEH under Leaking Underground Fuel Tank Case No. RO0000094.

HALEY ALDRICH

tables are provided in Appendix A and key Site figures including historical sampling locations are provided in Appendix B.

2.3.1 Preliminary Site Assessment

During removal of one of the two USTs on 29 March 1989, product was observed on the groundwater at approximately 8 feet bgs. Groundwater and soil samples were collected and contained detectable concentrations of benzene and total petroleum hydrocarbons (TPH). In September 1989, GRI, on behalf of MGP, conducted an initial investigation to evaluate the extent of the impacted soil and groundwater conditions. Four groundwater monitoring wells were installed: three installed at the pump end of the tank excavation and one downgradient of the tank excavation. In addition, five soil borings were advanced to 5 feet bgs, and soil samples were collected. Soil and groundwater samples contained detectable concentrations of benzene and TPH. The monitoring wells were sampled quarterly from this point on, the results of which were summarized in the subsequent quarterly monitoring reports written by GRI.

2.3.2 Additional Environmental Investigation Activities

Between 1990 and 1995, additional environment investigation activities were conducted at the Site, which included installing a total of 15 additional groundwater monitoring wells (19 total) and advancing a total of 60 soil borings. The primary COCs detected during the Site's environmental investigations included benzene, toluene, ethylbenzene, and xylenes (BTEX), and total petroleum hydrocarbons as gasoline (TPHg). The environmental investigation activities defined the extent of the Site's impacted subsurface conditions.

The Site's environmental investigation activities also identified a tar-like substance mixed with fill soil in the northeastern portion of the Site and on ground surface. Representative samples of the tar-like substance were collected and submitted for laboratory analysis of volatile organic compounds (VOCs), TPH, metals, organochlorine pesticides, and polychlorinated biphenyls (PCBs). Concentrations of select constituents such as phenanthrene, naphthalene, pyrene, TPH, and lead were detected in elevated concentrations; in addition, a minimal concentration of the PCB Aroclor-1260 was detected. The bay mud underlying the fill and shallow groundwater were also sampled and were not found to be affected by COCs detected in the tar-like substance samples. It was determined that the tar-like substance was likely imported with fill material during construction activity between 1955 and 1975.

2.3.3 Site Management Plans

A Site Management Plan (SMP) was prepared for the Site in 1994. The SMP described the following: the development and maintenance of the Site as a parking lot; worker and community health and safety plans to be utilized during any onsite construction; limitations placed on excavation in areas where the fill contains the tar-like substance; a deed notice for future notice of Site conditions; and regular inspections of the asphalt lot.

2.3.4 Soil Remediation

In May 1995, approximately 4,000 cubic yards of petroleum hydrocarbon impacted soil was excavated and maintained on-site to aerate. Soil and grab groundwater samples were collected from the excavation and contained detectable concentrations of BTEX, TPHg, and total recoverable petroleum hydrocarbons (TRPH). Elevated lead concentrations were also detected in the soil samples. The soil was spread out, aerated, and sampled; composite soil samples were collected (four-point composite sample for every 100 cubic yards using a grid pattern) after 8 weeks of aeration and BTEX and TPHg were below the then-established cleanup levels. Although the final use of the soil (i.e., backfilled or disposed off-Site) was not documented, due to the volume of impacted soil, it was recommended to be reused on-Site following the aeration.

2.3.5 Quarterly Groundwater Monitoring

Quarterly groundwater monitoring events were conducted at the Site during the third and fourth quarters of 1992, the first through fourth quarters of 1993, the fourth quarter 1994, the first quarter 1995, the fourth quarter 1995, and the first quarter 1996. Concentrations of BTEX and TPH were detected during the quarterly groundwater monitoring events.

During the fourth quarter 1992 monitoring event, surface water samples were collected from the Site's adjacent drainage ditch during both high and low tides. TPH was not detected in the samples collected and minimal concentrations were detected of only toluene and xylenes (i.e., benzene and ethylbenzene were not detected).

The MGP facility was demolished between December 1994 and January 1995. The Site's groundwater monitoring wells were damaged during demolition, which resulted in four wells being destroyed, seven wells being overdrilled and abandoned, and three new wells being installed. The Site's final two quarterly groundwater monitoring events, fourth quarter 1995 and first quarter 1996, included a total of 10 wells.

2.3.6 January 2023 Soil and Groundwater Investigation

A soil and groundwater investigation was conducted at the Site in January 2023 as required by ACDEH under the Site's companion regulatory case, ACDEH Site Cleanup Program Case No. RO0000094 associated with the UST removal activities and subsequent groundwater monitoring. This investigation consisted of advancing six soil borings from which soil and grab groundwater samples were collected and analyzed for VOCs, including methyl tert butyl ether (MTBE). In addition, a tidal influence evaluation was conducted as part of this investigation.

The results of this investigation indicated that select VOCs, including benzene, ethylbenzene, and naphthalene, are present in a limited area of the Site near its southwestern property boundary at concentrations above the San Francisco Bay Regional Water Quality Control Board (SFBRWQCB) Environmental Screening Levels (ESLs), dated July 2019 (Rev 2). ESLs were exceeded at both high and low tides, with higher concentrations detected at low tide. Groundwater beneath the Site was measured to vary from freshwater to saline conditions, with elevations observed to fluctuate up to 0.6 feet between high and low tides.

2.4 SUBSURFACE ENVIRONMENTAL CONDITIONS

This section describes environmental conditions identified to be residually present in the Site's soil and groundwater. Appendices A and B provide key tables and figures summarizing the most recent analytical results of the soil and groundwater samples collected during the Site's previous investigation activities.

The residual environmental conditions at the Site are associated with the two former 6,000-gallon USTs and the imported fill material. The COCs associated with the USTs include BTEX, naphthalene, and TPHg, while TRPH and lead have been determined to be associated with the imported fill.

Residual soil and groundwater impacts at the Site are generally located in the vicinity the two former USTs, in shallow groundwater, and in the shallow fill primarily in the northeastern portion of the Site.

2.4.1 COCs in Soil

Site COCs in soil were determined based on the constituents detected during the most recent post-remediation sampling event in 1995 and the January 2023 soil and groundwater investigation. Site COCs in soil include TPHg, BTEX, naphthalene, TRPH, and lead. In addition, a tar-like substance is present in the shallow fill in the northeastern portion of the Site. The impacted soil conditions are mitigated through the Site's asphalt cap, which prevents direct exposure to the Site's commercial workers and the general public.

The residual soil concentrations were compared against the SFBRWQCB ESLs, dated July 2019 (Rev 2). None of the post-aeration soil concentrations exceeded the construction worker direct exposure human health ESL; excavation sidewall samples contained TPHg and TRPH at concentrations above the construction worker direct exposure human health ESL. In January 2023, benzene and naphthalene were detected at concentrations above the commercial/industrial direct exposure human health ESL with naphthalene also detected at a concentration above the construction worker direct exposure human health ESL.

2.4.2 COCs in Groundwater

Site COCs in groundwater were determined based on the constituents detected during the most recent Site groundwater monitoring event conducted in 1996 and the January 2023 soil and groundwater investigation. Site COCs in groundwater include TPHg, BTEX, and naphthalene.

The residual groundwater concentrations detected in January 2023 were compared against the SFBRWQCB ESLs, dated July 2019 (Rev 2). Ethylbenzene and naphthalene were detected at concentrations above the saltwater ecotoxicity aquatic habitat goal ESLs, with naphthalene also detected at a concentration above the freshwater ecotoxicity aquatic habitat goal ESL.

2.5 REGULATORY FRAMEWORK

The Site is jointly owned by the City and the County and is receiving regulatory oversight from ACDEH under SCP Case No. RO0003382 and has been assigned GeoTracker Global ID T10000013236. A companion ACDEH Leaking Underground Fuel Tank (LUFT) case also exists for the Site, Case No. RO0000094, GeoTracker Global ID T0600100859.

3. Risk Management Measures

The Site contains residually impacted soil and groundwater associated with historical releases from USTs and imported fill material. These impacted conditions are currently being mitigated through an asphalt cap, which requires routine maintenance and monitoring. The following measure shall be implemented to ensure the Site's asphalt cap maintains its integrity and prevents exposure to the underlying impacted soil and groundwater conditions. Additionally, procedures are presented to be followed should future construction activities occur at the Site.

3.1 ROLES AND RESPONSIBILITIES

The table below presents the identified roles and responsibilities for the Site under the RMP.

Role	Responsibilities and Duties
Regulatory Oversight	ACDEH – Provides regulatory oversight of the Site associated with the implementation of the RMP. The ACDEH case manager for the Site is: Mr. Paresh Khatri, PG, CEG Local Oversight and Site Cleanup Program Manager Phone Number: 510-777-2478 Email: paresh.khatri@acgov.org
Owner	City of Oakland & Alameda County – Co-owners of the Site, responsible to maintain the Site in compliance with the RMP. The City's contact for the Site is: Mr. Mark Arniola, PG Supervisor, Environmental Protection and Compliance Phone Number: 510-238-7371 Email: MArniola@oaklandca.gov The County's contact for the Site is: Mr. Jason B. Garrison, CSHT®, CAC, CDPH I/A Environmental Program Manager Phone Number: 510-208-9520 Email: jason.garrison@acgov.org
Environmental Professional	Assists Owner with facilitating implementation of the RMP through providing professional field staff trained in inspecting asphalt caps and identifying and sampling both known and suspect subsurface environmental conditions of concerns.

3.2 CAP INSPECTIONS AND MAINTENANCE

The Site's asphalt cap shall undergo annual inspections to ensure it maintains its integrity and no underlying soil becomes exposed. The asphalt cap shall be visually inspected using the form included in Appendix C. The Site's asphalt cap shall also be inspected following a significant seismic event. Should signs of defect, deterioration or damage or penetrating vegetation be observed, the asphalt shall be repaired. The cap inspections shall be performed by an Environmental Professional and documented in reports to be submitted to ACDEH.

3.3 CONSTRUCTION ACTIVITIES

Construction activities performed at the Site that will disturb the asphalt cap will require the preparation of a Site Management Plan (SMP) describing the procedures to be implemented to mitigate potential exposure concerns associated with the underlying impacted soil and groundwater conditions. The SMP shall be prepared by an Environmental Professional and submitted to ACDEH for review and approval. The SMP shall include at a minimum the components outlined below.

Project Description

The SMP shall provide a general description of the planned construction activities, including the location and whether soil only or soil and groundwater will be encountered. Any applicable permits or other regulatory notifications shall be identified.

Health and Safety Plan

A Site-specific health and safety plan (HASP) shall be prepared prior to conducting intrusive earthwork activities at the Site. The HASP shall outline safe work practices and emergency procedures to be followed during earthwork activities conducted at the Site, including job hazard analyses, personnel protective equipment requirements, air monitoring, and emergency procedures.

All applicable federal, state, and local regulations and codes relating to health and safety shall be adhered to by the Site personnel. Site personnel shall also adhere to all sections of California Division of Occupational Safety and Health (Cal/OSHA) regulations contained in Title 8 of the California Code of Regulations as they apply to the project activities.

Dust Control Plan

Typical earthwork-related construction activities may generate dust. Managing dust that may emanate from the work areas is critical to ensure that on-site personnel, the surrounding community, and the environment are protected. A Dust Control Plan shall be prepared describing the routine dust control and mitigation measures to be implemented during the construction project.

Soil Excavation Activities

The SMP shall describe the soil excavation, stockpiling, waste characterization and profiling, and offsite disposal procedures and requirements for the construction activities. Should the construction activities be performed in the northeastern portion of the Site, encountering and managing the tar-like substance shall be planned for. The soil excavation activities shall be overseen by the Environmental Professional who may help segregate the excavated soil based on observed conditions into temporary stockpiles pending off-haul to an appropriately licensed recycling/disposal facility. Each stockpile shall be placed on and covered with plastic sheeting, appropriately identified, and documented in the daily construction field reports.

Samples shall be collected from each stockpile to assess for either onsite reuse or offsite disposal. The number of stockpile characterization samples to be collected will depend on the volume of soil generated. No less than one sample per every 250 cubic yards shall be collected. Given the Site's identified soil COCs, the stockpile characterization samples shall be analyzed for the following constituents:

- TPHg and VOCs using United States Environmental Protection Agency (USEPA) Method 8260B, preserved using USEPA Method 5035C;
- Total petroleum hydrocarbons as diesel and as motor oil (TPHd/mo) using USEPA Method 8015C; and
- California Code of Regulations Title 22 (CCR T22) Metals using USEPA Method 6010B/7471A.

Additional leachability analyses, including the CCR T22 Waste Extraction Test and the Federal Toxicity Characteristic Leaching Procedure, may be required depending on the initial results.

The stockpile characterization analytical results will be compared against the SFBRWQCB ESLs to evaluate if onsite reuse may be acceptable. If onsite reuse is not acceptable, then the analytical results will be compared against the CCR T22 and Resource Conservation and Recovery Act (RCRA) hazardous waste criteria (i.e., CCR T22 Soluble Threshold Limit Concentrations [STLCs] and Total Threshold Limit Concentrations [TTLCs]; and Federal Toxicity Characteristics [TCs]).

<u>Soil Import Activities</u>

If soil import should become necessary to backfill the excavated area, prior to importing the soil shall be characterized as outlined in the *ACDEH Soil Import/Export Characterization Requirements*, dated 9 August 2019. The proposed import material and characterization results shall be submitted to ACDEH for review and approval.

<u>Construction Dewatering Activities</u>

If dewatering is required to conduct the construction activities, a dewatering plan will be included in the SMP. Depending on the dewatering requirements, either dewatering wells or sumps may be constructed. The extracted groundwater may either be contained in above ground tanks and then transported offsite for disposal, treated and discharged into the storm sewer in accordance with the SFBRWQCB's General Waste Discharge Requirements for Discharge or Reuse of Extracted and Treated Groundwater Resulting from the Cleanup of Groundwater Polluted by Volatile Organic Compounds, Fuel Leaks and Other Related Waste (VOC and Fuel General Permit), Order No. R2 2017-0048 (Water Board, 2017), amended by Order No. R2-2018-0050 (SFBRWQCB, 2018), NPDES Permit No. CAG912002, or treated and discharged into the sanitary sewer in accordance with a Special Discharge Permit to be issued by East Bay Municipal Utility District.

Completion Report

A Completion Report shall be prepared documenting the activities performed under the SMP. This report will provide figures showing the excavated areas, include copies of analytical laboratory reports providing the results of the collected samples, and document whether the excavated soil was reused onsite or disposed offsite. If stockpiled soil or containerized groundwater is disposed offsite, copies of the waste manifests will also be provided. The report shall be submitted to ACDEH.

3.4 PREVIOUS GROUNDWATER MONITORING WELLS

Groundwater monitoring wells were installed in the western portion of the Site as shown in the figures included in Appendix B, with the most recent monitoring event conducted in 1996 which included 10 wells. The Site's asphalt cap was constructed following this event. In July 2022, the City submitted a Well Completion Report Request to Alameda County Public Works Agency (ACPWA) to determine if these monitoring wells were documented as being properly destroyed. ACPWA records were inconclusive, and therefore, there is the possibility for some of these wells remaining below the asphalt cap. Additionally, a geophysical survey was conducted in association with the utility locate performed for the January 2023 soil and groundwater investigation to determine if any wells remain on the Site below the asphalt cap. The results were also inconclusive as no monitoring wells could be located. Should construction activities be performed in the vicinity of these wells, measures should be in place in case they are uncovered, including performing their proper destruction under ACPWA permit.

3.5 INSTITUTIONAL CONTROLS

Institutional controls shall be implemented for the Site given the presence of its residual subsurface impacts. A land use covenant (LUC; aka "deed restriction") shall be recorded with Alameda County referencing the Site's asphalt cap and restricting the use of the Site's underlying shallow groundwater. This RMP shall be incorporated into the LUC.

References

1. Alameda County Department of Environmental Health, 2019. Soil Import/Export Characterization Requirements. 9 August.

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3. Bay Area Air Quality Management District, 2005. Regulation 8, Rule 40, Aeration of Contaminated Soil and Removal of Underground Storage Tanks. 15 June.

4. California State Water Resources Control Board, 2015. California Leaking Underground Fuel Tank Guidance Manual (CA LUFT Manual), dated September 2012, revised December 2015.

5. Groundwater Resources Inc., 1989. Preliminary Site Assessment, Malibu Grand Prix, 8000 South Coliseum Way, Oakland, California. 15 November.

6. Groundwater Resources Inc., 1990. Site Assessment Report, 8000 South Coliseum Way, Oakland, California. 16 July.

7. Haley & Aldrich, Inc., 2023. Soil and Groundwater Investigation Report, Former Malibu Grand Prix, 8000 South Coliseum Way, Oakland, California. 15 March.

8. RESNA Industries Inc./Groundwater Resources Inc., 1992a. Site Assessment Report, Malibu Grand Prix, 8000 South Coliseum Way, Oakland, California. 13 January.

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10. RESNA Industries Inc., 1993a. Quarterly Groundwater Report, 4th Quarter, Malibu Grand Prix, 8000 South Coliseum Way, Oakland, California. 18 January.

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13. RESNA Industries Inc., 1993d. Site Assessment Report, 8000 South Coliseum Way, Oakland, California. 30 July.

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15. RESNA Industries Inc., 1994. Groundwater Monitoring Report Fourth Quarter 1993, 8000 South Coliseum Way, Oakland, California. 24 March.

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17. San Francisco Bay Regional Water Quality Control Board. 2018. Order No. R2-2018-0050, NPDES No. CAG912002, Amendment of Order No. R2-2017-0048 for: General Waste Discharge Requirements for Discharge or Reclamation of Extracted and Treated Groundwater Resulting from the Cleanup of Groundwater Polluted by Volatile Organic Compounds (VOCs), Fuel Leaks, Fuel Additives, and Other Related Wastes (VOC and Fuel General Permit). 16 November.

18. San Francisco Bay Regional Water Quality Control Board, 2019. Environmental Screening Levels (ESLs), dated July 2019 (Revision 2).

19. Science and Engineering Analysis Corporation, 1994a. Site Management Plan, 8000 South Coliseum Way, Oakland, California. 6 July.

20. Science and Engineering Analysis Corporation, 1994b. Tar-Like Substance, Fill Soil and Shallow Groundwater Monitoring Well Sample Analytical Results and Conclusions. 17 August.

21. Science and Engineering Analysis Corporation, 1994c. Site Management Plan, 8000 South Coliseum Way, Oakland, California. 22 August.

22. Smith Environmental Technologies Corporation, 1995a. Groundwater Monitoring Report Fourth Quarter 1994, Malibu Grand Prix, 8000 South Coliseum Way, Oakland, California. 28 March.

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24. Smith Environmental Technologies Corporation, 1995c. Groundwater Monitoring and Remediation Progress Report, Third Quarter 1995, Former Malibu Grand Prix, 8000 South Coliseum Way, Oakland, California. 18 October.

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FIGURES

MAP SOURCE: ESRI
SITE COORDINATES: 122°11'56"N, 37°44'47"W

RISK MANAGEMENT PLAN
8000 SOUTH COLISEUM WAY
OAKLAND, CALIFORNIA

PROJECT LOCUS

APPROXIMATE SCALE: 1 IN = 2000 FT
MAY 2023

FIGURE 1

GIS FILE PATH: \\haleyaldrich.com\share\CF\Projects\133413\133413-005\GIS\Maps\2022_03\133413_005_0001_PROJECT_LOCUS_.mxd — USER: hwachholz — LAST SAVED: 3/18/2022 7:26:51 PM

LEGEND

- SOIL EXCAVATION AREA
- FORMER FUEL TANK
- SITE BOUNDARY

NOTES

1. ALL LOCATIONS AND DIMENSIONS ARE APPROXIMATE.
2. AERIAL IMAGERY SOURCE: NEARMAP, 28 SEPTEMBER 2021

HALEY ALDRICH

RISK MANAGEMENT PLAN
8000 SOUTH COLISEUM WAY
OAKLAND, CALIFORNIA

SITE PLAN

MAY 2023

FIGURE 2

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APPENDIX A
Key Site Data Tables

TABLE 1
Former Malibu Grand Prix
8000 S. Coliseum Way
Oakland, California
Sidewall Sample Laboratory Concentrations (ppm)

Sample #	Benzene	Toluene	E. benzene	Xylene	TPHg	TRPH
S-1	0.083	0.18	0.46	1.7	39	NA
S-2	NA	NA	NA	NA	NA	220
S-3	0.056	ND	ND	1.5	12	52
S-4	0.78	ND	0.99	0.088	60	92
S-5	ND	ND	ND	ND	0.25	16
S-6	1.1	1.1	5.8	1.3	290	1400
S-7	0.3	0.25	0.62	3.3	470	29000
S-8	ND	ND	ND	ND	6.1	110
S-9	0.31	0.28	4.1	5	140	770
S-10	2.3	1.2	70	64	3700	2600
S-11	NA	NA	NA	NA	NA	84
S-12	ND	ND	ND	ND	ND	90
S-13	ND	0.084	ND	ND	8.9	110
S-14	0.84	0.82	1.4	1.8	69	170
S-15	0.21	0.83	0.86	0.27	69	410
S-16	NA	NA	NA	NA	NA	990
S-17	1.5	0.53	12	1.8	640	12000
S-18	0.81	0.43	6.2	2.6	400	630
S-19	1.9	0.7	14	3.6	440	820
S-20	0.92	ND	1.5	2	190	700
S-21	ND	ND	0.87	0.25	33	100
S-22	ND	ND	ND	ND	9.8	1400
S-23	ND	ND	ND	ND	ND	330
S-24	ND	ND	ND	ND	ND	150
S-25	0.22	0.18	0.29	0.54	120	360
S-26	ND	ND	ND	ND	ND	53
S-27	ND	ND	ND	ND	ND	210
S-28	0.063	0.082	ND	ND	17	1900
S-29	0.85	0.068	0.92	1.2	160	400
S-30	ND	ND	ND	ND	11	89
S-31	ND	0.12	0.17	0.74	16	130
S-32	ND	0.063	ND	ND	ND	700
S-33	ND	0.067	ND	ND	ND	240
S-34	0.27	0.2	0.44	1.8	98	700
ok S-36?	.22	.059	0.19	.19	28	350

TABLE 1 (Cont.)
Former Malibu Grand Prix
8000 S. Coliseum Way
Oakland, California
Sidewall Sample Laboratory Concentrations (ppm)

Sample #	Benzene	Toluene	E. benzene	Xylene	TPHg	TRPH
S-38	0.24	0.14	0.061	0.3	43	510
S-39	ND	ND	ND	ND	5.4	190
S-40	0.12	0.12	0.46	1.2	37	NA
S-41	ND	0.15	ND	0.2	7.6	630
S-42	ND	ND	ND	ND	ND	77
S-43	ND	ND	0.076	ND	ND	64
S-44	ND	ND	ND	ND	ND	54
S-45	ND	ND	ND	ND	ND	62
S-46	ND	0.056	ND	0.17	ND	550
S-47	0.078	0.38	0.66	3.5	32	NA
S-48	ND	ND	ND	ND	ND	71
S-49	0.41	0.12	0.051	0.25	59	NA
S-50	0.065	0.18	ND	ND	20	31
S-51	0.9	0.48	0.28	4.9	200	NA
S-52	0.66	0.39	1.2	6	120	NA
S-53	ND	ND	0.23	0.17	6.8	500
S-54	0.63	ND	3	13	63	NA
S-55	0.6	0.73	ND	ND	ND	440
S-56	0.75	0.94	ND	ND	13	94
S-57	ND	ND	ND	ND	ND	220
S-58	ND	ND	ND	ND	5.2	61
S-59	ND	ND	ND	ND	ND	51
S-60	0.065	ND	ND	ND	13	620
S-61	ND	ND	ND	ND	10	97
S-62	ND	ND	ND	ND	ND	20
S-63	0.057	ND	0.58	ND	10	21
S-64	0.092	0.23	0.21	0.59	39	130
S-65	ND	ND	ND	ND	ND	8.8
S-66	0.99	2.8	49	0.59	810	810
S-67	ND	ND	ND	ND	ND	17
S-68	ND	ND	ND	ND	ND	140
S-69	ND	ND	ND	ND	ND	16
North Pit	0.05	0.033	ND	1.4	7.1	NA
South Pit	ND	ND	ND	ND	ND	NA

Note: ND = None Detected
NA = Not Analyzed

TABLE 2
Former Malibu Grand Prix
8000 S. Coliseum Way
Oakland, California

Composite Sampling Analysis (Excavated Soil)

Sample #	Benzene ppm	Toluene ppm	E. benzene ppm	Xylene ppm	TPH gas ppm	STLC Pb ppm	Est. cu. yds.	% of Total	Avg. TPH (ppm)	Avg. STLC Pb (ppm)
SP-1	0.065	1.5	4.8	25	540	4	*155*	2.78%	14.99	0.11
SP-2	0.47	18	42	250	2100	4.1	*155*	2.78%	58.28	0.11
SP-3	2.8	37	56	250	2100	2.3	*155*	2.78%	58.28	0.06
SP-4	ND	ND	0.21	160	20	3.6	*155*	2.78%	0.56	0.10
SP-5	0.58	0.24	7.2	6	360	3.4	*155*	2.78%	9.99	0.09
SP-6	ND	ND	ND	ND	1	8.7	*155*	2.78%	0.03	0.24
SP-7	0.63	ND	3.8	84	440	11	*155*	2.78%	12.21	0.31
SP-8	1.2	3	19	61	910	8.9	*155*	2.78%	25.26	0.25
SP-9	0.37	2.5	8.9	36	550	12	*300*	5.37%	29.54	0.64
SP-9B	0.14	0.81	1.8	12	300	11	*300*	5.37%	16.11	0.59
SP-9C	0.36	4.7	15	82	1100	16	*300*	5.37%	59.09	0.86
SP-10	0.12	0.62	2.1	6.1	220	8.9	*160*	2.86%	6.30	0.25
SP-10B	0.22	0.19	3	4.3	160	8.1	*160*	2.86%	4.58	0.23
SP-10C	0.18	0.48	0.99	4	100	5.6	*160*	2.86%	2.86	0.16
SP-11					*500*	*5*	*155*	2.78%	13.88	0.14
SP-12	0.31	0.13	0.65	0.58	71	9.4	*155*	2.78%	1.97	0.26
SP-13	0.6	1.8	6.1	29	320	10	*500*	8.95%	28.65	0.90
SP-13B	0.26	1.1	5.3	22	470	3.6	*500*	8.95%	42.08	0.32
SP-13C	0.23	0.51	6	22	300	6.6	*500*	8.95%	26.86	0.59
SP-13D	0.38	0.14	1.8	1.3	190	8.4	*500*	8.95%	17.01	0.75
SP-13E	0.25	0.47	1.9	1.9	93	22	*500*	8.95%	8.33	1.97
SP-14	0.25	0.63	2.4	70	1300	11	*155*	2.78%	36.08	0.31
							5585	100.00%	***472.93***	***9.25***

Note: Values in Italics are estimated

TABLE 1

FORMER MALIBU GRAND PRIX – OAKLAND, CALIFORNIA
SOIL SAMPLE ANALYSIS RESULTS, ppm

Sample I.D.	Benzene	Toluene	Ethyl-benzene	Total Xylenes	TPHg
A1	<0.005	0.110	<0.005	<0.015	0.30
A2	<0.005	0.018	<0.005	<0.015	<0.10
A3	<0.005	0.021	<0.005	<0.015	0.30
A4	<0.005	0.063	<0.005	<0.015	0.16
A5	<0.005	0.130	<0.005	<0.015	0.35
A6	<0.005	0.022	<0.005	<0.015	<0.10
A7	<0.005	0.177	<0.005	<0.015	0.44
A8	<0.005	0.170	<0.005	<0.015	0.43
A9	<0.005	0.170	<0.005	<0.015	0.45
B1	<0.005	0.310	<0.005	<0.015	1.40
B2	<0.005	0.220	<0.005	<0.015	0.95
B3	<0.005	0.330	<0.005	<0.015	1.30
B4	<0.005	0.140	<0.005	<0.015	0.60
B5	<0.005	0.120	<0.005	<0.015	0.32
B6	<0.005	0.240	<0.005	<0.015	1.00
B7	<0.005	0.082	<0.005	<0.015	0.32
B8	<0.005	0.120	<0.005	<0.015	0.49
C1	<0.005	0.250	<0.005	<0.015	1.00
C2	<0.005	0.160	<0.005	<0.015	0.67
C3	<0.005	0.085	<0.005	<0.015	0.49
C4	<0.005	0.200	<0.005	<0.015	0.81
C5	<0.005	0.170	<0.005	<0.015	0.70
C6	<0.005	0.170	<0.005	<0.015	0.70
D1	<0.005	0.230	<0.005	<0.015	0.94
D2	<0.005	0.130	<0.005	<0.015	0.36
D3	<0.005	0.170	<0.005	<0.015	0.66
D4	<0.005	0.160	<0.005	<0.015	0.65
E2	<0.005	0.150	<0.005	<0.015	0.59
E3	<0.005	0.200	<0.005	<0.015	0.86
F2	<0.005	0.180	<0.005	<0.015	0.86

SMITH

TABLE 2

FORMER MALIBU GRAND PRIX – OAKLAND, CALIFORNIA
WATER SAMPLE ANALYSIS RESULTS, ppb

Well #	Date	Benzene	Toluene	Ethyl-benzene	Total Xylenes	TPHg
MW-1	09/22/89	410	1800	1100	7100	35000
	06/14/90	.66	<.05	1.3	2.3	210
	07/17/91	<.05	.06	<.05	<.05	270
	10/09/91	<.05	<.05	<.05	<.05	370
	08/05/92	<0.5	<0.5	<0.5	<0.5	600
	12/02/92	<0.5	<0.5	<0.5	<0.5	190
	02/11/93	<0.5	<0.5	<0.5	<0.5	75
	05/26/93	<0.5	<0.5	<0.5	<1.0	110
	08/20/93	<0.5	<0.5	<0.5	<1.0	70
	12/09/93	<0.5	<0.5	<0.5	<0.5	310
	03/25/94	<0.5	<0.5	<0.5	<0.5	<50
	09/28/94	NA	NA	NA	NA	NA
	02/17/95	NA	NA	NA	NA	NA
	05/16/95	Destroyed				
MW-2	09/22/89	<.05	<.05	<.05	<.05	<50
	06/14/90	<.05	<.05	<.05	<.05	<50
	07/17/91	<.05	<.05	<.05	<.05	<50
	10/09/91	<.05	<.05	<.05	<.05	<50
	08/05/92	<0.5	<0.5	<0.5	<0.5	<50
	12/01/92	<0.5	<0.5	<0.5	<0.5	<50
	02/11/93	<0.5	0.8	<0.5	0.6	<50
	05/26/93	<0.5	<0.5	<0.5	<1.0	<50
	08/20/93	<0.5	<0.5	1.5	<1.0	<50
	12/09/93	<0.5	<0.5	<0.5	<0.5	<50
	03/25/94	<0.5	<0.5	<0.5	<0.5	<50
	09/28/94	<0.5	<0.5	<0.5	<0.5	<50
	02/17/95	NA	NA	NA	NA	NA
	09/28/95	Destroyed				
MW-3	09/22/89	1.2	<.05	<.05	<.05	<50
	06/14/90	0.90	4	<.05	<.05	<50
	07/17/91	3.8	<.05	<.05	<.05	<50
	10/10/91	<.05	<.05	<.05	<.05	<50
	08/05/92	9.7	1.4	1.0	0.9	110
	12/02/92	1.3	ND	ND	0.84	<50
	02/11/93	<0.5	<0.5	<0.5	<0.5	<50
	05/26/93	2.6	<0.5	<0.5	<1.0	<50
	08/20/93	0.7	0.5	<0.5	1.6	<50
	12/09/93	0.87	<0.5	<0.5	<0.5	<50
	03/25/94	<0.5	<0.5	<0.5	<0.5	<50
	09/28/94	0.94	<0.5	<0.5	<0.5	<50
	02/17/95	0.78	<0.5	<0.5	<0.5	<50
	09/28/95	10	0.76	<0.3	<0.3	66

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TABLE 2
(Continued)
FORMER MALIBU GRAND PRIX - OAKLAND, CALIFORNIA
WATER SAMPLE ANALYSIS RESULTS, ppb

Well #	Date	Benzene	Toluene	Ethyl-benzene	Total Xylenes	TPHg
MW-4	09/22/89	410	430	78	324	4000
	06/14/90	200	3.7	1.2	9.5	660
	07/17/91	49	4.3	1.5	38	1100
duplicate	07/17/91	45	2.7	1.0	33	1000
	10/09/91	0.8	<.05	<.05	<.05	88
	08/05/92	11	8.9	2.4	4.7	5800
	12/02/92	6.5	4.3	0.6	1.4	1500
	02/11/93	6.6	1.1	0.8	2.4	2000
	05/26/93	<0.5	<0.5	13	49	1500
	08/20/93	1.8	<0.5	<0.5	1.4	1100
	12/09/93	<0.5	<0.5	0.61	<0.5	1400
	03/25/94	100	<0.5	42	64	3100
	09/28/94	<0.5	<0.5	<0.5	<0.5	700
	02/17/95	<0.5	<0.5	<0.5	3.7	880
	05/16/95		Destroyed			
MW-5	06/14/90	<.05	<.05	<.05	<.05	<50
	07/17/91	<.05	<.05	<.05	<.05	<50
	10/09/91	<.05	<.05	<.05	<.05	110
	08/05/92	<0.5	<0.5	2.0	0.9	210
	12/02/92	<0.5	<0.5	<0.5	<0.5	<50
	02/11/93	<0.5	<0.5	<0.5	<0.5	<50
	05/26/93	<0.5	<0.5	<0.5	<1.0	72
	08/20/93	<0.5	<0.5	<0.5	1.0	61
	12/09/93	<0.5	<0.5	<0.5	<0.5	<50
	03/25/94	<0.5	<0.5	<0.5	<0.5	<50
	09/28/94	<0.5	<0.5	<0.5	<0.5	<50
	02/17/95	<0.5	<0.5	<0.5	<0.5	<50
	09/28/95	21	1.1	<0.3	<0.3	71
MW-6	06/14/90	73	<.05	17	29.7	1800
	07/17/91	7.4	<.05	<.05	5.6	1200
	10/09/91	<.05	<.05	<.05	<.05	<50
	08/05/92	1.4	<0.5	12	4.1	1900
	12/01/92	<0.5	<0.5	2.5	1.3	140
	02/11/93	1.1	<0.5	<0.5	1.9	970
	05/26/93	0.6	<0.5	1.9	10.0	230
	08/20/93	<0.5	<0.5	0.91	4.9	140
	12/09/93	4.7	<0.5	<0.5	<0.5	270
	03/25/94	1.2	<0.5	<0.5	1.9	230
	09/28/94	<0.5	<0.5	<0.5	<0.5	230
	02/17/95	NA	NA	NA	NA	NA
	09/28/95		Destroyed			

TABLE 2
(Continued)
FORMER MALIBU GRAND PRIX – OAKLAND, CALIFORNIA
WATER SAMPLE ANALYSIS RESULTS, ppb

Well #	Date	Benzene	Toluene	Ethyl-benzene	Total Xylenes	TPHg
MW-6B	09/28/95	<0.3	<0.3	<0.3	<0.3	<50
MW-7	06/14/90	0.84	<.05	1.2	1.8	58
	07/17/91	12	1.7	4.7	3.8	120
	10/09/91	<.05	<.05	<.05	<.05	<50
	08/05/92	<0.5	<0.5	0.6	<0.5	<50
	12/01/92	0.9	<0.5	<0.5	<0.5	<50
	02/11/93	<0.5	<0.5	3.6	<0.5	200
	05/26/93	<0.5	0.7	<0.5	3.5	78
	08/20/93	7.2	1.2	<0.5	2.1	63
	12/09/93	<0.5	<0.5	<0.5	<0.5	<50
	03/25/94	<0.5	<0.5	<0.5	<0.5	<50
	09/28/94	4.1	<0.5	<0.5	3.2	53
	02/17/95	NA	NA	NA	NA	NA
	09/28/95	Destroyed				
MW-8	06/14/90	680	36	150	1060	13000
	07/17/91	330	1.8	1.7	3.6	1300
	10/10/91	3.1	0.6	0.7	<.05	76
duplicate	10/10/91	3.2	0.6	0.7	<.05	72
	08/05/92	35	1.2	0.6	2.4	1700
	12/02/92	5.5	0.9	<0.5	1.8	450
	02/11/93	77	<0.5	11	11	2000
	05/26/93	130	4.8	1.9	<1.0	670
	08/20/93	0.71	<0.5	<0.5	<0.5	230
	12/09/93	<0.5	<0.5	<0.5	0.55	210
	03/25/94	4.0	<0.5	<0.5	0.69	320
	09/28/94	3.5	<0.5	<0.5	6.0	480
	02/17/95	6.7	<0.5	<0.5	<0.5	100
	05/16/95	Destroyed				
MW-9	06/14/90	12	0.78	4.5	2.54	3200
	07/17/91	3.4	<.05	<.05	<.05	87
	10/10/91	1.8	<.05	<.05	<.05	100
	08/05/92	1.7	<0.5	<0.5	1.3	150
	12/02/92	1.3	<0.5	<0.5	<0.5	62
	02/11/93	0.7	ND	ND	ND	55
	05/26/93	0.6	<0.5	<0.5	<1.0	<50
	08/20/93	<0.5	<0.5	<0.5	<1.0	<50
	12/09/93	<0.5	<0.5	<0.5	<0.5	<50
	03/25/94	<0.5	<0.5	<0.5	<0.5	<50
	09/28/94	<0.5	<0.5	<0.5	<0.5	<50
	02/17/95	NA	NA	NA	NA	NA
	05/16/95	Destroyed				

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TABLE 2
(Continued)
FORMER MALIBU GRAND PRIX – OAKLAND, CALIFORNIA
WATER SAMPLE ANALYSIS RESULTS, ppb

Well #	Date	Benzene	Toluene	Ethyl-benzene	Total Xylenes	TPHg
MW-10	06/14/90	20	.69	4.3	7.7	400
	07/17/91	4.2	<.05	<.05	<.05	290
	10/10/91	<.05	<.05	<.05	<.05	90
	08/05/92	<0.5	<0.5	<0.5	<0.5	790
	12/02/92	<0.5	<0.5	<0.5	<0.5	85
	02/11/93	23	ND	14	11	1000
	05/26/93	<0.5	<0.5	<0.5	<1.0	130
	08/20/93	<0.5	0.5	<0.5	<1.0	180
	12/09/93	<0.5	<0.5	<0.5	<0.5	<50
	03/25/94	0.68	<0.5	<0.5	<0.5	130
	09/28/94	<0.5	<0.5	<0.5	<0.5	<50
	02/17/95	<0.5	<0.5	<0.5	<0.5	62
	09/28/95	<0.3	<0.3	<0.3	>0.3	<50
MW-11	10/09/91	<.05	1.2	1.0	6.4	430
	08/05/92	<0.5	<0.5	3.2	3.2	580
	12/01/92	<0.5	<0.5	2.2	1.5	140
	02/11/93	1.2	<0.5	3.0	1.8	340
	05/26/93	<0.5	<0.5	<0.5	<1.0	<50
	08/20/93	<0.5	<0.5	<0.5	<1.0	<50
	12/09/93	<0.5	<0.5	<0.5	<0.5	<50
	03/25/94	<0.5	<0.5	<0.5	<0.5	<50
	09/28/94	<0.5	<0.5	<0.5	<0.5	<50
	02/17/95	<0.5	<0.5	<0.5	<0.5	<50
	09/28/95	<0.3	<0.3	<0.3	>0.3	<50
MW-12	10/09/91	<.05	2.6	0.8	5.1	1500
	08/05/92	<0.5	<0.5	9.1	1.1	53
	12/01/92	<0.5	<0.5	<0.5	<0.5	<50
MW-12	05/26/93	<0.5	<0.5	<0.5	<1.0	210
	08/20/93	<0.5	<0.5	<0.5	1.7	540
	12/09/93	<0.5	<0.5	<0.5	<0.5	<50
	03/25/94	<0.5	<0.5	<0.5	<0.5	<50
	09/28/94	<0.5	<0.5	<0.5	<0.5	<50
	02/17/95	<0.5	<0.5	<0.5	<0.5	<50
	09/28/95	<0.3	<0.3	<0.3	>0.3	<50
MW-13	10/09/91	<.05	0.9	0.6	3.0	720
	08/05/92	<0.5	2.7	<0.5	0.69	1400
duplicate	08/05/92	<0.5	3.0	<0.5	0.7	1100
	12/01/92	<0.5	2.9	<0.5	0.9	670
	02/11/93	4.1	0.9	<0.5	<0.5	600
	05/26/93	<0.5	<0.5	<0.5	<1.0	220

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TABLE 2
(Continued)
FORMER MALIBU GRAND PRIX – OAKLAND, CALIFORNIA
WATER SAMPLE ANALYSIS RESULTS, ppb

Well #	Date	Benzene	Toluene	Ethyl-benzene	Total Xylenes	TPHg
MW-13	08/20/93	0.6	0.5	<0.5	<1.0	230
	12/09/93	<0.5	<0.5	<0.5	<0.5	160
	03/25/94	<0.5	<0.5	<0.5	<0.5	110
	09/28/94	<0.5	<0.5	<0.5	<0.5	<50
	02/17/95	<0.5	<0.5	<0.5	<0.5	<50
	09/28/95	Destroyed				
MW-14	08/27/91	<.05	<.05	<.05	<.05	<50
	10/09/91	<.05	<.05	<.05	0.9	<50
	08/05/92	<0.5	<0.5	<0.5	<0.5	<50
	12/01/92	<0.5	<0.5	<0.5	<0.5	<50
	02/11/93	<0.5	<0.5	<0.5	<0.5	<50
	05/26/93	<0.5	<0.5	<0.5	<1.0	<50
	08/20/93	<0.5	0.5	<0.5	<1.0	<50
	12/09/93	<0.5	<0.5	<0.5	<0.5	<50
	03/25/94	<0.5	<0.5	<0.5	<0.5	<50
	09/28/94	<0.5	<0.5	<0.5	<0.5	<50
	02/17/95	<0.5	<0.5	<0.5	<0.5	<50
	09/28/95	<0.3	<0.3	<0.3	>0.3	<50
MW-15	10/10/91	<.05	<.05	<.05	<.05	<50
	08/05/92	0.8	<0.5	<0.5	<0.5	<50
	12/02/92	<0.5	<0.5	<0.5	<0.5	<50
	02/11/93	<0.5	<0.5	<0.5	<0.5	<50
	05/26/93	<0.5	<0.5	<0.5	<1.0	77
	08/20/93	<0.5	<0.5	<0.5	<1.0	56
	12/09/93	<0.5	<0.5	<0.5	<0.5	<50
	03/25/94	<0.5	<0.5	<0.5	<0.5	<50
	09/28/94	<0.5	<0.5	<0.5	<0.5	<50
	02/17/95	NA	NA	NA	NA	NA
	09/28/95	Destroyed				
MW-15B	09/28/95	<0.3	<0.3	0.50	1.1	<50
MW-16	10/09/91	<.05	<.05	<.05	<.05	78
	08/05/92	<0.5	<0.5	<0.5	<0.5	<50
	12/02/92	<0.5	<0.5	<0.5	<0.5	<50
	02/11/93	<0.5	<0.5	<0.5	<0.5	<50
	05/26/93	<0.5	<0.5	<0.5	<1.0	<50
	08/20/93	<0.5	<0.5	<0.5	<1.0	<50
	12/09/93	<0.5	<0.5	<0.5	<0.5	<50
	03/25/94	<0.5	<0.5	<0.5	<0.5	<50
	09/28/94	<0.5	0.65	<0.5	<0.5	<50
	02/17/95	NA	NA	NA	NA	NA

TABLE 2
(Continued)
FORMER MALIBU GRAND PRIX – OAKLAND, CALIFORNIA
WATER SAMPLE ANALYSIS RESULTS, ppb

Well #	Date	Benzene	Toluene	Ethyl-benzene	Total Xylenes	TPHg
MW-16	09/28/95	Destroyed				
MW-17	10/09/91	<.05	<.05	<.05	<.05	<50
	08/05/92	<0.5	<0.5	<0.5	<0.5	<50
	12/02/92	<0.5	<0.5	<0.5	<0.5	<50
	02/11/93	<0.5	<0.5	<0.5	<0.5	<50
	05/26/93	<0.5	<0.5	<0.5	<1.0	<50
MW-17	08/20/93	<0.5	<0.5	<0.5	<1.0	<50
	12/09/93	<0.5	<0.5	<0.5	<0.5	<50
	03/25/94	<0.5	<0.5	<0.5	<0.5	<50
	09/28/94	<0.5	<0.5	<0.5	<0.5	<50
	02/17/95	NA	NA	NA	NA	NA
	09/28/95	Destroyed				
MW-18	10/09/91	<.05	<.05	<.05	<.05	<50
	08/05/92	<0.5	<0.5	<0.5	<0.5	<50
	12/02/92	<0.5	<0.5	<0.5	<0.5	<50
	02/11/93	<0.5	<0.5	<0.5	<0.5	<50
	05/26/93	<0.5	<0.5	<0.5	<1.0	<50
	08/20/93	<0.5	<0.5	<0.5	<1.0	<50
	12/09/93	<0.5	<0.5	<0.5	<0.5	<50
	03/25/94	<0.5	<0.5	<0.5	<0.5	<50
	09/28/94	<0.5	<0.5	<0.5	<0.5	<50
	02/17/95	<0.5	<0.5	<0.5	<0.5	<50
	09/28/95	<0.3	<0.3	<0.3	>0.3	<50

Notes:

ND = Analytes were not present above the stated limit of detection
NA = Not Analyzed

TABLE 1

FORMER MALIBU GRAND PRIX – OAKLAND, CALIFORNIA
WATER SAMPLE ANALYSIS RESULTS, ppb

Well #	Date	Benzene	Toluene	Ethyl-benzene	Total Xylenes	TPHg
MW-3	09/22/89	1.2	<.05	<.05	<.05	<50
	06/14/90	0.90	4	<.05	<.05	<50
	07/17/91	3.8	<.05	<.05	<.05	<50
	10/10/91	<.05	<.05	<.05	<.05	<50
	08/05/92	9.7	1.4	1.0	0.9	110
	12/02/92	1.3	ND	ND	0.84	<50
	02/11/93	<0.5	<0.5	<0.5	<0.5	<50
	05/26/93	2.6	<0.5	<0.5	<1.0	<50
	08/20/93	0.7	0.5	<0.5	1.6	<50
	12/09/93	0.87	<0.5	<0.5	<0.5	<50
	03/25/94	<0.5	<0.5	<0.5	<0.5	<50
	09/28/94	0.94	<0.5	<0.5	<0.5	<50
	02/17/95	0.78	<0.5	<0.5	<0.5	<50
	09/28/95	10	0.76	<0.3	<0.3	66
	12/20/95	0.54	<0.3	<0.3	<0.3	<50
	03/20/96	2.7	0.89	0.39	1.1	<50
MW-5	06/14/90	<.05	<.05	<.05	<.05	<50
	07/17/91	<.05	<.05	<.05	<.05	<50
	10/09/91	<.05	<.05	<.05	<.05	110
	08/05/92	<0.5	<0.5	2.0	0.9	210
	12/02/92	<0.5	<0.5	<0.5	<0.5	<50
	02/11/93	<0.5	<0.5	<0.5	<0.5	<50
	05/26/93	<0.5	<0.5	<0.5	<1.0	72
	08/20/93	<0.5	<0.5	<0.5	1.0	61
	12/09/93	<0.5	<0.5	<0.5	<0.5	<50
	03/25/94	<0.5	<0.5	<0.5	<0.5	<50
	09/28/94	<0.5	<0.5	<0.5	<0.5	<50
	02/17/95	<0.5	<0.5	<0.5	<0.5	<50

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TABLE 1
(Continued)
FORMER MALIBU GRAND PRIX – OAKLAND, CALIFORNIA
WATER SAMPLE ANALYSIS RESULTS, ppb

Well #	Date	Benzene	Toluene	Ethyl-benzene	Total Xylenes	TPHg
MW-5	09/28/95	21	1.1	<0.3	<0.3	71
	12/20/95	<0.3	<0.3	<0.3	<0.6	<50
	03/20/96	<0.3	<0.3	<0.3	<0.6	<50
MW-6B	09/28/95	<0.3	<0.3	<0.3	<0.3	<50
	12/20/95	<0.3	<0.3	<0.3	<0.6	<50
	03/20/96	<0.3	<0.3	<0.3	<0.6	<50
MW-10	06/14/90	20	.69	4.3	7.7	400
	07/17/91	4.2	<.05	<.05	<.05	290
	10/10/91	<.05	<.05	<.05	<.05	90
	08/05/92	<0.5	<0.5	<0.5	<0.5	790
	12/02/92	<0.5	<0.5	<0.5	<0.5	85
	02/11/93	23	ND	14	11	1000
	05/26/93	<0.5	<0.5	<0.5	<1.0	130
	08/20/93	<0.5	0.5	<0.5	<1.0	180
	12/09/93	<0.5	<0.5	<0.5	<0.5	<50
	03/25/94	0.68	<0.5	<0.5	<0.5	130
	09/28/94	<0.5	<0.5	<0.5	<0.5	<50
	02/17/95	<0.5	<0.5	<0.5	<0.5	62
	09/28/95	<0.3	<0.3	<0.3	<0.3	<50
	12/20/95	<0.3	<0.3	<0.3	<0.6	<50
	03/20/96	<0.3	<0.3	<0.3	<0.6	<50
MW-11	10/09/91	<.05	1.2	1.0	6.4	430
	08/05/92	<0.5	<0.5	3.2	3.2	580
	12/01/92	<0.5	<0.5	2.2	1.5	140
	02/11/93	1.2	<0.5	3.0	1.8	340
	05/26/93	<0.5	<0.5	<0.5	<1.0	<50

SMITH

TABLE 1
(Continued)
FORMER MALIBU GRAND PRIX – OAKLAND, CALIFORNIA
WATER SAMPLE ANALYSIS RESULTS, ppb

Well #	Date	Benzene	Toluene	Ethyl-benzene	Total Xylenes	TPHg
MW-11	08/20/93	<0.5	<0.5	<0.5	<1.0	<50
	12/09/93	<0.5	<0.5	<0.5	<0.5	<50
	03/25/94	<0.5	<0.5	<0.5	<0.5	<50
	09/28/94	<0.5	<0.5	<0.5	<0.5	<50
	02/17/95	<0.5	<0.5	<0.5	<0.5	<50
	09/28/95	<0.3	<0.3	<0.3	<0.3	<50
	12/20/95	0.35	<0.3	1.2	0.76	350
	03/20/96	<0.3	<0.3	<0.3	<0.3	160
MW-12	10/09/91	<.05	2.6	0.8	5.1	1500
	08/05/92	<0.5	<0.5	9.1	1.1	53
	12/01/92	<0.5	<0.5	<0.5	<0.5	<50
	05/26/93	<0.5	<0.5	<0.5	<1.0	210
	08/20/93	<0.5	<0.5	<0.5	1.7	540
	12/09/93	<0.5	<0.5	<0.5	<0.5	<50
	03/25/94	<0.5	<0.5	<0.5	<0.5	<50
	09/28/94	<0.5	<0.5	<0.5	<0.5	<50
	02/17/95	<0.5	<0.5	<0.5	<0.5	<50
	09/28/95	<0.3	<0.3	<0.3	<0.3	<50
	12/20/95	<0.3	<0.3	<0.3	<0.6	<50
	03/20/96	<0.3	<0.3	<0.3	<0.6	140
MW-14	08/27/91	<.05	<.05	<.05	<.05	<50
	10/09/91	<.05	<.05	<.05	0.9	<50
	08/05/92	<0.5	<0.5	<0.5	<0.5	<50
	12/01/92	<0.5	<0.5	<0.5	<0.5	<50
	02/11/93	<0.5	<0.5	<0.5	<0.5	<50
	05/26/93	<0.5	<0.5	<0.5	<1.0	<50
	08/20/93	<0.5	0.5	<0.5	<1.0	<50
	12/09/93	<0.5	<0.5	<0.5	<0.5	<50

SMITH

TABLE 1
(Continued)
FORMER MALIBU GRAND PRIX – OAKLAND, CALIFORNIA
WATER SAMPLE ANALYSIS RESULTS, ppb

Well #	Date	Benzene	Toluene	Ethyl-benzene	Total Xylenes	TPHg
MW-14	03/25/94	<0.5	<0.5	<0.5	<0.5	<50
	09/28/94	<0.5	<0.5	<0.5	<0.5	<50
	02/17/95	<0.5	<0.5	<0.5	<0.5	<50
	09/28/95	<0.3	<0.3	<0.3	<0.3	<50
	12/20/95	<0.3	<0.3	<0.3	<0.6	<50
	03/20/96	<0.3	<0.3	<0.3	<0.6	<50
MW-15B	09/28/95	<0.3	<0.3	0.50	1.1	<50
	12/20/95	<0.3	<0.3	<0.3	<0.6	<50
	03/20/96	<0.3	<0.3	<0.3	<0.6	75
MW-18	10/09/91	<.05	<.05	<.05	<.05	<50
	08/05/92	<0.5	<0.5	<0.5	<0.5	<50
	12/02/92	<0.5	<0.5	<0.5	<0.5	<50
	02/11/93	<0.5	<0.5	<0.5	<0.5	<50
	05/26/93	<0.5	<0.5	<0.5	<1.0	<50
	08/20/93	<0.5	<0.5	<0.5	<1.0	<50
	12/09/93	<0.5	<0.5	<0.5	<0.5	<50
	03/25/94	<0.5	<0.5	<0.5	<0.5	<50
	09/28/94	<0.5	<0.5	<0.5	<0.5	<50
	02/17/95	<0.5	<0.5	<0.5	<0.5	<50
	09/28/95	<0.3	<0.3	<0.3	<0.3	<50
	12/20/95	<0.3	<0.3	<0.3	<0.6	<50
	03/20/96	<0.3	0.36	<0.3	<0.6	64

TABLE 1
(Continued)
FORMER MALIBU GRAND PRIX – OAKLAND, CALIFORNIA
WATER SAMPLE ANALYSIS RESULTS, ppb

Well #	Date	Benzene	Toluene	Ethyl-benzene	Total Xylenes	TPHg
MW-19	09/28/95	630	150	1000	700	5000
	12/20/95	2700	230	1400	870	20000
	03/20/96	290	20	510	280	9000

Notes:

ND = Analytes were not present above the stated limit of detection
NA = Not Analyzed

TABLE 1
SUMMARY OF SOIL ANALYTICAL RESULTS
8000 SOUTH COLISEUM WAY
OAKLAND, CALIFORNIA

Location Sample Date Sample Type Sample Depth (bgs)	Commercial/ Industrial ESL	Construction Worker ESL	SB-01 01/26/2023 Primary 3 (ft)	SB-01 01/26/2023 Primary 5 (ft)	SB-02 01/26/2023 Primary 6 (ft)	SB-02 01/26/2023 Primary 7 (ft)	SB-03 01/26/2023 Primary 5 (ft)	SB-03 01/26/2023 Primary 7 (ft)	SB-04 01/26/2023 Primary 4.5 (ft)	SB-04 01/26/2023 Primary 6.5 (ft)	SB-05 01/26/2023 Primary 7.5 (ft)	SB-05 01/26/2023 Duplicate 7.5 (ft)	SB-05 01/26/2023 Primary 10.5 (ft)	SB-06 01/26/2023 Primary 2 (ft)	SB-06 01/26/2023 Primary 4 (ft)
Volatile Organic Compounds (µg/kg)															
1,1,1,2-Tetrachloroethane	8,900	190,000	< 240	< 6.3	< 31,000	< 6,200	< 4.4	< 4.5	< 4.8	< 4.1	< 5.4	< 5.2	< 5.0	< 5.2	< 4.2
1,1,1-Trichloroethane	7,300,000	7,200,000	< 240	< 6.3	< 31,000	< 6,200	< 4.4	< 4.5	< 4.8	< 4.1	< 5.4	< 5.2	< 5.0	< 5.2	< 4.2
1,1,2,2-Tetrachloroethane	2,700	49,000	< 240	< 6.3	< 31,000	< 6,200	< 4.4	< 4.5	< 4.8	< 4.1	< 5.4	< 5.2	< 5.0	< 5.2	< 4.2
1,1,2-Trichloroethane	5,100	6,300	< 240	< 6.3	< 31,000	< 6,200	< 4.4	< 4.5	< 4.8	< 4.1	< 5.4	< 5.2	< 5.0	< 5.2	< 4.2
1,1-Dichloroethane	16,000	370,000	< 240	< 6.3	< 31,000	< 6,200	< 4.4	< 4.5	< 4.8	< 4.1	< 5.4	< 5.2	< 5.0	< 5.2	< 4.2
1,1-Dichloroethene	350,000	350,000	< 240	< 6.3	< 31,000	< 6,200	< 4.4	< 4.5	< 4.8	< 4.1	< 5.4	< 5.2	< 5.0	< 5.2	< 4.2
1,1-Dichloropropene	--	--	< 240	< 6.3	< 31,000	< 6,200	< 4.4	< 4.5	< 4.8	< 4.1	< 5.4	< 5.2	< 5.0	< 5.2	< 4.2
1,2,3-Trichlorobenzene	--	--	< 240	< 6.3	< 31,000	< 6,200	< 4.4	< 4.5	< 4.8	< 4.1	< 5.4	< 5.2	< 5.0	< 5.2	< 4.2
1,2,3-Trichloropropane	110	830	< 240	< 6.3	< 31,000	< 6,200	< 4.4	< 4.5	< 4.8	< 4.1	< 5.4	< 5.2	< 5.0	< 5.2	< 4.2
1,2,4-Trichlorobenzene	110,000	240,000	< 240	< 6.3	< 31,000	< 6,200	< 4.4	< 4.5	< 4.8	< 4.1	< 5.4	< 5.2	< 5.0	< 5.2	< 4.2
1,2,4-Trimethylbenzene	--	--	< 240	< 6.3	< 31,000	< 6,200	< 4.4	< 4.5	< 4.8	< 4.1	< 5.4	< 5.2	< 5.0	< 5.2	< 4.2
1,2-Dibromo-3-chloropropane (DBCP)	59	1100	< 480	< 13	< 61,000	< 12,000	< 8.7	< 8.9	< 9.6	< 8.2	< 11	< 10	< 10	< 10	< 8.4
1,2-Dibromoethane (Ethylene Dibromide)	160	3300	< 240	< 13	< 31,000	< 6,200	< 8.7	< 8.9	< 9.6	< 8.2	< 11	< 10	< 10	< 10	< 8.4
1,2-Dichlorobenzene	9,400,000	7,800,000	< 240	< 6.3	< 31,000	< 6,200	< 4.4	< 4.5	< 4.8	< 4.1	< 5.4	< 5.2	< 5.0	< 5.2	< 4.2
1,2-Dichloroethane	2,100	45,000	< 240	< 6.3	< 31,000	< 6,200	< 4.4	< 4.5	< 4.8	< 4.1	< 5.4	< 5.2	< 5.0	< 5.2	< 4.2
1,2-Dichloropropane	4,400	66,000	< 240	< 6.3	< 31,000	< 6,200	< 4.4	< 4.5	< 4.8	< 4.1	< 5.4	< 5.2	< 5.0	< 5.2	< 4.2
1,3,5-Trimethylbenzene	--	--	< 240	< 6.3	< 31,000	< 6,200	< 4.4	< 4.5	< 4.8	< 4.1	< 5.4	< 5.2	< 5.0	< 5.2	< 4.2
1,3-Dichlorobenzene	--	--	< 240	< 6.3	< 31,000	< 6,200	< 4.4	< 4.5	< 4.8	< 4.1	< 5.4	< 5.2	< 5.0	< 5.2	< 4.2
1,3-Dichloropropane	--	--	< 240	< 6.3	< 31,000	< 6,200	< 4.4	< 4.5	< 4.8	< 4.1	< 5.4	< 5.2	< 5.0	< 5.2	< 4.2
1,4-Dichlorobenzene	12,000	280,000	< 240	< 6.3	< 31,000	< 6,200	< 4.4	< 4.5	< 4.8	< 4.1	< 5.4	< 5.2	< 5.0	< 5.2	< 4.2
2,2-Dichloropropane	--	--	< 240	< 6.3	< 31,000	< 6,200	< 4.4	< 4.5	< 4.8	< 4.1	< 5.4	< 5.2	< 5.0	< 5.2	< 4.2
2-Butanone (Methyl Ethyl Ketone)	200,000,000	120,000,000	< 600	< 13	< 76,000	< 15,000	< 8.7	< 8.9	< 9.6	< 8.2	< 11	< 10	< 10	< 10	< 8.4
2-Chlorotoluene	--	--	< 240	< 6.3	< 31,000	< 6,200	< 4.4	< 4.5	< 4.8	< 4.1	< 5.4	< 5.2	< 5.0	< 5.2	< 4.2
2-Hexanone (Methyl Butyl Ketone)	--	--	< 600	< 13	< 76,000	< 15,000	< 8.7	< 8.9	< 9.6	< 8.2	< 11	< 10	< 10	< 10	< 8.4
2-Phenylbutane (sec-Butylbenzene)	--	--	< 240	< 6.3	< 31,000	< 6,200	< 4.4	< 4.5	< 4.8	< 4.1	< 5.4	< 5.2	< 5.0	< 5.2	< 4.2
4-Chlorotoluene	--	--	< 240	< 6.3	< 31,000	< 6,200	< 4.4	< 4.5	< 4.8	< 4.1	< 5.4	< 5.2	< 5.0	< 5.2	< 4.2
4-Methyl-2-Pentanone (Methyl Isobutyl Ketone)	140,000,000	140,000,000	< 600	< 13	< 76,000	< 15,000	< 8.7	< 8.9	< 9.6	< 8.2	< 11	< 10	< 10	< 10	< 8.4
Acetone	670,000,000	270,000,000	< 2,400	**47**	< 310,000	< 62,000	**33**	**57**	**48**	**35**	< 21	< 21	**29**	< 21	**22**
Benzene	1,400	33,000	< 240	< 6.3	< 31,000	**9,900**	< 4.4	< 4.5	< 4.8	< 4.1	< 5.4	< 5.2	< 5.0	< 5.2	< 4.2
Bromobenzene	--	--	< 240	< 6.3	< 31,000	< 6,200	< 4.4	< 4.5	< 4.8	< 4.1	< 5.4	< 5.2	< 5.0	< 5.2	< 4.2
Bromodichloromethane	1,300	28,000	< 240	< 6.3	< 31,000	< 6,200	< 4.4	< 4.5	< 4.8	< 4.1	< 5.4	< 5.2	< 5.0	< 5.2	< 4.2
Bromoform	80,000	1,200,000	< 240	< 6.3	< 31,000	< 6,200	< 4.4	< 4.5	< 4.8	< 4.1	< 5.4	< 5.2	< 5.0	< 5.2	< 4.2
Bromomethane (Methyl Bromide)	30,000	29,000	< 480	< 6.3	< 61,000	< 12,000	< 4.4	< 4.5	< 4.8	< 4.1	< 5.4	< 5.2	< 5.0	< 5.2	< 4.2
Carbon disulfide	--	--	< 480	< 13	< 61,000	< 12,000	< 8.7	< 8.9	< 9.6	< 8.2	< 11	< 10	< 10	< 10	< 8.4
Carbon tetrachloride	2,700	53,000	< 240	< 6.3	< 31,000	< 6,200	< 4.4	< 4.5	< 4.8	< 4.1	< 5.4	< 5.2	< 5.0	< 5.2	< 4.2
Chlorobenzene	1,300,000	1,200,000	< 240	< 6.3	< 31,000	< 6,200	< 4.4	< 4.5	< 4.8	< 4.1	< 5.4	< 5.2	< 5.0	< 5.2	< 4.2
Chlorobromomethane	--	--	< 240	< 6.3	< 31,000	< 6,200	< 4.4	< 4.5	< 4.8	< 4.1	< 5.4	< 5.2	< 5.0	< 5.2	< 4.2
Chloroethane	59,000,000	59,000,000	< 240	< 6.3	< 31,000	< 6,200	< 4.4	< 4.5	< 4.8	< 4.1	< 5.4	< 5.2	< 5.0	< 5.2	< 4.2
Chloroform (Trichloromethane)	1,400	34,000	< 240	< 6.3	< 31,000	< 6,200	< 4.4	< 4.5	< 4.8	< 4.1	< 5.4	< 5.2	< 5.0	< 5.2	< 4.2
Chloromethane (Methyl Chloride)	470,000	470,000	< 240	< 6.3	< 31,000	< 6,200	< 4.4	< 4.5	< 4.8	< 4.1	< 5.4	< 5.2	< 5.0	< 5.2	< 4.2
cis-1,2-Dichloroethene	85,000	78,000	< 240	< 6.3	< 31,000	< 6,200	< 4.4	< 4.5	< 4.8	< 4.1	< 5.4	< 5.2	< 5.0	< 5.2	< 4.2
cis-1,3-Dichloropropene	--	--	< 240	< 6.3	< 31,000	< 6,200	< 4.4	< 4.5	< 4.8	< 4.1	< 5.4	< 5.2	< 5.0	< 5.2	< 4.2
Cymene (p-Isopropyltoluene)	--	--	< 240	< 6.3	< 31,000	< 6,200	< 4.4	< 4.5	< 4.8	< 4.1	< 5.4	< 5.2	< 5.0	< 5.2	< 4.2
Dibromochloromethane	39,000	290,000	< 240	< 6.3	< 31,000	< 6,200	< 4.4	< 4.5	< 4.8	< 4.1	< 5.4	< 5.2	< 5.0	< 5.2	< 4.2
Dibromomethane	--	--	< 240	< 6.3	< 31,000	< 6,200	< 4.4	< 4.5	< 4.8	< 4.1	< 5.4	< 5.2	< 5.0	< 5.2	< 4.2
Dichlorodifluoromethane (CFC-12)	--	--	< 240	< 6.3	< 31,000	< 6,200	< 4.4	< 4.5	< 4.8	< 4.1	< 5.4	< 5.2	< 5.0	< 5.2	< 4.2

TABLE 1
SUMMARY OF SOIL ANALYTICAL RESULTS
8000 SOUTH COLISEUM WAY
OAKLAND, CALIFORNIA

Location	Commercial/ Industrial ESL	Construction Worker ESL	SB-01	SB-01	SB-02	SB-02	SB-03	SB-03	SB-04	SB-04	SB-05	SB-05	SB-05	SB-06	SB-06
Sample Date			01/26/2023	01/26/2023	01/26/2023	01/26/2023	01/26/2023	01/26/2023	01/26/2023	01/26/2023	01/26/2023	01/26/2023	01/26/2023	01/26/2023	01/26/2023
Sample Type			Primary	Primary	Primary	Primary	Primary	Primary	Primary	Primary	Primary	Duplicate	Primary	Primary	Primary
Sample Depth (bgs)			3 (ft)	5 (ft)	6 (ft)	7 (ft)	5 (ft)	7 (ft)	4.5 (ft)	6.5 (ft)	7.5 (ft)	7.5 (ft)	10.5 (ft)	2 (ft)	4 (ft)
Volatile Organic Compounds (µg/kg)															
Diisopropyl ether (DIPE)	--	--	< 240	< 13	< 31,000	< 6,200	< 8.7	< 8.9	< 9.6	< 8.2	< 11	< 10	< 10	< 10	< 8.4
Ethylbenzene	26,000	540,000	< 240	< 6.3	< 31,000	**23,000**	< 4.4	< 4.5	< 4.8	< 4.1	< 5.4	< 5.2	< 5.0	< 5.2	< 4.2
Hexachlorobutadiene	5,300	100,000	< 240	< 6.3	< 31,000	< 6,200	< 4.4	< 4.5	< 4.8	< 4.1	< 5.4	< 5.2	< 5.0	< 5.2	< 4.2
Isopropylbenzene (Cumene)	--	--	< 240	< 6.3	< 31,000	< 6,200	< 4.4	< 4.5	< 4.8	< 4.1	< 5.4	< 5.2	< 5.0	< 5.2	< 4.2
m,p-Xylenes	2,500,000	--	< 240	< 6.3	< 31,000	**13,000**	< 4.4	< 4.5	< 4.8	< 4.1	< 5.4	< 5.2	< 5.0	< 5.2	< 4.2
Methyl Tert Butyl Ether (MTBE)	210,000	4,100,000	< 480	< 13	< 61,000	< 12,000	< 8.7	< 8.9	< 9.6	< 8.2	< 11	< 10	< 10	< 10	< 8.4
Methylene chloride (Dichloromethane)	25,000	490,000	< 240	< 13	< 31,000	< 6,200	< 8.7	< 8.9	< 9.6	< 8.2	< 11	< 10	< 10	< 10	< 8.4
Naphthalene	17,000	400,000	**700**	< 6.3	**570,000**	**48,000**	< 4.4	< 4.5	< 4.8	< 4.1	< 5.4	< 5.2	< 5.0	< 5.2	< 4.2
n-Butylbenzene	--	--	< 240	< 6.3	< 31,000	< 6,200	< 4.4	< 4.5	< 4.8	< 4.1	< 5.4	< 5.2	< 5.0	< 5.2	< 4.2
n-Propylbenzene	--	--	< 240	< 6.3	< 31,000	< 6,200	< 4.4	< 4.5	< 4.8	< 4.1	< 5.4	< 5.2	< 5.0	< 5.2	< 4.2
o-Xylene	2,500,000	--	< 240	< 6.3	< 31,000	< 6,200	< 4.4	< 4.5	< 4.8	< 4.1	< 5.4	< 5.2	< 5.0	< 5.2	< 4.2
Styrene	33,000,000	25,000,000	< 240	< 6.3	< 31,000	< 6,200	< 4.4	< 4.5	< 4.8	< 4.1	< 5.4	< 5.2	< 5.0	< 5.2	< 4.2
Tert-Amyl Methyl Ether (TAME)	--	--	< 240	< 13	< 31,000	< 6,200	< 8.7	< 8.9	< 9.6	< 8.2	< 11	< 10	< 10	< 10	< 8.4
Tert-Butyl Alcohol (tert-Butanol)	--	--	< 4,800	< 320	< 610,000	< 120,000	< 220	< 220	< 240	< 210	< 270	< 260	< 250	< 260	< 210
Tert-Butyl Ethyl Ether (ETBE)	--	--	< 240	< 13	< 31,000	< 6,200	< 8.7	< 8.9	< 9.6	< 8.2	< 11	< 10	< 10	< 10	< 8.4
tert-Butylbenzene	--	--	< 240	< 6.3	< 31,000	< 6,200	< 4.4	< 4.5	< 4.8	< 4.1	< 5.4	< 5.2	< 5.0	< 5.2	< 4.2
Tetrachloroethene	2,700	33,000	< 240	< 6.3	< 31,000	< 6,200	< 4.4	< 4.5	< 4.8	< 4.1	< 5.4	< 5.2	< 5.0	< 5.2	< 4.2
Toluene	5,300,000	4,700,000	< 240	< 6.3	< 31,000	< 6,200	< 4.4	< 4.5	< 4.8	< 4.1	< 5.4	< 5.2	< 5.0	< 5.2	< 4.2
Total Petroleum Hydrocarbons (C4-C12) as Gasoline	2,000,000	1,800,000	**35,000**	**1,000**	**730,000**	< 120,000	< 440	< 450	< 480	< 410	< 540	< 520	< 500	< 520	< 420
trans-1,2-Dichloroethene	600,000	570,000	< 240	< 6.3	< 31,000	< 6,200	< 4.4	< 4.5	< 4.8	< 4.1	< 5.4	< 5.2	< 5.0	< 5.2	< 4.2
trans-1,3-Dichloropropene	--	--	< 240	< 6.3	< 31,000	< 6,200	< 4.4	< 4.5	< 4.8	< 4.1	< 5.4	< 5.2	< 5.0	< 5.2	< 4.2
Trichloroethene	6,100	18,000	< 240	< 6.3	< 31,000	< 6,200	< 4.4	< 4.5	< 4.8	< 4.1	< 5.4	< 5.2	< 5.0	< 5.2	< 4.2
Trichlorofluoromethane (CFC-11)	--	--	< 240	< 6.3	< 31,000	< 6,200	< 4.4	< 4.5	< 4.8	< 4.1	< 5.4	< 5.2	< 5.0	< 5.2	< 4.2
Trifluorotrichloroethane (Freon 113)	--	--	< 240	< 13	< 31,000	< 6,200	< 8.7	< 8.9	< 9.6	< 8.2	< 11	< 10	< 10	< 10	< 8.4
Vinyl acetate	--	--	< 240	< 13	< 31,000	< 6,200	< 8.7	< 8.9	< 9.6	< 8.2	< 11	< 10	< 10	< 10	< 8.4
Vinyl chloride	150	3400	< 240	< 6.3	< 31,000	< 6,200	< 4.4	< 4.5	< 4.8	< 4.1	< 5.4	< 5.2	< 5.0	< 5.2	< 4.2
Xylene (Total)	2,500,000	2,400,000	< 240	< 6.3	< 31,000	**13,000**	< 4.4	< 4.5	< 4.8	< 4.1	< 5.4	< 5.2	< 5.0	< 5.2	< 4.2

Notes:

µg/kg= micrograms per kilogram
ft bgs = feet below ground surface
Commercial/Industrial ESL = Commercial/Industrial Direct Exposure Environmental Screening Level (ESL) established by the San Francisco Bay Regional Water Quality Control Board, July 2019 (Rev. 2)
Construction Worker ESL = Construction Worker Direct Exposure ESL established by the San Francisco Bay Regional Water Quality Control Board, July 2019 (Rev. 2)
Highlighted concentration exceeds the Commercial/Industrial ESL.
Highlighted concentration exceeds the Construction Worker ESL and the Commercial/Industrial ESL.
Analytical results are reported as dry weight.
Non-detects are reported to the laboratory reporting limit (<RL).
Detects are ***bolded*** *.*
Analyses were completed using United States Environmental Protection Agency Method 8260B.

TABLE 2
SUMMARY OF GROUNDWATER ANALYTICAL RESULTS
8000 SOUTH COLISEUM WAY
OAKLAND, CALIFORNIA

Location Sample ID Collection Method Tide Sample Date Sample Type	Aquatic Habitat, Saltwater Ecotoxicity ESL	Aquatic Habitat, Fresh Water Ecotoxicity ESL	SB-01 SB-01-GW-LT Low-Flow Low Tide 01/27/2023 Primary	SB-01 SB-01-GW-G-HT Grab High Tide 01/26/2023 Primary	SB-01 SB-01-GW-HT Low-Flow High Tide 01/26/2023 Primary	SB-02 SB-02-GW-LT Low-Flow Low Tide 01/26/2023 Primary	SB-02 SB-02-GW-HT Low-Flow High Tide 01/26/2023 Primary	SB-03 SB-03-GW-G-LT Grab Low Tide 01/27/2023 Primary	SB-03 SB-03-GW-LT Low-Flow Low Tide 01/27/2023 Primary	SB-03 SB-03-GW-HT Low-Flow High Tide 01/27/2023 Primary	SB-04 SB-04-GW-G-HT Grab High Tide 01/27/2023 Primary	SB-04 SB-04-GW-G-LT Grab Low Tide 01/27/2023 Primary	SB-05 SB-05-GW-G-HT Grab High Tide 01/27/2023 Primary	SB-05 SB-05-GW-G-LT Grab Low Tide 01/27/2023 Primary	SB-06 SB-06-GW-HT Low-Flow High Tide 01/26/2023 Primary	SB-06 SB-06-GW-LT Low-Flow Low Tide 01/27/2023 Primary	SB-06 DUP-01-GW Low-Flow Low Tide 01/27/2023 Duplicate
Volatile Organic Compounds (µg/L)																	
1,1,1,2-Tetrachloroethane	--	930	< 5.0	< 5.0	< 0.50	< 10 J	< 5.0 J	< 0.50 J	< 0.50 J	< 5.0 J	< 5.0 J	< 5.0 J	< 5.0	< 5.0	< 0.50	< 0.50	< 0.50
1,1,1-Trichloroethane	3100	62	< 5.0	< 5.0	< 0.50	< 10 J	< 5.0 J	< 0.50 J	< 0.50 J	< 5.0 J	< 5.0 J	< 5.0 J	< 5.0	< 5.0	< 0.50	< 0.50	< 0.50
1,1,2,2-Tetrachloroethane	900	420	< 5.0	< 5.0	< 0.50	< 10 J	< 5.0 J	< 0.50 J	< 0.50 J	< 5.0 J	< 5.0 J	< 5.0 J	< 5.0	< 5.0	< 0.50	< 0.50	< 0.50
1,1,2-Trichloroethane	--	4700	< 5.0	< 5.0	< 0.50	< 10 J	< 5.0 J	< 0.50 J	< 0.50 J	< 5.0 J	< 5.0 J	< 5.0 J	< 5.0	< 5.0	< 0.50	< 0.50	< 0.50
1,1-Dichloroethane	--	47	< 5.0	< 5.0	< 0.50	< 10 J	< 5.0 J	< 0.50 J	< 0.50 J	< 5.0 J	< 5.0 J	< 5.0 J	< 5.0	< 5.0	< 0.50	< 0.50	< 0.50
1,1-Dichloroethene	22000	25	< 5.0	< 5.0	< 0.50	< 10 J	< 5.0 J	< 0.50 J	< 0.50 J	< 5.0 J	< 5.0 J	< 5.0 J	< 5.0	< 5.0	< 0.50	< 0.50	< 0.50
1,1-Dichloropropene	--	--	< 5.0	< 5.0	< 0.50	< 10 J	< 5.0 J	< 0.50 J	< 0.50 J	< 5.0 J	< 5.0 J	< 5.0 J	< 5.0	< 5.0	< 0.50	< 0.50	< 0.50
1,2,3-Trichlorobenzene	--	--	< 10	< 10	< 1.0	< 20 J	< 10 J	< 1.0 J	< 1.0 J	< 10 J	< 10 J	< 10 J	< 10	< 10	< 1.0	< 1.0	< 1.0
1,2,3-Trichloropropane	0.006	2700	< 10	< 10	< 1.0	< 20 J	< 10 J	< 1.0 J	< 1.0 J	< 10 J	< 10 J	< 10 J	< 10	< 10	< 1.0	< 1.0	< 1.0
1,2,4-Trichlorobenzene	65	25	< 10	< 10	< 1.0	< 20 J	< 10 J	< 1.0 J	< 1.0 J	< 10 J	< 10 J	< 10 J	< 10	< 10	< 1.0	< 1.0	< 1.0
1,2,4-Trimethylbenzene	--	--	< 10	< 10	< 1.0	< 20 J	< 10 J	< 1.0 J	< 1.0 J	< 10 J	< 10 J	< 10 J	< 10	< 10	< 1.0	< 1.0	< 1.0
1,2-Dibromo-3-chloropropane (DBCP)	--	--	< 10	< 10	< 1.0	< 20 J	< 10 J	< 1.0 J	< 1.0 J	< 10 J	< 10 J	< 10 J	< 10	< 10	< 1.0	< 1.0	< 1.0
1,2-Dibromoethane (Ethylene Dibromide)	--	1400	< 5.0	< 5.0	< 0.50	< 10 J	< 5.0 J	< 0.50 J	< 0.50 J	< 5.0 J	< 5.0 J	< 5.0 J	< 5.0	< 5.0	< 0.50	< 0.50	< 0.50
1,2-Dichlorobenzene	65	14	< 5.0	< 5.0	< 0.50	< 10 J	< 5.0 J	< 0.50 J	< 0.50 J	< 5.0 J	< 5.0 J	< 5.0 J	< 5.0	< 5.0	< 0.50	< 0.50	< 0.50
1,2-Dichloroethane	11000	10000	< 5.0	< 5.0	< 0.50	< 10 J	< 5.0 J	< 0.50 J	< 0.50 J	< 5.0 J	< 5.0 J	< 5.0 J	< 5.0	< 5.0	< 0.50	< 0.50	< 0.50
1,2-Dichloropropane	1500	2900	< 5.0	< 5.0	< 0.50	< 10 J	< 5.0 J	< 0.50 J	< 0.50 J	< 5.0 J	< 5.0 J	< 5.0 J	< 5.0	< 5.0	< 0.50	< 0.50	< 0.50
1,3,5-Trimethylbenzene	--	--	< 5.0	< 5.0	< 0.50	< 10 J	< 5.0 J	< 0.50 J	< 0.50 J	< 5.0 J	< 5.0 J	< 5.0 J	< 5.0	< 5.0	< 0.50	< 0.50	< 0.50
1,3-Dichlorobenzene	65	71	< 5.0	< 5.0	< 0.50	< 10 J	< 5.0 J	< 0.50 J	< 0.50 J	< 5.0 J	< 5.0 J	< 5.0 J	< 5.0	< 5.0	< 0.50	< 0.50	< 0.50
1,3-Dichloropropane	--	--	< 10	< 10	< 1.0	< 20 J	< 10 J	< 1.0 J	< 1.0 J	< 10 J	< 10 J	< 10 J	< 10	< 10	< 1.0	< 1.0	< 1.0
1,4-Dichlorobenzene	65	15	< 5.0	< 5.0	< 0.50	< 10 J	< 5.0 J	< 0.50 J	< 0.50 J	< 5.0 J	< 5.0 J	< 5.0 J	< 5.0	< 5.0	< 0.50	< 0.50	< 0.50
2,2-Dichloropropane	--	--	< 10	< 10	< 1.0	< 20 J	< 10 J	< 1.0 J	< 1.0 J	< 10 J	< 10 J	< 10 J	< 10	< 10	< 1.0	< 1.0	< 1.0
2-Butanone (Methyl Ethyl Ketone)	--	14000	< 20	< 20	< 2.0	< 40 J	< 20 J	**2.8 J**	< 2.0 J	< 20 J	< 20 J	< 20 J	< 20	< 20	< 2.0	< 2.0	< 2.0
2-Chlorotoluene	--	--	< 5.0	< 5.0	< 0.50	< 10 J	< 5.0 J	< 0.50 J	< 0.50 J	< 5.0 J	< 5.0 J	< 5.0 J	< 5.0	< 5.0	< 0.50	< 0.50	< 0.50
2-Hexanone (Methyl Butyl Ketone)	--	--	< 20	< 20	< 2.0	< 40 J	< 20 J	< 2.0 J	< 2.0 J	< 20 J	< 20 J	< 20 J	< 20	< 20	< 2.0	< 2.0	< 2.0
2-Phenylbutane (sec-Butylbenzene)	--	--	< 10	< 10	< 1.0	< 20 J	< 10 J	< 1.0 J	< 1.0 J	< 10 J	< 10 J	< 10 J	< 10	< 10	< 1.0	< 1.0	< 1.0
4-Chlorotoluene	--	--	< 5.0	< 5.0	< 0.50	< 10 J	< 5.0 J	< 0.50 J	< 0.50 J	< 5.0 J	< 5.0 J	< 5.0 J	< 5.0	< 5.0	< 0.50	< 0.50	< 0.50
4-Methyl-2-Pentanone (Methyl Isobutyl Ketone)	--	170	< 20	< 20	< 2.0	< 40 J	< 20 J	< 2.0 J	< 2.0 J	< 20 J	< 20 J	< 20 J	< 20	< 20	< 2.0	< 2.0	< 2.0
Acetone	--	1500	< 100	< 100	**13**	< 200 J	< 100 J	**13 J**	< 10 J	< 100 J	< 100 J	< 100 J	< 100	< 100	< 10	< 10	< 10
Benzene	350	46	< 5.0	< 5.0	< 0.50	**40 J**	**17 J**	< 0.50 J	< 0.50 J	< 5.0 J	< 5.0 J	< 5.0 J	< 5.0	< 5.0	< 0.50	< 0.50	< 0.50
Bromobenzene	--	--	< 10	< 10	< 1.0	< 20 J	< 10 J	< 1.0 J	< 1.0 J	< 10 J	< 10 J	< 10 J	< 10	< 10	< 1.0	< 1.0	< 1.0
Bromodichloromethane	3200	1100	< 5.0	< 5.0	< 0.50	< 10 J	< 5.0 J	< 0.50 J	< 0.50 J	< 5.0 J	< 5.0 J	< 5.0 J	< 5.0	< 5.0	< 0.50	< 0.50	< 0.50
Bromoform	3200	1100	< 10	< 10	< 1.0	< 20 J	< 10 J	< 1.0 J	< 1.0 J	< 10 J	< 10 J	< 10 J	< 10	< 10	< 1.0	< 1.0	< 1.0
Bromomethane (Methyl Bromide)	3200	160	< 10	< 10	< 1.0	< 20 J	< 10 J	< 1.0 J	< 1.0 J	< 10 J	< 10 J	< 10 J	< 10	< 10	< 1.0	< 1.0	< 1.0
Carbon disulfide	--	--	< 20	< 20	< 2.0	< 40 J	< 20 J	< 2.0 J	< 2.0 J	< 20 J	< 20 J	< 20 J	< 20	< 20	< 2.0	< 2.0	< 2.0
Carbon tetrachloride	3200	240	< 5.0	< 5.0	< 0.50	< 10 J	< 5.0 J	< 0.50 J	< 0.50 J	< 5.0 J	< 5.0 J	< 5.0 J	< 5.0	< 5.0	< 0.50	< 0.50	< 0.50
Chlorobenzene	65	25	< 5.0	< 5.0	< 0.50	< 10 J	< 5.0 J	< 0.50 J	< 0.50 J	< 5.0 J	< 5.0 J	< 5.0 J	< 5.0	< 5.0	< 0.50	< 0.50	< 0.50
Chlorobromomethane	--	--	< 10	< 10	< 1.0	< 20 J	< 10 J	< 1.0 J	< 1.0 J	< 10 J	< 10 J	< 10 J	< 10	< 10	< 1.0	< 1.0	< 1.0
Chloroethane	--	--	< 10	< 10	< 1.0	< 20 J	< 10 J	< 1.0 J	< 1.0 J	< 10 J	< 10 J	< 10 J	< 10	< 10	< 1.0	< 1.0	< 1.0
Chloroform (Trichloromethane)	3200	620	< 10	< 10	< 1.0	< 20 J	< 10 J	< 1.0 J	< 1.0 J	< 10 J	< 10 J	< 10 J	< 10	< 10	< 1.0	< 1.0	< 1.0
Chloromethane (Methyl Chloride)	3200	1100	< 10	< 10	< 1.0	< 20 J	< 10 J	< 1.0 J	< 1.0 J	< 10 J	< 10 J	< 10 J	< 10	< 10	< 1.0	< 1.0	< 1.0
cis-1,2-Dichloroethene	22000	590	< 5.0	< 5.0	< 0.50	< 10 J	< 5.0 J	< 0.50 J	< 0.50 J	< 5.0 J	< 5.0 J	< 5.0 J	< 5.0	< 5.0	< 0.50	< 0.50	< 0.50
cis-1,3-Dichloropropene	--	--	< 5.0	< 5.0	< 0.50	< 10 J	< 5.0 J	< 0.50 J	< 0.50 J	< 5.0 J	< 5.0 J	< 5.0 J	< 5.0	< 5.0	< 0.50	< 0.50	< 0.50
Cymene (p-Isopropyltoluene)	--	--	< 10	< 10	< 1.0	< 20 J	< 10 J	< 1.0 J	< 1.0 J	< 10 J	< 10 J	< 10 J	< 10	< 10	< 1.0	< 1.0	< 1.0
Dibromochloromethane	3200	1100	< 5.0	< 5.0	< 0.50	< 10 J	< 5.0 J	< 0.50 J	< 0.50 J	< 5.0 J	< 5.0 J	< 5.0 J	< 5.0	< 5.0	< 0.50	< 0.50	< 0.50
Dibromomethane	--	--	< 5.0	< 5.0	< 0.50	< 10 J	< 5.0 J	< 0.50 J	< 0.50 J	< 5.0 J	< 5.0 J	< 5.0 J	< 5.0	< 5.0	< 0.50	< 0.50	< 0.50
Dichlorodifluoromethane (CFC-12)	--	--	< 10	< 10	< 1.0	< 20 J	< 10 J	< 1.0 J	< 1.0 J	< 10 J	< 10 J	< 10 J	< 10	< 10	< 1.0	< 1.0	< 1.0
Diisopropyl ether (DIPE)	--	--	< 10	< 10	< 1.0	< 20 J	< 10 J	**15 J**	**14 J**	**20 J**	< 10 J	< 10 J	< 10	< 10	< 1.0	< 1.0	< 1.0
Ethylbenzene	43	290	< 5.0	< 5.0	< 0.50	**76 J**	**43 J**	< 0.50 J	< 0.50 J	< 5.0 J	< 5.0 J	< 5.0 J	< 5.0	< 5.0	< 0.50	< 0.50	< 0.50
Hexachlorobutadiene	3.2	4.7	< 10	< 10	< 1.0	< 20 J	< 10 J	< 1.0 J	< 1.0 J	< 10 J	< 10 J	< 10 J	< 10	< 10	< 1.0	< 1.0	< 1.0
Isopropylbenzene (Cumene)	--	--	< 5.0	< 5.0	< 0.50	< 10 J	< 5.0 J	< 0.50 J	< 0.50 J	< 5.0 J	< 5.0 J	< 5.0 J	< 5.0	< 5.0	< 0.50	< 0.50	< 0.50

TABLE 2
SUMMARY OF GROUNDWATER ANALYTICAL RESULTS
8000 SOUTH COLISEUM WAY
OAKLAND, CALIFORNIA

Location Sample ID Collection Method Tide Sample Date Sample Type	Aquatic Habitat, Saltwater Ecotoxicity ESL	Aquatic Habitat, Fresh Water Ecotoxicity ESL	SB-01 SB-01-GW-LT Low-Flow Low Tide 01/27/2023 Primary	SB-01 SB-01-GW-G-HT Grab High Tide 01/26/2023 Primary	SB-01 SB-01-GW-HT Low-Flow High Tide 01/26/2023 Primary	SB-02 SB-02-GW-LT Low-Flow Low Tide 01/26/2023 Primary	SB-02 SB-02-GW-HT Low-Flow High Tide 01/26/2023 Primary	SB-03 SB-03-GW-G-LT Grab Low Tide 01/27/2023 Primary	SB-03 SB-03-GW-LT Low-Flow Low Tide 01/27/2023 Primary	SB-03 SB-03-GW-HT Low-Flow High Tide 01/27/2023 Primary	SB-04 SB-04-GW-G-HT Grab High Tide 01/27/2023 Primary	SB-04 SB-04-GW-G-LT Grab Low Tide 01/27/2023 Primary	SB-05 SB-05-GW-G-HT Grab High Tide 01/27/2023 Primary	SB-05 SB-05-GW-G-LT Grab Low Tide 01/27/2023 Primary	SB-06 SB-06-GW-HT Low-Flow High Tide 01/26/2023 Primary	SB-06 SB-06-GW-LT Low-Flow Low Tide 01/27/2023 Primary	SB-06 DUP-01-GW Low-Flow Low Tide 01/27/2023 Duplicate
Volatile Organic Compounds (µg/L)																	
m,p-Xylenes	100	--	< 5.0	< 5.0	< 0.50	**42 J**	**24 J**	< 0.50 J	< 0.50 J	< 5.0 J	< 5.0 J	< 5.0 J	< 5.0	< 5.0	< 0.50	< 0.50	< 0.50
Methyl Tert Butyl Ether (MTBE)	8000	66000	< 5.0	< 5.0	< 0.50	< 10 J	< 5.0 J	**0.85 J**	**0.93 J**	< 5.0 J	< 5.0 J	< 5.0 J	< 5.0	< 5.0	< 0.50	< 0.50	< 0.50
Methylene chloride (Dichloromethane)	3200	2200	< 10	< 10	< 1.0	< 20 J	< 10 J	< 1.0 J	< 1.0 J	< 10 J	< 10 J	< 10 J	< 10	< 10	< 1.0	< 1.0	< 1.0
Naphthalene	15	24	< 10	< 10	**2.2**	**460 J**	**340 J**	< 1.0 J	< 1.0 J	< 10 J	< 10 J	< 10 J	< 10	< 10	< 1.0	< 1.0	< 1.0
n-Butylbenzene	--	--	< 10	< 10	< 1.0	< 20 J	< 10 J	< 1.0 J	< 1.0 J	< 10 J	< 10 J	< 10 J	< 10	< 10	< 1.0	< 1.0	< 1.0
n-Propylbenzene	--	--	< 10	< 10	< 1.0	< 20 J	< 10 J	< 1.0 J	< 1.0 J	< 10 J	< 10 J	< 10 J	< 10	< 10	< 1.0	< 1.0	< 1.0
o-Xylene	100	--	< 5.0	< 5.0	< 0.50	**22 J**	**12 J**	< 0.50 J	< 0.50 J	< 5.0 J	< 5.0 J	< 5.0 J	< 5.0	< 5.0	< 0.50	< 0.50	< 0.50
Styrene	--	--	< 5.0	< 5.0	< 0.50	< 10 J	< 5.0 J	< 0.50 J	< 0.50 J	< 5.0 J	< 5.0 J	< 5.0 J	< 5.0	< 5.0	< 0.50	< 0.50	< 0.50
Tert-Amyl Methyl Ether (TAME)	--	--	< 10	< 10	< 1.0	< 20 J	< 10 J	< 1.0 J	< 1.0 J	< 10 J	< 10 J	< 10 J	< 10	< 10	< 1.0	< 1.0	< 1.0
Tert-Butyl Alcohol (tert-Butanol)	--	18000	< 200	< 200	< 20	< 400 J	< 200 J	< 20 J	< 20 J	< 200 J	< 200 J	< 200 J	< 200	< 200	< 20	< 20	< 20
Tert-Butyl Ethyl Ether (ETBE)	--	--	< 10	< 10	< 1.0	< 20 J	< 10 J	< 1.0 J	< 1.0 J	< 10 J	< 10 J	< 10 J	< 10	< 10	< 1.0	< 1.0	< 1.0
tert-Butylbenzene	--	--	< 10	< 10	< 1.0	< 20 J	< 10 J	< 1.0 J	< 1.0 J	< 10 J	< 10 J	< 10 J	< 10	< 10	< 1.0	< 1.0	< 1.0
Tetrachloroethene	230	120	< 5.0	< 5.0	< 0.50	< 10 J	< 5.0 J	< 0.50 J	< 0.50 J	< 5.0 J	< 5.0 J	< 5.0 J	< 5.0	< 5.0	< 0.50	< 0.50	< 0.50
Toluene	2500	130	< 5.0	< 5.0	< 0.50	< 10 J	< 5.0 J	< 0.50 J	< 0.50 J	< 5.0 J	< 5.0 J	< 5.0 J	< 5.0	< 5.0	< 0.50	< 0.50	< 0.50
Total Petroleum Hydrocarbons (C4-C12) as Gasoline	3700	440	< 500	< 500	**82**	< 1,000 J	< 500 J	< 50 J	**92 J**	< 500 J	< 500 J	< 500 J	< 500	< 500	< 50	< 50	< 50
trans-1,2-Dichloroethene	22000	590	< 5.0	< 5.0	< 0.50	< 10 J	< 5.0 J	< 0.50 J	< 0.50 J	< 5.0 J	< 5.0 J	< 5.0 J	< 5.0	< 5.0	< 0.50	< 0.50	< 0.50
trans-1,3-Dichloropropene	--	--	< 5.0	< 5.0	< 0.50	< 10 J	< 5.0 J	< 0.50 J	< 0.50 J	< 5.0 J	< 5.0 J	< 5.0 J	< 5.0	< 5.0	< 0.50	< 0.50	< 0.50
Trichloroethene	200	360	< 5.0	< 5.0	< 0.50	< 10 J	< 5.0 J	< 0.50 J	< 0.50 J	< 5.0 J	< 5.0 J	< 5.0 J	< 5.0	< 5.0	< 0.50	< 0.50	< 0.50
Trichlorofluoromethane (CFC-11)	--	--	< 10	< 10	< 1.0	< 20 J	< 10 J	< 1.0 J	< 1.0 J	< 10 J	< 10 J	< 10 J	< 10	< 10	< 1.0	< 1.0	< 1.0
Trifluorotrichloroethane (Freon 113)	--	--	< 5.0	< 5.0	< 0.50	< 10 J	< 5.0 J	< 0.50 J	< 0.50 J	< 5.0 J	< 5.0 J	< 5.0 J	< 5.0	< 5.0	< 0.50	< 0.50	< 0.50
Vinyl acetate	--	--	< 20	< 20	< 2.0	< 40 J	< 20 J	< 2.0 J	< 2.0 J	< 20 J	< 20 J	< 20 J	< 20	< 20	< 2.0	< 2.0	< 2.0
Vinyl chloride	--	780	< 5.0	< 5.0	< 0.50	< 10 J	< 5.0 J	< 0.50 J	< 0.50 J	< 5.0 J	< 5.0 J	< 5.0 J	< 5.0	< 5.0	< 0.50	< 0.50	< 0.50
Xylene (Total)	100	--	< 5.0	< 5.0	< 0.50	**64 J**	**36 J**	< 0.50 J	< 0.50 J	< 5.0 J	< 5.0 J	< 5.0 J	< 5.0	< 5.0	< 0.50	< 0.50	< 0.50

Notes:

µg/L= micrograms per liter

Aquatic Habitat, Saltwater Ecotoxicity ESL = Environmental Screening Level (ESL) which assesses potential adverse effects to aquatic receptors based on accepted toxicity criteria established by the San Francisco Bay Regional Water Quality Control Board, July 2019 (Rev. 2)

Aquatic Habitat, Fresh Water Ecotoxicity ESL = Environmental Screening Level (ESL) which assesses potential adverse effects to aquatic receptors based on accepted toxicity criteria established by the San Francisco Bay Regional Water Quality Control Board, July 2019 (Rev. 2)

Highlighted concentration exceeds the Aquatic Habitat, Saltwater Ecotoxicity ESL.

Highlighted concentration exceeds the Aquatic Habitat, Fresh Water Ecotoxicity ESL and the Saltwater Ecotoxicity ESL

Non-detects are reported to the laboratory reporting limit (<RL).

Detects are ***bolded*** *.*

Analyses were completed using USEPA method 8260B.

TABLE 3
WATER LEVELS AND GROUNDWATER PARAMETERS
8000 SOUTH COLISEUM WAY
OAKLAND, CALIFORNIA

Boring ID	Measurement Date/Time	Predicted Tide[1]	Predicted Tide Height[2]	Depth to Water (ft bgs)	Conductivity (µS/cm)[3]	Calculated Total Dissolved Solids Concentration (mg/L)[4]
SB-01	1/26/23 10:50 AM	Low-Low	2.05	--	--	--
	1/26/23 11:30 AM	Low-Low	2.52	--	--	--
	1/26/23 4:00 PM	High-High	5.27	5.30[5]	2,111	1,478
	1/27/23 10:23 AM	Low-Low	1.44	5.15[5]	1,925	1,348
SB-02	1/26/23 9:41 AM	Low-Low	1.67	--	--	--
	1/26/23 10:16 AM	Low-Low	1.78	10.35[5]	28,092	19,664
	1/26/23 1:52 PM	High-High	4.72	10.40[5]	28,502	19,951
SB-03	1/27/23 6:40 AM	High-High	4.75	7.80	--	--
	1/27/23 11:00 AM	Low-Low	1.42	8.20	--	--
	1/27/23 11:18 AM	Low-Low	1.48	8.0[5]	6,768	4,738
	1/27/23 11:30 AM	Low-Low	1.53	8.55	--	--
	1/27/23 12:00 PM	Low-Low	1.74	8.84	--	--
	1/27/23 1:30 PM	High-Low	2.85	8.23	--	--
	1/27/23 2:00 PM	Low-High	3.29	8.20	--	--
	1/27/23 2:30 PM	Low-High	3.71	8.20	--	--
	1/27/23 2:50 PM	High-High	3.97	8.20[5]	5,877	4,114
	1/27/23 3:00 PM	High-High	4.08	8.20	--	--
	1/27/23 3:30 PM	High-High	4.39	8.85	--	--
	1/27/23 4:00 PM	High-High	4.60	8.70	--	--
SB-04	1/26/23 3:45 PM	High-High	5.34	--	--	--
	1/27/23 9:46 AM	Low-Low	1.63	7.0[5]	8,715	6,101
	1/27/23 3:30 PM	High-High	4.39	--	--	--
SB-05[6]	1/27/23 7:05 AM	High-High	4.22	--	--	--
	1/27/23 9:15 AM	Low-Low	1.92	--	--	--
	1/27/23 3:10 PM	High-High	4.19	--	--	--
SB-06	1/26/23 12:10 PM	High-Low	3.13	--	--	--
	1/26/23 3:00 PM	High-High	5.32	4.3[5]	1,126	788
	1/27/23 9:10 AM	Low-Low	1.98	4.2[5]	955	669

Abbreviations and Notes:

ft bgs= feet below ground surface

µS/cm= microSiemens per centimeter

mg/L= milligrams per liter

1. Predicted tidal information obtained from National Oceanic and Atmospheric Administration (NOAA): https://tidesandcurrents.noaa.gov/noaatidepredictions.html?id=9414746&units=standard&bdate=20230126&edate=20230127&timezone=LST/LDT&clock=12hour&datum=MLLW&interval=hilo&action=dailychart.

2. Predicted tide height available minute to minute from NOAA, at time of depth to water measurement.

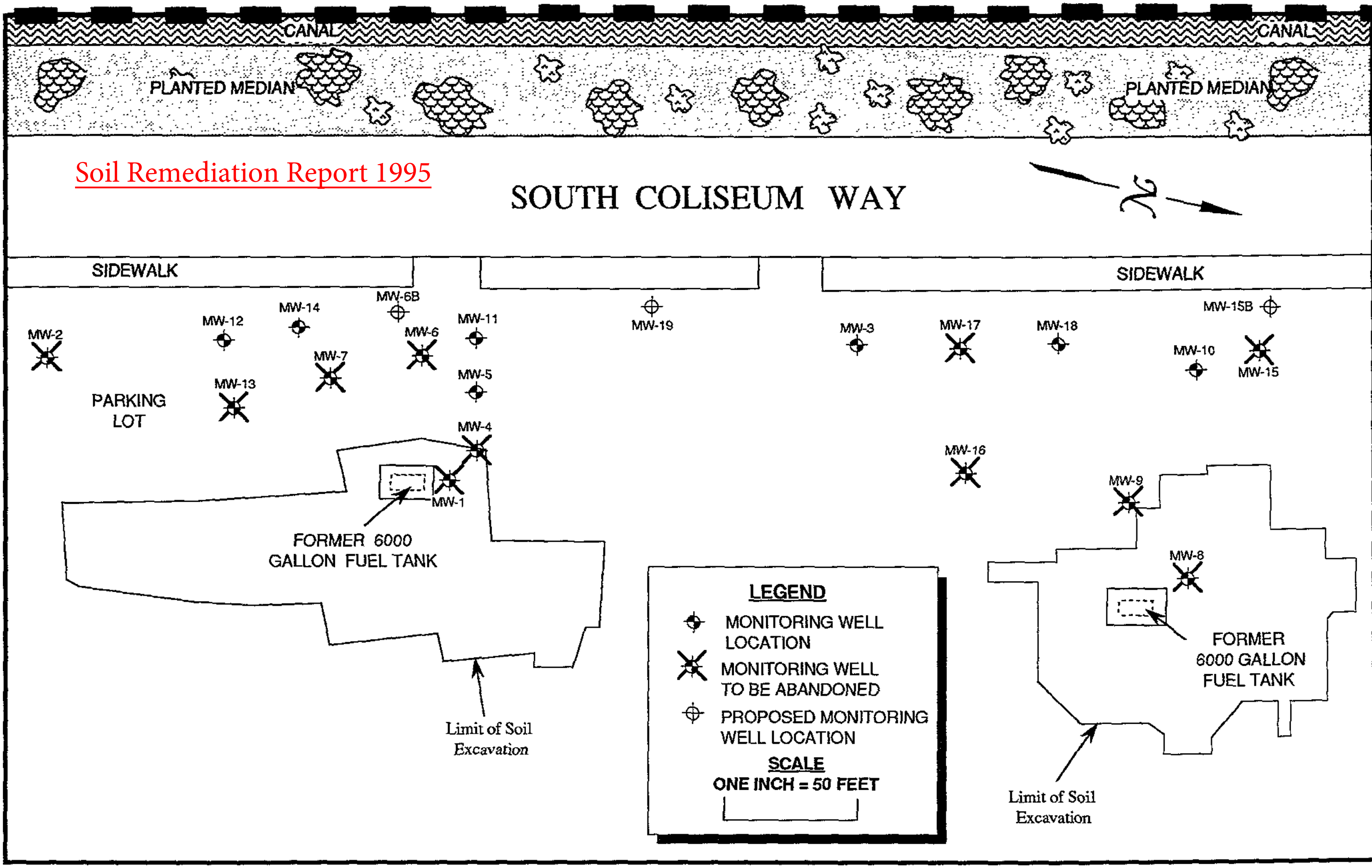
3. Measured during low-flow sampling.

4. Calculated using conductivity measurements [TDS (mg/L) = k_e (constant of proportionality) x conductivity (µS/cm)] where 0.7 is used for $k_{e:}$:https://iwaponline.com/wst/article/77/8/1998/38602/Relationship-between-total-dissolved-solids-and.

5. Low-flow sampling procedure conducted immediately following collection of depth to water measurement.

6. Boring SB-05 was purged dry at 0931 on 27 January 2023 in an attempt to low-flow sample; therefore, conductivity could not be measured

APPENDIX B
Key Site Figures



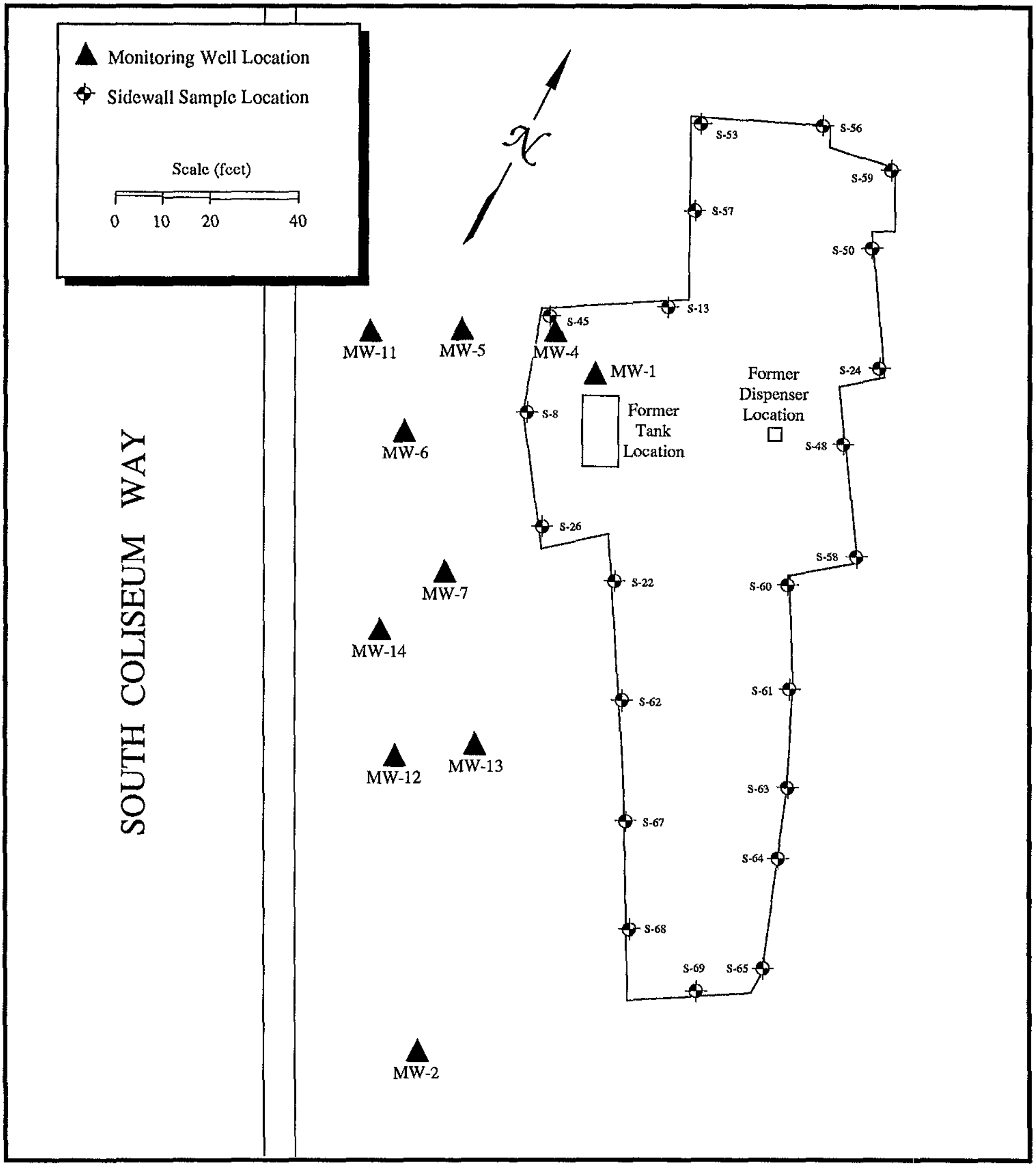
SMITH
ENVIRONMENTAL TECHNOLOGIES CORPORATION

PROJECT NUMBER: 8641

MALIBU GRAND PRIX
8000 SOUTH COLISEUM WAY
OAKLAND, CALIFORNIA

SITE PLAN

PLATE
2



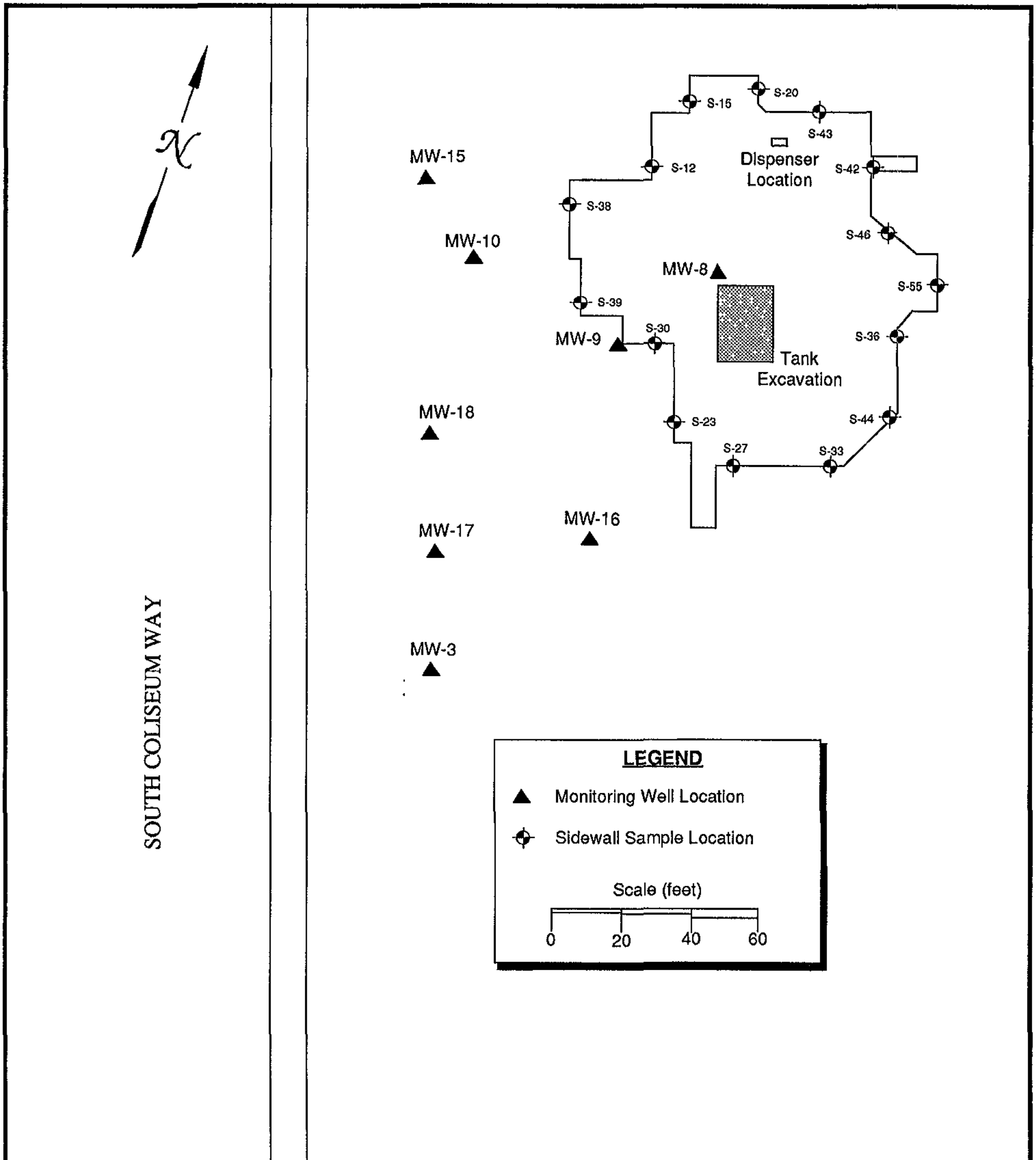
SMITH
ENVIRONMENTAL TECHNOLOGIES CORPORATION

PROJECT NUMBER: 8641

FORMER MALIBU GRAND PRIX
8000 SOUTH COLISEUM WAY
OAKLAND, CALIFORNIA

EXCAVATION OF CASTLE SOIL PLUME

PLATE 3



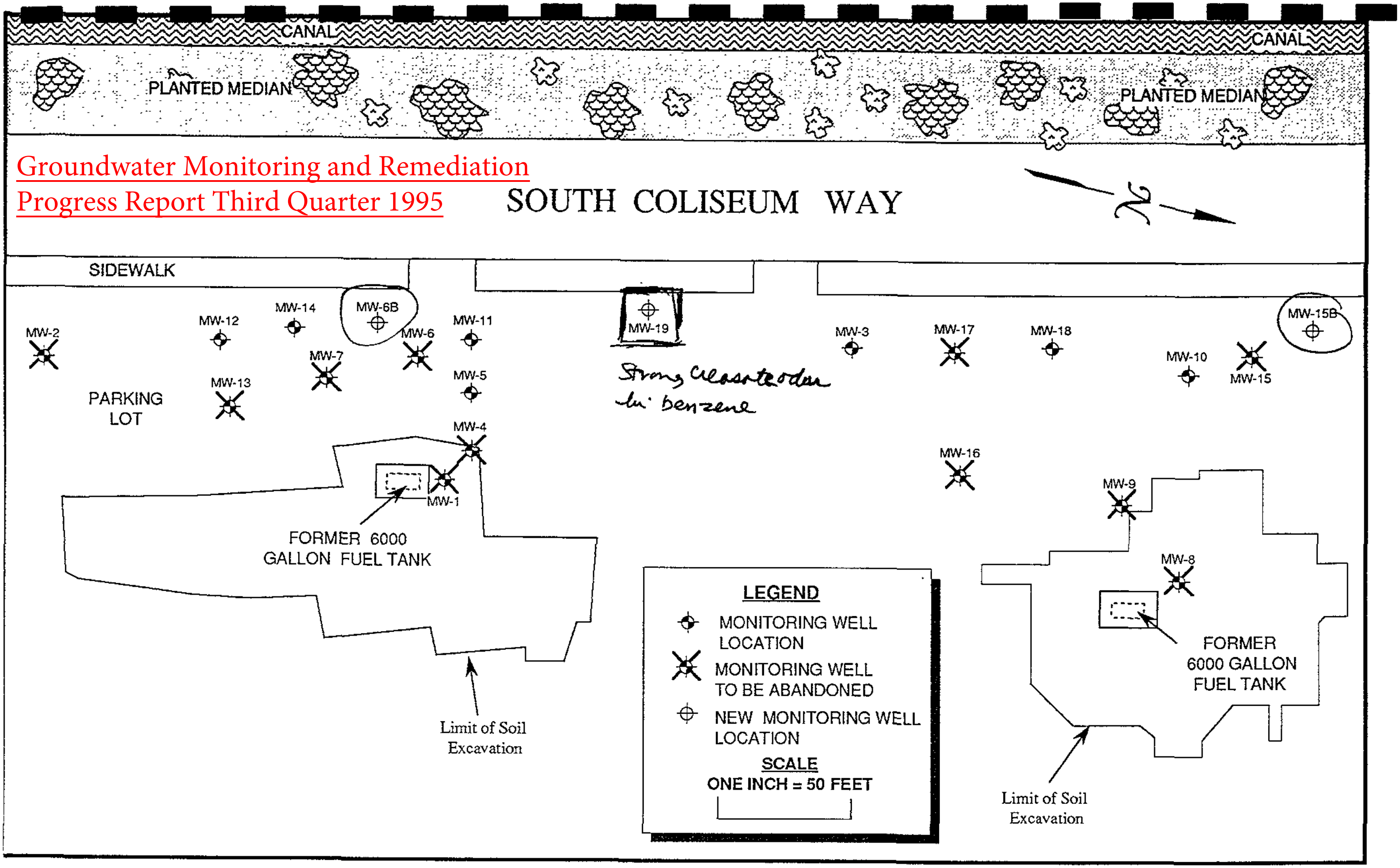
PROJECT NUMBER: 8641

FORMER MALIBU GRAND PRIX
8000 SOUTH COLISEUM WAY
OAKLAND, CALIFORNIA

EXCAVATION OF RACE TRACK SOIL PLUME

PLATE 4

Groundwater Monitoring and Remediation
Progress Report Third Quarter 1995



SMITH
ENVIRONMENTAL TECHNOLOGIES CORPORATION

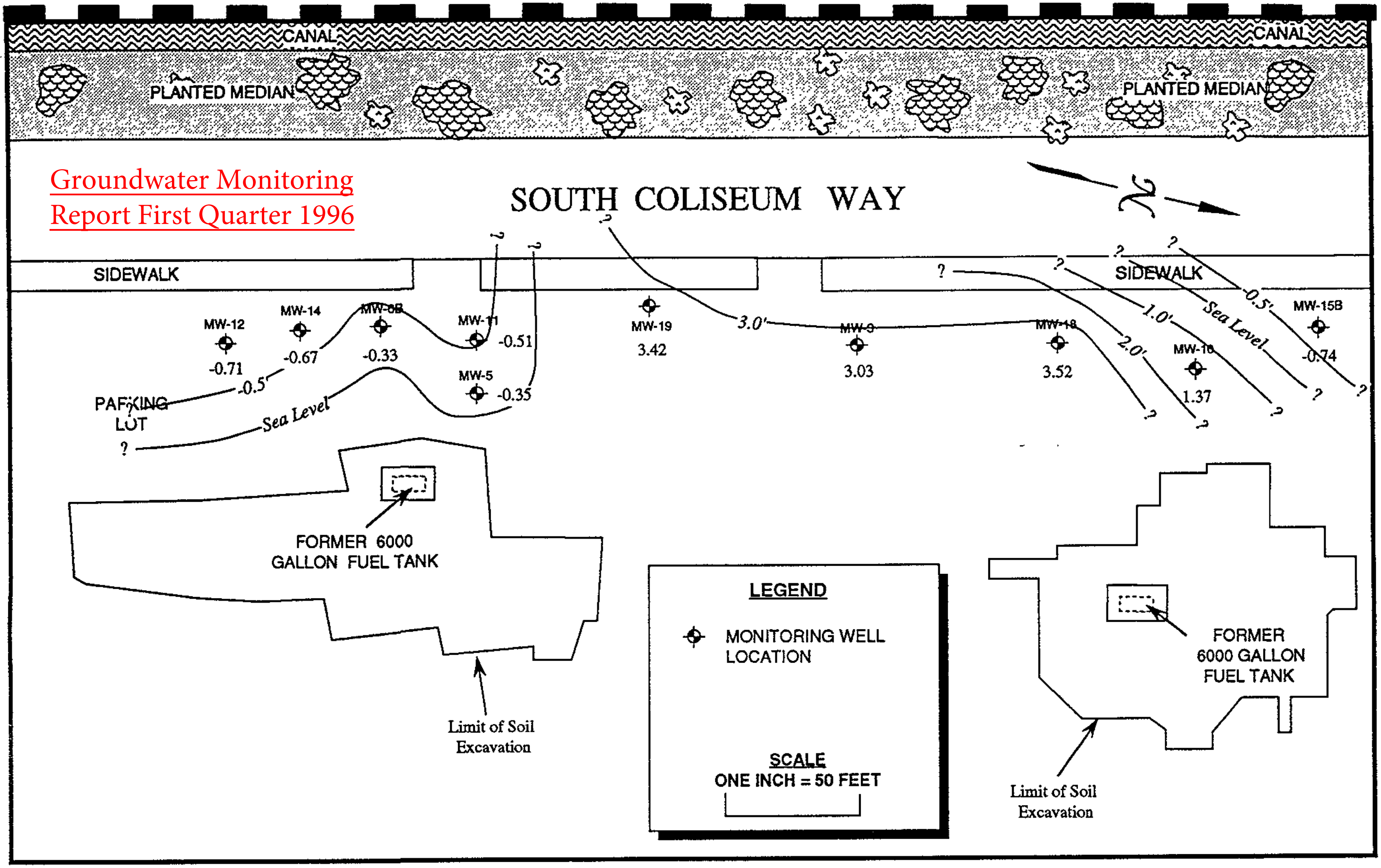
PROJECT NUMBER: 8641

MALIBU GRAND PRIX
8000 SOUTH COLISEUM WAY
OAKLAND, CALIFORNIA

SITE PLAN

PLATE
2

Groundwater Monitoring
Report First Quarter 1996



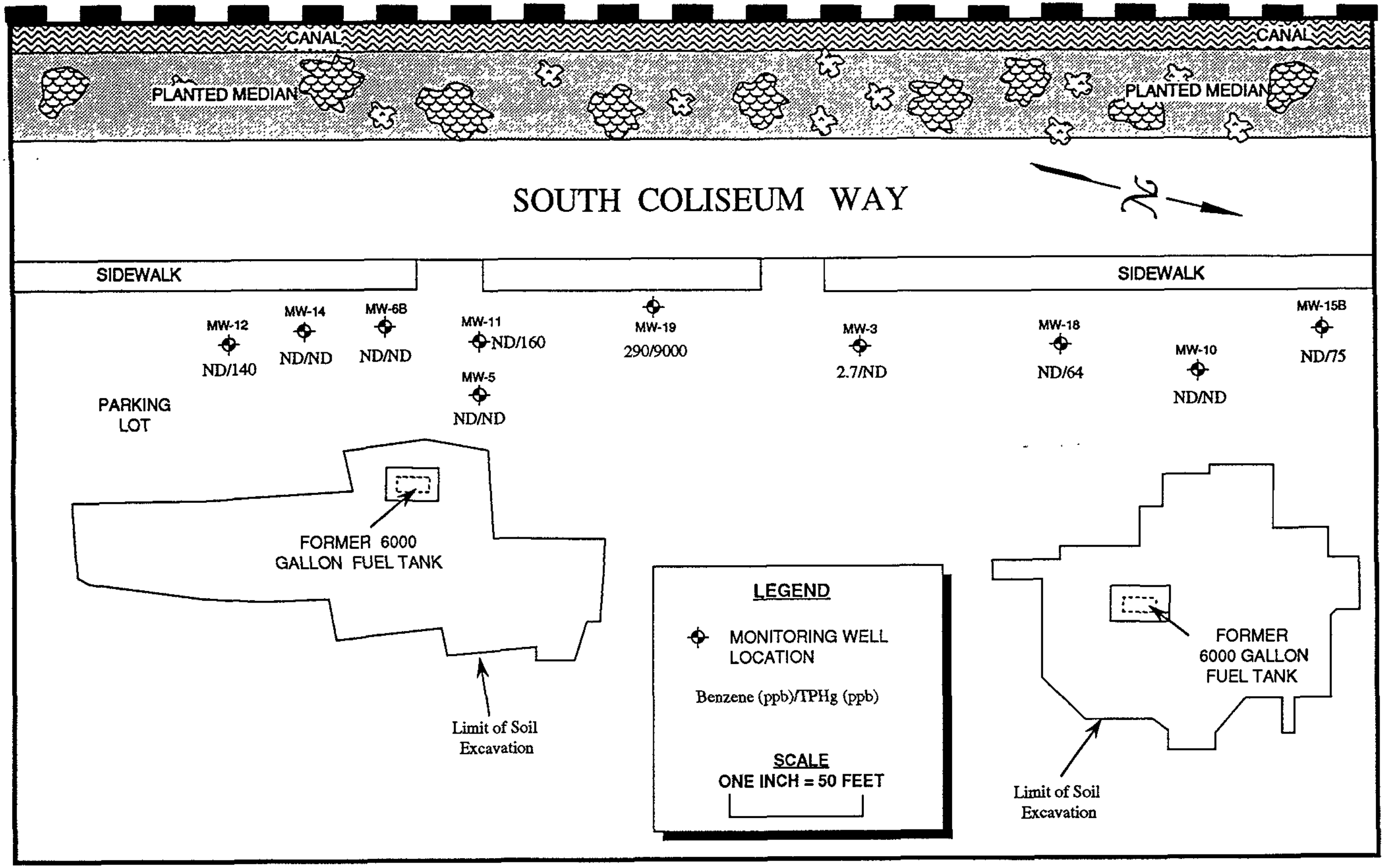
SMITH
ENVIRONMENTAL TECHNOLOGIES CORPORATION

PROJECT NUMBER: 8641

MALIBU GRAND PRIX
8000 SOUTH COLISEUM WAY
OAKLAND, CALIFORNIA

GROUNDWATER ELEVATION CONTOUR MAP
(March 20, 1996)

PLATE
2



SMITH
ENVIRONMENTAL TECHNOLOGIES CORPORATION

PROJECT NUMBER: 8641

MALIBU GRAND PRIX

8000 SOUTH COLISEUM WAY
OAKLAND, CALIFORNIA

HYDROCARBON CONCENTRATIONS IN WELLS
(March 20, 1996)

PLATE
3

LEGEND

- SOIL AND GROUNDWATER BORING
- EAST BAY MUNICIPAL UTILITY DISTRICT (EBMUD) MANHOLE
- EBMUD SEWER LINE, 56"
- SOIL EXCAVATION AREA
- FORMER FUEL TANK
- SITE BOUNDARY

NOTES

1. ALL LOCATIONS AND DIMENSIONS ARE APPROXIMATE.
2. AERIAL IMAGERY SOURCE: NEARMAP, 28 SEPTEMBER 2021

0 120 240
SCALE IN FEET

HALEY ALDRICH

SOIL AND GROUNDWATER INVESTIGATION REPORT
8000 SOUTH COLISEUM WAY
OAKLAND, CALIFORNIA

SITE PLAN

MARCH 2023

FIGURE 2

GIS FILE PATH: \\haleyaldrich.com\share\CF\Projects\133413\133413-005\GIS\Maps\2023_02_Soil_and_GW_Report\133413_005_0002_SITE_PLAN.mxd — USER: khensen — LAST SAVED: 2/20/2023 5:57:16 PM

APPENDIX C
Example Asphalt Cap Inspection Form

ASPHALT CAP INSPECTION FORM

Former Malibu Grand Prix Site

8000 Coliseum Way, Oakland, California

Date:					
Inspected by:					
Location number (show on figure)	**Type of damage (e.g., cracking, erosion, pothole, depression, or vegetation)**	**Degree of damage (e.g., minor, moderate, or severe)**	**Comments (e.g., depth/size of potholes or type/size of cracking)**	**Underlying soil exposed?**	**Repair needed or continue monitoring?**
Other Observations:					
Planned Activities & Schedule:					

Appendix J

Roots Malibu Site, Transportation Management Plan

Fehr & Peers, May 2024

Roots Malibu Site

Draft Transportation Management Plan

Prepared for:
Oakland Pro Soccer, LLC

May 24, 2024

OK23-0533.00

FEHR PEERS

Table of Contents

List of Figures

List of Tables

1. Introduction

This document details the Transportation Management Plan (TMP) for the proposed Roots Soccer Stadium ("Stadium"), as required by the City of Oakland as part of their Transportation Impact Review Guidelines (TIRG) process. This TMP meets the requirements of the Standard Condition of Approval (SCA) Transportation-1, Transportation and Parking Demand Management, and serves as the transportation management plan for the purposes of reducing vehicle trip generation associated with the Stadium by 20 percent compared to the number of trips that would occur without a TDM Plan.

This introduction provides a project overview and description of the TMP's purpose, goals, and objectives within the City of Oakland context, including ongoing and upcoming projects that will change the transportation system and may prompt adjustments to the TMP in the coming years. It then lists organizations and agencies with a stake in the project, naming their respective roles and responsibilities, and discusses overall TMP implementation strategy including coordination between stakeholders. To conclude, it summarizes information contained in the remainder of the TMP.

1.1 TMP Purpose, Goals, and Objectives

The purpose of the TMP is to outline improvements and operational strategies to optimize access to and from the Stadium within the constraints inherent to a large public event, while minimizing disruption to existing land uses and communities. The TMP considers the travel characteristics of Stadium attendees, workers, and all other visitors to the Stadium site. Its primary goal is to ensure safe and efficient access for all people traveling to and from the site, with a focus on promoting carpooling and transit access, thereby reducing vehicular impacts to the site and surrounding neighborhoods. To increase the likelihood that Stadium attendees have a positive experience traveling to and from the area, we have recommended strategies to increase the use and attractiveness of transit, along with traffic and ridesourcing and taxi management techniques to ensure that people who travel via car can effectively navigate to their parking, drop-off, and pick-up location with fewer delays than would occur under an unmanaged setting. The objectives of the TMP are as follows:

- Minimize auto mode share and reduce vehicle trips and parking demand generated by the project to the maximum extent practicable.
- Highlight and optimize the use of transit by attendees and employees to soccer games.
- Facilitate a high-quality and safe walking experience to the Stadium from the adjacent BART station by identifying the walking route, so that wayfinding, infrastructure improvements, and/or personnel (e.g., traffic control officers, parking control officers, or other personnel acceptable to the City) can be located at critical points to manage the interaction of pedestrians and vehicles before, during, and after events. Alternatively, if no walking route is established, establish a high frequency shuttle service.

- Maximize safety for all transportation users at key locations in and around the Stadium during event ingress and egress.
- Minimize conflicts between ridesourcing (e.g., Lyft and Uber) and taxi operations and key transit and walking access routes near the Stadium.
- Facilitate the safe and efficient flow of vehicle traffic before, during, and after soccer games.

The TMP is intended to be a living document and will be amended periodically by the Roots, in consultation with the City of Oakland, and with input from key stakeholders as identified in **Table 1-1**. Revisions to the TMP will be subject to the review and approval of the City of Oakland. As a living document, the TMP will be updated in the future to address Stadium operations as the context on the ground evolves with additional development at the Coliseum Complex and with changes in travel patterns, operations, and infrastructure. It is expected that amendments and adjustments to the TMP will be made regularly as the project moves forward and agreements between agencies and private entities are finalized. The Roots and the City of Oakland are committed to the implementation of flexible strategies to advance the goals and objectives outlined in this document.

This 2024 version of the TMP is a draft plan, and many of the agreements, details, and specifics required for a document of this magnitude are still in discussion and negotiation among many parties. The public can expect that refinements to the TMP will continue up until the project hosts its first game. The TMP will be further refined during and after the first and subsequent years as the Roots and the City learn specific details about how people travel to the Stadium and how best to manage travel, facilitate goods movement during events, encourage sustainable access modes, and ensure a great attendee experience.

1.1.1 Design Objectives

The transportation-related design objectives of the Stadium must align with the TMP goals and objectives. The key transportation-oriented objectives for the Stadium design are as follows.

1.1.1.1 Guest Safety

- Design clear and distinct pick-up and drop-off locations for each travel mode such that zones are primarily single-purpose and potential conflict areas are minimized.
- Create pedestrian crossings that provide a safer crossing experience for pedestrians, while minimizing the use of traffic control officer (TCO) supervision.
- Minimize potential conflicts between pedestrians/bicyclists and drivers at driveways and parking facility entries and exits.

1.1.1.2 Make the Preferred Choice the Easy Choice

- Facilitate transit and walking access as the easiest, safest, and fastest way to get to and from the Stadium for events to encourage people to use transit.

- Locate guest arrival areas near a single Stadium entrance to augment wayfinding and support the efficient movement of people to and into the Stadium.
- Design plazas and other open spaces for optimal pedestrian circulation and public access.
- Locate drop-off and pick-up locations near each other to create a consistent and intuitive experience during pre- and post-event operations and create efficient paths of travel for patrons.
- Accommodate and manage ridesourcing to provide efficient operations while still prioritizing transit modes of travel.

1.1.1.3 Location and Information Efficiencies

- Make transit information available to aid in the efficiency and improve the attractiveness of patron arrivals and departures via AC Transit and BART.
- Locate secure bike parking either in sight of the Stadium entrance or provide secure parking for those who bicycle.
- Locate event shuttle stops with ridesourcing to provide a centralized efficient operation for people traveling to and from the Stadium.

1.1.1.4 Good Neighbor Policies

- Provide adequate pedestrian queuing areas at the Stadium to minimize the number of pedestrians potentially impacting adjacent areas used for parking, shuttles, ridesourcing, and walking to access transit.
- Promote pre- and post-event routes emphasizing the use of Coliseum Way for vehicles to access parking.
- Integrate the site seamlessly with the surrounding areas for parking, transit, shuttles, and ridesourcing to create a porous, accessible, and welcoming environment.

1.1.1.5 Media Requirements

- Locate media to provide reliable satellite connections while routing cables in such a way that prioritizes the safety of pedestrians.

1.2 TMP Document Context

The TMP is one of three documents related to the Stadium with a substantial transportation component. The other two documents are the CEQA document and the technical memorandum or “Transportation Impact Review (TIR),” which include detailed information regarding potential transportation impacts and recommendations outside the purview of CEQA.

1.3 Key Stakeholders

Overall management of the TMP will be overseen by the Roots and the City of Oakland. The Roots will have responsibility for implementation of the Plan, and the City of Oakland will provide feedback and direction to the Roots to modify the TMP as needed, based on the results of monitoring reports. Any proposed revisions to the TMP will be subject to the City of Oakland approval.

In addition, like other sports and entertainment venues, it is expected the Roots will seek approvals and/or enter into agreements with various agencies and/or vendors to provide the changes necessary to implement this TMP. Because the Oakland Department of Transportation (OakDOT) and the Oakland Police Department (OPD) have roles for maintaining and operating the transportation system in the project vicinity, and the Oakland Fire Department (OFD) has a role in emergency response, they will work collaboratively with the Roots to implement, operate, and/or oversee many of the strategies contained in this TMP.

Table 1-1 describes the roles and responsibilities for key agencies and entities involved in implementing the TMP. It is expected this table will change over time based on which agencies and organizations are required to play a role in the TMP. This table is comprehensive, but it is expected that agencies and organizations will be added (or removed) from the table over time based on the Stadium's operational needs.

This draft document does not identify the specific entity which will carry out certain actions because contractual, logistical, and other details have not been finalized. As these details are finalized prior to the first soccer game the TMP will be updated to include more specific roles and responsibilities. The TMP provides public and City decision-makers with additional information about how the transportation system will be managed on game days, and what operational benefits can be expected from it.

Table 1-1: Key Stakeholders, Roles, and Responsibilities

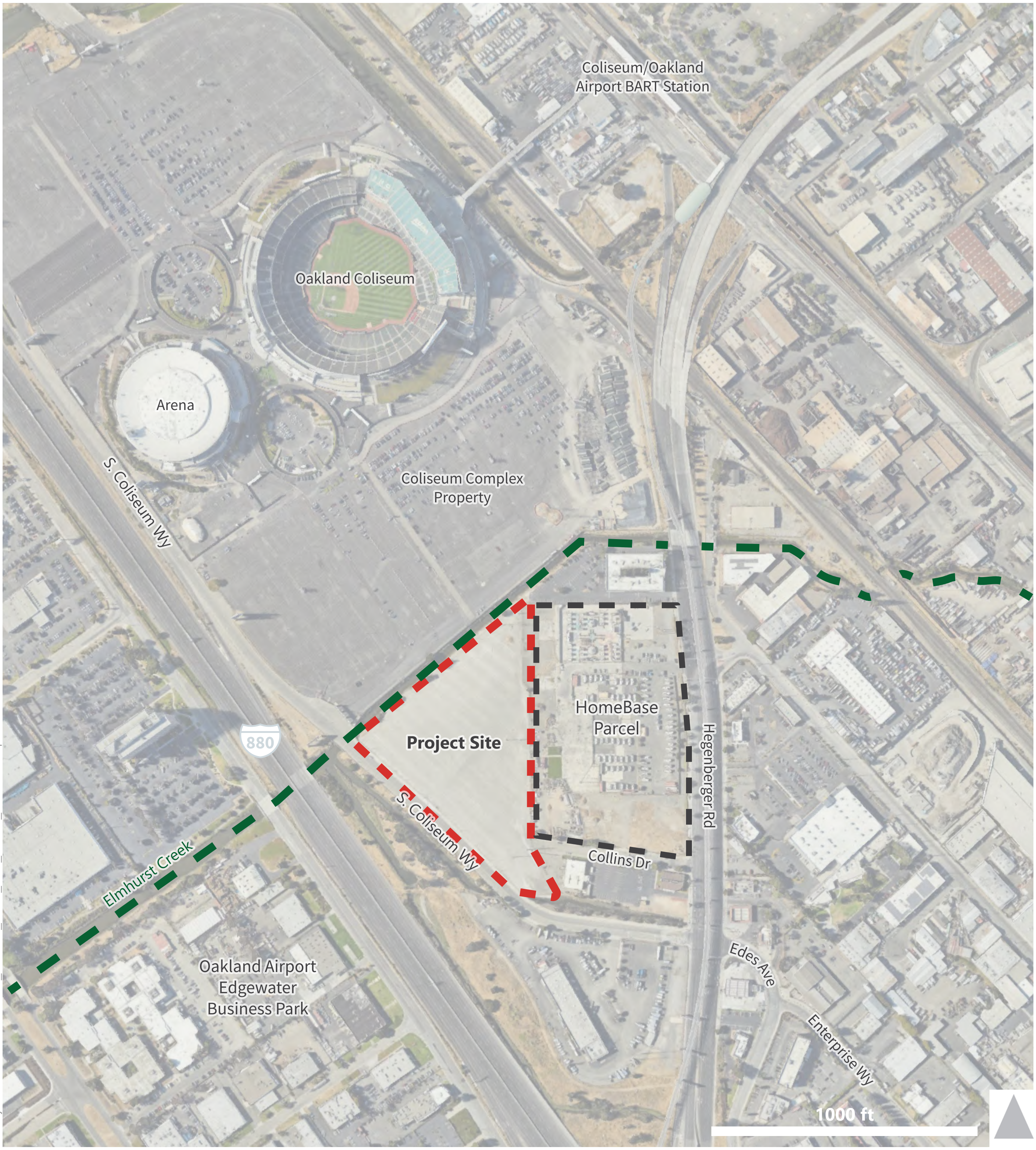
Key Stakeholders	Roles and Responsibilities
Roots	The Roots are the project sponsor and are responsible for implementing the TMP.
City of Oakland Department of Transportation (OakDOT)	OakDOT has jurisdiction over the City's public right-of-way (ROW), traffic operations, and on-street parking. It manages all surface transportation infrastructure and systems in the City, including roads, sidewalks, bicycle lanes, parking, and traffic control. Recommendations related to physical or operational changes to the ROW and/or traffic operations or circulation must be reviewed and approved by OakDOT. OakDOT, in consultation with Planning & Building and the Roots, will approve the initial TMP prior to opening day and any subsequent/ annual updates. The City may also decide to have OakDOT implement some or all aspects of the Traffic Control using personnel other than OPD.
City of Oakland Department of Planning and Building (Planning & Building)	Planning & Building manages permit review and approval across the City. It works with developers and enforces conditions of approval as part of the permit review and approval process. Planning & Building will review the TMP and any subsequent updates thereto to ensure they meet the intent of the project and minimize the transportation impacts of Stadium operations to the maximum extent feasible.
City of Oakland Police Department (OPD)	OPD is responsible for public safety and security, emergency response, implementation of traffic control plans, incident management, and coordination with the Oakland Fire Department, as needed.
City of Oakland Fire Department (OFD)	OFD provides emergency medical service, fire and rescue response, and fire prevention to the residents, visitors, and workers within Oakland.
Caltrans	Caltrans is California's Department of Transportation and has jurisdiction over the freeways that provide regional vehicle access to the Stadium.
California Highway Patrol (CHP)	CHP has patrol jurisdiction over all California highways. They can assist with highway closure and construction alerts, highway crime alerts in the event of an emergency in the middle of a soccer game, and escort detail for high dignitaries.
Alameda County Transportation Commission (Alameda CTC)	Alameda CTC serves as the Congestion Management Agency (CMA) for Alameda County and may review and comment on the TMP and its consistency with the Countywide Congestion Management Plan.
California Public Utilities Commission (CPUC)	CPUC regulates ridesourcing.
Alameda-Contra Costa Transit District (AC Transit)	AC Transit provides fixed-route bus service within Inner East Bay communities in Alameda and Contra Costa County as well as transbay fixed-route bus service between the East Bay and the San Francisco Peninsula.
Bay Area Rapid Transit (BART)	BART is a rapid transit system that serves the San Francisco Bay Area. It operates five routes with 48 stations in four counties, including the Coliseum Station.
Capitol Corridor Rail Service	Capitol Corridor is a commuter rail line that travels between the cities of Auburn and San Jose in California. Trains serve the Coliseum Station. The service is governed by the Capitol Corridor Joint Powers Authority. Amtrak is the contract operator for Capitol Corridor service.
Operations Teams from Ridesourcing Companies	The operations teams at ridesourcing companies (such as Lyft and Uber) may assist with analytical reporting and the infrastructure layout for pickup/drop-offs.

Key Stakeholders	Roles and Responsibilities
Oakland-Alameda County Coliseum Authority	The Roots will enter into agreements with the Authority to lease the parking, ridesource loading, and provide a walking corridor through the Coliseum Complex connecting the BART station with the Stadium.

1.4 Project Context

The Stadium is located on the Malibu site adjacent to the Coliseum Complex and is accessible by automobile from the interstate freeway system, including Interstate 880, as shown in **Figure 1-1**. The Coliseum Amtrak/Capitol Corridor Station is about 0.6 miles away, and the Coliseum BART Station is about 0.7 miles from the site if walking through the Coliseum Complex, and over 1.0 mile if walking along the public sidewalks along San Leandro Street and Hegenberger Road. Several AC Transit bus lines currently serve the Coliseum BART Station and some lines also stop on Hegenberger Road near its intersection with Coliseum Way, Collins Drive, and Baldwin Street. Existing bicycle access may be provided via the Coliseum BART Station through the pedestrian bridge connecting the Coliseum Complex and the BART station, as there are no bicycle facilities on Hegenberger Road or Coliseum Way. The project site plan is illustrated in **Figure 1-2**.

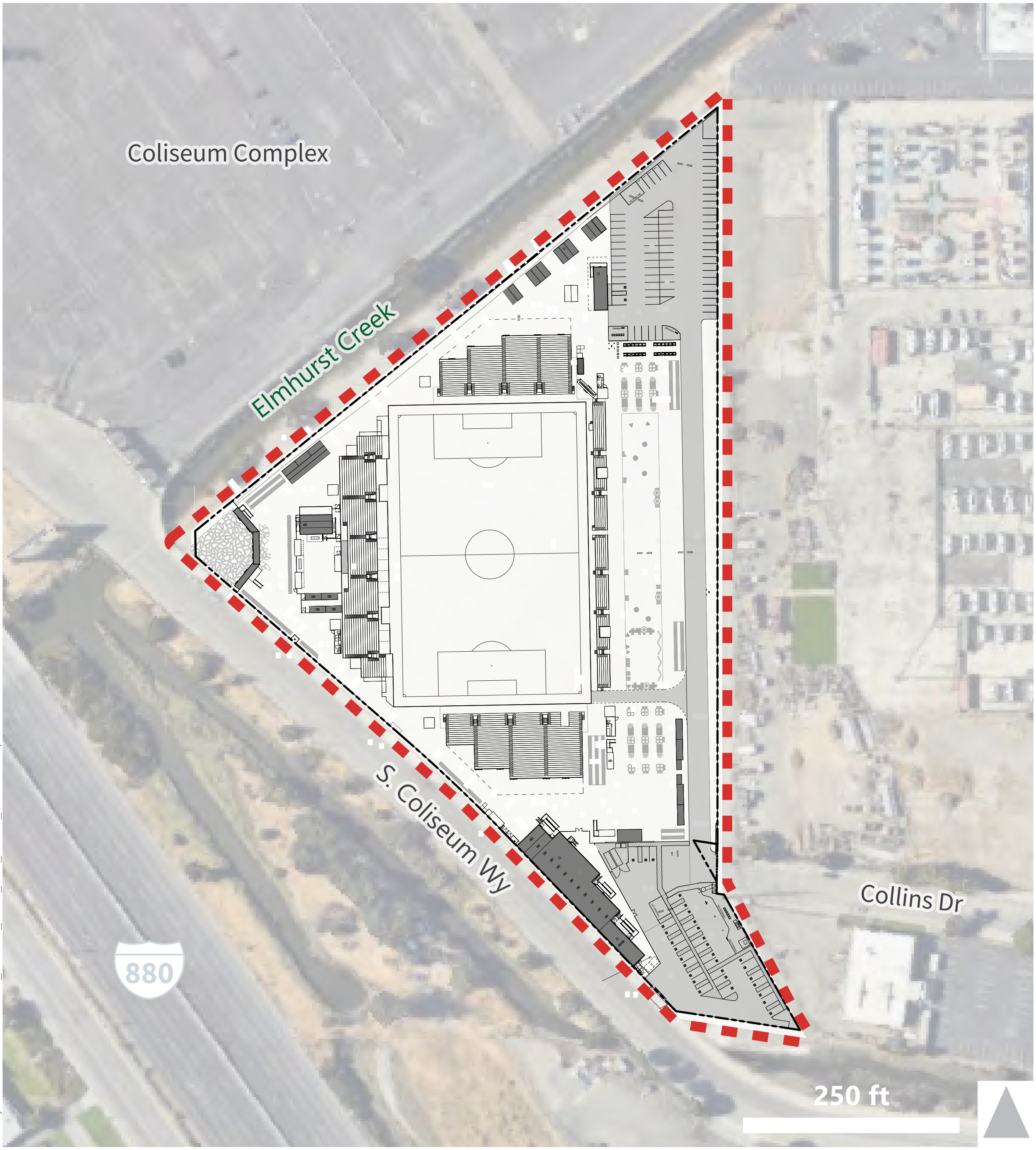
Stadium site parking will be limited to players, coaches, and officiating staff. There are currently several thousand parking spaces located at the Coliseum Complex, adjacent to the Stadium, that the Roots intend to lease from the Coliseum Authority. There is also a shuttle and ridesourcing zone within the Coliseum Complex that the Roots intend to lease for use during Stadium events. The Coliseum Complex and Stadium sites are separated by a waterway such that there is one sidewalk connecting the two sites. Use of the Coliseum site for parking, shuttles, ridesourcing, and pedestrians is dependent on agreements between the Roots and the Oakland-Alameda County Coliseum Authority for the Coliseum Complex.



N:\Projects\2023\OK23-0533.00_Oakland_Roots_Soul_Soccer_Stadium\Graphics\ADOBE

Figure 1-1

Project Vicinity Map



Project Site

Figure 1-2

Project Site Plan

1.5 Implementation Strategies

Traffic controls proposed in the TMP will require coordination with several of the agencies described previously in this chapter. **Table 1-2** summarizes the opportunities for collaboration between the Roots, public agencies, and transit providers during Stadium games.

Table 1-2: Proposed Control and Service Coordination Summary

Control or Service	Entity for Oakland Soccer LLC to Engage	Coordination
BART service	BART	Continue coordination that occurs at the Coliseum BART Station: Communicate event schedules so BART can appropriately staff the station and augment post-event service as necessary to accommodate demands.
Variable Message Signs (VMS)	Caltrans, City of Oakland	Location, installation, and operation of temporary VMS alerting drivers of traffic conditions and temporary post-event lane closures.
Traffic management by personnel pre- and post-game	City of Oakland	Real-time communication between the event command post, field supervisor, variable message sign operators, emergency services personnel, and Traffic Control Officers TCOs or other personnel on the street.
AC Transit service	AC Transit	Coordinate with AC Transit to provide additional service to and from the Stadium to accommodate documented (i.e., attendee surveyed) demands. Coordinate real-time communication between the Roots and AC Transit during events so buses can be put into service at appropriate times.
Pre- and/or Post-event Shuttles	AC Transit, OakDOT, private shuttle services	Provide shuttle bus service from the Coliseum Complex site's shuttle / ridesourcing lot (served via Baldwin Street) to off-site areas to accommodate documented (i.e., attendee surveyed) demands. Coordinate real-time communication between the Roots and shuttle bus service provider during events so shuttle buses can be put into service at appropriate time.
Bicycle parking during games	OakDOT, Community Groups	Coordinate with OakDOT, Bike East Bay, and other service providers to provide secure and/or valet bicycle parking and/or additional temporary secure corral parking during events to accommodate documented (i.e., attendee surveyed) demands. Some secure bicycle parking should be provided via lockers that do not require attendants to access for event workers who must arrive early (or leave late) when corral parking is not available.
Emergency response and emergency vehicle routing	OPD, OFD	Provide real-time emergency response coordinated through the event command post, as well as traffic control officer support as needed, to ensure emergency vehicle and responder access to and around the Stadium site.

1.6 Report Organization

This document consists of the following chapters:

- **Chapter 2: Project Description** – describes the Stadium project that will be addressed within the TMP.
- **Chapter 3: Travel Characteristics of Stadium Attendees and Site Users** – describes existing attendance and mode of travel at the existing soccer games and anticipated mode of travel at the proposed Stadium without the TMP or the TDM Plan.
- **Chapter 4: Stadium Travel Management Strategies** – presents strategies to reduce the number of vehicle trips to the Stadium for soccer game attendees and employees.
- **Chapter 5: Transit Element** – describes existing transit service and proposed services and improvements.
- **Chapter 6: Pedestrian Element** – describes existing pedestrian facilities, primary access routes, and proposed improvements to pedestrian facilities.
- **Chapter 7: Bicycle Element** – describes existing bicycle facilities, primary access routes, and proposed improvements to bicycle facilities.
- **Chapter 8: Personal Automobile Element and Parking Management Plan** – describes the roadway network, existing parking conditions, proposed parking management, and truck access to the Stadium.
- **Chapter 9: Ridesourcing and Taxi Element** – describes proposed operational strategies for managing taxis and ridesourcing vehicles (e.g., Uber and Lyft).
- **Chapter 10: Pre- and Post-Event Management** – describes pre-event and post-event plans to address traffic, parking, transit, ridesourcing, and pedestrians.
- **Chapter 11: Emergency Vehicle Access and Circulation** – describes emergency services access and circulation at Howard Terminal.
- **Chapter 12: Communication Plan** – describes outreach, pre-event communication, and post-event communication for Stadium visitors.
- **Chapter 13: Monitoring, Refinement, and Performance Standards** – describes transportation monitoring methods, documentation, and performance standards for the Stadium.

2. Project Description

This chapter describes the temporary soccer stadium intended for interim use by the Oakland Roots (men's soccer team) and Oakland Soul (women's soccer team) professional soccer clubs. The interim use would allow the soccer teams to play their home matches at the Stadium site for up to 10 years while a permanent location for a new soccer stadium is established by Oakland Pro Soccer LLC.

The Project site, also known as the Malibu site, is triangular and bound by Coliseum Way to the southwest, the City-owned Homebase property to the east, and the Elmhurst Creek / Coliseum Complex to the northwest.

Vehicle access to the Project site is provided from I-880 via the Hegenberger Road / Edes Avenue interchange and Coliseum Way.

Transit service is available via the Coliseum BART station, which is served by three of the five BART lines. Transit service is also available via AC Transit, which provides bus service to the Project site via Line 73 and Line 45, which have stops on Hegenberger Road at Collins Drive and at Baldwin Street.

While there are adequate sidewalks connecting the Stadium site and the bus stops, the walking route between the BART station and the site using the public sidewalks is over one mile and requires pedestrians to walk along an inadequate 3-foot-wide sidewalk. As such, Oakland Pro Soccer LLC intends to enter into an agreement to use a pedestrian easement through the Coliseum Complex.

The Oakland Roots and Oakland Soul are each anticipated to play up to 23 home games per year (including post-season) for a total of 46 soccer games each year. In addition, Oakland Pro Soccer LLC intends to make the Stadium available for the Roots' development team for a total of 40 soccer games each year, as well as for other sport and community events, a farmers' market, pop-up events, etc. **Table 2-1** summarizes the anticipated event schedule for the Stadium.

Table 2-1: Anticipated Annual Events Schedule

Event Type	Annual Events	Attendance	Total Attendees/Year	Season	Time of Day
Roots and Soul Home Games	46	8,500 – 10,000	460,000	March through October	12-4 pm, and 6-10 pm
Project 510 home games	40	1,500 – 5,000	200,000	March through October	12-4 pm, and 6-10 pm
Other Professional Sports Events	12 (est.)	8,500 – 10,000	120,000	Year long	12-4 pm, and 6-10 pm
Entertainment Events	12 (est.)	7,500 – 10,000	120,000	Year long, Thursday thru Sat.	12-4 pm, and 6-10 pm
Corporate or Community Events	50 (est.)	300 – 5,000	250,000	Year long, variable	12-4 pm, and 6-10 pm
Total (Annual)	160		1,150,000		

Source: Oakland Pro Soccer LLC, *City of Oakland Supplemental Questionnaire for Proposed Activities/Uses*, October 10, 2023.

3. Travel Characteristics of Soccer Stadium Attendees and Site Users

This chapter describes the travel characteristics of soccer game attendees at the new Malibu site Stadium based on data collected in 2022 at the Laney College site where the Roots used to play their home games and data collected in 2023 at the California State University, East Bay (CSUEB) where the Roots currently play their home games.

3.1 Mode of Travel

Roots soccer games are played on Wednesday and Saturday evenings during the regular season, about 17 home games per year. The games generally start at 7:00 PM. To understand the travel characteristics of soccer game attendees, the Roots organization conducted travel surveys for one weekday and one weekend game in 2022 at the Laney College site where the Roots used to play their home games and for two weekend games in 2023 at the CSUEB site where the Roots currently play their home games. The surveys consisted of various questions on travel characteristics of game attendees including their travel mode and trip origin.

Based on the results of these surveys and accounting for their relative location to the Malibu site, and availability of different travel modes, mode splits for both Wednesday and Saturday games at the Malibu site were developed. **Table 3-1** summarizes the calculated mode of travel used in the Transportation Impact Review (TIR) prepared for the City of Oakland as part of the application for a soccer stadium at the Malibu site. The mode shares in Table 3-1 reflect conditions without the transportation management strategies described in the subsequent chapters of this TMP and do not reflect the demand strategies necessary to reduce vehicle trips associated with the Stadium by 20 percent. Note that rather than setting specific targets for each mode, which may not anticipate or account for future changes in transportation options and preferences, vehicle trips are assessed directly.

Table 3-1: Anticipated Mode of Travel at Malibu Soccer without TMP [1]

Game Type	Automobile Mode Share		Transit Mode Share		Active Mode Share	
	Drive [2]	Ridesourcing [3]	BART	Bus	Walk	Bike
Wednesday	81%	3%	11%	3%	0%	2%
Saturday	82%	6%	9%	1%	0%	2%

Notes:

1. Represents average of arrival and departure travel mode shares, which may vary slightly. Represents primary mode of travel.
2. Average vehicle occupancy of 1.79 for a Wednesday game and 2.22 for a Saturday game.
3. Average vehicle occupancy of 2.40 for a Wednesday game and 1.84 for a Saturday game.

Sources: Fehr & Peers, 2024.

Table 3-2 Error! Reference source not found. presents the anticipated vehicle trips per attendee (including soccer game employees) at the Malibu site without the TMP, as well as the vehicle trips per attendee with the TMP to achieve the 20 percent vehicle trip reduction. Mode share and trip generation characteristics are documented in more detail in the environmental document and the TIR.

Table 3-2: Vehicle Trips per Attendee [1, 2]

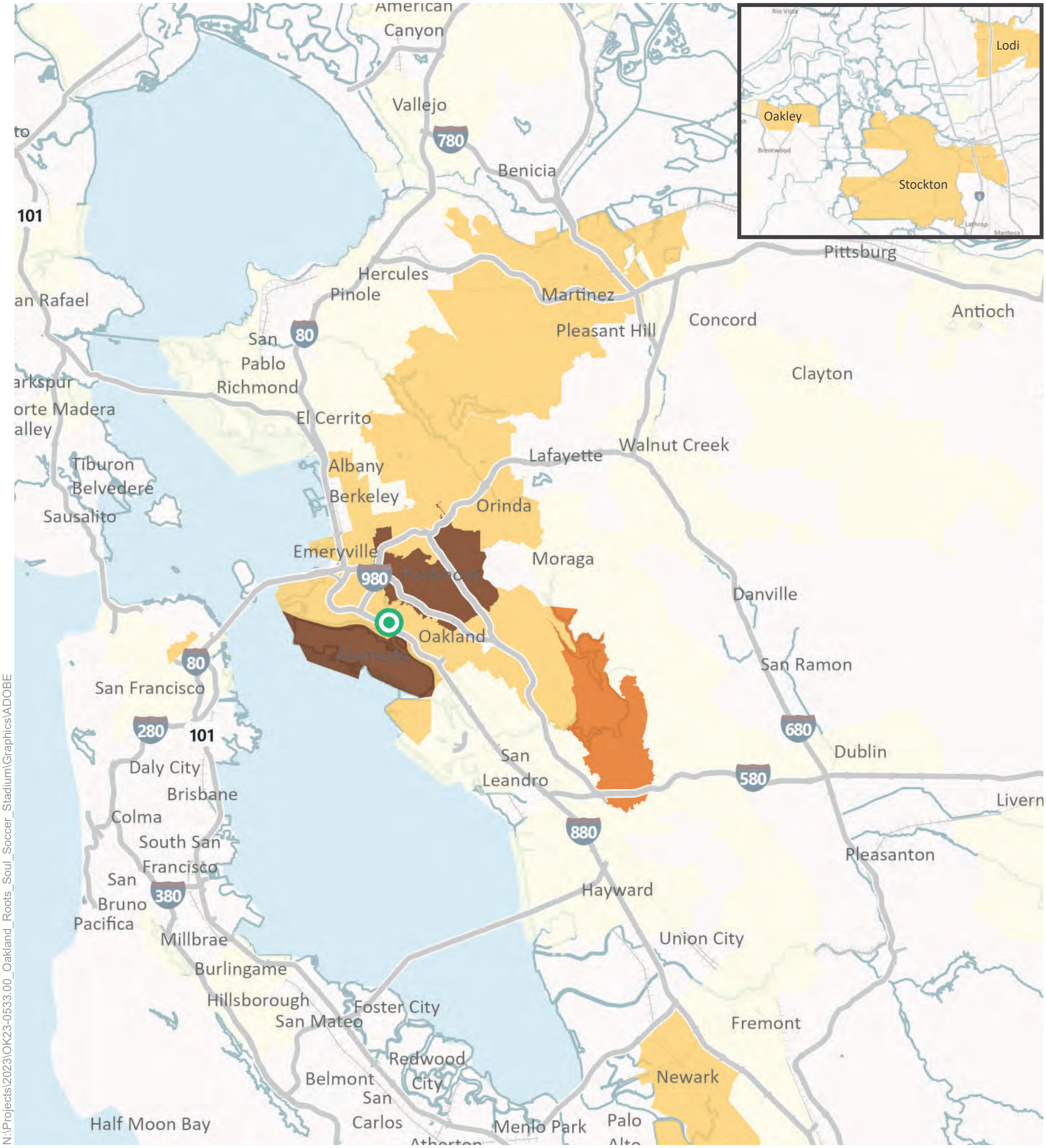
Game Type	Malibu Site without TMP	Malibu Site with 20% Reduction
Weekday	1.00	0.80
Saturday	0.91	0.73

Notes:
1. Includes soccer game fans and gameday employees.
2. Includes arrival and departure vehicle trips, with trips via ridesourcing counting as two trips.

Sources: Fehr & Peers, 2024.

3.2 Geographic Distribution of Attendees

The surveys at the CSUEB site also included questions on the origin of the trips to the site. **Figure 3-1** shows the geographic distribution of attendees based on the responses. About 29 percent of the attendees who responded to the survey had origins in the north and west Oakland area while 17 percent had origins in the inner East Bay south of Oakland. About 12 percent of the respondents had origins in either the Berkeley / Emeryville / Albany area or the areas of south and east Oakland.



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Note: Data displays trip origin by zip codes, based on a total of 217 survey responses.

Oakland Roots Stadium

Percent of Survey Responses by Zip Code

- <1%% - 1%
- 2% - 3%
- 4% - 5%
- 6% - 10%

Figure 3-1

Trip Distribution by ZIP Code for all Saturday Roots Game Attendees who Drove

4. Stadium Travel Management Strategies

The Roots will work with the City of Oakland to pursue and implement commercially reasonable TMP strategies to reduce transportation impacts related to project implementation. This Plan is intended to fulfill the City's requirement to reduce the number of vehicle trips by 20 percent. The vehicle trip reduction requirement will be achieved with a combined approach of prioritizing transit and providing attendees incentives and information to encourage carpooling.

The transportation management strategies identified in this chapter are intended to increase the level of access to the project site by transit and carpooling while reducing the use of automobiles by solo drivers. Some of the strategies are targeted specifically to either attendees or employees at the Stadium, but many of the strategies apply to both and should be considered a menu of options that may be used to achieve the vision, goals, and objectives of the TMP. Some strategies described in this chapter may not be utilized, and they should not be considered requirements because the TMP must remain flexible enough to address the always changing, and sometimes disruptive, transportation environment.

The strategies outlined in this chapter are primarily policies and programs that will inform event attendees about their transportation options and encourage them to use transit or carpool modes of travel. Strategies outlined in this chapter are preferred by the City of Oakland and are consistent with the City of Oakland's Transit First Policy. Oakland Pro Soccer LLC will work collaboratively with the City of Oakland to determine which strategies will be implemented to achieve the goals of this document. Event operations that manage automobiles and encourage the use of transit and carpool modes of travel are described in subsequent chapters. Strategies involving physical improvements will require the necessary permits and approvals from the City of Oakland and other responsible agencies.

Under all circumstances, as part of the TMP implementation, the Roots will be required to complete the following:

1. Oakland Pro Soccer LLC will designate a mobility coordinator to oversee and coordinate the ongoing implementation of the TMP. The mobility coordinator will develop and implement marketing/communications/incentives programs. The coordinator will also collaborate with the soccer teams, the Oakland-Alameda County Coliseum Authority, the City of Oakland, and the adjacent neighborhoods on policies, operations, and capital needs to support the project's sustainable trip making. The mobility coordinator is also expected to oversee the data collection and reporting for the performance standards and monitoring program described in **Chapter 13** The job duties of the mobility coordinator will be further developed over time.

2. Oakland Pro Soccer LLC will meet with the City of Oakland to discuss transportation and scheduling logistics as soon as practical after scheduling any marquee events or when multiple games are scheduled on the same day.
3. Oakland Pro Soccer LLC will notify the City and other transportation partners of the times, special promotions, and expected attendance for events each season. As part of this, Oakland Pro Soccer LLC and the Coliseum Authority will coordinate on a regular basis to identify and plan for any event overlap between Stadium events and activities at the Coliseum site.

The strategies below represent a menu of overall strategies to manage travel demand to the Soccer Stadium site that will be applicable to attendees and employees. Some of the strategies are mandatory requirements for the Project, as noted below.

4.1 Attendee Strategies

Attendee travel management focuses on encouraging travel options that safely and efficiently move the most people. In practice, this means encouraging walking, biking, shared mobility, and transit, while discouraging private auto use and ridesourcing or taxis. It also includes providing information and incentives to promote non-automobile modes of transportation and manage very high demand for all transportation services during large events. Given the site context, including the transportation network adjacent to the site, these strategies focus on connecting transit to the site.

4.1.1 Attendee Public Transit Strategies

1. Provide easy access to buses and/or shuttles between the Stadium site and the Coliseum BART station. Ensure that post-game access to buses and shuttles eliminates the transaction time and additional cost to attendees utilizing transit that would otherwise be associated with individual fare collection. This can be accomplished, for example, by providing free or bundled bus and/or shuttle service with a game ticket.
2. Develop wayfinding guidance and pedestrian amenities connecting the Stadium site to the Coliseum BART station as well as to the passenger loading areas for ridesource / taxi and bus / shuttle use to provide a safe and comfortable experience for attendees using these services.
3. Coordinate with BART to ensure adequate resources are provided at the Coliseum BART station to manage passenger flows through the stations during soccer games.
4. Provide transit ambassadors to direct attendees to and from AC Transit stops, the BART station, and the ridesource and bus / shuttle passenger areas.
5. Assess late-night and weekend AC Transit and BART service frequencies for events based on attendee demands estimated through attendee surveys, and adjust frequencies if observed service demands exceed capacity. If service frequencies are adjusted, communicate this information to event attendees as part of ticket purchases and other communication channels.
6. Identify Stadium attendees arriving via transit and reward them with incentives that may include promotional items, raffle entry, access to a "fast-track" security line, or other options. Market

these incentives with a robust communications strategy prior to an event so guests can make choices accordingly.

7. Determine the feasibility of providing BART and AC Transit transit subsidies and/or bundling the cost of a round-trip transit fare into the cost of ticketed games.
8. Encourage attendees at the point of ticket purchase to use sustainable modes via communications on the Internet and through the ticket vendor.
9. Relay announcements at events, and as attendees exit the Stadium, to notify attendees of transit travel options home, including real-time transit and shuttle departure times.
10. Provide additional communication of transit options and wayfinding during playoff games including through social media and digital advertisement for non-season pass holders who may be infrequent visitors to the Stadium.

4.1.2 Attendee Micromobility Strategies

1. Provide one or more free, secure, and/or valet bicycle parking facilities. Provide flexible secure bicycle storage such that its size can be adjusted to meet demand.
2. Determine the feasibility of providing designated spaces for shared mobility devices such as docked bicycles, dockless electric bicycles, and electric scooters. Work with shared mobility providers to include information or restrictions regarding shared mobility parking within their mobile applications.
3. Provide a bicycle map, showing routes to the Stadium, on the Roots website, mobile applications, and in event literature and advertisements, when appropriate.

4.1.3 Attendee Automobile Reduction Strategies

1. If off-site parking is provided for events, coordinate with parking owners on management of the off-site parking such as discounted parking fees for 4+ person carpools, a parking reservation system, and shuttle connections between the off-site parking and the Stadium.
2. Price on-site parking appropriately with pricing incentives for carpooling to incentivize attendees to carpool or use transit.
3. Provide a parking map, showing routes to the Stadium, on the Roots website, mobile applications, and in event literature and advertisements, when appropriate.
4. If off-site parking is provided, clearly communicate all parking locations and prices to attendees.

4.1.4 Attendee Communication Strategies

1. Design a “Getting There” page for the venue website listing multimodal travel options and comparisons before showing preferred driving routes or available parking.
2. Promote transit access to the Stadium by providing interactive trip-planning tools; transit maps with recommended stops/stations for accessing the site and best routes to the Stadium; walking directions from transit stations/stops; and information about shuttles (including stop locations) if

provided. Promote transit information on the Stadium website, mobile apps, on websites of games taking place at the site (to be required as a standard part of event contract), and in event literature and advertisements, when appropriate.

3. Make available additional communication of transit options and wayfinding during playoff games for non-season pass holders.
4. Integrate transportation information that promotes transit first, allows for pre-purchase of parking, provides ridesourcing tips and information, and designates suggested paths of travel that best avoid congested areas and streets into an existing mobile application. The app may also be equipped to send notifications about event times and traffic conditions. The app will be free and available to anyone who wishes to download it, and will be useful for anyone visiting, working, or living near the Stadium area.
5. Establish a communication strategy to inform attendees about other events at the Coliseum site that may affect travel to and from the Stadium.

4.1.5 Additional Attendee Strategies

1. Coordinate transportation management with on-site operations and security.
2. Identify potential opportunities to provide on-site amenities (such as food, beverage, and entertainment options) to encourage event attendees to stay on-site for longer post-game periods to disperse arrivals and departures from the Stadium.

4.2 Employee Strategies

The Stadium is expected to have up to 270 non-attendees (staff members, vendors and on-field athletes and officials) at game day events. The travel management strategies proposed to reduce single-occupant vehicle (SOV) trips by employees are described below.

4.2.1 Employee Public Transit Strategies

1. Consider all strategies in Section 4.1.1.
2. Provide transit passes to staff members.
3. Participate in and promote pre-tax commuter benefits, a federal program that allows employees to reduce their commuting costs using tax-free dollars to pay commuting expenses.

4.2.2 Employee Bicycle Strategies

1. Consider all strategies in Section 4.1.2.
2. Provide secure bicycle parking for employees (in addition to the bicycle parking available to attendees).
3. Provide convenient outdoor space for micromobility, if available, including dockless bikes and scooters.

4. Provide shower and locker facilities for employee use.
5. Sponsor a bike share station in the project vicinity.
6. Encourage employees to participate in public events that promote bicycling such as the annual "Bike to Work" day.

4.2.3 Employee Automobile Reduction Strategies

1. Consider all attendees strategies in Section 4.1.3.
2. Provide an orientation for all new hires as to the different commute resources available and provide them with information on how to arrive by transit, how to form carpools, where to store bicycles, shower/locker facilities, etc.
3. Provide ongoing information to employees and designate a position (likely the mobility coordinator) to serve as an ongoing resource for employees who have questions/concerns about their commute to work.
4. Enroll in ride-matching program through www.511.org and promote use of ridesharing mobile applications such as Scoop and Waze.
5. Enroll in free-to-employers Guaranteed Ride Home program through the Alameda County Guaranteed Ride Home program (http://grh.alamedactc.org/).
6. Seek partnerships with non-ridesourcing shared mobility services, such as GIG Car Share (https://gigcarshare.com/), bikeshare, and scooter share, and, at a minimum, provide employees with information about these services.
7. Organize and publicize community efforts, such as Spare the Air days (as declared for the Bay Area region) or a Rideshare Week.
8. Require employees to pay for on-site parking spaces, and do not offer monthly parking passes.

5. Transit Element

This chapter describes the regional and local transit service to the Stadium site and describes infrastructure and operational improvements to increase the efficiency and use of transit for events. Local bus service is provided by AC Transit, while BART provides regional rail service. While Amtrak does provide service to the site, its schedule is not conducive to the soccer game start and end times. Transit operations will need to be coordinated with these agencies.

5.1 Existing Transit Service and Facilities

5.1.1 BART

BART provides regional rail service in the San Francisco Bay Area, connecting Alameda, Contra Costa, San Francisco, San Mateo, and Santa Clara Counties. Downtown Oakland is centrally located in the system and is served by all five lines providing normal operations. Of these five lines, three of them travel through the Coliseum BART station. **Table 5-1** summarizes the BART service schedule for lines serving the Coliseum BART station. **Figure 5-1** illustrates the relationship of the BART station, AC Transit bus lines, and the planned walking routes.

The Coliseum BART station is served by the Dublin/Pleasanton-Daly City (Blue), Richmond-Berryessa/North San Jose (Orange), Berryessa/North San Jose-Daly City (Green), and Coliseum-Oakland Airport lines. Users of this station could use the event shuttle service, if provided, or AC Transit Line 45 or Line 73; but those who choose to walk will spend 15 to 20 minutes walking primarily through the Coliseum Complex, where they will be guided by ambassadors and wayfinding signs.

Table 5-1: BART Service Summary

Line	Route	Weekday		Weekend	
		Hours	Peak Headway	Hours	Peak Headway
Blue	Dublin/Pleasanton – Daly City	4:30 AM – 1:30 AM	20 Minutes	5:30 AM – 1:30 AM	20 Minutes
Green	Berryessa/North San Jose – Daly City	4:30 AM – 9:00 PM	20 Minutes	6:00 AM – 9:00 PM	20 Minutes
Orange	Berryessa/North San Jose – Richmond	4:45 AM – 2:00 AM	20 Minutes	5:45 AM – 2:00 AM	20 Minutes

Source: Fehr & Peers, 2024.

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Figure 5-1

Transit Services to the Stadium

5.1.2 AC Transit

AC Transit operates local and transbay bus service in western Alameda and Contra Costa Counties. Routes serving the Stadium are shown on **Figure 5-1**.

Table 5-2 summarizes the AC Transit service for lines serving the Stadium.

The Stadium is served most directly by three lines with stops along Hegenberger Road: Line 45 which provides connections between the Eastmont Transit Center and Foothill Square, Line 73 which provides connections between the Eastmont Transit Center and the Oakland Airport, and Line 805 which provides overnight service between Uptown Oakland and the Oakland Airport, which is likely not conducive to the soccer game start and end times. All three lines stop on Hegenberger Road at either Collins Drive or Baldwin Street, which are approximately 0.3 miles walk from the Stadium entrance. Departures via AC Transit will for the most part be like arrivals via AC Transit.

Table 5-2: AC Transit Service Summary

Line	Description	Nearest Bus Stop	Weekday		Weekend	
			Hours	Peak Headway	Hours	Headway
45	Eastmont Transit Center – Coliseum BART – 104th Ave	Hegenberger Road and Edes Avenue	5:30 AM – 10:30 PM	20 Minutes	6:30 AM – 11:00 PM	40 Minutes
46L	Coliseum BART – 82nd Ave – Grass Valley	Coliseum BART	6:30AM – 8:00PM	60 Minutes	No Service	N/A
73	73rd Ave – Coliseum – Oakland Airport	Hegenberger Road and Collins Drive	1:45 AM – 12:30 AM	15 Minutes	1:45 AM – 12:30 AM	15 Minutes
90	Coliseum BART – 90th Ave – Foothill Square	Coliseum BART	6:00AM – 11:30PM	20 Minutes	5:45AM – 10:30PM	30 Minutes
98	Coliseum BART – 98th Ave – Eastmont Transit Center	Coliseum BART	6:00AM – 11:30PM	20 Minutes	6:00AM – 10:45PM	30 Minutes
805	Uptown Oakland – Eastmont Transit Center – Oakland Airport	Hegenberger Road and Collins Drive	12:30 AM – 6:30 AM	60 Minutes	12:30 AM – 6:30 AM	60 Minutes

Notes:
Source: Fehr & Peers, 2024.

Three additional bus lines serve the Coliseum BART station and event attendees and employees may use one of these lines and then either transfer to Line 45 or Line 73 or walk through the Coliseum Complex to access the Stadium from the BART station, which is an approximately 0.75-mile walk.

Table 5-3 summarizes the bus stops and their amenities in the project vicinity.

Table 5-3: AC Transit Bus Stop Summary

Stop Location	Distance to Project	Lines Served	Stop Amenities
Northbound Hegenberger Road, north of Edes Avenue	0.3 Miles	45, 73, 805	Shelter, Bench, Lighting
Southbound Hegenberger Road, north of Collins Drive	0.3 Miles	73, 805	Lighting, Trash Can
Southbound Hegenberger Road, south of Baldwin Street	0.4 Miles	45, 73, 805	Shelter, Bench, Lighting, Trash Can
Northbound Hegenberger Road, south of Baldwin Street	0.4 Miles	45, 73, 805	Shelter, Bench, Trash Can
Eastbound San Leandro Street, outside of Coliseum BART station	0.75 Miles	45, 73, 98, 805	Shelter, Bench, Lighting, Trash Can
Westbound San Leandro Street, outside of Coliseum BART station	0.75 Miles	45, 46L, 73, 90, 805	Shelter, Bench, Lighting, Trash Can

Notes:
Distance shown is walking distance between the Stadium entrance and bus stop.
Source: Fehr & Peers, 2024.

5.2 Transit Improvements and Event Operations Management

The use of transit to access the Stadium will be encouraged through available transit services, operational improvements, and improved pedestrian connections to the Coliseum BART station. Oakland Pro Soccer LLC will coordinate with BART, as the Coliseum Complex currently does for ballgames and events at the Coliseum and Arena, by communicating about event schedules so that BART can, if necessary, augment post-event service with additional measures, as-needed, to manage expected crowds.

Transit improvements and event transit operations management during events at the Stadium are described below.

5.2.1 BART Shuttles

The Coliseum BART station is a 15- to 20-minute walk from the Stadium and patrons must navigate through the Coliseum Complex to access the Stadium from the BART station. To make using BART more attractive and convenient, improve the overall fan experience, and provide options for those who either cannot or prefer not to walk from the BART station to the Stadium, shuttles between the Stadium and the BART station will be provided before and after games. Figure 5-2 shows the proposed shuttle route.

A 3-bus shuttle system serving BART could serve about 180 riders per hour for each (un)loading zone. This is based on a 10-minute shuttle headway, 25-minute round trip travel time, and 30-passenger shuttles.

At the conclusion of high-attendance games where most fans stay to the end, passenger demand may outstrip shuttle capacity. Waiting areas will be designed to accommodate the peak waiting passengers, though some may choose to walk to the BART station instead. Shuttles are estimated to provide a 15-minute travel time between the Stadium and the BART station.

The final service frequencies will be determined through surveys to identify attendee preferences.

5.2.2 BART Stations

The Coliseum BART station will experience additional BART riders before and after events at the Stadium. A sellout game could attract up to 10,000 attendees and, according to the analysis, up to 1,400 attendees could arrive by BART. These BART riders would be temporally dispersed over a one- to two-hour period. As a point of comparison, the Oakland A's average attendance in 2019 (pre-COVID) was about 20,000 attendees, and in 2023 it was about 10,000 fans. The Oakland Warriors average attendance at the Oakland Arena was about 19,000 attendees up through their move to San Francisco. As a result, the crowding experienced at the Coliseum BART station before and after an event is not expected with the Stadium.

These additional BART riders would be station entries during the one hour after an event (typically 9:00 p.m. to 10:00 p.m. after a soccer match) or station exits during the one hour before a game (typically 6:00 p.m. to 7:00 p.m.). While these riders are not anticipated to exceed station capacity, additional resources may be required to guide attendees through the stations. Oakland Pro Soccer LLC and BART will coordinate to provide additional resources, as needed, after large events to enhance the rider experience.

5.2.3 AC Transit Bus Stops

AC Transit will experience additional bus riders before and after events at the Stadium. A sellout game could attract up to 10,000 attendees and, according to the analysis, up to 300 weekday attendees (100 weekend attendees) could arrive by AC Transit. These riders would be temporally dispersed over a one- to two-hour period. In addition, riders would be geographically dispersed with some riders accessing the bus stops on Hegenberger Road (at either Collins Drive or Baldwin Street) and walking to the Stadium along Coliseum Way; while some riders may access the bus stops at the Coliseum BART station and walk through the Coliseum Complex via the pedestrian bridge to the Stadium. As a result, bus crowding before and after events is not expected with the Stadium.

While these riders are not anticipated to cause bus passenger capacity to be exceeded, additional resources may be required to guide attendees between the bus stops and the Stadium site, particularly at Collins Drive where the street extends into the Stadium site. Oakland Pro Soccer LLC and AC Transit will coordinate to provide ambassadors, as needed, before and after major events to enhance the rider experience.

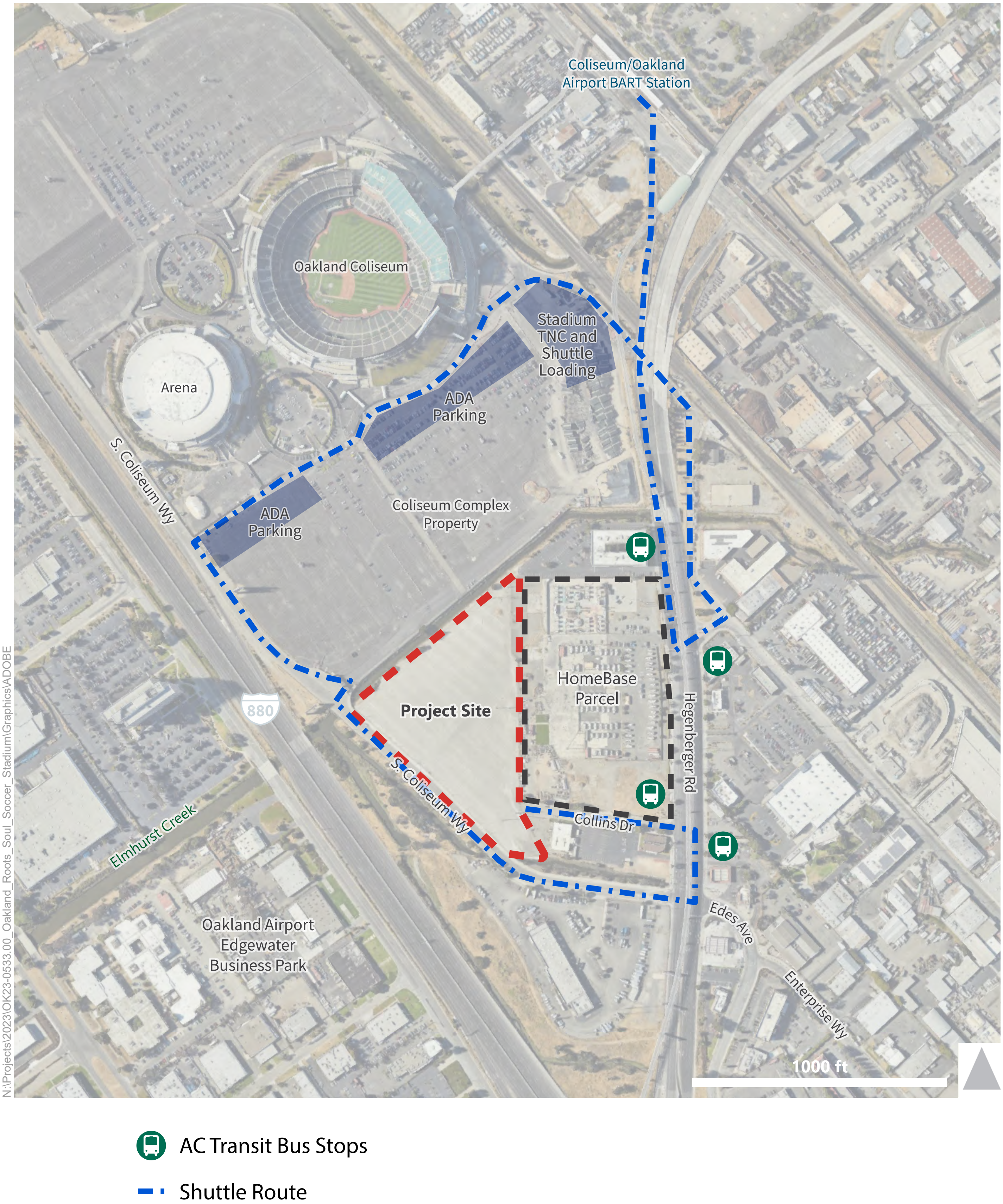

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Figure 5-2

Shuttle Services to the Stadium

6. Pedestrian Element

This chapter describes the existing and planned pedestrian facilities in the vicinity of the Stadium and describes improvements that will be made by the project to improve pedestrian safety and provide a high-quality fan experience.

6.1 Existing Pedestrian Facilities

The pedestrian infrastructure at the Malibu site consists of a 10-foot sidewalk along its southwest frontage adjacent to Coliseum Way that extends east to Hegenberger Road. The sidewalk also connects west, transitioning into the Coliseum Complex site as a 5- to 6-foot sidewalk separated from motor vehicle traffic by a low fence. Some pedestrians from the Stadium will walk east to Hegenberger Road to access AC Transit bus stops. The primary pedestrian route attendees will use to access the site will be to the west, into the Coliseum Complex to access the parking lot and use the connection serving the Coliseum BART station as well as the ridesource and shuttle bus staging areas.

6.2 Gameday Pedestrian Demand

The Stadium entrance is at the southwest corner of the site, where Coliseum Way crosses over Elmhurst Creek. Most pedestrian traffic is expected to come from the west of the Stadium via the walkway over Elmhurst Creek and into the Coliseum Complex serving parking lots B, C, and G. Attendees who access the Stadium via BART will do so by walking across the pedestrian bridge, connecting BART and the Coliseum Complex, and then walking through the Coliseum Complex to the sidewalk over Elmhurst Creek and into the Stadium entrance. Attendees who arrive via ridesourcing or shuttles / buses will also walk through the Coliseum Complex to access the Stadium as will attendees who use bike parking anticipated to be located at the Coliseum Complex. In total, the following pedestrian demands are expected with a 10,000-attendee capacity event and a 20 percent reduction in vehicle trip generation:

- About 7,800 attendees walk between parking lots B, C, and G and the Stadium.
- About 1,400 attendees walk between the Coliseum BART Station and the Stadium.
- Up to 600 attendees walk between the ridesource zone and the Stadium.
- About 200 attendees walk between the bike corral and the Stadium.
- Up to 300 attendees walk between bus stops on Hegenberger Road and the Stadium.

Given the high pedestrian demands through the Coliseum Complex, a pedestrian route with wayfinding through the Coliseum Complex will be provided to minimize pedestrian / motor vehicle interactions. **Figure 6-1** shows the expected pedestrian paths of travel to the Stadium site.

Walking Route for Bus Riders

Walking Route for BART Riders, Parkers, Ridesourcing/Shuttle, and Bike Riders

AC Transit Bus Stops

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Figure 6-1

Expected Pedestrian Paths of Travel for the Stadium

6.3 Pedestrian Improvements

Pedestrian improvements in the vicinity of the Stadium site would focus on identifying and upgrading pedestrian corridors through the Coliseum Complex to serve the expected high pedestrian demand on event days. Improvements to pedestrian safety and comfort on primary pedestrian corridor(s) through the Coliseum Complex need to be flexible since the Complex is an event space and there may be events at the Coliseum Complex and the Stadium at the same time. Pedestrian corridor(s) features through the complex could include wider space for walking, high-visibility crosswalks, and fencing / barriers to separate walking space from motor vehicle space.

As noted, a small percentage of attendees are expected to arrive at the Stadium from the AC Transit bus stops on Hegenberger Road which are located at Coliseum Way, Collins Drive, and Baldwin Street. The existing sidewalk system on Coliseum Way and Hegenberger Road has sufficient width to handle the anticipated pedestrian demand walking from AC Transit bus stops to the Stadium.

7. Bicycle Element

This chapter describes the existing and planned bicycle facilities that connect to the Stadium area and describes how bicycle riders would access the Stadium site.

7.1 Existing Bicycle Facilities

The City of Oakland provides an extensive bicycle network and has ambitious goals to further improve its safety and connectivity, as established in the 2019 Oakland Bike Plan. While bicyclists may use all local roadways in the City, designated bicycle facilities improve the safety and desirability of traveling by bicycle. The classifications of bicycle facilities, as defined by Caltrans and the City of Oakland, are described below.

Bike Paths (Class 1) are paved rights-of-way completely separated from streets. Bike paths are often located along waterfronts, creeks, railroad rights-of-way or freeways with a limited number of cross streets and driveways. These paths are typically shared with pedestrians and often called mixed-use paths.

Bike Lanes (Class 2) are on-street facilities designated for bicyclists using stripes and stencils. Bike lanes may include buffer striping to provide greater separation between bicyclists and parked or moving vehicles. Bike lanes are the preferred treatment for all arterial and collector streets on the bikeway network, and not typically installed on low-volume, low-speed residential streets.

Bike Routes (Class 3) are streets designated for bicycle travel and shared with motor vehicles. While the only required treatment is signage, streets are designated as bike routes because they are suitable for sharing with motor vehicles and provide better connectivity than other streets.

Protected Bike Lanes (Class 4), also known as cycle tracks, provide space that is exclusively for bicyclists and separated from motor vehicle travel lanes, parking lanes, and sidewalks. Parked cars, curbs, bollards, or planter boxes provide physical separation between bicyclists and moving cars. Where on-street parking is allowed, it is placed between the bikeway and the travel lanes (rather than between the bikeway and the sidewalk, as is typical for Class 2 bike lanes).

While the study area is generally flat, there are no existing bike facilities connecting the Stadium site. The East Bay Greenway, a Class 1 multi-use path, runs along San Leandro Street. It provides a Class 1 facility between Seminary Avenue and 69th Avenue, west of the Coliseum BART station, and between 75th Avenue and 85th Avenue, east of the BART station. There are also several neighborhood bike routes east of San Leandro Street, including 69th Street which connects San Leandro Street and International Boulevard. Combined, these facilities bring bicycle riders to the Coliseum BART station, but there are no facilities directly connecting the BART station to the Stadium. The City of Oakland's *66th Avenue BART to Bay Trail One Bay Area Grant (OBAG) Project*[1] would implement a Class 1 separated multi-use path along

[1] See https://www.oaklandca.gov/projects/66th-ave for additional information.

66th Street and would connect the Bay Trail, located about 2,500 feet east of the project site, with the East Bay Greenway.

Riders, once at the BART station, have the choice to secure their bikes at the BART station and walk via the Coliseum Complex to the Stadium or walk / ride their bikes through the Coliseum Complex to designated Stadium bike parking. While there is a planned protected bike lane for the Hegenberger Road corridor that would bring riders within a few hundred feet of the Stadium, it is unlikely to be designed and built within the next 10 years unless substantial redevelopment occurs at the Coliseum Complex.

Figure 7-1 shows the existing and planned bike facilities near the Stadium site and how bike riders would access the Stadium. Refer to the City's website for a comprehensive map of all existing and planned bike facilities in Oakland.[2]

7.2 Bicycle Facility Improvements

Encouraging attendees to travel to the Stadium via bicycle would require a robust, connected network of high-quality bicycle facilities that provide riders of all ages and abilities with a safe and enjoyable experience. The project, expected to be in place for 10 years, would provide short-term solutions so that riders can avoid the Hegenberger Road corridor. Parking for bicycle riders would be provided within the Coliseum Complex for bike riders who walk / carry their bikes across the pedestrian bridge connecting the Coliseum Complex and the BART station. This routing would be communicated through the Stadium website so that bicyclists traveling to or from the Stadium can do so without using either Hegenberger Road or Coliseum Way, which do not have bicycle facilities and have high speed motor vehicle traffic.

Bicycle parking will be provided for events and conveniently located within a short walk to the Stadium without having to cross public streets. Depending on demand, up to 200 attended, free, secure bicycle parking spaces will be provided on event days in staffed temporary outdoor bike parking facilities that can be sized to accommodate demand. The potential location for these facilities has been identified on the Coliseum Complex near the ridesourcing and shuttle bus passenger areas. Some secure bicycle parking will also be provided via lockers or other secure means for employees who may arrive early or leave late when the temporary outdoor bike parking is unavailable.

7.3 Emerging Mobility Trends

Several point-to-point mobility services have emerged in Oakland. These services, which include scooters and bicycles, allow people to pick them up, ride, and drop them off within a specified service area or at a specific docking location. The City of Oakland has an extensive webpage addressing shared mobility in Oakland.[3]

Providing a safe and organized environment for these services is in many ways what is needed for personal bicycles, with dedicated lanes protected from automobile traffic. However, these services require

[2] https://www.oaklandca.gov/projects/lets-bike-oakland-oaklands-bike-plan
[3] https://www.oaklandca.gov/topics/shared-mobility-programs

their bicycles and scooters to be parked in locations that are publicly accessible for other potential riders, which has the potential to clutter public walkways and obstruct pedestrians.

Transportation planning for the Stadium site will welcome point-to-point mobility services, based on demand, by providing designated parking areas to minimize the blocking of pedestrian pathways.

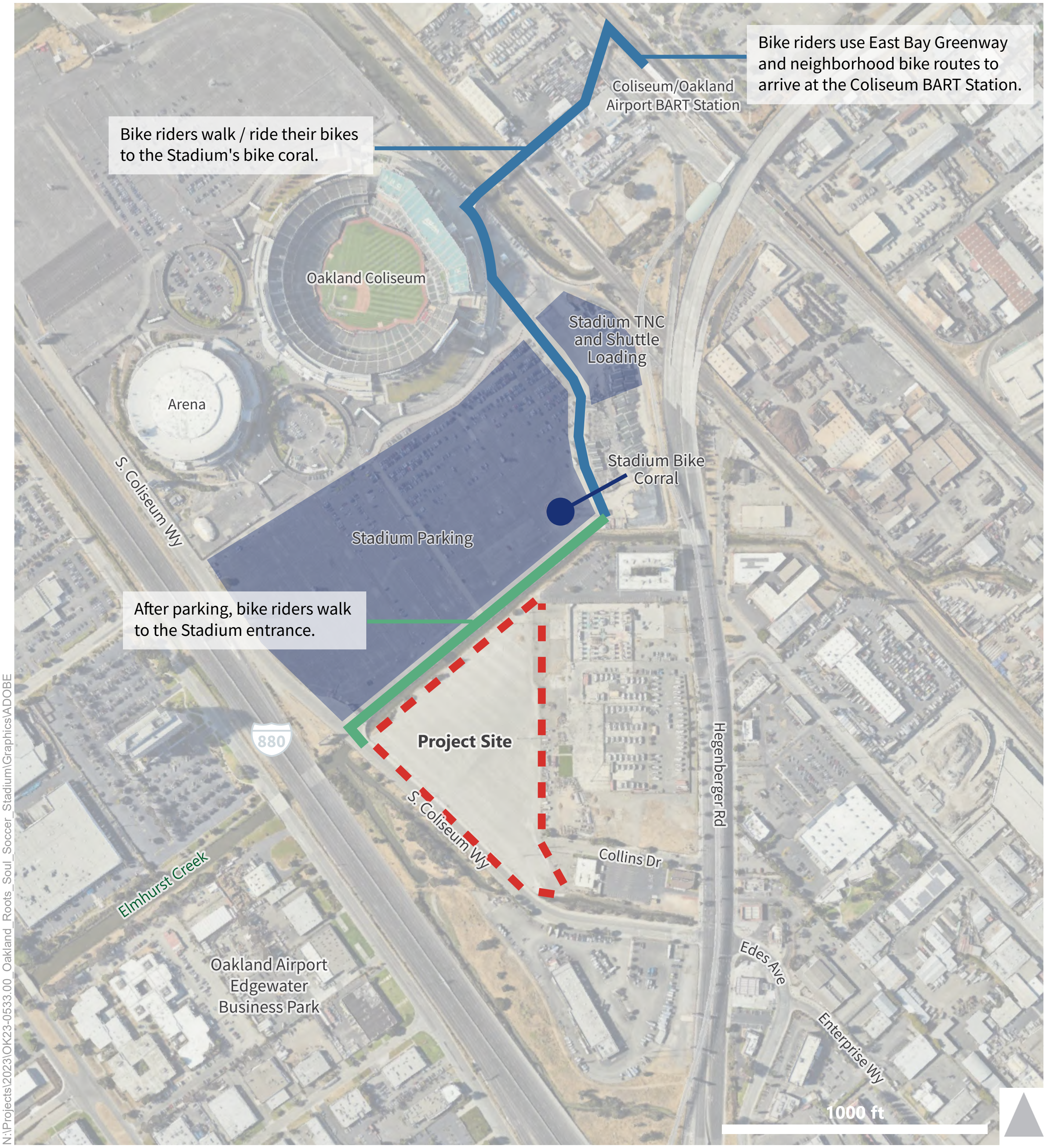

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Figure 7-1

Expected Bike Rider Path of Travel for the Stadium

8. Personal Automobile Element and Parking Management Plan

Although attendees will be encouraged to travel to and from the Stadium using transit, many will still choose to arrive by personal automobile. Parking for the Stadium will be provided at the adjacent Coliseum Complex. **Figure 8-1** illustrates automobile access for the Stadium.

8.1 Existing Roadway Network

The local roads and regional highways that provide access to the Stadium site are described below. The Stadium site is located adjacent to the Coliseum Complex with Elmhurst Creek separating the two.

Coliseum Way (or Joe Morgan Way) is generally a north-south roadway extending between Hegenberger Road and 66th Avenue. Between Hegenberger Road and Elmhurst Creek, Coliseum Way is a two-way, four-lane roadway with a traffic signal at Hegenberger Road and sidewalks along the east side of the roadway. North of the creek, Coliseum Way becomes a one-way, two- to three-lane roadway with a traffic signal at its terminus with 66th Avenue. The I-880 northbound off- and on-ramps merge with Coliseum Way within this one-way segment as well as several motor vehicle access points to the Coliseum Complex.

Hegenberger Road is generally an east-west roadway that extends between Doolittle Drive to the west and International Boulevard to the east where it changes names to 73rd Avenue. Near the Stadium it is an eight-lane roadway with sidewalks and signalized intersections at Coliseum Way and Baldwin Street as well as an unsignalized intersection at Collins Drive.

Interstate 880 (I-880): I-880 connects the project with points north and south in the East Bay, as well as with San Francisco via an interchange with Interstate 80 (I-80) at the Bay Bridge. In addition to I-80, I-880 also connects with Interstate 580 (I-580) and Interstate 980 (I-980). In the project vicinity, I-880 typically has eight lanes, four in each direction. On- and off-ramps serving the site are as follows:

- Off-ramps:
  - Northbound: Hegenberger Road at Edes Avenue (hook off-ramp)
  - Southbound: Hegenberger Road (direct off-ramp)
- On-ramps:
  - Northbound: Coliseum Way (direct on-ramp)
  - Southbound: Hegenberger Road (loop on-ramp)

The on- and off-ramps experience low to moderate congestion during peak commute periods except when large events occur at the Coliseum Complex.

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- Parking (Outbound)
- Parking (Inbound)
- Ridesourcing and shuttle/buses
- ADA, Players, Coaches, EMS

Figure 8-1

Expected Automobile Access for the Stadium

8.2 Roadway Network Improvements

Roadway network improvements near the Stadium site were identified to improve safety, connectivity, and efficiency. The improvements are described in the Transportation Impact Review (TIR). While the Stadium is temporary i.e., in operation about 10 years, there are several roadway improvements that enhance operations and safety including the following:

- Restripe eastbound Hegenberger Road shared through / left-turn lane to a dedicated left-turn lane.
- Prohibit the left-turn from Collins Drive to eastbound Hegenberger Road.
- Provide a temporary barricade on the Coliseum Way sidewalk between the site's main pedestrian access and Elmhurst Creek where an existing fence extends into the Coliseum Complex.

8.3 Parking Management

The Stadium would have on-site parking supplies for the players, coaches, visiting team, and ADA parking. The parking supply would be accessed from Collins Drive. In addition, there would be parking available for two media trucks and one for EMS. All other parking would be leased from the Coliseum Complex and include parking lot B, C, and G which contain 3,287 parking spaces. About 60 percent of the attendees will arrive during the peak hour before an event and so parking access will be designed accordingly.

The parking provided at the Coliseum Complex in parking lot B, C, and G is expected to be sufficient to handle the parking demands associated with events. As such, demand for off-site parking in local neighborhoods is anticipated to be negligible. Should parking at the Coliseum Complex prove to be insufficient to handle event parking demands, Oakland Pro Soccer LLC would coordinate with nearby property owners to provide additional off-site parking and, depending on location, shuttle services to transport attendees between the off-site parking and the Stadium.

8.4 Accessible Passenger Loading

Accessible passenger loading considers the needs of passengers with mobility impairments and other issues that affect safe travel to and from the Stadium. Considerations for accessible access include necessary space for the loading and unloading of wheelchairs, the potential for longer duration of loading, proximity to entrances, and visibility of passengers accessing loading facilities.

Loading spaces will consider all ADA and City requirements for accessible loading, and ADA-compliant parking and/or loading will be available for the Stadium. To facilitate travel into the Stadium, well-marked pedestrian connections near the ADA-compliant parking are critical to allow the safe travel of all users. Passenger loading for event shuttles and ridesourcing will be located off-site, which could be challenging for people with mobility impairments. Oakland Pro Soccer LLC will evaluate passenger loading services that may be required for off-site mobility impaired individuals to ensure equal access.

9. Ridesourcing and Taxi Element

This chapter discusses plans to manage taxis and ridesourcing, also referred to as transportation network companies or TNCs (e.g., Lyft and Uber) for trips to and from events at the Stadium. While many of these strategies are focused on ridesourcing, some apply to taxis. Like other chapters, these management strategies will be evaluated and updated as needed.

Ridesourcing companies provide a taxi-like service using smartphone apps for hailing. Ridesourcing use in the Bay Area is high relative to other parts of the country. Fridays and Saturdays typically have the highest volumes of ridesourcing use. Oakland-specific ridesourcing data is not available but Oakland Pro Soccer LLC conducted transportation surveys of their attendees and determined that 3 percent of Wednesday soccer match attendees and 6 percent of Saturday attendees used ridesourcing.

While ridesourcing will play a role in transporting attendees to and from the Stadium, these trips pose unique challenges. From an operational perspective, each ridesourcing trip is composed of two individual trips: one trip entering the area to pick-up or drop-off the passenger and one trip leaving the area. Ridesourcing vehicles will be managed to improve operational efficiency, but ridesourcing access to the Stadium will be de-prioritized compared to transit and carpooling due to the TMP's goal of reducing vehicle trips. The strategies and best practices that will be used are set forth below. These strategies have proven effective at other locations (e.g., airports and other event venues) where ridesourcing and taxi modes are prevalent.

9.1 Strategies and Best Practices

Strategies will be utilized to manage ridesourcing and taxi congestion and curb space demands during pre- and post-event conditions. The primary outcomes sought from this management include the following:

- Shifting ridesourcing and taxi operations away from major traffic corridors providing access to freeways or transit service by establishing clear staging locations and ingress/ egress routes
- Reducing the likelihood that improper pick-ups and drop-offs will block travel lanes, transit stops/lanes, bike lanes, or crosswalks
- Encouraging the use of transit and carpool modes of transportation

The ridesourcing and taxi strategies listed below will be combined with demand management strategies to ensure the area near the Stadium is not unreasonably burdened with vehicles before and after events. Oakland Pro Soccer, LLC will make good faith attempts to enter into agreements with ridesourcing companies to employ the following primary ridesourcing and taxi management strategies:

- **Pick-Up/Drop-Off Restrictions**: If required, use a mix of traffic and / or parking control officers or other personnel acceptable to the City, physical barriers, and, if possible, management agreements with ridesourcing operators, to keep ridesourcing vehicles from picking up or dropping off passengers on Coliseum Way or at nearby properties not affiliated with Oakland Pro Soccer, LLC.

- **Designated Pick-up/Drop-off Area**: The Coliseum Complex has a designated pick-up/drop-off area to manage ridesourcing and improve predictability compared to operations without a designated area. The area is accessed from Baldwin Street and will also be used for bus and shuttle loading. The area is located about 1,800 feet from the Stadium entry.

10. Pre- and Post-Event Management

An integrated approach for managing all arrivals (pedestrians, bicyclists, transit riders, and drivers/ passengers) is necessary within the Stadium vicinity. This chapter presents recommended management activities.

People using different modes of transportation will be competing for the right of way, which will require active management before and after events at the Stadium site to encourage smooth operations. Oakland Pro Soccer LLC will work with the City of Oakland to create a Transportation Operations Committee (TOC), to discuss operations for each event, including what has worked well and opportunities for improvement from past events. It is expected that the TOC members will include representatives from the City of Oakland as well as a representative from BART and AC Transit.

Event operations management and controls are expected to be similar for all events since the maximum seating capacity will be 10,000 people. The management strategies describe using personnel (i.e., traffic and/or parking control officers or other personnel acceptable to the City) for managing and directing traffic. The current City of Oakland policy requires the use of uniformed police officers to manage traffic. In many locations, uniformed police officers could be substituted with parking control officers or other personnel acceptable to the City, depending on the job requirements, but City policy would need to be modified to allow non-police personnel to manage motorized and non-motorized traffic.

10.1 Event Management

The Stadium is anticipated to host numerous events with up to 10,000 attendees. As noted in Table 2-1, there will be about 70 events each year, each with up to 10,000 attendees. There would be another 40 events each year with an anticipated attendance of 1,500 to 5,000 people. Last, there would be a variety of events, about 50 per year, with a range of a few hundred attendees, up to 5,000. Event management would be similar for each event.

Due to the relatively small number of attendees at these events, compared with much larger events at the Coliseum Complex, the Stadium events are not expected to put substantial strain on the nearby transportation system and therefore do not warrant a large-scale intervention. However, personnel may be placed at each of the following locations:

- Along the walking route connecting the Coliseum BART Station and the Stadium site to direct attendees through the Coliseum Complex along designated pedestrian areas.
- At the ridesourcing, taxi and shuttle passenger (un)loading areas.
- At the vehicular entrances to, and within, the Coliseum Complex parking lots serving attendees who decide to drive, park, and walk to the Stadium from the parking.
- At the Stadium entrance to direct attendees through the security / ticket area.

11. Emergency Vehicle Access and Circulation

Primary emergency vehicle access will be provided via the vehicle entrances on Collins Drive, as well as via Coliseum Way. Oakland Fire Station No. 29, located on 66th Avenue, is the nearest fire station that would serve the Stadium. The fire station is about one mile from the Stadium with a travel time under four minutes. Even with the fire station proximity, the Oakland Fire Department would be provided the following general transportation features to serve the Stadium:

- A designated space for dispatching emergency services personnel within the Stadium. This could be a room for EMT personnel or a similar facility.
- A designated parking space for an emergency service vehicle such as an ambulance.
- A clear path to the Stadium through all non-motorized areas.
- Emergency vehicle access coordinated with Oakland Fire Department.

Collaboration with the Oakland Fire Department is ongoing, and this document will be updated to reflect the discussions. An incident command staging area may be provided to provide multiple emergency vehicles with clear in/out access to reduce response times. The mobility coordinator will communicate with the Oakland Fire Department for changes to operational needs.

12. Communication Plan

Communication before, during, and after events at the Stadium can improve the visitor experience and encourage people to walk, bike, and take transit to and from the Stadium site by increasing awareness of the transportation options in the area.

12.1 Outreach

Outreach can provide useful trip planning information to attendees and employees to minimize confusion and the risk of conflicts. Advanced information on transportation choices for accessing the Stadium, as well as alerting attendees to the location and purpose of temporary controls and measures, will allow everyone accessing the site to adequately respond to the transportation environment in the area during events and make an informed decision about their mode of travel. The following is an outreach strategy to accompany Stadium events.

Ticket purchase confirmation will include the following information:

- Parking at the Stadium will be managed by the Coliseum Authority and, to the extent feasible, Oakland Pro Soccer LLCC will encourage the Coliseum Authority to prioritize pre-purchase reservation to minimize vehicle queuing and delay accessing the parking areas. All attendees will receive a statement explaining that parking will be extremely limited in the area and available at the Stadium by reservation. Attendees will also receive an explanation of transit resources, and detailed information about options for getting to the Stadium, including the following:
    - List of transit options available, including links to trip planning tools, schedules, fare information, and forms of payment (i.e., Clipper card brochure).
    - Links to web-based trip planning tools and resources (by transit, walking, bicycling, shared mobility, driving, and parking).
    - Information on how to use transit (fare and payment information), best stops and stations for accessing the Stadium, and walking routes to the Stadium.
    - Instructions on how to use shuttles from the BART station or elsewhere, if provided.
    - Information on bicycle access (i.e., via the pedestrian bridge at the Coliseum BART station) and free secure bicycle parking services.
    - Directions to general pick-up/drop-off locations for ridesourcing services.
    - Information on parking availability and pricing, and procedures for pre-purchasing parking.

- For attendees who purchase parking with their ticket:
    - Directions to the Stadium from different origins and instructions describing the best path to access parking.

12.2 Wayfinding

Wayfinding can support easy, safe walking and bicycling trips, and reduce the risk of conflicts for all modes by directing people away from potential conflict points. The following is a wayfinding strategy to accompany events.

12.2.1 Pre- and Post-Event Wayfinding

- Temporary wayfinding that will direct visitors to the Stadium from parking, transit, ridesource/taxi (un)loading, and bicycle parking.
- Temporary signage to direct bicyclists to outdoor bicycle parking.
- Temporary signage to direct vehicles toward the Stadium's designated parking lot.
- Temporary variable message signs, if needed, may be used to alert vehicles about roadways designated for Stadium traffic and direct ridesourcing vehicles to Baldwin Street and the designated ridesourcing lot.
- Temporary signage at the Stadium exit to help people leave the site toward key destinations such as the BART station, AC Transit, and ridesource / shuttle areas, as applicable.
- Temporary signage outside bicycle parking directing bicyclists to key routes leaving the area.
- Temporary signage to direct drivers toward suggested post-event routes.

13. Monitoring, Refinement, and Performance Standards

Oakland Soccer LLC will monitor and refine the TMP as needed in conjunction with the City of Oakland until transportation patterns are established and annually thereafter. If annual surveying and reporting after the first two years indicates any issues with achieving the standards, the City may require more frequent monitoring. The TMP will be continually refined by improving existing measures and introducing new strategies. All proposed and approved changes to the TMP will be reported to the City of Oakland and referenced in an Annual Report.

13.1 Monitoring Methods

Methods that will be employed to monitor TMP strategies include, but are not limited to, the following:

1. Coordination Meetings – the on-site mobility coordinator and key Oakland Soccer LLC staff will meet quarterly with the City's designated representative, other key City staff, and other transportation service providers to evaluate the TMP strategies. These meetings will occur quarterly until transportation conditions are stable, and then annually thereafter, to coordinate transportation efforts and adjust, remove, or add measures to refine the TMP.
2. Inaugural Event(s) Monitoring – a designated team of Stadium and City staff will establish and implement the TMP, monitor pre-event and post-event conditions until transportation patterns are established, debrief, and collaboratively adjust the TMP as needed. The full complement of data collection to measure whether the standards listed in this chapter have been met may not be collected during inaugural events until transportation patterns are established.
3. Subsequent Event Monitoring – a designated team of Stadium and City staff will continue to monitor quarterly until transportation patterns are established, and then annually thereafter to monitor pre-event and post-event conditions.
4. Stadium Entrance Operations – the on-site mobility coordinator will regularly monitor the Stadium entrance operations including the pedestrian patterns approaching the entrance during the first year of operation and collaborate with the City to resolve issues that arise.
5. Annual Event Attendee Surveys – travel surveys of attendees will be conducted at one weekday evening soccer game and one weekend evening soccer game at the Stadium. The surveys will include questions regarding pre-event origin and post-event destination, arrival and departure times, arrival and departure modes, use of transportation management measures, transit providers, parking or pick-up/drop-off location, and number of vehicle occupants. The survey will be developed in coordination with the City of Oakland. Alternatively, and with approval from the City, Oakland Soccer LLC may conduct on-line surveys.

6. Annual Stadium Employee Surveys – travel surveys will be given to people working at the Stadium on event days to identify the same travel information for employees, as well as to determine their awareness of alternative modes and travel demand management programs available to them. The survey will be developed in coordination with the City of Oakland.
7. Parking Strategies – data will be collected on parking utilization and auto occupancy and the effectiveness of on-site parking management strategies.

13.2 Monitoring Documentation

The results of the monitoring process will be documented as follows:

1. TMP Event Monitoring Memoranda – a memorandum will be prepared within three months of the event that documents the results of the event monitoring and associated adjustments and improvements to the TMP. This documentation will continue with each monitored event until the transportation patterns stabilize.
2. Annual Monitoring Report – a report will be submitted to the City of Oakland annually, beginning one year following the project opening and continuing for the life of the project. The Annual Monitoring Report will summarize the current implementation and compliance status at the time of the report for all implemented measures. For measures that another entity (e.g., a transit service provider) is responsible for implementing, Oakland Soccer LLC will only report on readily available information provided by the entity about the implementation and compliance status. The Annual Monitoring Report will also document the actual vehicle trip reduction (VTR) achieved by the project during operation and may include monitoring surveys and reports that addresses how effectively the TMP is meeting the monitoring objectives described above as well as each performance standard described below, while also proposing changes, adjustments, and improvements to the TMP as needed. If deemed necessary, the City of Oakland may elect to have a peer review consultant, paid for by the project applicant, review the annual report.

13.3 Performance Standards and Goals

The TMP is oriented toward the achievement of a 20 percent vehicle trip reduction performance standard mandated by the City's Standard Conditions of Approval, with various goals related to the performance of the transportation system also used to assess whether further refinements to the TMP are warranted.

The following performance standard related to vehicle trips applies to the project:

1. Event automobile trips per attendee reduced by 20 percent from expected operations without the TMP. See **Error! Reference source not found.** for corresponding vehicle trips per attendee rates.

The foregoing performance standard shall be achieved within one year following completion of the first soccer season at the Stadium.

Once the project is in operation and initial monitoring results are available, the results will be measured against these criteria. If the 20 percent vehicle trip reduction standard is not achieved, Oakland Soccer, LLC will be required to work with the City of Oakland to ensure the standard is met.

In addition to the trip reduction performance standards, the project has additional standards related to the performance of the transportation system. These standards help support the trip reduction performance standard and overall transportation operations in the project area, but unlike the trip reduction performance standards, they may be adjusted in response to observed conditions rather than strict requirements.

The following standards have been developed for the project, and Oakland Soccer, LLC, through implementation of the TMP monitoring, will be responsible for collecting the data necessary to determine if the standards are being met, as well as preparing the performance monitoring reports documenting whether each standard was met and what, if any, changes are necessary to meet each standard:

1. Intersection Safety: Drivers comply with event day management, reducing conflicts between pedestrians and automobiles.
2. Pedestrian and Bicycle Safety: Key safety indicators (for example, the rate of drivers yielding to people walking and bicycling) are met to ensure that event attendees are encouraged to walk and bike because they feel safe doing so.
3. Transit Accessibility: All AC Transit and special event shuttle passengers wishing to access transit within 60 minutes following an event can board their bus transit vehicle.
4. Good Neighbor: AC Transit routes serving the Hegenberger bus stops near the Stadium continue to maintain capacity for simultaneous neighborhood use on event days.
5. Ridesourcing Vehicles: Ridesourcing vehicles use designated areas for pick-up and drop-off of passengers on event days.
6. Micromobility Storage and Use: If used to access the Stadium electric scooters, dockless bikeshare bicycles, and other micromobility devices are stored in designated areas that do not obstruct pedestrian flows and use on-street facilities for travel instead of sidewalks on event days.
7. Local On-Street Parking: On-street parking is reasonably available for the surrounding neighborhood during events.

Oakland Soccer LLC will be responsible for collecting the data that will be used to assess whether these standards are being met. The methods and procedures for data collection have not yet been determined and will be established collaboratively with the City. Data collection will be robust during the initial event monitoring, and adjustments will be made as determinations of the usefulness and need for the data are made.

The TMP has been developed conservatively to plan for high-capacity scenarios (i.e., 10,000 attendee events), and the performance standards are expected to be met with the implementation of the strategies outlined in Chapter 4 and described previously in this TMP. As a living document, this TMP may also be updated to reflect plans, policies, and strategies defined in future, yet-to-be-determined studies that may occur over the lifetime of the Stadium. Proposed revisions to this TMP are subject to the review and approval of the City of Oakland Department of Transportation (OakDOT). OakDOT will consult with Planning & Building, Oakland Soccer LLC, and, as needed, other key stakeholders as previously identified in Table 1-1 before approving any revisions to this TMP to ensure its continued conformance with the stated goals and operational needs of each party.

Appendix K

Oakland Roots/Souls Temporary Stadium at Malibu Site - Transportation Impact Review (Non-CEQA)

Fehr & Peers, May 16, 2024

Draft Memorandum

Date: May 16, 2024

To: Scott Gregory, Lamphier-Gregory

From: Sam Tabibnia and Rob Rees, Fehr & Peers

Subject: Oakland Roots/Souls Temporary Stadium at Malibu Site Transportation Impact Review (Non-CEQA)

OK23-0533

This memorandum discusses the non-CEQA transportation assessment that Fehr & Peers completed for the proposed Oakland Roots Temporary Stadium (The Project) at the Malibu Site adjacent to the Oakland Coliseum Complex.

The analysis presented in this memorandum is consistent with the City of Oakland's Transportation Impact Review Guidelines (TIRG) published in April 2017. This memorandum includes the following sections:

This document also provides recommendations to improve multi-modal access, circulation, and safety which are summarized at the end of the memorandum.

1. Project Description

Figure 1 shows the location of the proposed Stadium and its vicinity. The Project is located at the former Malibu site, just south of the Coliseum Complex. The triangular Project site is bound by Coliseum Way to the west,[1] the City-owned Homebase property to the east, and the Elmhurst Creek/Coliseum Complex to the northwest.

Figure 2 shows the Project site plan. The Project would consist of a temporary Stadium that would accommodate up to 10,000 attendees. The primary pedestrian entrance for the Stadium would be at the west corner of the site adjacent to Coliseum Way and Elmhurst Creek. The Project site would provide limited on-site parking and access on the east side of the site, which would be accessed through Collins Drive. Project access through Collins Drive would be limited to players, coaches, officiating staff, as well as shuttles, and emergency vehicles and ADA access.

There are currently several thousand parking spaces located at the Coliseum Complex, just north of the Stadium, that the Project intends to lease from the Coliseum Authority. The Coliseum Complex also provides a shuttle and ridesourcing zone on the east side of the Complex that the Roots intend to lease for use during Stadium events. In addition, the Project intends to use the Coliseum Complex to accommodate bicycle parking and provide pedestrian access between the Stadium and the Coliseum BART Station. Elmhurst Creek separates the Coliseum Complex and Stadium site such that only one sidewalk along Coliseum Way connects the two sites. Use of the Coliseum Complex for automobile and bicycle parking, shuttles, ridesourcing, and pedestrians is dependent on agreements between the Roots and the Oakland-Alameda County Coliseum Authority.

The Oakland Roots and Oakland Soul are each anticipated to play up to 23 home games per year (including post-season) for a total of 46 soccer games each year. In addition, Oakland Pro Soccer LLC intends to make the Stadium available for the Roots' development team for a total of 40 soccer games each year, as well as for other sport and community events, a farmers' market, pop-up events, etc. **Table 1** summarizes the anticipated event schedule for the Stadium.

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[1] This analysis assumes that Coliseum Way and I-880 are oriented north-south and Hegenberger Road is oriented east-west, even though just south of the Project site, Hegenberger Road has a north-south orientation.

Table 1: Anticipated Annual Events Schedule

Event Type	Annual Events	Attendance	Total Attendees/ Year	Season	Time of Day
Roots and Soul Home Games	46	8,500 – 10,000	460,000	March through October	12-4 pm, and 6-10 pm
Project 510 home games	40	1,500 – 5,000	200,000	March through October	12-4 pm, and 6-10 pm
Other Professional Sports Events	12 (est.)	8,500 – 10,000	120,000	Year long	12-4 pm, and 6-10 pm
Entertainment Events	12 (est.)	7,500 – 10,000	120,000	Year long, Thursday thru Sat.	12-4 pm, and 6-10 pm
Corporate or Community Events	50 (est.)	300 – 5,000	250,000	Year long, variable	12-4 pm, and 6-10 pm
Total (Annual)	160		1,150,000		

Source: Oakland Pro Soccer LLC, *City of Oakland Supplemental Questionnaire for Proposed Activities/Uses*, October 10, 2023.

2. Project Travel Characteristics

This section describes the travel characteristics of soccer game attendees at the new Malibu site Stadium primarily based on data collected in 2022 at the Laney College site where the Roots used to play their home games and data collected in 2023 at the California State University, East Bay (CSUEB) site in Hayward where the Roots currently play their home games.

The estimated mode splits, trip generation for automobiles, and trip distribution are discussed below.

Attendee Mode Splits

Roots soccer games are played on Wednesday and Saturday evenings during the regular season. The games generally start at 7:00 PM. To understand the travel characteristics of soccer game attendees, the Roots organization conducted travel surveys for one weekday and one weekend game in 2022 at the Laney College site where the Roots used to play their home games and for two weekend games in 2023 at the CSUEB site where the Roots currently play their home games. The surveys consisted of various questions on travel characteristics of game attendees including their travel mode and trip origin. **Appendix A** presents the survey summary results from games at both the Laney College and CSUEB sites.

Based on the results of these surveys and accounting for their relative location to the Malibu site, and availability of different travel modes, mode splits for both Wednesday and Saturday games at the Malibu site were developed. **Table 2** presents the estimated mode splits for Wednesday and Saturday games and the number of attendees expected to use each mode for a game with maximum attendance (10,000 attendees). The mode splits in Table 2 reflect conditions without the Transportation Management Plan (TMP) that the Project is required to implement to reduce vehicle trips generated by the Stadium by at least 20 percent.

Table 2: Mode Splits at the Malibu Site for Events with Maximum Attendance [1]

Travel Mode	Wednesday Game		Saturday Game	
	Mode Split	Attendees	Mode Split	Attendees
Carpooling	60%	6,000	72%	7,200
Drive Alone	21%	2,100	10%	1,000
Ridesourcing (Uber/Lyft/Taxi)	3%	300	6%	600
BART	11%	1,100	9%	900
AC Transit Bus	3%	300	1%	100
Walk	0%	0	0%	0
Bike	2%	200	2%	200
Total	100%	10,000	100%	10,000

Notes:
1. Represents average of arrival and departure travel mode shares, which may vary slightly. Represents primary mode of travel.

Source: Fehr & Peers, based on surveys at Roots home games at Laney College in 2022 and at the California State University, East Bay (CSUEB) in 2023.

It is estimate that about 84 percent of the Wednesday and 88 percent of the Saturday attendees would use a motor vehicle mode (drive alone, carpool, or ridesource) as their primary source of travel to and from the Stadium, while about 14 percent of the Wednesday and 10 percent of the Saturday attendees would use transit (BART or AC Transit), and about two percent of both Wednesday and Saturday attendees would use bikes. Considering the Project location and proximity and access to other areas including the Coliseum BART station and the adjacent bus stops along San Leandro Street which are over one-mile walking distance along the public right-of-way, this analysis assumes that no attendees would walk to or from the site.

Based on the survey results, the following average vehicle occupancies are estimated for events at the Stadium:

- Attendees who carpool or drive alone would have a combined vehicle occupancy of about 1.79 passengers per vehicle for Wednesday games and 2.22 passengers per vehicle for Saturday games.
- Attendees who ridesource would have a vehicle occupancy of about 2.40 passengers per vehicle for Wednesday games and 1.84 passengers per vehicle for Saturday games (does not include the ridesource vehicle driver).

Gameday Staff and Vendors

Based on data provided by the Roots and summarized in **Table 3**, about 270 staff and vendors, including players for both the home and visiting teams, would be expected at the Stadium on gamedays with maximum attendance. The visiting team would arrive and leave the Stadium by bus. The remaining gameday staff and vendors are estimated to have a 93 percent drive alone mode share.

Table 3: Game Day Staff and Vendors

Staff Type	Population
Guest Services	34
Security	54
Food & Beverage & Merch	58
Broadcast	26
Visiting Team	30
Home Team/Tech Support	45
Referees	4
Other	19
Total	**270**

Source: The Roots, 2023.

Automobile Trip Generation

Trip generation is the process of estimating the number of vehicles that would likely access the Project on a day with an event at the Stadium. Trip generation for Wednesday and Saturday events with maximum attendance is estimated based on the mode split data presented in Table 2. **Table 4** summarizes the estimated total trip generation on a gameday and accounts for both attendees and staff and vendors. It is estimated that a maximum attendance event would generate about 9,900 vehicle trips on a Wednesday and about 9,130 vehicle trips on a Saturday.

The trip generation described above does not account for the Transportation Management Plan (TMP) that the Project is required to implement to reduce the trips generated on a gameday by at least 20 percent. Accounting for the required TMP, a maximum attendance event would generate about 7,990 vehicle trips on a Wednesday and about 7,300 vehicle trips on a Saturday. The traffic operations analysis summarized in the next section of this memorandum is based on a trip generation without a TMP to present a more conservative analysis.

Table 4: Gameday Automobile Trip Generation

Population	Wednesday Game			Saturday Game		
	Attendees	Average Vehicle Occupancy	Vehicle Trips[1]	Attendees	Average Vehicle Occupancy	Vehicle Trips[1]
Attendees who Drive Alone or Carpool	8,100	1.79	9,040	8,200	2.22	7,380
Attendees who use Ridesource (Uber/Lyft/Taxi)	300	2.40	500	600	1.84	1,300
Attendees Subtotal	*8,400*		*9,540*	*8,800*		*8,680*
Gameday Staff and Vendors[2]			450			*450*
Total (Without TMP/TDM)			***9,900***			***9,130***
Total (With TMP/TDM) [3]			***7,990***			***7,300***

Notes:

1. Vehicle trips for attendees calculated by applying the mode shares presented in Table 2 to a maximum attendance event (10,000 attendees) and assumes that attendees who drive (drive alone or carpool) make two trips per game (one to game and one from game) and attendees who use ridesource make four trips per game to account for the additional trip made by the driver to drop off or pick-up the passengers.
2. Assumes 270 staff and vendors on a gameday with one bus carrying the visiting team and all other staff and vendors with a 92 percent drive alone mode share.
3. The required TMP/TDM would reduce trip generation by at least 20 percent.

Source: Fehr & Peers, 2024.

Based on the survey data, the hour with the highest amount of vehicle trips generated is the hour before the start of a game (6:00 to 7:00 PM) when about 65 percent of the attendees that drive are expected to arrive at the site. All gameday staff and vendors are expected to arrive at the site at least one hour before the start of the game and not during the peak hour. **Table 5** summarizes the peak hour vehicle trip generation for both Wednesday and Saturday games. An event with maximum attendance is estimated to generate about 3,100 vehicle trips on a Wednesday and about 2,820 trips on a Saturday.

Table 5: Peak Hour (6:00 to 7:00 PM) Automobile Trip Generation[1]

Population	Wednesday Game			Saturday Game		
	In	**Out**	**Total**	**In**	**Out**	**Total**
Attendees who Drive Alone or Carpool	2,938	0	2,938	2,396	0	2,396
Attendees who use Ridesource (Uber/Lyft/Taxi)	81	81	162	212	212	424
Total	***3,019***	***81***	***3,100***	***2,608***	***212***	***2,820***

Notes:
1. About 65 percent of the attendee vehicle trips as presented in Table 4 would arrive during the peak hour.
Source: Fehr & Peers, 2024.

Trip Distribution

The surveys at the CSUEB site also included questions on the origin of the trips to the site. **Figure 3** shows the geographic distribution of attendees based on the responses. The following trip distribution is developed based on the geographic distribution of attendees:

- I-880 North = 48%
- I-880 South = 24%
- Hegenberger Road, East of Project site = 23%
- Hegenberger Road, west of I-880 = 5%

Considering the street network serving the Project site, all vehicular access to the site is from the south. Vehicular site access for various groups is described below:

- Attendees driving or carpooling to the site would use Coliseum Way to access the parking lots in the Coliseum Complex just north of the Stadium.
- Attendees using ridesourcing vehicles would use Baldwin Street to access the designated ridesourcing areas on the east side of the Coliseum Complex.
- Players/Coaches, VIPs, shuttles, and emergency vehicles would use Collins Drive to access the parking lot on the east side of the Stadium site.

3. Intersection Operations

This analysis evaluated intersection operations during the weekday and Saturday PM peak hours (the hour with the highest traffic volume between 4:00 and 7:00 PM) at the following three intersections that provide the primary vehicular access to the site:

1. Hegenberger Road/Coliseum Way/Edes Avenue
2. Hegenberger Road/Collins Drive
3. Hegenberger Road/Baldwin Street

Traffic operations under the following scenarios are evaluated:

- **Existing Conditions**: Represents existing traffic volumes based on multi-modal counts collected in November 2023 and provided in **Appendix B.**

- **Existing Plus Project Conditions**: Represents the existing conditions plus traffic generated by a game with maximum attendance as summarized in Table 5.

Figure 4 presents the intersection lane configuration, traffic control, and peak hour traffic volumes at the study intersections under the Existing and Existing plus Project conditions. Based on the volumes and roadway configuration presented on Table 4, Fehr & Peers calculated the LOS at the study intersection using the Highway Capacity Manual methodologies. **Appendix C** provides the detailed LOS calculation sheets. **Table 6** summarizes the Existing and Existing Plus Project intersection analysis results.

Traffic operations at each intersection are discussed below.

Hegenberger Road/Coliseum Way/Edes Avenue intersection

The Hegenberger Road/Coliseum Way/Edes Avenue intersection currently operates at LOS C during both the Wednesday and Saturday PM peak hours. The intersection would operate at LOS F during both peak hours with the addition of the Project generated traffic. The primary reason for the decrease in LOS at the intersection is that all traffic accessing the designated Project parking areas would need to access Coliseum Way at the intersection with Hegenberger Road. The Project would result in a large volume increase using the left-turn from eastbound Hegenberger Road to northbound Coliseum Way. The eastbound Hegenberger Road approach at the intersection currently consists of one exclusive left-turn lane and one shared left-turn/through lane.

Table 6: Intersection Level of Service Summary

Intersection	Traffic Control	Peak Hour	Existing		Existing Plus Project		Existing Plus Project and Improvements[3]	
			Delay (seconds)	LOS	Delay (seconds)	LOS	Delay (seconds)	LOS
1. Hegenberger Road/ Coliseum Way/Edes Avenue	Signal	Weekday PM	26	C	>200	F	154	F
		Saturday PM	24	C	>200	F	66	E
2. Hegenberger Road/ Collins Drive	SSSC	Weekday PM	34 (SB)	D	94 (SB)	F	39 (SB)	E
		Saturday PM	24 (NB)	C	44 (NB)	E	45 (NB)	E
3. Hegenberger Road/ Baldwin Street	Signal	Weekday PM	11	B	15	B	14	B
		Saturday PM	9	A	17	B	16	B

Note:
1. Signal = intersection controlled by traffic signal; SSSC = Intersection is side-street stop-controlled.
2. For signalized intersections average intersection, delay using HCM2000 is reported. For side-street stop-controlled intersections, delay for worst approach reported using HCM 6th Edition.
3. Improvements consist of Recommendations 1 and 2.
Source: Fehr & Peers, 2024

Recommendation 1: While not required to address a CEQA impact, and at the discretion of City of Oakland staff, the following shall be considered at the Hegenberger Road/Coliseum Way/Edes Avenue intersection as part of the final Project design:

- Convert the shared left-turn/through lane on the eastbound Hegenberger Road approach of the intersection to an exclusive left-turn lane so that the approach would provide two exclusive left-turn lanes, two through lanes, and one shared right-turn/through lane.
- Adjust intersection signal timing parameters ensuring that all pedestrian phases are based on a walking speed of at least 3.5 feet per second.

As shown in Table 6, implementation of Recommendation 1 would reduce the average delay at the Hegenberger Road/Coliseum Way/Edes Avenue intersection; however, the intersection would continue to operate at LOS F during the Wednesday PM peak hour and LOS E during the Saturday PM peak hour.

Hegenberger Road/Collins Drive intersection

The side-street stop-controlled approaches at the Hegenberger Road/Collins Drive intersection currently operates at LOS D during the Wednesday PM peak hour and LOS C during the Saturday PM peak hour. The addition of the Project generated traffic would result in the worst approach to operate at LOS F during the Wednesday PM peak hour and LOS E during the Saturday PM peak hour. The LOS E and LOS F operations would be primarily experienced by the small volume of traffic that turns left out of the side-streets and would need to find an adequate gap crossing eight lanes of traffic on Hegenberger Road.

Recommendation 2: While not required to address a CEQA impact, and at the discretion of City of Oakland staff, the following shall be considered at the Hegenberger Road/Collins Drive intersection as part of the final Project design:

- Prohibit left-turns and through movements at the southbound Collins Drive approach so that the approach is limited to right-turns out only.

As shown in Table 6, implementation of Recommendation 2 would reduce the average delay and improve the LOS at the Hegenberger Road/Collins Drive intersection during the weekday PM peak hour. However, the delay for the Saturday PM peak hour would remain the same because the worst approach is the northbound approach which is a shopping center driveway.

Hegenberger Road/Baldwin Street intersection

The Hegenberger Road/Baldwin Street intersection would operate at LOS B during both the Wednesday and Saturday PM peak hours with the addition of the traffic generated by a maximum attendance event at the Project site. No operational improvements at recommended at this intersection.

4. Access and Circulation Review

An evaluation of access and circulation for all travel modes under development of the Project, based on site plans dated October 10, 2023 and shown on Figure 2, is summarized below.

Motor Vehicle Access and Circulation

Figure 5 shows the motor vehicle access for the various components of the proposed Stadium, which are described below.

On-Site Parking

On gamedays, Project access through Collins Drive would be limited to players, coaches, officiating staff, as well as shuttles, emergency vehicles and ADA access. The Project would provide 109 on-site parking spaces, which would be contained in the following two lots:

- A lot at the end of Collins Drive would contain 39 parking spaces and is intended for VIP parking and back-of-house operations/turn-around space on gamedays.
- A lot at the north end of the Project site and accessed from a 24-foot-wide drive-aisle along the west side of the Project site adjacent to the Homebase property, would contain 73 parking spaces and is intended for front office personnel and players on gamedays.

Both on-site parking lots would be accessed from Collins Drive. Recommendation 1 would prohibit left-turns out of Collins Drive onto eastbound Hegenberger Road; thus, vehicles leaving the site through Collins Drive who wish to travel to east would need to turn-right on Hegenberger Road and then make a U-turn at the intersection with Coliseum Way.

Off-Site Parking

The Project would lease parking from the Coliseum Complex to provide about 3,287 off-site motor vehicle parking spaces primarily for event attendees. The leased parking spaces would be in Lots B, C, and G, which are just north of the Elmhurst Creek. Vehicle access for these existing off-site parking lots would be provided through Coliseum Way. Vehicles can only approach these parking lots from the south and would enter by turning right from Coliseum Way just north of the Elmhurst Creek. Vehicles leaving the parking lots would leave by either using the south driveway adjacent to Elmhurst Creek to turn right towards the north or turn left towards the south or use the north driveway, to turn right towards the north on Coliseum Way.

Ridesourcing and Passenger Loading

On gamedays, ridesourcing and shuttle loading would occur in a separate off-site lot located just east of Lot B. Ridesourcing vehicles and shuttles would use Baldwin Street to access this lot.

Automobile Parking

The City of Oakland Municipal Code establishes minimum and maximum automobile parking requirements for various activities. Municipal Code Section 17.116 does not require the Project to provide any parking. In addition, the Municipal Code does not establish any parking maximums for the Project. Thus, the 109 parking on-site spaces proposed by the Project are consistent with the City’s requirements.

Estimated Parking Demand

Based on the mode splits and automobile occupancies described in Section 2 of this memorandum, **Table 7** summarizes the estimated parking demand for a maximum attendance event at the Stadium. The Project is estimated to have a parking demand of about 4,742 parking spaces for a Wednesday event and 3,910 parking spaces for a Saturday event, without the implementation of a TMP. The proposed parking supply of 3,396 parking spaces (consisting of 109 on-site parking spaces and 3,287 off-site leased spaces in the Coliseum Complex) would not meet the estimated demand for a maximum attendance event without a TMP.

Implementation of a TMP would reduce the parking demand by about 20 percent and reduce the total parking demand to 3,790 parking spaces for a Wednesday event, and 3,130 parking spaces for a Saturday event. With the implementation of a TMP, the proposed parking supply of 3,396 parking spaces would meet the demand for a Saturday event, but not a Wednesday event.

Table 7: Gameday Parking Demand

Population	Wednesday Game			Saturday Game		
	Attendees	Average Vehicle Occupancy	Parking Demand[1]	Attendees	Average Vehicle Occupancy	Parking Demand[1]
Attendees who Drive Alone or Carpool	8,100	1.79	4,519	8,200	2.22	3,687
Gameday Staff and Vendors[2]			223			233
Total (Without TMP/TDM)			***4,742***			***3,910***
Total (With TMP/TDM) [3]			***3,790***			***3,130***
Gameday Parking Supply On-Site Off-Site Total			 109 3,287 3,396			 109 3,287 3,396
Parking Surplus/Deficit (With TMP/TDM)			***-394***			***+266***

Notes:
1. Parking demand for attendees calculated by applying the mode shares presented in Table 2 to a maximum attendance event (10,000 attendees).
2. Assumes 240 staff and vendors on a gameday with a 92 percent drive alone mode share.
3. The required TMP/TDM would reduce parking demand by at least 20 percent.

Source: Fehr & Peers, 2024.

Recommendation 3: While not required to address a CEQA impact, and at the discretion of City of Oakland staff, the following shall be considered as part of the final design for the Project:

- Monitor parking occupancy and if parking demand is expected to exceed the provided supply, either lease additional off-site parking facilities to increase the parking supply or implement additional TDM strategies into the TMP to reduce the demand for parking.

Accessible Parking

The Project would provide five on-site accessible parking spaces. The north parking lot would include three accessible parking spaces, including one van accessible space, which would meet the required minimum for parking facilities with 51 to 75 parking spaces. The south lot would include two accessible parking spaces, including one van accessible space, which would meet the required minimum for parking facilities with 26 to 50 parking spaces.

Most accessible parking spaces for event attendees would be provided in the existing parking facilities leased in the Coliseum Complex. The Coliseum Complex Lots B and C currently provide ADA accessible parking spaces at the north end of each lot. Considering the distance and the lack of an accessible path between these parking spaces and the Stadium, the Project proposes to provide a shuttle service between these parking spaces and the Stadium entrance on Collins Drive. See the Transit Access section of this memorandum for more details on the gameday shuttles.

Bicycle Access, Parking and Circulation

Existing bicycle facilities in the Project vicinity include:

- The East Bay Greenway located along the east side of San Leandro Street and adjacent to the elevated BART tracks, approximately 1,100 feet west of the Project site, is a Class 1 shared-use path between 75th and 85th Avenues
- The San Francisco Bay Trail, approximately 2,500 feet east of the Project site, is a Class 1 shared-use path that connects to the rest of the region
- A neighborhood bike route on 69th Street between San Leandro Street and International Boulevard

Currently, no short-term bicycle parking is provided along the Project frontage. There is also no bikeshare station within the Project vicinity; the nearest Bay Wheels bikeshare station is located over 3.5 miles from the Project, at the Bond Street/High Street intersection.

Project attendees and employees who would access the site by bike would most likely access the site from the East Bay Greenway via the pedestrian bridge connecting the Coliseum BART station and the Coliseum Complex. As shown on **Figure 6**, bicyclists would be able to access the BART pedestrian bridge from the stairs across from the BART station on the west side of San Leandro Street, from the BART station elevator, escalator, or stairs on the east side of San Leandro Street,[2] or from the ramp in the Amtrak parking lot. Attendees would then walk their bike across the BART pedestrian bridge and through the Coliseum site to access the designated bicycle parking area, leased from the Coliseum Authority, and the Stadium entrance.

The City's 2019 Oakland Bike Plan (*Let's Bike Oakland*, July 2019) proposes the following in the vicinity of the Project:

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[2] The BART elevator and escalator to the pedestrian bridge are outside of the paid area.

- Protected Class 4 bike lanes on Hegenberger Road between International Boulevard and Doolittle Drive
- Extension of the East Bay Greenway Class 1 shared-use path on San Leandro Street to the north and the south of the existing section. The City of Oakland's East Bay Greenway Phase II Project would complete a Class 1 shared-use path between Seminary and 69th Avenue, and provide Class 2 bike lanes between 69th and 75th Avenues.[3]
- Class 2 separated bicycle path along 66th Avenue, between the Bay Trail and San Leandro Street. The City of Oakland's *66th Avenue BART to Bay Trail One Bay Area Grant (OBAG) Project* proposes a Class 1 separated multi-use path for this corridor.[4]
- Class 2 bike lanes on Edes Avenue between Hegenberger Road and 85th Avenue

The Project would not make major modifications to the public right-of-way and would not adversely affect the installation of future bicycle facilities.

Project Bicycle Parking

The Project would provide at least six long-term and six short-term bicycle racks and storage areas on-site as required by the California Green Building Standards Code. The Project also proposes to provide bike corrals for gameday attendees and staff at the southeast corner of Lot B as shown on **Figure 6**. The bicycle corrals would be free, secure bicycle parking spaces in staffed temporary outdoor bike parking facilities on event days. After parking their bikes at the corral, bike riders would walk along the sidewalk on the north side of Elmhurst Creek to access the Stadium entrance. Some Project staff that may arrive early and/or leave late when the temporary outdoor bike parking is unavailable, would be able to use the on-site bicycle parking.

The Oakland Planning code does not specify bike parking requirements for very large event venues such as Stadiums. Based on the estimated mode splits for a maximum attendance event (10,000 attendees) as summarized in Table 2, about two percent of the attendees are estimated to bike to the Project. Thus, about 200 cyclists are expected for a maximum attendance event.

> **Recommendation 4:** While not required to address a CEQA impact, and at the discretion of City of Oakland staff, the following shall be considered as part of the final design for the Project:

[3] See https://www.oaklandca.gov/projects/east-bay-greenway-phase-2 for additional information.
[4] See https://www.oaklandca.gov/projects/66th-ave for additional information.

- o Ensure that the gameday bicycle parking facilities at the Stadium can accommodate at least 200 bicycles.
- o Monitor bicycle parking usage and if needed, increase the size of the bicycle parking facility.

Pedestrian Access and Circulation

The public entrance to the Stadium would be at the west corner of the site, near where Coliseum Way crosses over Elmhurst Creek. For security reasons, attendees would not be able to access the Stadium at other locations.

Existing pedestrian facilities serving the Project site include:

- An approximately 800-foot long, 18-foot wide pedestrian bridge that provides pedestrian access between the Coliseum BART station and the Coliseum Complex
- An approximately 1,100-foot long, five-foot-wide sidewalk on the south side of Lot C and just north of Elmhurst Creek that connects Lots B and C to Coliseum Way; fences on both sides of the sidewalk separate the pedestrians from the motor vehicles to the north and the Creek to the south
- A 10-foot-wide sidewalk on the east side of Coliseum Way between Elmhurst Creek and Hegenberger Road
- 10-foot-wide sidewalks along both sides of Hegenberger Road between Baldwin Street and Coliseum Way

Some event attendees would use the sidewalks along Coliseum Way and Hegenberger Road to walk between the Stadium entrance and the existing AC Transit bus stops. Most attendees would need to walk through the Coliseum Complex to walk between the Stadium entrance and the leased parking lots in the Coliseum Complex, the bicycle parking corrals, the ridesource and shuttle staging areas, and the Coliseum BART station. **Figure 7** shows the designated pedestrian corridor through the Coliseum Complex that would connect the different components discussed above to the Stadium. The pedestrian corridor would generate be located along the south side of Lots B and C, along the east side of Lot B, and connect to the BART pedestrian bridge.

The Project would collaborate with the Coliseum Authority to provide temporary or permanent features, such as lighting, wider space for walking, high-visibility crosswalks, and/or barriers to separate walking space from motor vehicle space. Improvements to the pedestrian corridor through the Coliseum Complex would need to be flexible since the Complex is a multi-use event space and there may be events at the Coliseum Complex and the Stadium at the same time.

It is estimated that about 9,500 pedestrians would use all or portions of the pedestrian corridor in through the Coliseum Complex before and after a maximum attendance event. The hour after the end of an event is expected to have the highest pedestrian volume, where about 7,000 pedestrians are expected to leave the Stadium and use the pedestrian corridor. Highest usage of the pedestrian corridor is expected along the segment closest to the Stadium and adjacent to Lot C. This segment of the corridor is currently fenced on both sides and has an effective width of about four feet, which has a capacity of about 3,600 pedestrians per hour.[5] A minimum width of eight feet (seven-feet effective width) is needed to serve the expected 7,000 pedestrians per hour.

> **Recommendation 5:** While not required to address a CEQA impact, and at the discretion of City of Oakland staff, and in coordination with the Coliseum Authority, the following shall be considered as part of the final design:
>
> - Designate a pedestrian corridor through the Oakland Coliseum Complex to connect the parking lots, bicycle corrals, the designated ridesourcing/shuttle loading area, and the Coliseum BART station to the Stadium.
> - Implement temporary or permanent features, such as lighting, wider space for walking, high-visibility crosswalks, and/or barriers to separate walking space from motor vehicle space along the pedestrian corridor.
> - Provide additional width for pedestrians along the sidewalk on the south side of Coliseum Complex Lot C that connects to Coliseum Way. Options may include widening the existing sidewalk to eight feet or designating a second walkway just north of the existing fence north of the sidewalk with a minimum width of five feet.

The primary entrance to the Stadium would be located at the west corner of the site adjacent to Coliseum Way and Elmhurst Creek. Almost all event attendees are expected to enter and exit the Stadium through this entrance.

> **Recommendation 6:** While not required to address a CEQA impact, and at the discretion of City of Oakland staff, the following shall be considered as part of the final design:

[5] Based on the *Highway Capacity Manual 2000*, Chapter 18, Pedestrian LOS methodology and assuming a LOS D/E threshold.

- o On event days, install a pedestrian barricade to separate the sidewalk adjacent to the Stadium's main entrance from the motor vehicle traffic on Coliseum Way.

Pedestrian Facilities at Intersections

Pedestrian facilities at the intersections near the Project site include:

- The signalized Hegenberger Road/Coliseum Way intersection provides pedestrian crossings across the north, east, and south approaches of the intersection. Pedestrian crosswalks are striped with transverse markings. The intersection provides a diagonal curb ramp with truncated domes at the northeast corner, and directional curb ramps with truncated domes at all other corners. Pedestrian signal heads with countdown timers are provided for the marked crosswalks.
- The side-street stop-controlled Hegenberger Road/Collins Drive intersection provides a pedestrian crossing across Collins Drive. The pedestrian crossing is unmarked and provides directional curb ramps with truncated domes at both corners.
- The signalized Hegenberger Road/Baldwin Street intersection provides pedestrian crossings across the north and west approaches of the intersection. Pedestrian crosswalks are striped with transverse markings. The intersection provides directional curb ramps with truncated domes at all corners with a marked pedestrian crossing. Pedestrian signal heads with countdown timers are provided for the marked crosswalks. Since Hegenberger Road does not provide any sidewalks along the south side of the street east of Baldwin Street, no marked crosswalks are provided along the northbound Baldwin Street approach of the intersection.

No improvements such as providing directional curb-ramps or striping high-visibility crosswalks are recommended because directional curb-ramps are currently not feasible, and the stripings will be completed as part of scheduled upcoming repaving of these streets.

Transit Access

Transit service providers in the Project vicinity include BART, AC Transit, and Amtrak, which are shown on **Figure 8** and described below. The Project would also operate a gameday shuttle, which is described at the end of this section.

Bay Area Rapid Transit (BART)

BART provides regional rail service throughout the East Bay and across the Bay. The Project is located about 0.75 miles southeast of the Oakland Coliseum BART Station. BART service to the

Coliseum is summarized in **Table 8** below. The Coliseum BART station is served by three lines, each operating with 20-minute headways.

Table 8: BART Service Summary

Line	Route	Weekday		Weekend	
		Hours	Peak Headway	Hours	Headway
Blue	Dublin/Pleasanton – Daly City	4:30 AM – 1:30 AM	20 Minutes	5:30 AM – 1:30 AM	20 Minutes
Green	Berryessa/North San Jose – Daly City	4:30 AM – 9:00 PM	20 Minutes	6:00 AM – 9:00 PM	20 Minutes
Orange	Berryessa/North San Jose – Richmond	4:45 AM – 2:00 AM	20 Minutes	5:45 AM – 2:00 AM	20 Minutes

Source: Fehr & Peers, 2024.

The Coliseum BART station is an elevated station adjacent to San Leandro Street. A pedestrian bridge connects the Coliseum BART station to the Oakland Coliseum's western concourse. It is expected that most attendees that ride BART would walk the 0.75 miles from the Coliseum BART Station to the Project site by walking along the existing BART pedestrian bridge and through the Coliseum Complex, to reach the Stadium entrance, as shown on Figure 7. Implementation of Recommendation 5, which would improve the pedestrian connection through the Coliseum Complex, would improve the pedestrian connection between the BART station and the Stadium.

Although a pedestrian connection within the public right-of-way between the Coliseum BART station and the Stadium is available along San Leandro Street and Hegenberger Road, minimal usage is expected because the walking route is over one mile long and requires pedestrians to walk along an inadequate three-foot-wide sidewalk.

Since the walk between the Coliseum BART station and the Stadium can be about 15 to 20 minutes, the Project intends to provide a shuttle service connecting the Coliseum BART station to the Stadium before and after events to make using BART more convenient, improve the overall fan experience, and provide options for those who either cannot or prefer not to walk from the BART station to the Stadium. The shuttle service is described in more detail at the end of this section.

The Project would result in additional BART riders using the Coliseum BART station before and after events at the Stadium. As shown in Table 2, A maximum attendance event is estimated to result in as many as 1,100 BART riders. Considering that BART serves larger events at the existing Coliseum Arena and Stadium, the BART riders generated by the Project are not anticipated to exceed station capacity.

Recommendation 7: While not required to address a CEQA impact, and at the discretion of City of Oakland staff, the following shall be considered as part of the final design:

- While the Project is not expected to exceed the Coliseum BART station capacity, coordinate with BART to provide additional resources, as needed, before and after large events to enhance the rider experience.

Alameda-Contra Costa Transit District (AC Transit)

AC Transit is the primary bus service provider in the City of Oakland. The Project is served by six bus lines, which are summarized in **Table 9**.

Table 9: AC Transit Service Summary

Line	Description	Nearest Bus Stop	Weekday		Weekend	
			Hours	Peak Headway	Hours	Headway
45	Eastmont Transit Center – Coliseum BART – 104th Ave	Hegenberger Road and Edes Avenue	5:30AM – 10:30PM	20 Minutes	6:30AM – 11:00PM	40 Minutes
46L	Coliseum BART – 82nd Ave – Grass Valley	Coliseum BART	6:30AM – 8:00PM	60 Minutes	No Service	N/A
73	73rd Ave – Coliseum BART – Oakland Airport	Hegenberger Road and Collins Drive	1:45AM – 12:30AM	15 Minutes	1:45AM – 12:30AM	15 Minutes
90	Coliseum BART – 90th Ave – Foothill Square	Coliseum BART	6:00AM – 11:30PM	20 Minutes	5:45AM – 10:30PM	30 Minutes
98	Coliseum BART – 98th Ave – Eastmont Transit Center	Coliseum BART	6:00AM – 11:30PM	20 Minutes	6:00AM – 10:45PM	30 Minutes

805	Uptown Oakland – Eastmont Transit Center – Oakland Airport	Hegenberger Road and Collins Drive	12:30AM – 6:30AM	60 Minutes	12:30AM – 6:30AM	60 Minutes

Notes:
1. Excludes lines 646 and 657 which provide school service.

Source: Fehr & Peers, 2024.

The Project is served most directly by three bus lines with stops along Hegenberger Road: Line 45 which provides connections between the Eastmont Transit Center and Foothill Square, Line 73 which provides connections between the Eastmont Transit Center and the Oakland Airport, and Line 805 which provides overnight service between Uptown Oakland and the Oakland Airport. Line 805 is likely not conducive to the soccer game start and end times. All three bus lines stop on Hegenberger Road at either Collins Drive or Baldwin Street, which are approximately 0.3 miles walk from the Stadium entrance.

In addition to Lines 45 and 73, three other bus lines have stops on San Leandro Street at the Coliseum BART station: Line 46L which provides limited service between the Coliseum BART station and Grass Valley Elementary School, Line 90 which provides service between the Coliseum BART station and Foothill Square, and Line 98 which provides service between the Coliseum BART station and Eastmont Transit Center. Project attendees and employees who use these lines can disembark from the bus stop at the Coliseum BART station entrance on San Leandro Street, which is an approximately 0.75 mile walk to the Stadium entrance. Alternatively, Project attendees and workers who use Lines 46L, 90, and 98 can transfer to Lines 45 or 73 and disembark at the bus stops on Hegenberger Road and walk to the Stadium entrance.

The Project is also served by two Service to School lines, Lines 646 and 657, that provide limited morning and afternoon service. Since these lines provide limited morning and afternoon weekday service, event attendees are not expected to use these routes.

Table 10 summarizes the bus stops and their amenities in the Project vicinity.

Table 10: AC Transit Bus Stop Summary

Stop Location	Distance to Project	Lines Served	Stop Amenities
Eastbound Hegenberger Road, east of Edes Avenue	0.3 Miles	45, 73, 805	Shelter, Bench, Lighting
Westbound Hegenberger Road, east of Collins Drive	0.3 Miles	73, 805	Lighting, Trash Can
Westbound Hegenberger Road, west of Baldwin Street	0.4 Miles	45, 73, 805	Shelter, Bench, Lighting, Trash Can
Eastbound Hegenberger Road, west of Baldwin Street	0.4 Miles	45, 73, 805	Shelter, Bench, Trash Can
Southbound San Leandro Street, outside of Coliseum BART station	0.75 Miles	45, 73, 98, 805	Shelter, Bench, Lighting, Trash Can
Northbound San Leandro Street, outside of Coliseum BART station	0.75 Miles	45, 46L, 73, 90, 805	Shelter, Bench, Lighting, Trash Can

Notes:
1. The distance shown is the walking distance between the Stadium entrance and the bus stop.
Source: Fehr & Peers, 2024.

Recommendation 8: While not required to address a CEQA impact, and at the discretion of City of Oakland staff, the following shall be considered as part of the final design:

- Install a shelter and bench at the bus stop on westbound Hegenberger Road, east of Collins Drive.

It is expected that most attendees and employees traveling by bus to the Stadium would walk from the bus stops to the Project site. They would either walk along Hegenberger Road to Coliseum Way to access the Stadium entrance or use the BART pedestrian bridge and walk through the Coliseum Complex.

Amtrak

Amtrak operates Capitol Corridor service through the Oakland Coliseum/Airport Amtrak Station approximately 0.75 miles walk from the Project site. Amtrak's Capitol Corridor service is a regional rail service that operates between San Jose and Sacramento. There are six daily weekday departures and arrivals, and eight daily weekend departures and arrivals. Weekday service at the Coliseum operates between 6:00 AM and 7:00 PM, and weekend service operates between 8:00 AM and 9:00 PM. Thus, the scheduled Amtrak service is not conducive to the soccer game start and end times.

The station provides basic amenities, including outdoor seating, shelters, and automobile parking. There is a ramp up to the BART pedestrian bridge from the Amtrak station and it is expected that Amtrak riders will use the BART pedestrian bridge to access the Stadium entrance via the Coliseum parking lot.

Gameday Shuttle

The Project would operate a shuttle on gamedays before and after the event primarily to provide ADA access for attendees using BART, ridesourcing, or parking in the leased parking lots. Figure 9 shows the shuttle route. The shuttle would operate between the Coliseum BART station, the ridesourcing lot, The ADA parking spaces in Lots B and C, and the Stadium entrance on Collins Drive.

A three-bus shuttle system is estimated to serve about 180 riders per hour for each (un)loading zone. This is based on a 10-minute shuttle headway, 25-minute round trip travel time, and 30-passenger shuttles.

> **Recommendation 9:** While not required to address a CEQA impact, and at the discretion of City of Oakland staff, the following shall be considered as part of the final design:
>
> - Monitor gameday shuttle usage and adjust service parameters, such as number of shuttles, hours of operations, and shuttle sizes, as needed.

5. Collision Analysis

A five-year history (January 1, 2018 to December 31, 2022) of collision data in the study area was obtained from the Statewide Integrated Traffic Records System (SWITRS) and evaluated for this collision analysis. **Table 11** summarizes the collision data by type and location, and **Table 12** summarizes the collision data by severity and location.

As shown in Table 11, 99 collisions were reported during this five-year timeframe along this segment of Hegenberger Road and the three study intersections. The Hegenberger Road/ Coliseum Way/Edes Avenue intersection had the highest number of reported collisions with 46 collisions, followed by the Hegenberger Road/Baldwin Street intersection with 19 collisions. The most reported collision types within the study are broadside (44, 44 percent), followed by sideswipe (24 collisions, 24 percent), and rear end (16 collisions, 16 percent). Most of the collisions within the area were due to drivers making improper turning movements (23 collisions, 23 percent), traffic signals or sign violations (22 collisions, 22 percent), or automobile right-of-way violations. Pedestrians were involved in three (three percent) of the reported collisions, with all the pedestrian collisions occurring midblock. No collisions involved cyclists.

As shown in Table 12, more than half of the collisions resulted in property damage only (52 collisions, 53 percent), three collisions (three percent) results in injuries of Severity 2 (severe injury), six collisions (six percent) resulted in injuries of Severity 3 (other visible injuries), 38 collisions (38 percent) resulted in injuries of Severity 4 (complaint of pain), and none in fatalities.

Implementation of Recommendation 1 would improve conditions at the Hegenberger Road/ Coliseum Way/Edes Avenue intersection by converting the shared left-turn/through lane on eastbound Hegenberger Road to an exclusive left-turn lane by eliminating the existing conflict between the protected left-turn signal phasing and the shared left-turn/through lane on this intersection approach. Implementation of Recommendation 2 would improve conditions at the Hegenberger Road/Collins Drive intersection by prohibiting left-turns out of the Collins Drive approach.

Table 11: Summary of Collisions by Type

Location	Head-On	Sideswipe	Rear End	Broadside	Hit Object	Pedestrian-Involved	Other	Not Stated	Total
Intersection									
Hegenberger Road/Coliseum Way/Edes Avenue	2	13	5	25	0	0	1	0	46
Hegenberger Road/ Collins Drive	0	2	1	7	0	0	1	1	12
Hegenberger Road/ Baldwin Street	2	4	4	8	1	0	0	0	19
Subtotal	*4*	*19*	*10*	*40*	*1*	*0*	*2*	*1*	*77*
Roadway Segment									
Hegenberger Road Coliseum Way – Collins Drive	2	3	2	3	0	2	0	0	12
Hegenberger Road Collins Drive – Baldwin Street	1	2	4	1	1	1	0	0	10
Subtotal	*3*	*5*	*6*	*4*	*1*	*3*	*0*	*0*	*22*
Total	**7**	**24**	**16**	**44**	**2**	**3**	**2**	**1**	**99**

Notes:
1. Based on SWITRS five-year collision data reported from January 1, 2018 to December 31, 2022.
Source: Fehr & Peers, 2024.

Table 12: Summary of Collisions by Severity and Persons Involved

Location	Collision Severity[2]						Persons and Modes Injured			
	Property Damage Only (0)	Fatal Collisions (1)	Severe Injury (2)	Other Visible Injury (3)	Complaint of Pain (4)	Total	Bicycle	Pedestrian	Driver/ Passenger	Total
Intersection										
Hegenberger Road/ Coliseum Way/ Edes Avenue	23	0	0	4	19	46	0	0	3	3
Hegenberger Road/ Collins Drive	4	0	0	0	8	12	0	0	1	1
Hegenberger Road/ Baldwin Street	9	0	2	2	6	19	0	0	0	0
Subtotal	*36*	*0*	*2*	*6*	*33*	*77*	*0*	*0*	*4*	*4*
Roadway Segment										
Hegenberger Road Coliseum Way – Collins Drive	10	0	0	0	2	12	0	0	0	0
Hegenberger Road Collins Drive – Baldwin Street	6	0	1	0	3	10	0	0	0	0
Subtotal	*16*	*0*	*1*	*0*	*5*	*22*	*0*	*0*	*0*	*0*
Total	**52**	**0**	**3**	**6**	**38**	**99**	**0**	**0**	**4**	**4**

Notes:
1. Based on SWITRS five-year collision data reported from January 1, 2018 to December 31, 2022.
2. Based on crash severity as reported in SWITRS.

Source: Fehr & Peers, 2024.

6. Conclusion and Summary of Recommendations

Per the site plan review, the Project would have adequate automobile, bicycle, pedestrian, and transit access and circulation with the inclusion of the following recommendations:

Recommendation 1: While not required to address a CEQA impact, and at the discretion of City of Oakland staff, the following shall be considered at the Hegenberger Road/ Coliseum Way/Edes Avenue intersection as part of the final Project design:

- Convert the shared left-turn/through lane on the eastbound Hegenberger Road approach of the intersection to an exclusive left-turn lane so that the approach would provide two exclusive left-turn lanes, two through lanes, and one shared right-turn/through lane.
- Adjust intersection signal timing parameters ensuring that all pedestrian phases are based on a walking speed of at least 3.5 feet per second.

Recommendation 2: While not required to address a CEQA impact, and at the discretion of City of Oakland staff, the following shall be considered at the Hegenberger Road/ Collins Drive intersection as part of the final Project design:

- Prohibit left-turns and through movements at the southbound Collins Drive approach so that the approach is limited to right-turns out only.

Recommendation 3: While not required to address a CEQA impact, and at the discretion of City of Oakland staff, the following shall be considered as part of the final design for the Project:

- Monitor parking occupancy and if parking demand is expected to exceed the provided supply, either lease additional off-site parking facilities to increase the parking supply or implement additional TDM strategies into the TMP to reduce the demand for parking.

Recommendation 4: While not required to address a CEQA impact, and at the discretion of City of Oakland staff, the following shall be considered as part of the final design for the Project:

- Ensure that the gameday bicycle parking facilities at the Stadium can accommodate at least 200 bicycles.

- Monitor bicycle parking usage and if needed, increase the size of the bicycle parking facility.

Recommendation 5: While not required to address a CEQA impact, and at the discretion of City of Oakland staff, and in coordination with the Coliseum Authority, the following shall be considered as part of the final design:

- Designate a pedestrian corridor through the Oakland Coliseum Complex to connect the parking lots, bicycle corrals, the designated ridesourcing/shuttle loading area, and the Coliseum BART station to the Stadium.
- Implement temporary or permanent features, such as lighting, wider space for walking, high-visibility crosswalks, and/or barriers to separate walking space from motor vehicle space along the pedestrian corridor.
- Provide additional width for pedestrians along the sidewalk on the south side of Coliseum Complex Lot C that connects to Coliseum Way. Options may include widening the existing sidewalk to eight feet or designating a second walkway just north of the existing fence north of the sidewalk with a minimum width of five feet.

Recommendation 6: While not required to address a CEQA impact, and at the discretion of City of Oakland staff, the following shall be considered as part of the final design:

- On event days, install a pedestrian barricade to separate the sidewalk adjacent to the Stadium's main entrance from the motor vehicle traffic on Coliseum Way.

Recommendation 7: While not required to address a CEQA impact, and at the discretion of City of Oakland staff, the following shall be considered as part of the final design:

- While the Project is not expected to exceed the Coliseum BART station capacity, coordinate with BART to provide additional resources, as needed, before and after large events to enhance the rider experience.

Recommendation 8: While not required to address a CEQA impact, and at the discretion of City of Oakland staff, the following shall be considered as part of the final design:

- Install a shelter and bench at the bus stop on westbound Hegenberger Road, east of Collins Drive.

Recommendation 9: While not required to address a CEQA impact, and at the discretion of City of Oakland staff, the following shall be considered as part of the final design:

- Monitor gameday shuttle usage and adjust service parameters, such as number of shuttles, hours of operations, and shuttle sizes, as needed.

Please contact Sam Tabibnia (stabibnia@fehrandpeers.com or 510-835-1943) with questions or comments.

Attachments

Figure 1 – Project Vicinity Map

Figure 2 – Project Site Plan

Figure 3 – Trip Distribution by ZIP Code for all Saturday Roots Game Attendees who Drove

Figure 4 – Existing and Existing plus Project Peak Hour Intersection Volumes, Lane Configurations, and Traffic Controls

Figure 5 – Expected Automobile Access for the Stadium

Figure 6 – Expected Bike Rider Path for the Stadium

Figure 7 – Expected Pedestrian Paths of Travel for the Stadium

Figure 8 – Transit Services to the Stadium

Figure 9 – Shuttle Services to the Stadium

Appendix A – Travel Characteristics at Existing Roots Games

Appendix B – Intersection Traffic Volumes Counts

Appendix C – Intersection LOS Calculation Sheets

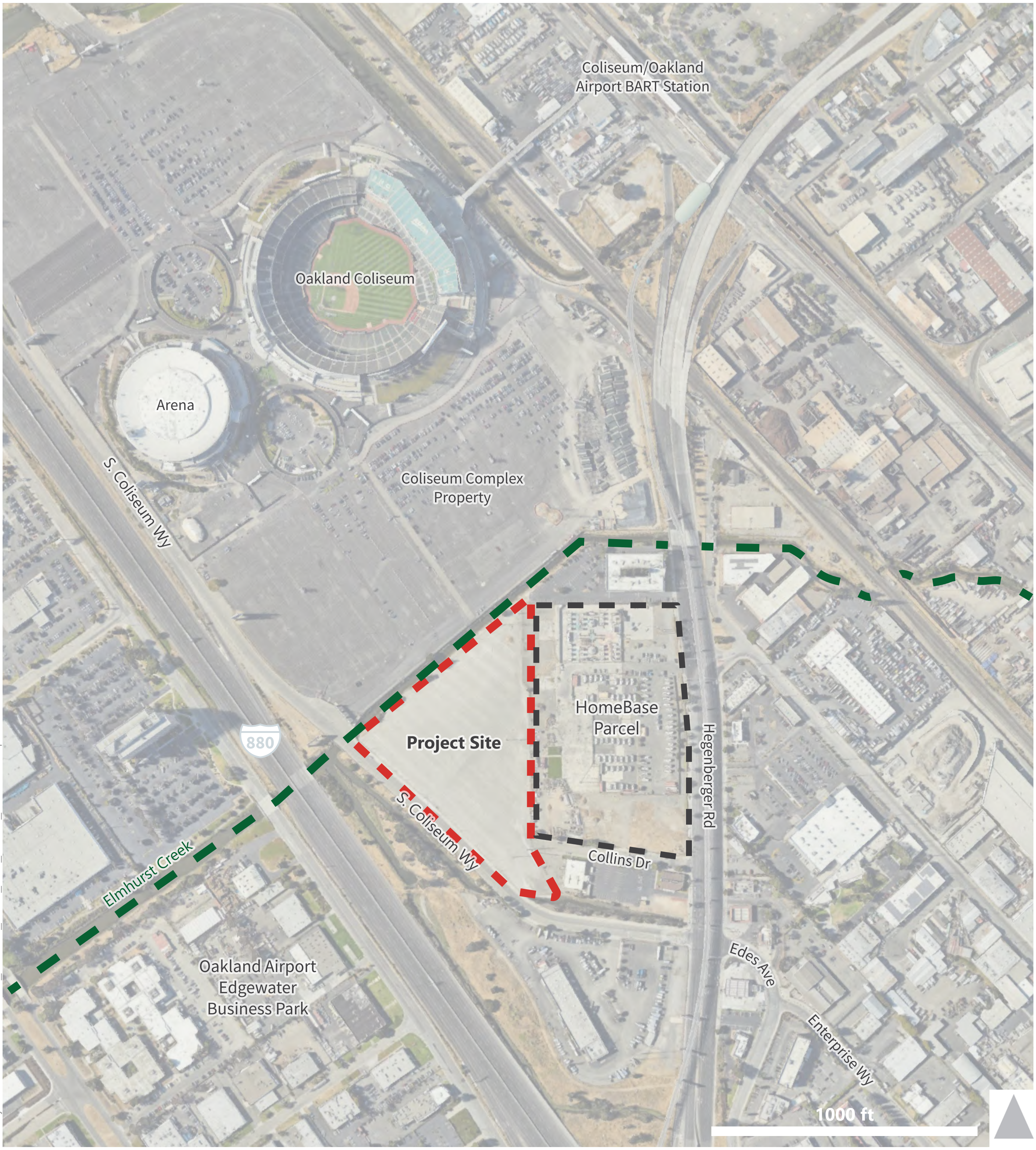

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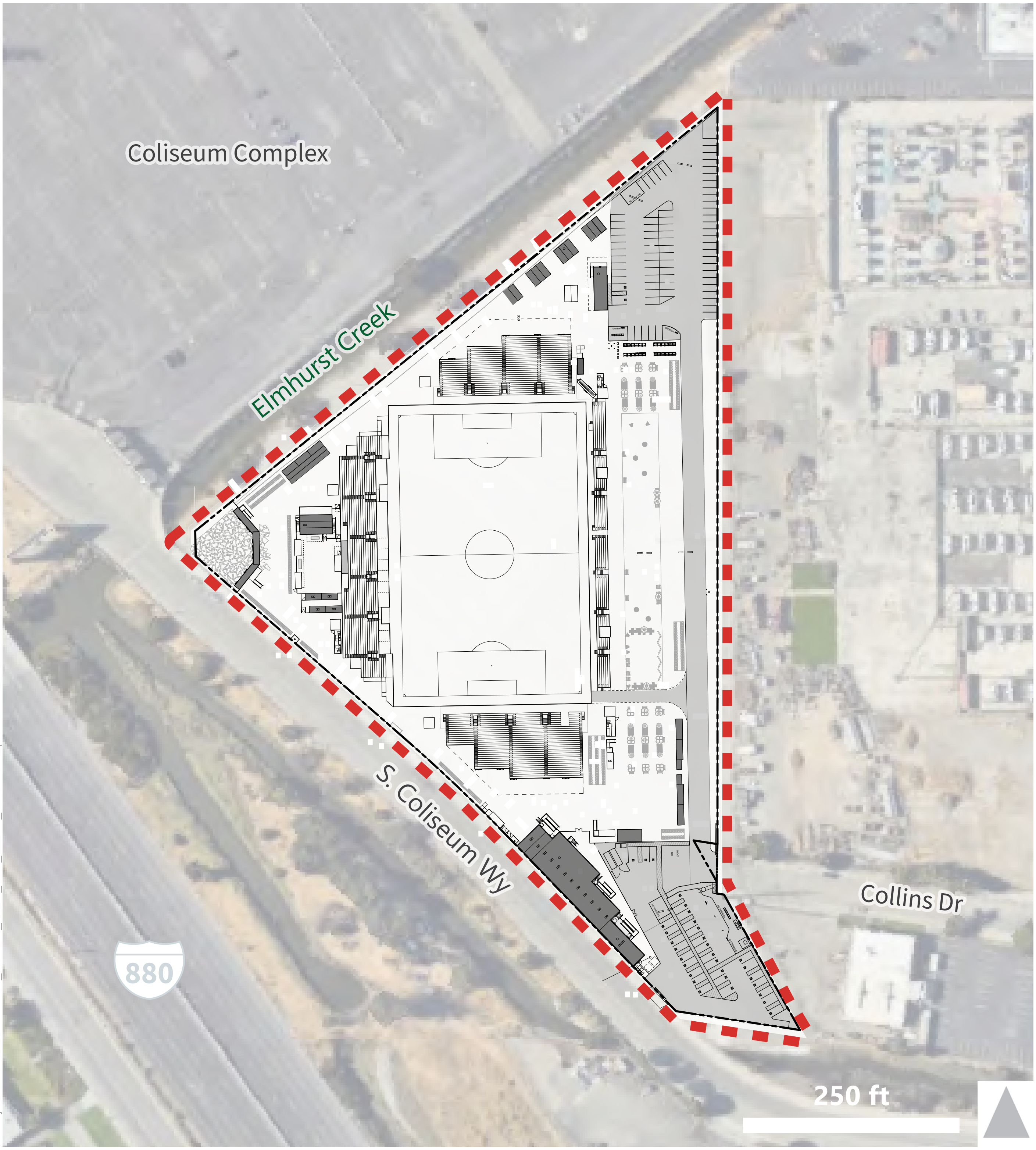
Figure 1

Project Vicinity Map



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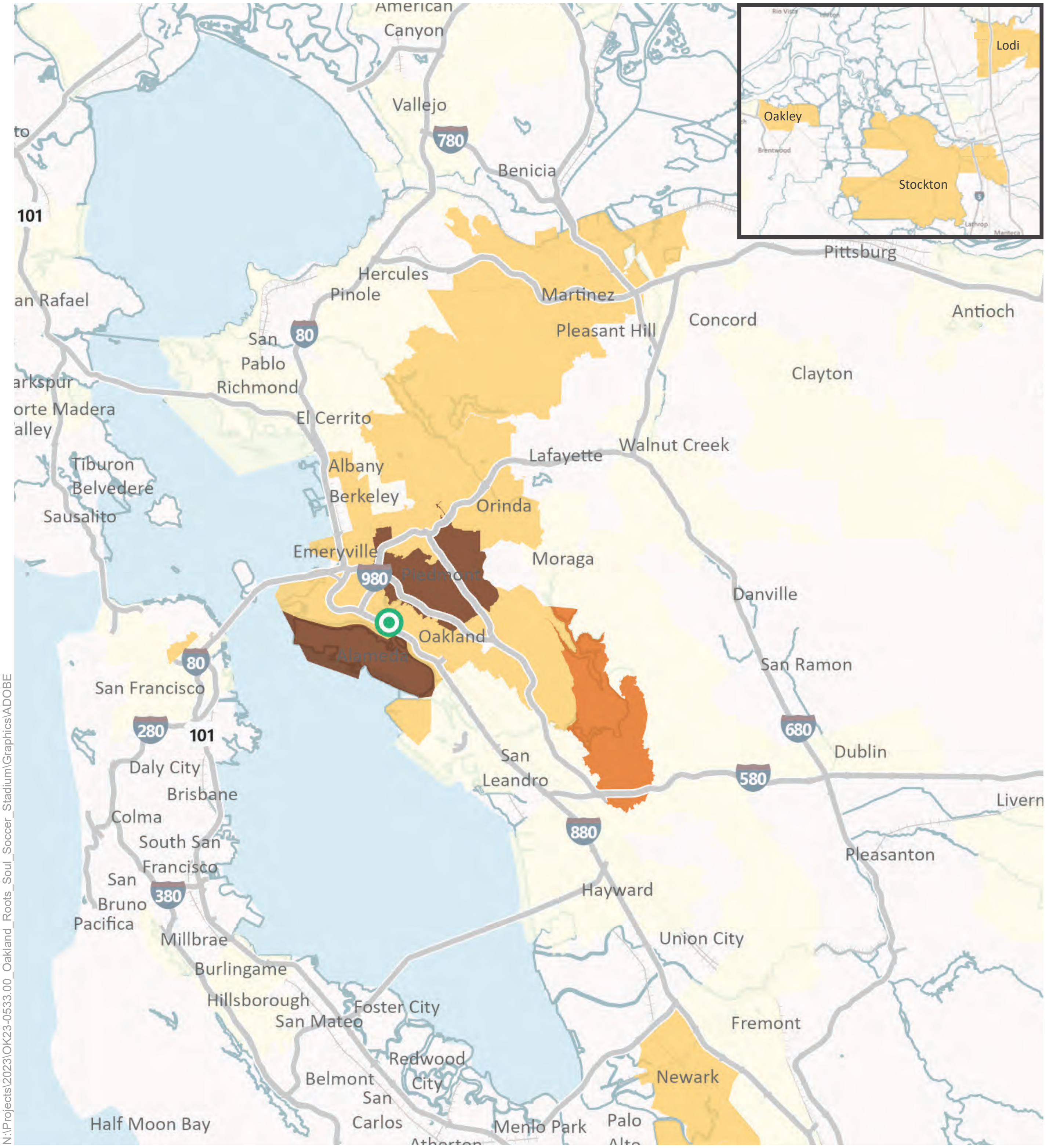
Project Site

Figure 2

Project Site Plan



Note: Data displays trip origin by zip codes, based on a total of 217 survey responses.

Oakland Roots Stadium

Percent of Survey Responses by Zip Code

<1%% - 1%

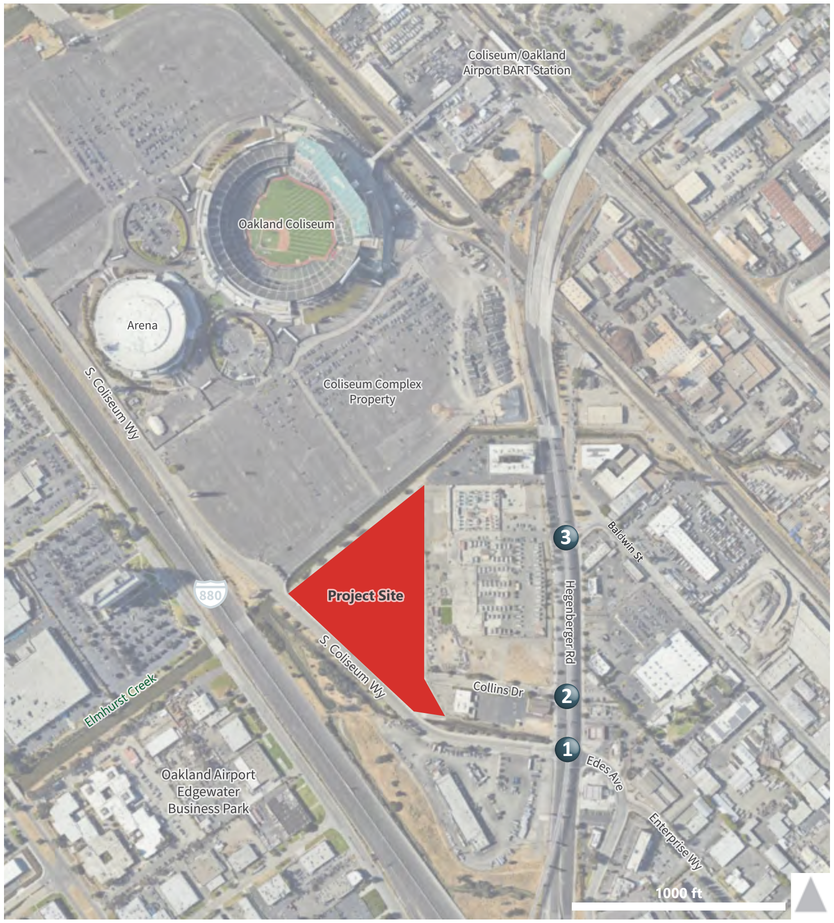
2% - 3%

4% - 5%

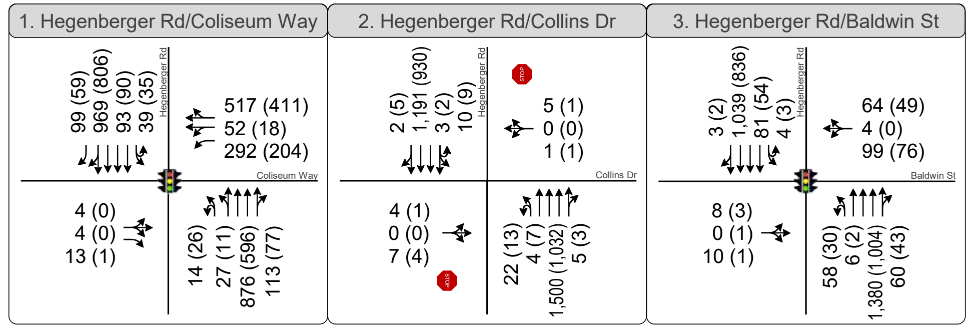
6% - 10%

Figure 3

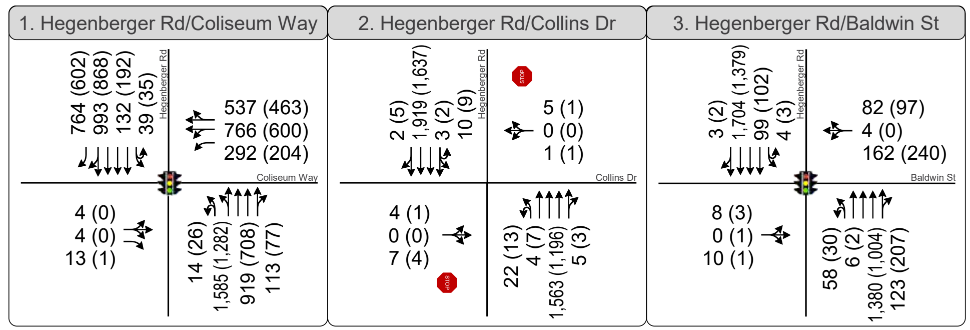
Trip Distribution by ZIP Code for all Saturday Roots Game Attendees who Drove



Existing Conditions



Existing Plus Project Conditions



XX (YY) Weekday (Saturday) Peak Hour Traffic Volumes

Signalized Intersection

Project Site

Study Intersections

Figure 4

Existing and Existing Plus Project Conditions
Peak Hour Intersection Volumes, Lane Configurations, and Traffic Controls

OK23-0533_X_Volumes

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Figure 5

Expected Automobile Access for the Stadium

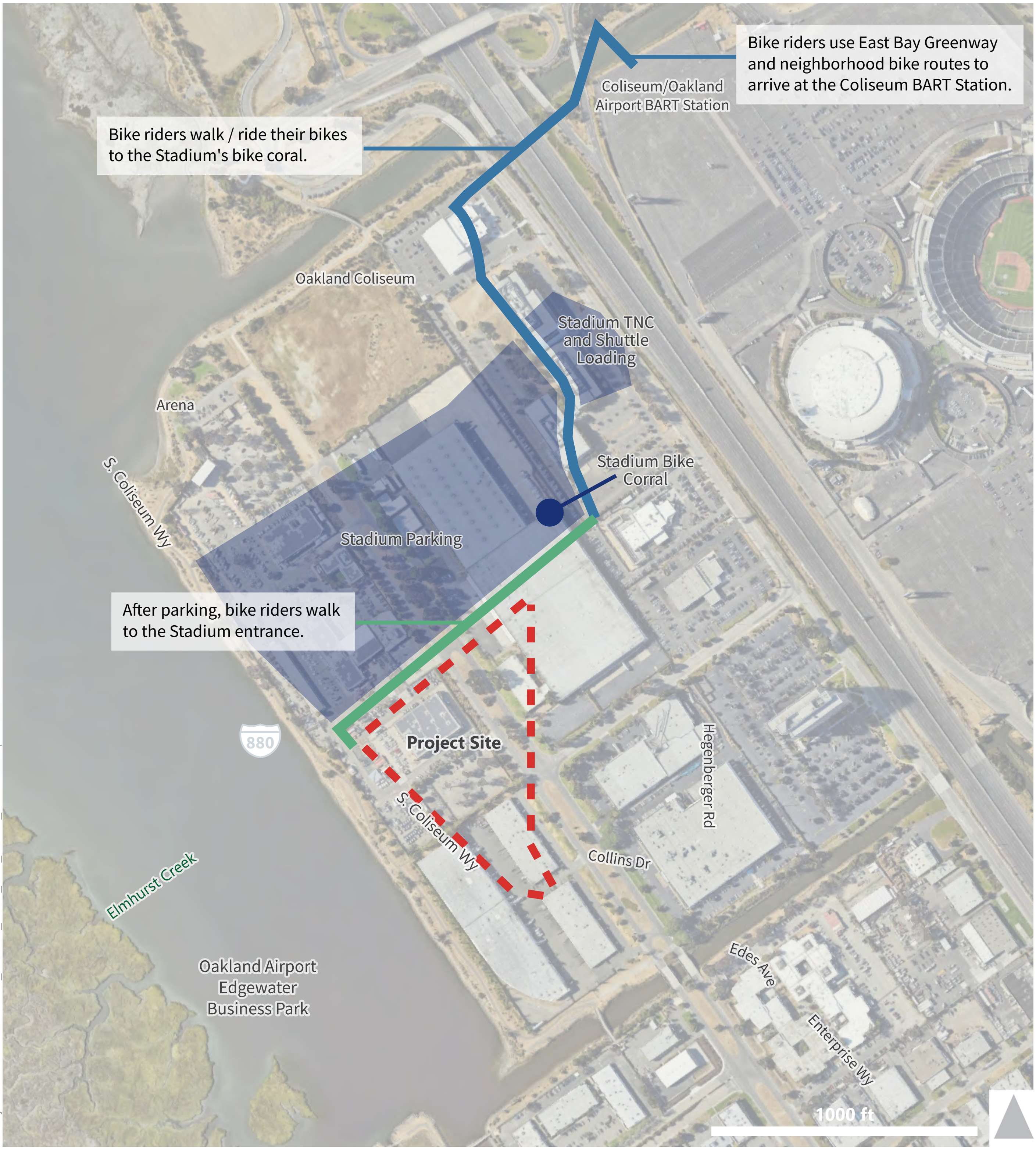

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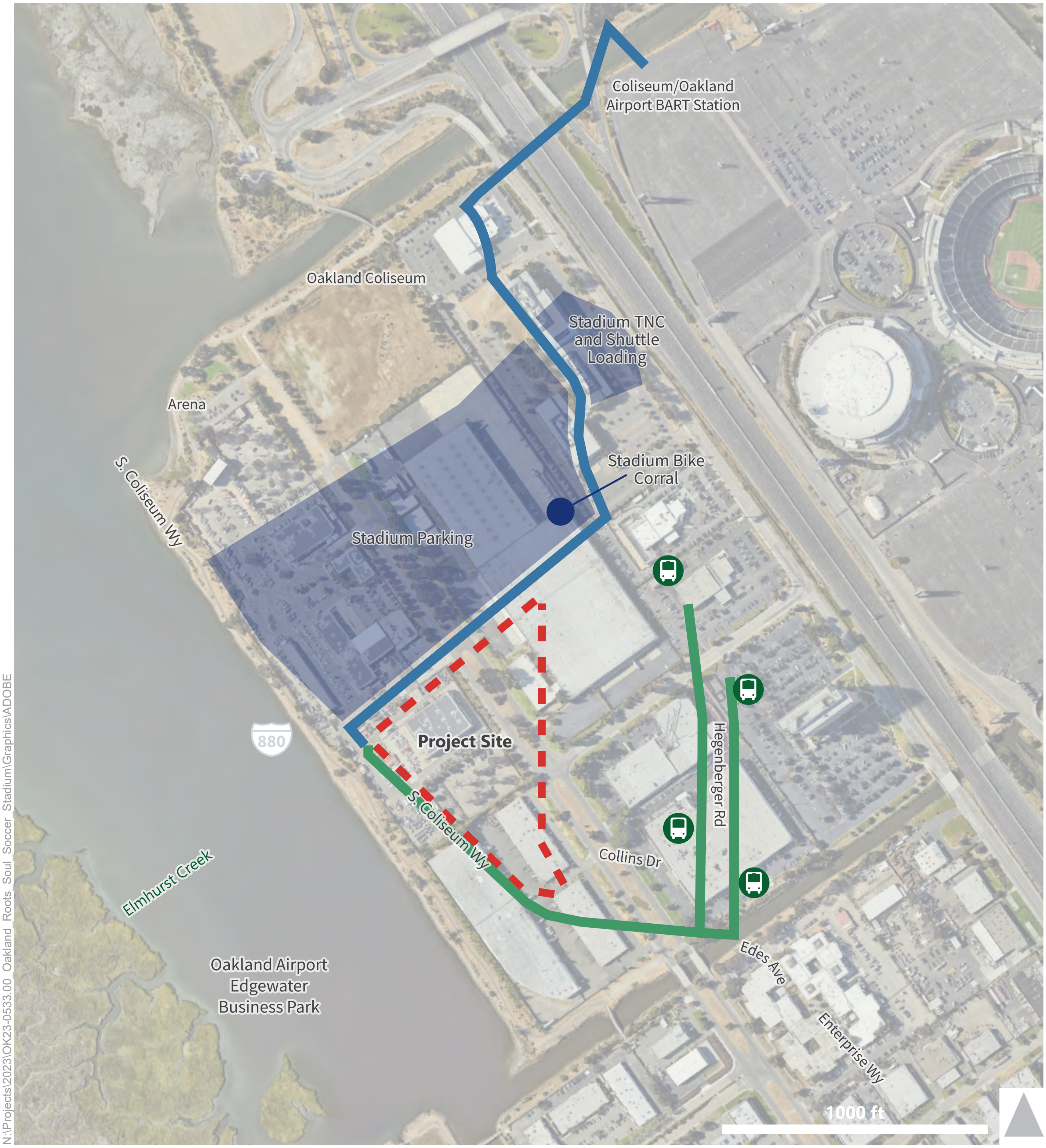
Figure 6

Expected Bike Rider Path of Travel for the Stadium



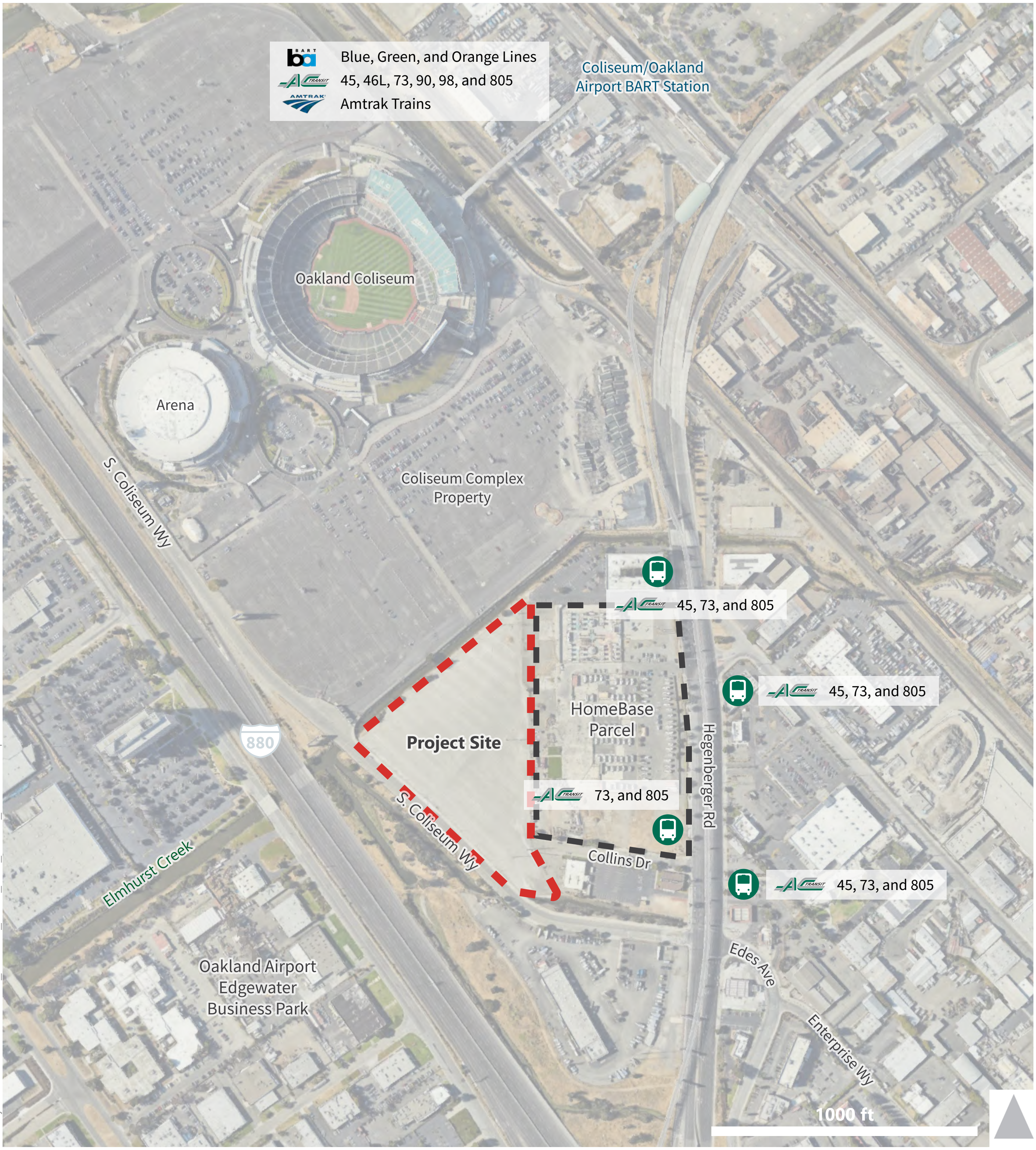
Walking Route for Bus Riders

Walking Route for BART Riders, Parkers, Ridesourcing/Shuttle, and Bike Riders

AC Transit Bus Stops

Figure 7

Expected Pedestrian Paths of Travel for the Stadium



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AC Transit Bus Stops

Figure 8

Transit Services to the Stadium

AC Transit Bus Stops

Shuttle Route

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Figure 9

Shuttle Services to the Stadium

Appendix A: Travel Characteristics at Existing Roots Games

Roots Game at Laney College in Oakland

Table 1: Mode Split to/from the Game (Average of To and From the Game)

Travel Mode	Wednesday ticket-holders	Saturday ticket-holders
Carpooling	50%	64%
Drove alone	17%	8%
BART	9%	8%
Walking	10%	7%
Bike	7%	5%
Uber/Lyft/taxi	3%	6%
AC Transit bus	3%	1%
Bikeshare	1%	0%
Scooter	0%	<1%
Total	**100%**	**100%**

Source: Fehr & Peers, 2022.

Table 2: Average Vehicle Occupancy

Auto-based Travel Mode	Wednesday ticket-holders	Saturday ticket-holders
Automobile	1.88	2.37
Uber/Lyft/taxi[1]	2.40	1.84

Notes:

1. Not counting driver of the Uber/Lyft/taxi.

Source: Fehr & Peers, 2022.

Roots Game at CSUEB in Hayward

Table 3: Mode Split to/from the Game (Average of To and From the Game)

Travel Mode	Saturday ticket-holders[1]
Carpooling	86%
Drove alone	10%
BART	2%
Walking	1%
Uber/Lyft/taxi	1%
Total	**100%**

Notes:

1. No survey respondents selected bike, AC transit bus, bikeshare or scooter as a mode to or from the game.

Source: Fehr & Peers, 2023.

Table 4: Average Vehicle Occupancy

Auto-based Travel Mode	Saturday ticket-holders
Automobile	2.39
Uber/Lyft/taxi[1]	1.85

Notes:

1. Not counting driver of the Uber/Lyft/taxi.

Source: Fehr & Peers, 2023.

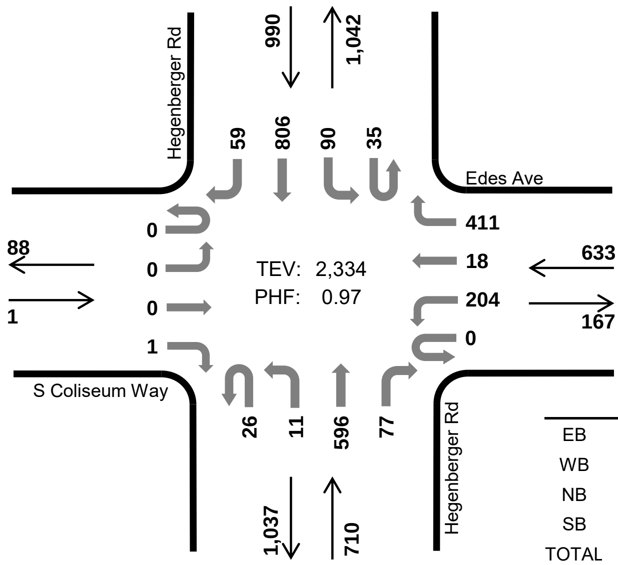
Appendix B: Intersection Traffic Volume Counts

Hegenberger Rd
Edes Ave

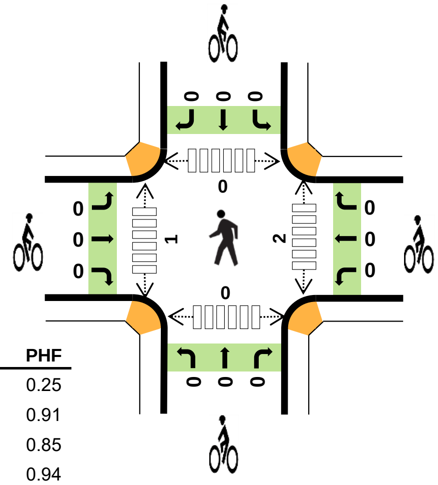
Date: 11/04/2023
Count Period: 5:00 PM to 8:00 PM
Peak Hour: 5:15 PM to 6:15 PM

N

Peak Hour



	HV %:	PHF
EB	0.0%	0.25
WB	1.3%	0.91
NB	2.1%	0.85
SB	1.5%	0.94
TOTAL	1.6%	0.97



Three-Hour Count Summaries

Interval Start		S Coliseum Way				Edes Ave				Hegenberger Rd				Hegenberger Rd				15-min Total	Rolling One Hour
		Eastbound				Westbound				Northbound				Southbound					
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
5:15 PM		0	0	0	0	0	33	3	111	10	1	178	20	4	22	197	10	589	0
5:30 PM		0	0	0	0	0	57	8	109	6	5	133	17	13	18	212	19	597	0
5:45 PM		0	0	0	0	0	56	7	98	4	4	163	15	9	32	202	13	603	0
6:00 PM		0	0	0	1	0	58	0	93	6	1	122	25	9	18	195	17	545	2,334
Peak Hour	All	0	0	0	1	0	204	18	411	26	11	596	77	35	90	806	59	2,334	0
	HV	0	0	0	0	0	5	0	3	1	0	11	3	1	1	13	0	38	0
	HV%	-	-	-	0%	-	2%	0%	1%	4%	0%	2%	4%	3%	1%	2%	0%	2%	0

Note: For all three-hour count summary, see next page.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
5:15 PM	0	1	4	5	*10*	0	0	0	0	*0*	1	0	0	0	*1*
5:30 PM	0	4	4	5	*13*	0	0	0	0	*0*	1	0	0	0	*1*
5:45 PM	0	1	5	4	*10*	0	0	0	0	*0*	0	1	0	0	*1*
6:00 PM	0	2	2	1	*5*	0	0	0	0	*0*	0	0	0	0	*0*
Peak Hour	0	8	15	15	*38*	0	0	0	0	*0*	2	1	0	0	*3*

Three-Hour Count Summaries

Interval Start	S Coliseum Way Eastbound UT	LT	TH	RT	Edes Ave Westbound UT	LT	TH	RT	Hegenberger Rd Northbound UT	LT	TH	RT	Hegenberger Rd Southbound UT	LT	TH	RT	15-min Total	Rolling One Hour
5:00 PM	0	0	0	1	0	48	4	106	5	2	131	14	7	15	186	13	532	0
5:15 PM	**0**	**0**	**0**	**0**	**0**	**33**	**3**	**111**	**10**	**1**	**178**	**20**	**4**	**22**	**197**	**10**	**589**	0
5:30 PM	**0**	**0**	**0**	**0**	**0**	**57**	**8**	**109**	**6**	**5**	**133**	**17**	**13**	**18**	**212**	**19**	**597**	0
5:45 PM	**0**	**0**	**0**	**0**	**0**	**56**	**7**	**98**	**4**	**4**	**163**	**15**	**9**	**32**	**202**	**13**	**603**	2,321
6:00 PM	**0**	**0**	**0**	**1**	**0**	**58**	**0**	**93**	**6**	**1**	**122**	**25**	**9**	**18**	**195**	**17**	**545**	**2,334**
6:15 PM	0	0	0	1	0	49	7	88	3	2	140	19	12	27	187	8	543	2,288
6:30 PM	0	0	0	0	0	50	6	88	6	3	120	17	8	11	183	12	504	2,195
6:45 PM	0	0	0	0	0	38	2	86	7	3	126	20	8	17	163	7	477	2,069
7:00 PM	0	0	0	0	0	36	1	92	9	0	146	15	9	19	163	11	501	2,025
7:15 PM	0	0	0	0	0	45	4	92	5	1	112	9	12	24	161	7	472	1,954
7:30 PM	0	0	0	0	0	42	1	80	3	1	117	15	6	24	134	3	426	1,876
7:45 PM	0	1	0	0	0	46	5	87	6	1	96	13	12	16	143	7	433	1,832
Count Total	0	1	0	3	0	558	48	1,130	70	24	1,584	199	109	243	2,126	127	6,222	0
Peak Hour All	**0**	**0**	**0**	**1**	**0**	**204**	**18**	**411**	**26**	**11**	**596**	**77**	**35**	**90**	**806**	**59**	**2,334**	**0**
Peak Hour HV	**0**	**0**	**0**	**0**	**0**	**5**	**0**	**3**	**1**	**0**	**11**	**3**	**1**	**1**	**13**	**0**	**38**	**0**
Peak Hour HV%	**-**	**-**	**-**	**0%**	**-**	**2%**	**0%**	**1%**	**4%**	**0%**	**2%**	**4%**	**3%**	**1%**	**2%**	**0%**	**2%**	**0**

Note: Three-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals EB	WB	NB	SB	Total	Bicycles EB	WB	NB	SB	Total	Pedestrians (Crossing Leg) East	West	North	South	Total
5:00 PM	0	0	2	3	*5*	0	0	0	0	*0*	0	0	1	0	*1*
5:15 PM	**0**	**1**	**4**	**5**	***10***	**0**	**0**	**0**	**0**	***0***	**1**	**0**	**0**	**0**	*1*
5:30 PM	**0**	**4**	**4**	**5**	***13***	**0**	**0**	**0**	**0**	***0***	**1**	**0**	**0**	**0**	*1*
5:45 PM	**0**	**1**	**5**	**4**	***10***	**0**	**0**	**0**	**0**	***0***	**0**	**1**	**0**	**0**	*1*
6:00 PM	**0**	**2**	**2**	**1**	***5***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	***0***
6:15 PM	0	0	5	5	*10*	0	0	0	0	*0*	0	0	1	0	*1*
6:30 PM	0	1	2	1	*4*	0	0	0	0	*0*	0	1	1	1	*3*
6:45 PM	0	0	4	2	*6*	0	0	0	0	*0*	2	0	1	0	*3*
7:00 PM	0	1	1	4	*6*	0	0	0	0	*0*	0	0	0	0	*0*
7:15 PM	0	5	4	2	*11*	0	0	0	0	*0*	0	0	0	0	*0*
7:30 PM	0	0	2	3	*5*	0	0	0	0	*0*	1	0	0	0	*1*
7:45 PM	0	0	2	1	*3*	0	0	0	0	*0*	0	0	2	0	*2*
Count Total	0	15	37	36	*88*	0	0	0	0	*0*	5	2	6	1	*14*
Peak Hour	**0**	**8**	**15**	**15**	***38***	**0**	**0**	**0**	**0**	***0***	**2**	**1**	**0**	**0**	***3***

Three-Hour Count Summaries - Heavy Vehicles

Interval Start	S Coliseum Way				Edes Ave				Hegenberger Rd				Hegenberger Rd				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
5:00 PM	0	0	0	0	0	0	0	0	0	0	2	0	0	1	2	0	5	0
5:15 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**1**	**0**	**2**	**1**	**0**	**0**	**5**	**0**	**10**	0
5:30 PM	**0**	**0**	**0**	**0**	**0**	**4**	**0**	**0**	**0**	**0**	**3**	**1**	**1**	**1**	**3**	**0**	**13**	0
5:45 PM	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**4**	**1**	**0**	**0**	**4**	**0**	**10**	38
6:00 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**0**	**0**	**2**	**0**	**0**	**0**	**1**	**0**	**5**	**38**
6:15 PM	0	0	0	0	0	0	0	0	0	0	4	1	0	1	4	0	10	38
6:30 PM	0	0	0	0	0	0	0	1	0	0	2	0	0	0	1	0	4	29
6:45 PM	0	0	0	0	0	0	0	0	1	0	3	0	0	0	2	0	6	25
7:00 PM	0	0	0	0	0	1	0	0	0	0	1	0	0	1	3	0	6	26
7:15 PM	0	0	0	0	0	1	0	4	0	0	4	0	0	0	2	0	11	27
7:30 PM	0	0	0	0	0	0	0	0	0	0	2	0	0	1	2	0	5	28
7:45 PM	0	0	0	0	0	0	0	0	0	0	2	0	0	0	1	0	3	25
Count Total	0	0	0	0	0	7	0	8	2	0	31	4	1	5	30	0	88	0
Peak Hour	**0**	**0**	**0**	**0**	**0**	**5**	**0**	**3**	**1**	**0**	**11**	**3**	**1**	**1**	**13**	**0**	**38**	**0**

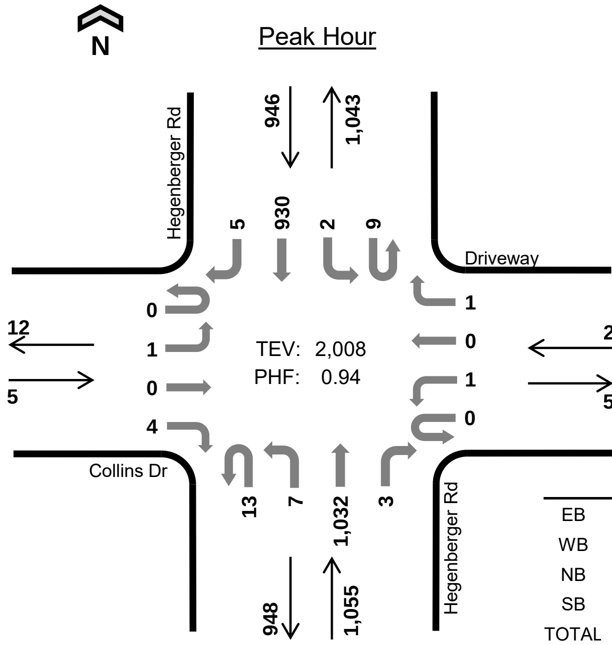
Three-Hour Count Summaries - Bikes

Interval Start	S Coliseum Way			Edes Ave			Hegenberger Rd			Hegenberger Rd			15-min Total	Rolling One Hour
	Eastbound			Westbound			Northbound			Southbound				
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT		
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
5:30 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
5:45 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
6:00 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
6:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Count Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Peak Hour	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

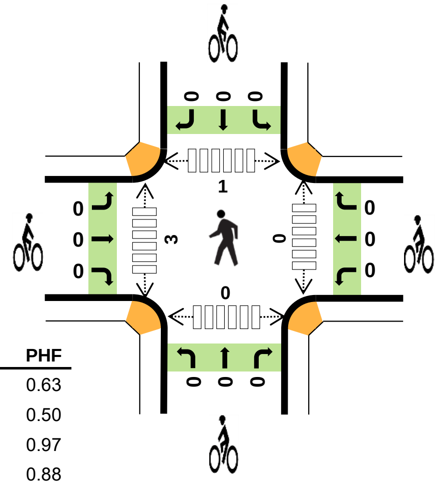
Note: U-Turn volumes for bikes are included in Left-Turn, if any.

Hegenberger Rd
Collins Dr

Date: 11/04/2023
Count Period: 5:00 PM to 8:00 PM
Peak Hour: 5:00 PM to 6:00 PM



	HV %:	PHF
EB	0.0%	0.63
WB	0.0%	0.50
NB	0.9%	0.97
SB	1.7%	0.88
TOTAL	1.2%	0.94



Three-Hour Count Summaries

Interval Start		Collins Dr				Driveway				Hegenberger Rd				Hegenberger Rd				15-min Total	Rolling One Hour
		Eastbound				Westbound				Northbound				Southbound					
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
5:00 PM		0	1	0	1	0	0	0	0	3	4	252	1	0	0	215	2	479	0
5:15 PM		0	0	0	2	0	0	0	1	6	0	265	0	4	1	210	1	490	0
5:30 PM		0	0	0	0	0	0	0	0	3	2	258	0	3	0	238	2	506	0
5:45 PM		0	0	0	1	0	1	0	0	1	1	257	2	2	1	267	0	533	2,008
Peak Hour	All	0	1	0	4	0	1	0	1	13	7	1,032	3	9	2	930	5	2,008	0
	HV	0	0	0	0	0	0	0	0	1	0	8	0	0	0	16	0	25	0
	HV%	-	0%	-	0%	-	0%	-	0%	8%	0%	1%	0%	0%	0%	2%	0%	1%	0

Note: For all three-hour count summary, see next page.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
5:00 PM	0	0	2	3	*5*	0	0	0	0	*0*	0	1	0	0	*1*
5:15 PM	0	0	2	4	*6*	0	0	0	0	*0*	0	0	1	0	*1*
5:30 PM	0	0	1	5	*6*	0	0	0	0	*0*	0	1	0	0	*1*
5:45 PM	0	0	4	4	*8*	0	0	0	0	*0*	0	1	0	0	*1*
Peak Hour	0	0	9	16	*25*	0	0	0	0	*0*	0	3	1	0	*4*

Project Manager: (415) 310-6469
project.manager.ca@idaxdata.com

Three-Hour Count Summaries

Interval Start	Collins Dr Eastbound UT	LT	TH	RT	Driveway Westbound UT	LT	TH	RT	Hegenberger Rd Northbound UT	LT	TH	RT	Hegenberger Rd Southbound UT	LT	TH	RT	15-min Total	Rolling One Hour
5:00 PM	**0**	**1**	**0**	**1**	**0**	**0**	**0**	**0**	**3**	**4**	**252**	**1**	**0**	**0**	**215**	**2**	**479**	0
5:15 PM	**0**	**0**	**0**	**2**	**0**	**0**	**0**	**1**	**6**	**0**	**265**	**0**	**4**	**1**	**210**	**1**	**490**	0
5:30 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**3**	**2**	**258**	**0**	**3**	**0**	**238**	**2**	**506**	0
5:45 PM	**0**	**0**	**0**	**1**	**0**	**1**	**0**	**0**	**1**	**1**	**257**	**2**	**2**	**1**	**267**	**0**	**533**	**2,008**
6:00 PM	0	4	0	3	0	0	0	0	3	2	226	2	0	0	231	2	473	2,002
6:15 PM	0	0	0	2	0	0	0	1	3	3	229	2	1	0	229	4	474	1,986
6:30 PM	0	0	0	2	0	0	0	2	2	0	217	0	4	0	193	3	423	1,903
6:45 PM	0	1	0	4	0	0	0	0	2	0	222	2	2	0	204	3	440	1,810
7:00 PM	0	1	0	1	0	1	0	0	4	3	220	1	2	0	200	2	435	1,772
7:15 PM	0	0	0	3	0	0	0	0	2	2	211	0	1	0	187	2	408	1,706
7:30 PM	0	0	0	2	0	0	0	0	2	2	194	0	2	0	160	4	366	1,649
7:45 PM	0	1	0	2	0	0	0	0	0	0	190	1	0	0	171	0	365	1,574
Count Total	0	8	0	23	0	2	0	4	31	19	2,741	11	21	2	2,505	25	5,392	0
Peak Hour All	**0**	**1**	**0**	**4**	**0**	**1**	**0**	**1**	**13**	**7**	**1,032**	**3**	**9**	**2**	**930**	**5**	**2,008**	**0**
Peak Hour HV	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**8**	**0**	**0**	**0**	**16**	**0**	**25**	**0**
Peak Hour HV%	**-**	**0%**	**-**	**0%**	**-**	**0%**	**-**	**0%**	**8%**	**0%**	**1%**	**0%**	**0%**	**0%**	**2%**	**0%**	**1%**	**0**

Note: Three-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals EB	WB	NB	SB	Total	Bicycles EB	WB	NB	SB	Total	Pedestrians (Crossing Leg) East	West	North	South	Total
5:00 PM	**0**	**0**	**2**	**3**	***5***	**0**	**0**	**0**	**0**	***0***	**0**	**1**	**0**	**0**	*1*
5:15 PM	**0**	**0**	**2**	**4**	***6***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**1**	**0**	*1*
5:30 PM	**0**	**0**	**1**	**5**	***6***	**0**	**0**	**0**	**0**	***0***	**0**	**1**	**0**	**0**	*1*
5:45 PM	**0**	**0**	**4**	**4**	***8***	**0**	**0**	**0**	**0**	***0***	**0**	**1**	**0**	**0**	***1***
6:00 PM	0	0	3	1	*4*	0	0	0	0	*0*	0	1	1	0	*2*
6:15 PM	0	0	4	4	*8*	0	0	0	0	*0*	0	0	0	0	*0*
6:30 PM	0	0	3	2	*5*	0	0	0	0	*0*	0	1	0	0	*1*
6:45 PM	0	0	2	3	*5*	0	0	0	0	*0*	0	1	0	0	*1*
7:00 PM	0	0	1	3	*4*	0	0	0	0	*0*	0	1	0	0	*1*
7:15 PM	0	0	8	2	*10*	0	0	0	0	*0*	0	0	0	0	*0*
7:30 PM	0	0	2	3	*5*	0	0	0	0	*0*	2	0	0	0	*2*
7:45 PM	0	0	1	1	*2*	0	0	1	0	*1*	2	0	1	0	*3*
Count Total	0	0	33	35	*68*	0	0	1	0	*1*	4	7	3	0	*14*
Peak Hour	**0**	**0**	**9**	**16**	***25***	**0**	**0**	**0**	**0**	***0***	**0**	**3**	**1**	**0**	***4***

Three-Hour Count Summaries - Heavy Vehicles

Interval Start	Collins Dr Eastbound UT	LT	TH	RT	Driveway Westbound UT	LT	TH	RT	Hegenberger Rd Northbound UT	LT	TH	RT	Hegenberger Rd Southbound UT	LT	TH	RT	15-min Total	Rolling One Hour
5:00 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**0**	**0**	**0**	**3**	**0**	**5**	0
5:15 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**1**	**0**	**0**	**0**	**4**	**0**	**6**	0
5:30 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**5**	**0**	**6**	0
5:45 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**4**	**0**	**0**	**0**	**4**	**0**	**8**	**25**
6:00 PM	0	0	0	0	0	0	0	0	0	0	3	0	0	0	1	0	4	24
6:15 PM	0	0	0	0	0	0	0	0	0	0	4	0	0	0	4	0	8	26
6:30 PM	0	0	0	0	0	0	0	0	0	0	3	0	0	0	2	0	5	25
6:45 PM	0	0	0	0	0	0	0	0	0	0	2	0	0	0	3	0	5	22
7:00 PM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	3	0	4	22
7:15 PM	0	0	0	0	0	0	0	0	0	0	8	0	0	0	2	0	10	24
7:30 PM	0	0	0	0	0	0	0	0	0	0	2	0	0	0	3	0	5	24
7:45 PM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	2	21
Count Total	0	0	0	0	0	0	0	0	1	0	32	0	0	0	35	0	68	0
Peak Hour	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**8**	**0**	**0**	**0**	**16**	**0**	**25**	**0**

Three-Hour Count Summaries - Bikes

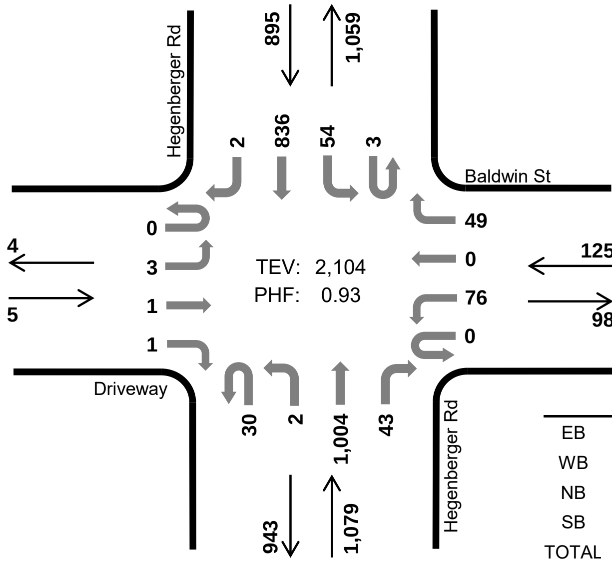
Interval Start	Collins Dr Eastbound LT	TH	RT	Driveway Westbound LT	TH	RT	Hegenberger Rd Northbound LT	TH	RT	Hegenberger Rd Southbound LT	TH	RT	15-min Total	Rolling One Hour
5:00 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
5:15 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
5:30 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
5:45 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
6:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 PM	0	0	0	0	0	0	0	1	0	0	0	0	1	1
Count Total	0	0	0	0	0	0	0	1	0	0	0	0	1	0
Peak Hour	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

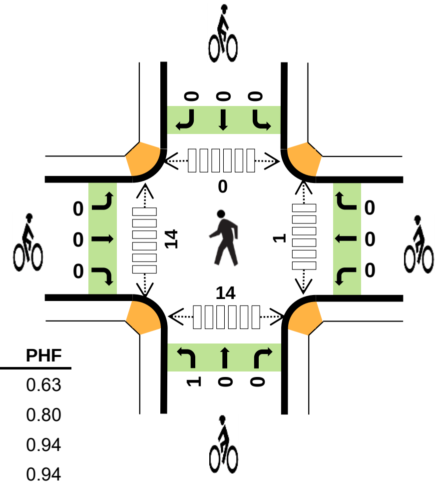
Note: U-Turn volumes for bikes are included in Left-Turn, if any.

Hegenberger Rd
Baldwin St

Date: 11/04/2023
Count Period: 5:00 PM to 8:00 PM
Peak Hour: 5:00 PM to 6:00 PM

Peak Hour





	HV %:	PHF
EB	0.0%	0.63
WB	0.0%	0.80
NB	1.2%	0.94
SB	1.7%	0.94
TOTAL	1.3%	0.93

Three-Hour Count Summaries

Interval Start		Driveway				Baldwin St				Hegenberger Rd				Hegenberger Rd				15-min Total	Rolling One Hour
		Eastbound				Westbound				Northbound				Southbound					
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
5:00 PM		0	2	0	0	0	11	0	15	10	0	242	11	0	22	189	0	502	0
5:15 PM		0	1	0	0	0	18	0	12	8	0	248	10	2	11	199	0	509	0
5:30 PM		0	0	0	0	0	28	0	11	11	0	263	12	1	13	224	1	564	0
5:45 PM		0	0	1	1	0	19	0	11	1	2	251	10	0	8	224	1	529	2,104
Peak Hour	All	0	3	1	1	0	76	0	49	30	2	1,004	43	3	54	836	2	2,104	0
	HV	0	0	0	0	0	0	0	0	0	0	11	2	0	0	15	0	28	0
	HV%	-	0%	0%	0%	-	0%	-	0%	0%	0%	1%	5%	0%	0%	2%	0%	1%	0

Note: For all three-hour count summary, see next page.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
5:00 PM	0	0	2	3	*5*	0	0	0	0	*0*	0	5	0	7	*12*
5:15 PM	0	0	3	3	*6*	0	0	0	0	*0*	1	4	0	3	*8*
5:30 PM	0	0	3	5	*8*	0	0	0	0	*0*	0	2	0	1	*3*
5:45 PM	0	0	5	4	*9*	0	0	1	0	*1*	0	3	0	3	*6*
Peak Hour	0	0	13	15	*28*	0	0	1	0	*1*	1	14	0	14	*29*

Three-Hour Count Summaries

Interval Start		Driveway Eastbound UT	LT	TH	RT	Baldwin St Westbound UT	LT	TH	RT	Hegenberger Rd Northbound UT	LT	TH	RT	Hegenberger Rd Southbound UT	LT	TH	RT	15-min Total	Rolling One Hour
5:00 PM		**0**	**2**	**0**	**0**	**0**	**11**	**0**	**15**	**10**	**0**	**242**	**11**	**0**	**22**	**189**	**0**	**502**	0
5:15 PM		**0**	**1**	**0**	**0**	**0**	**18**	**0**	**12**	**8**	**0**	**248**	**10**	**2**	**11**	**199**	**0**	**509**	0
5:30 PM		**0**	**0**	**0**	**0**	**0**	**28**	**0**	**11**	**11**	**0**	**263**	**12**	**1**	**13**	**224**	**1**	**564**	0
5:45 PM		**0**	**0**	**1**	**1**	**0**	**19**	**0**	**11**	**1**	**2**	**251**	**10**	**0**	**8**	**224**	**1**	**529**	**2,104**
6:00 PM		0	0	1	0	0	13	0	7	7	1	206	9	3	11	219	2	479	2,081
6:15 PM		0	2	0	1	0	10	0	5	1	0	214	16	2	8	201	2	462	2,034
6:30 PM		1	2	0	2	0	9	1	8	9	3	200	15	3	16	190	4	463	1,933
6:45 PM		0	1	2	2	0	8	1	9	9	0	205	7	1	13	182	1	441	1,845
7:00 PM		0	0	0	0	0	7	0	5	13	0	210	5	0	9	177	0	426	1,792
7:15 PM		0	0	0	1	0	6	0	4	7	1	210	6	0	12	190	1	438	1,768
7:30 PM		0	0	1	2	0	6	1	5	6	0	190	6	0	14	151	0	382	1,687
7:45 PM		0	1	0	0	0	2	0	3	9	2	184	9	2	6	159	1	378	1,624
Count Total		1	9	5	9	0	137	3	95	91	9	2,623	116	14	143	2,305	13	5,573	0
Peak Hour	**All**	**0**	**3**	**1**	**1**	**0**	**76**	**0**	**49**	**30**	**2**	**1,004**	**43**	**3**	**54**	**836**	**2**	**2,104**	**0**
	HV	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**11**	**2**	**0**	**0**	**15**	**0**	**28**	**0**
	HV%	**-**	**0%**	**0%**	**0%**	**-**	**0%**	**-**	**0%**	**0%**	**0%**	**1%**	**5%**	**0%**	**0%**	**2%**	**0%**	**1%**	**0**

Note: Three-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals EB	WB	NB	SB	Total	Bicycles EB	WB	NB	SB	Total	Pedestrians (Crossing Leg) East	West	North	South	Total
5:00 PM	**0**	**0**	**2**	**3**	***5***	**0**	**0**	**0**	**0**	***0***	**0**	**5**	**0**	**7**	*12*
5:15 PM	**0**	**0**	**3**	**3**	***6***	**0**	**0**	**0**	**0**	***0***	**1**	**4**	**0**	**3**	*8*
5:30 PM	**0**	**0**	**3**	**5**	***8***	**0**	**0**	**0**	**0**	***0***	**0**	**2**	**0**	**1**	*3*
5:45 PM	**0**	**0**	**5**	**4**	***9***	**0**	**0**	**1**	**0**	***1***	**0**	**3**	**0**	**3**	***6***
6:00 PM	0	0	3	1	*4*	0	0	1	1	*2*	0	2	0	2	*4*
6:15 PM	0	0	4	5	*9*	0	0	0	0	*0*	0	1	0	2	*3*
6:30 PM	0	0	2	1	*3*	0	0	0	0	*0*	0	1	0	3	*4*
6:45 PM	0	0	3	4	*7*	0	0	0	0	*0*	2	1	0	1	*4*
7:00 PM	0	0	1	3	*4*	0	0	0	0	*0*	0	0	0	2	*2*
7:15 PM	0	0	8	2	*10*	0	0	0	0	*0*	1	0	0	1	*2*
7:30 PM	0	0	2	3	*5*	0	0	0	0	*0*	0	0	0	0	*0*
7:45 PM	0	0	2	1	*3*	0	0	0	1	*1*	1	2	0	1	*4*
Count Total	0	0	38	35	*73*	0	0	2	2	*4*	5	21	0	26	*52*
Peak Hour	**0**	**0**	**13**	**15**	***28***	**0**	**0**	**1**	**0**	***1***	**1**	**14**	**0**	**14**	***29***

Three-Hour Count Summaries - Heavy Vehicles

Interval Start	Driveway				Baldwin St				Hegenberger Rd				Hegenberger Rd				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
5:00 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**0**	**0**	**0**	**3**	**0**	**5**	0
5:15 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**3**	**0**	**0**	**0**	**3**	**0**	**6**	0
5:30 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**1**	**0**	**0**	**5**	**0**	**8**	0
5:45 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**4**	**1**	**0**	**0**	**4**	**0**	**9**	**28**
6:00 PM	0	0	0	0	0	0	0	0	0	0	3	0	0	0	1	0	4	27
6:15 PM	0	0	0	0	0	0	0	0	0	0	4	0	0	0	5	0	9	30
6:30 PM	0	0	0	0	0	0	0	0	0	0	2	0	0	0	1	0	3	25
6:45 PM	0	0	0	0	0	0	0	0	0	0	3	0	0	0	4	0	7	23
7:00 PM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	3	0	4	23
7:15 PM	0	0	0	0	0	0	0	0	0	0	8	0	0	0	2	0	10	24
7:30 PM	0	0	0	0	0	0	0	0	0	0	2	0	0	0	3	0	5	26
7:45 PM	0	0	0	0	0	0	0	0	0	0	2	0	0	0	1	0	3	22
Count Total	0	0	0	0	0	0	0	0	0	0	36	2	0	0	35	0	73	0
Peak Hour	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**11**	**2**	**0**	**0**	**15**	**0**	**28**	**0**

Three-Hour Count Summaries - Bikes

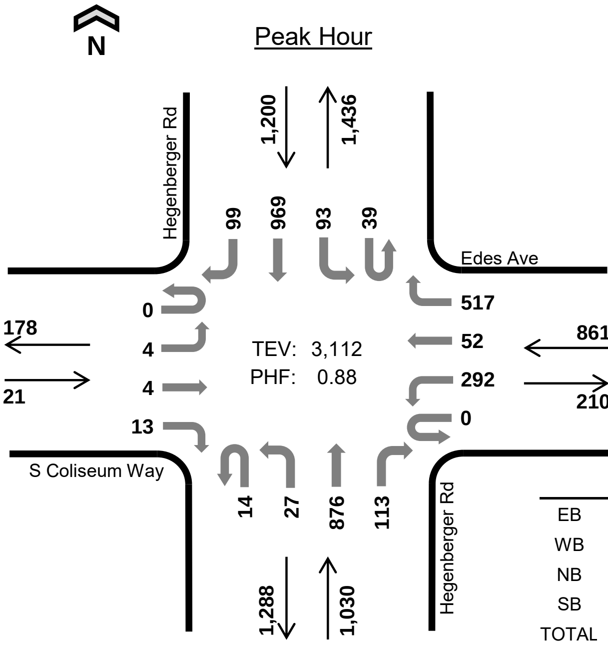
Interval Start	Driveway			Baldwin St			Hegenberger Rd			Hegenberger Rd			15-min Total	Rolling One Hour
	Eastbound			Westbound			Northbound			Southbound				
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT		
5:00 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
5:15 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
5:30 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
5:45 PM	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**1**	**1**
6:00 PM	0	0	0	0	0	0	0	0	1	0	1	0	2	3
6:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	3
6:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	3
6:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	2
7:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 PM	0	0	0	0	0	0	0	0	0	0	1	0	1	1
Count Total	0	0	0	0	0	0	1	0	1	0	2	0	4	0
Peak Hour	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**1**	**0**

Note: U-Turn volumes for bikes are included in Left-Turn, if any.

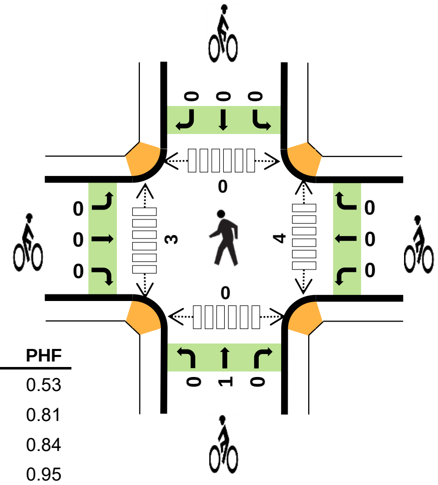
Hegenberger Rd
Edes Ave

Date: 11/08/2023
Count Period: 5:00 PM to 8:00 PM
Peak Hour: 5:00 PM to 6:00 PM

Peak Hour



	HV %:	PHF
EB	4.8%	0.53
WB	2.4%	0.81
NB	2.3%	0.84
SB	3.2%	0.95
TOTAL	2.7%	0.88



Three-Hour Count Summaries

Interval Start		S Coliseum Way				Edes Ave				Hegenberger Rd				Hegenberger Rd				15-min Total	Rolling One Hour
		Eastbound				Westbound				Northbound				Southbound					
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
5:00 PM		0	1	0	4	0	113	19	133	4	11	258	32	9	15	252	31	882	0
5:15 PM		0	1	2	7	0	68	12	114	3	2	228	32	15	20	261	21	786	0
5:30 PM		0	2	1	1	0	56	15	146	3	10	216	19	10	26	230	26	761	0
5:45 PM		0	0	1	1	0	55	6	124	4	4	174	30	5	32	226	21	683	3,112
Peak Hour	All	0	4	4	13	0	292	52	517	14	27	876	113	39	93	969	99	3,112	0
	HV	0	0	0	1	0	11	0	10	0	2	17	5	0	3	34	1	84	0
	HV%	-	0%	0%	8%	-	4%	0%	2%	0%	7%	2%	4%	0%	3%	4%	1%	3%	0

Note: For all three-hour count summary, see next page.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
5:00 PM	0	6	10	10	*26*	0	0	0	0	*0*	2	2	0	0	*4*
5:15 PM	1	8	6	12	*27*	0	0	0	0	*0*	1	1	0	0	*2*
5:30 PM	0	4	6	7	*17*	0	0	0	0	*0*	1	0	0	0	*1*
5:45 PM	0	3	2	9	*14*	0	0	1	0	*1*	0	0	0	0	*0*
Peak Hour	1	21	24	38	*84*	0	0	1	0	*1*	4	3	0	0	*7*

Three-Hour Count Summaries

Interval Start	S Coliseum Way				Edes Ave				Hegenberger Rd				Hegenberger Rd				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
5:00 PM	**0**	**1**	**0**	**4**	**0**	**113**	**19**	**133**	**4**	**11**	**258**	**32**	**9**	**15**	**252**	**31**	**882**	0
5:15 PM	**0**	**1**	**2**	**7**	**0**	**68**	**12**	**114**	**3**	**2**	**228**	**32**	**15**	**20**	**261**	**21**	**786**	0
5:30 PM	**0**	**2**	**1**	**1**	**0**	**56**	**15**	**146**	**3**	**10**	**216**	**19**	**10**	**26**	**230**	**26**	**761**	0
5:45 PM	**0**	**0**	**1**	**1**	**0**	**55**	**6**	**124**	**4**	**4**	**174**	**30**	**5**	**32**	**226**	**21**	**683**	**3,112**
6:00 PM	0	0	0	0	0	37	3	103	9	5	182	34	15	27	208	14	637	2,867
6:15 PM	0	0	0	0	0	27	2	50	4	3	168	22	4	23	206	9	518	2,599
6:30 PM	0	0	0	0	0	30	4	50	3	3	162	22	13	20	165	7	479	2,317
6:45 PM	0	0	0	0	0	28	10	93	6	4	140	27	8	29	146	9	500	2,134
7:00 PM	0	1	0	0	0	38	1	73	7	3	134	26	7	21	170	13	494	1,991
7:15 PM	0	0	1	0	0	43	11	84	7	3	122	12	10	11	155	6	465	1,938
7:30 PM	0	0	0	0	0	34	7	109	7	1	109	17	8	19	123	7	441	1,900
7:45 PM	0	0	0	0	0	57	3	88	4	3	96	13	9	16	116	3	408	1,808
Count Total	0	5	5	13	0	586	93	1,167	61	52	1,989	286	113	259	2,258	167	7,054	0
Peak Hour All	**0**	**4**	**4**	**13**	**0**	**292**	**52**	**517**	**14**	**27**	**876**	**113**	**39**	**93**	**969**	**99**	**3,112**	**0**
Peak Hour HV	**0**	**0**	**0**	**1**	**0**	**11**	**0**	**10**	**0**	**2**	**17**	**5**	**0**	**3**	**34**	**1**	**84**	**0**
Peak Hour HV%	**-**	**0%**	**0%**	**8%**	**-**	**4%**	**0%**	**2%**	**0%**	**7%**	**2%**	**4%**	**0%**	**3%**	**4%**	**1%**	**3%**	**0**

Note: Three-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
5:00 PM	**0**	**6**	**10**	**10**	***26***	**0**	**0**	**0**	**0**	***0***	**2**	**2**	**0**	**0**	*4*
5:15 PM	**1**	**8**	**6**	**12**	***27***	**0**	**0**	**0**	**0**	***0***	**1**	**1**	**0**	**0**	*2*
5:30 PM	**0**	**4**	**6**	**7**	***17***	**0**	**0**	**0**	**0**	***0***	**1**	**0**	**0**	**0**	*1*
5:45 PM	**0**	**3**	**2**	**9**	***14***	**0**	**0**	**1**	**0**	***1***	**0**	**0**	**0**	**0**	***0***
6:00 PM	0	3	7	9	*19*	0	0	0	0	*0*	1	1	0	0	*2*
6:15 PM	0	2	5	8	*15*	0	0	0	0	*0*	0	2	0	0	*2*
6:30 PM	0	2	5	7	*14*	0	0	0	0	*0*	0	1	1	0	*2*
6:45 PM	0	1	6	8	*15*	0	0	0	0	*0*	2	2	1	0	*5*
7:00 PM	0	4	2	7	*13*	0	0	0	0	*0*	0	3	2	1	*6*
7:15 PM	0	2	2	8	*12*	0	0	0	0	*0*	0	0	0	0	*0*
7:30 PM	0	2	6	4	*12*	0	0	0	0	*0*	1	1	0	0	*2*
7:45 PM	0	3	2	8	*13*	0	0	0	0	*0*	2	1	0	0	*3*
Count Total	1	40	59	97	*197*	0	0	1	0	*1*	10	14	4	1	*29*
Peak Hour	**1**	**21**	**24**	**38**	***84***	**0**	**0**	**1**	**0**	***1***	**4**	**3**	**0**	**0**	*7*

Three-Hour Count Summaries - Heavy Vehicles

Interval Start	S Coliseum Way				Edes Ave				Hegenberger Rd				Hegenberger Rd				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
5:00 PM	**0**	**0**	**0**	**0**	**0**	**4**	**0**	**2**	**0**	**2**	**6**	**2**	**0**	**1**	**8**	**1**	**26**	0
5:15 PM	**0**	**0**	**0**	**1**	**0**	**4**	**0**	**4**	**0**	**0**	**4**	**2**	**0**	**1**	**11**	**0**	**27**	0
5:30 PM	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**3**	**0**	**0**	**6**	**0**	**0**	**1**	**6**	**0**	**17**	0
5:45 PM	**0**	**0**	**0**	**0**	**0**	**2**	**0**	**1**	**0**	**0**	**1**	**1**	**0**	**0**	**9**	**0**	**14**	**84**
6:00 PM	0	0	0	0	0	2	0	1	0	0	5	2	0	3	6	0	19	77
6:15 PM	0	0	0	0	0	0	0	2	0	0	4	1	0	1	6	1	15	65
6:30 PM	0	0	0	0	0	0	0	2	0	1	3	1	0	1	6	0	14	62
6:45 PM	0	0	0	0	0	0	0	1	0	0	4	2	0	1	7	0	15	63
7:00 PM	0	0	0	0	0	3	0	1	0	0	2	0	0	0	7	0	13	57
7:15 PM	0	0	0	0	0	1	0	1	0	0	1	1	0	1	7	0	12	54
7:30 PM	0	0	0	0	0	0	1	1	0	0	6	0	0	0	4	0	12	52
7:45 PM	0	0	0	0	0	1	0	2	0	0	2	0	0	1	7	0	13	50
Count Total	0	0	0	1	0	18	1	21	0	3	44	12	0	11	84	2	197	0
Peak Hour	**0**	**0**	**0**	**1**	**0**	**11**	**0**	**10**	**0**	**2**	**17**	**5**	**0**	**3**	**34**	**1**	**84**	**0**

Three-Hour Count Summaries - Bikes

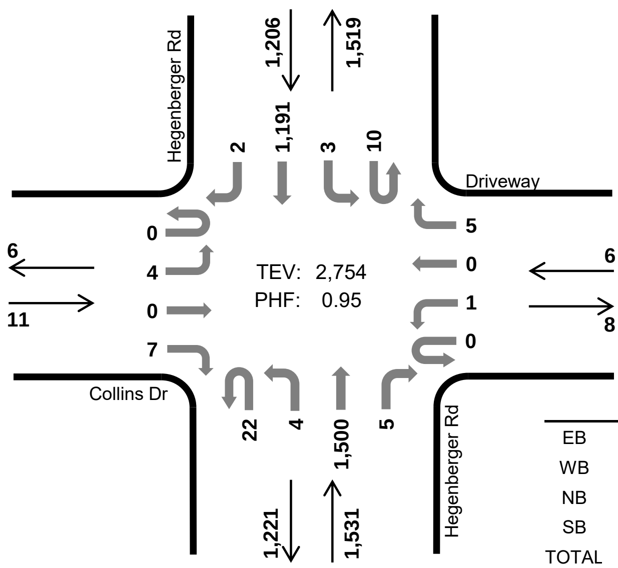
Interval Start	S Coliseum Way			Edes Ave			Hegenberger Rd			Hegenberger Rd			15-min Total	Rolling One Hour
	Eastbound			Westbound			Northbound			Southbound				
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT		
5:00 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
5:15 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
5:30 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
5:45 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**1**	**1**
6:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1
6:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1
6:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1
6:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Count Total	0	0	0	0	0	0	0	1	0	0	0	0	1	0
Peak Hour	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**1**	**0**

Note: U-Turn volumes for bikes are included in Left-Turn, if any.

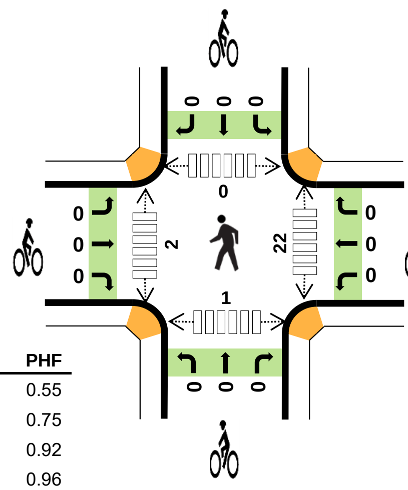
Hegenberger Rd
Collins Dr

Date: 11/08/2023
Count Period: 5:00 PM to 8:00 PM
Peak Hour: 5:00 PM to 6:00 PM

Peak Hour



	HV %:	PHF
EB	0.0%	0.55
WB	0.0%	0.75
NB	1.7%	0.92
SB	3.0%	0.96
TOTAL	2.3%	0.95



Three-Hour Count Summaries

Interval Start		Collins Dr Eastbound UT	LT	TH	RT	Driveway Westbound UT	LT	TH	RT	Hegenberger Rd Northbound UT	LT	TH	RT	Hegenberger Rd Southbound UT	LT	TH	RT	15-min Total	Rolling One Hour
5:00 PM		0	1	0	4	0	0	0	1	6	1	405	1	2	1	303	0	725	0
5:15 PM		0	1	0	2	0	1	0	1	5	2	365	3	4	1	309	0	694	0
5:30 PM		0	1	0	0	0	0	0	1	7	0	406	1	2	0	280	1	699	0
5:45 PM		0	1	0	1	0	0	0	2	4	1	324	0	2	1	299	1	636	2,754
Peak Hour	All	0	4	0	7	0	1	0	5	22	4	1,500	5	10	3	1,191	2	2,754	0
	HV	0	0	0	0	0	0	0	0	0	0	26	0	0	0	36	0	62	0
	HV%	-	0%	-	0%	-	0%	-	0%	0%	0%	2%	0%	0%	0%	3%	0%	2%	0

Note: For all three-hour count summary, see next page.

Interval Start	Heavy Vehicle Totals EB	WB	NB	SB	Total	Bicycles EB	WB	NB	SB	Total	Pedestrians (Crossing Leg) East	West	North	South	Total
5:00 PM	0	0	7	9	*16*	0	0	0	0	*0*	6	1	0	1	*8*
5:15 PM	0	0	7	11	*18*	0	0	0	0	*0*	2	1	0	0	*3*
5:30 PM	0	0	9	6	*15*	0	0	0	0	*0*	7	0	0	0	*7*
5:45 PM	0	0	3	10	*13*	0	0	0	0	*0*	7	0	0	0	*7*
Peak Hour	0	0	26	36	*62*	0	0	0	0	*0*	22	2	0	1	*25*

Three-Hour Count Summaries

Interval Start		Collins Dr Eastbound UT	LT	TH	RT	Driveway Westbound UT	LT	TH	RT	Hegenberger Rd Northbound UT	LT	TH	RT	Hegenberger Rd Southbound UT	LT	TH	RT	15-min Total	Rolling One Hour
5:00 PM		**0**	**1**	**0**	**4**	**0**	**0**	**0**	**1**	**6**	**1**	**405**	**1**	**2**	**1**	**303**	**0**	**725**	0
5:15 PM		**0**	**1**	**0**	**2**	**0**	**1**	**0**	**1**	**5**	**2**	**365**	**3**	**4**	**1**	**309**	**0**	**694**	0
5:30 PM		**0**	**1**	**0**	**0**	**0**	**0**	**0**	**1**	**7**	**0**	**406**	**1**	**2**	**0**	**280**	**1**	**699**	0
5:45 PM		**0**	**1**	**0**	**1**	**0**	**0**	**0**	**2**	**4**	**1**	**324**	**0**	**2**	**1**	**299**	**1**	**636**	**2,754**
6:00 PM		0	1	0	1	0	0	0	0	5	0	320	2	1	0	256	1	587	2,616
6:15 PM		0	3	0	0	0	0	0	0	4	1	249	0	3	0	241	0	501	2,423
6:30 PM		0	0	0	1	0	0	0	0	4	0	206	1	1	0	214	0	427	2,151
6:45 PM		0	1	0	0	0	1	0	0	3	1	273	1	1	1	188	1	471	1,986
7:00 PM		0	1	0	0	0	0	0	0	3	0	214	0	1	0	209	2	430	1,829
7:15 PM		0	0	0	3	0	0	0	0	2	1	230	0	1	1	173	3	414	1,742
7:30 PM		0	1	0	2	0	0	0	0	1	1	243	1	1	0	155	0	405	1,720
7:45 PM		0	1	0	0	0	1	0	1	4	0	206	0	0	0	136	2	351	1,600
Count Total		0	12	0	14	0	3	0	6	48	8	3,441	10	19	5	2,763	11	6,340	0
Peak Hour	**All**	**0**	**4**	**0**	**7**	**0**	**1**	**0**	**5**	**22**	**4**	**1,500**	**5**	**10**	**3**	**1,191**	**2**	**2,754**	**0**
	HV	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**26**	**0**	**0**	**0**	**36**	**0**	**62**	**0**
	HV%	**-**	**0%**	**-**	**0%**	**-**	**0%**	**-**	**0%**	**0%**	**0%**	**2%**	**0%**	**0%**	**0%**	**3%**	**0%**	**2%**	**0**

Note: Three-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals EB	WB	NB	SB	Total	Bicycles EB	WB	NB	SB	Total	Pedestrians (Crossing Leg) East	West	North	South	Total
5:00 PM	**0**	**0**	**7**	**9**	***16***	**0**	**0**	**0**	**0**	***0***	**6**	**1**	**0**	**1**	*8*
5:15 PM	**0**	**0**	**7**	**11**	***18***	**0**	**0**	**0**	**0**	***0***	**2**	**1**	**0**	**0**	*3*
5:30 PM	**0**	**0**	**9**	**6**	***15***	**0**	**0**	**0**	**0**	***0***	**7**	**0**	**0**	**0**	*7*
5:45 PM	**0**	**0**	**3**	**10**	***13***	**0**	**0**	**0**	**0**	***0***	**7**	**0**	**0**	**0**	*7*
6:00 PM	0	0	7	8	*15*	0	0	0	0	*0*	6	2	0	1	*9*
6:15 PM	0	0	7	7	*14*	0	0	0	0	*0*	4	1	0	0	*5*
6:30 PM	0	0	5	6	*11*	0	0	0	0	*0*	2	0	0	0	*2*
6:45 PM	0	0	4	6	*10*	0	0	0	0	*0*	6	3	0	0	*9*
7:00 PM	0	0	5	8	*13*	0	0	0	0	*0*	5	2	0	0	*7*
7:15 PM	0	0	2	6	*8*	0	0	0	0	*0*	1	1	0	0	*2*
7:30 PM	0	0	6	4	*10*	0	0	0	0	*0*	4	0	0	0	*4*
7:45 PM	0	0	5	6	*11*	0	0	0	0	*0*	5	1	3	2	*11*
Count Total	0	0	67	87	*154*	0	0	0	0	*0*	55	12	3	4	*74*
Peak Hour	**0**	**0**	**26**	**36**	***62***	**0**	**0**	**0**	**0**	***0***	**22**	**2**	**0**	**1**	***25***

Three-Hour Count Summaries - Heavy Vehicles

Interval Start	Collins Dr Eastbound UT	LT	TH	RT	Driveway Westbound UT	LT	TH	RT	Hegenberger Rd Northbound UT	LT	TH	RT	Hegenberger Rd Southbound UT	LT	TH	RT	15-min Total	Rolling One Hour
5:00 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**7**	**0**	**0**	**0**	**9**	**0**	**16**	0
5:15 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**7**	**0**	**0**	**0**	**11**	**0**	**18**	0
5:30 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**9**	**0**	**0**	**0**	**6**	**0**	**15**	0
5:45 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**3**	**0**	**0**	**0**	**10**	**0**	**13**	**62**
6:00 PM	0	0	0	0	0	0	0	0	0	0	7	0	0	0	8	0	15	61
6:15 PM	0	0	0	0	0	0	0	0	1	0	6	0	0	0	7	0	14	57
6:30 PM	0	0	0	0	0	0	0	0	0	0	5	0	0	0	6	0	11	53
6:45 PM	0	0	0	0	0	0	0	0	0	0	4	0	0	0	6	0	10	50
7:00 PM	0	0	0	0	0	0	0	0	1	0	4	0	0	0	8	0	13	48
7:15 PM	0	0	0	0	0	0	0	0	0	0	2	0	0	0	6	0	8	42
7:30 PM	0	0	0	0	0	0	0	0	0	0	6	0	0	0	4	0	10	41
7:45 PM	0	0	0	0	0	0	0	0	0	0	5	0	0	0	6	0	11	42
Count Total	0	0	0	0	0	0	0	0	2	0	65	0	0	0	87	0	154	0
Peak Hour	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**26**	**0**	**0**	**0**	**36**	**0**	**62**	**0**

Three-Hour Count Summaries - Bikes

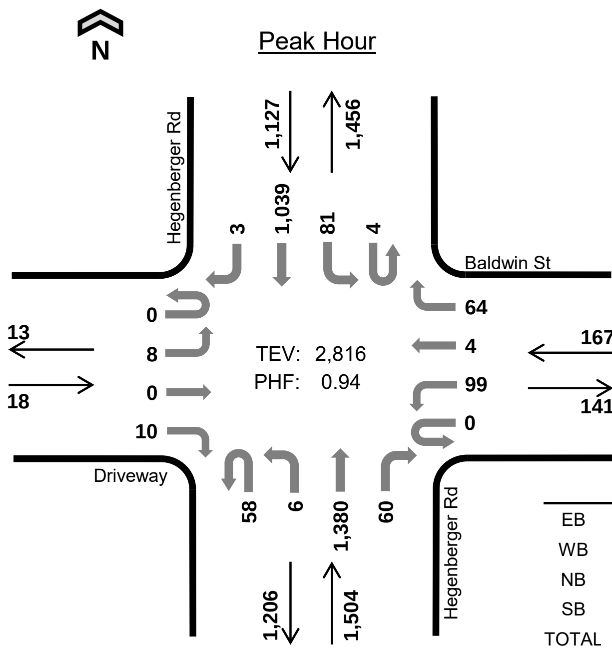
Interval Start	Collins Dr Eastbound LT	TH	RT	Driveway Westbound LT	TH	RT	Hegenberger Rd Northbound LT	TH	RT	Hegenberger Rd Southbound LT	TH	RT	15-min Total	Rolling One Hour
5:00 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
5:15 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
5:30 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
5:45 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
6:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Count Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Peak Hour	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

Note: U-Turn volumes for bikes are included in Left-Turn, if any.

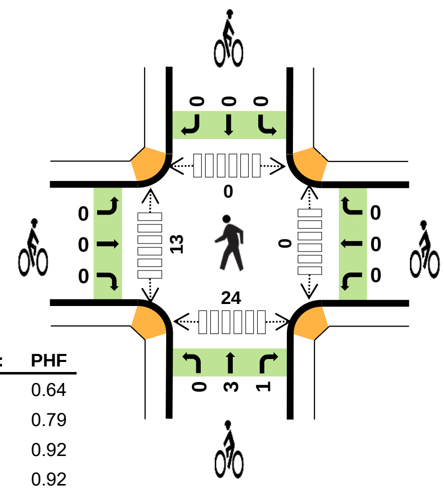
Hegenberger Rd
Baldwin St

idax

Date: 11/08/2023
Count Period: 5:00 PM to 8:00 PM
Peak Hour: 5:00 PM to 6:00 PM



	HV %:	PHF
EB	0.0%	0.64
WB	2.4%	0.79
NB	2.1%	0.92
SB	3.4%	0.92
TOTAL	2.6%	0.94



Three-Hour Count Summaries

Interval Start		Driveway Eastbound UT	LT	TH	RT	Baldwin St Westbound UT	LT	TH	RT	Hegenberger Rd Northbound UT	LT	TH	RT	Hegenberger Rd Southbound UT	LT	TH	RT	15-min Total	Rolling One Hour
5:00 PM		0	2	0	5	0	23	1	16	11	1	366	17	1	20	286	0	749	0
5:15 PM		0	1	0	2	0	19	1	19	17	1	337	20	0	22	263	0	702	0
5:30 PM		0	1	0	1	0	31	1	21	12	2	382	11	2	16	252	3	735	0
5:45 PM		0	4	0	2	0	26	1	8	18	2	295	12	1	23	238	0	630	2,816
Peak Hour	All	0	8	0	10	0	99	4	64	58	6	1,380	60	4	81	1,039	3	2,816	0
	HV	0	0	0	0	0	2	0	2	0	0	29	3	0	2	36	0	74	0
	HV%	-	0%	-	0%	-	2%	0%	3%	0%	0%	2%	5%	0%	2%	3%	0%	3%	0

Note: For all three-hour count summary, see next page.

Interval Start	Heavy Vehicle Totals EB	WB	NB	SB	Total	Bicycles EB	WB	NB	SB	Total	Pedestrians (Crossing Leg) East	West	North	South	Total
5:00 PM	0	0	9	11	*20*	0	0	2	0	*2*	0	8	0	7	*15*
5:15 PM	0	1	8	11	*20*	0	0	0	0	*0*	0	4	0	8	*12*
5:30 PM	0	0	11	7	*18*	0	0	1	0	*1*	0	0	0	5	*5*
5:45 PM	0	3	4	9	*16*	0	0	1	0	*1*	0	1	0	4	*5*
Peak Hour	0	4	32	38	*74*	0	0	4	0	*4*	0	13	0	24	*37*

Three-Hour Count Summaries

Interval Start	Driveway				Baldwin St				Hegenberger Rd				Hegenberger Rd				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
5:00 PM	**0**	**2**	**0**	**5**	**0**	**23**	**1**	**16**	**11**	**1**	**366**	**17**	**1**	**20**	**286**	**0**	**749**	0
5:15 PM	**0**	**1**	**0**	**2**	**0**	**19**	**1**	**19**	**17**	**1**	**337**	**20**	**0**	**22**	**263**	**0**	**702**	0
5:30 PM	**0**	**1**	**0**	**1**	**0**	**31**	**1**	**21**	**12**	**2**	**382**	**11**	**2**	**16**	**252**	**3**	**735**	0
5:45 PM	**0**	**4**	**0**	**2**	**0**	**26**	**1**	**8**	**18**	**2**	**295**	**12**	**1**	**23**	**238**	**0**	**630**	**2,816**
6:00 PM	0	3	0	0	0	22	1	15	13	0	299	7	0	25	214	0	599	2,666
6:15 PM	0	0	0	2	0	11	0	10	6	0	220	12	0	9	222	0	492	2,456
6:30 PM	0	0	0	0	0	6	0	9	9	1	202	11	0	14	197	0	449	2,170
6:45 PM	0	1	0	3	0	14	0	9	4	0	242	15	0	19	170	1	478	2,018
7:00 PM	0	1	0	1	0	16	0	4	11	1	210	11	1	19	179	1	455	1,874
7:15 PM	0	0	0	2	0	19	1	8	9	1	200	7	0	14	145	0	406	1,788
7:30 PM	0	1	0	0	0	7	1	6	9	1	214	9	0	7	144	1	400	1,739
7:45 PM	0	0	0	0	1	5	0	6	5	1	187	8	0	4	125	1	343	1,604
Count Total	0	14	0	18	1	199	7	131	124	11	3,154	140	5	192	2,435	7	6,438	0
Peak Hour All	**0**	**8**	**0**	**10**	**0**	**99**	**4**	**64**	**58**	**6**	**1,380**	**60**	**4**	**81**	**1,039**	**3**	**2,816**	**0**
Peak Hour HV	**0**	**0**	**0**	**0**	**0**	**2**	**0**	**2**	**0**	**0**	**29**	**3**	**0**	**2**	**36**	**0**	**74**	**0**
Peak Hour HV%	**-**	**0%**	**-**	**0%**	**-**	**2%**	**0%**	**3%**	**0%**	**0%**	**2%**	**5%**	**0%**	**2%**	**3%**	**0%**	**3%**	**0**

Note: Three-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
5:00 PM	**0**	**0**	**9**	**11**	***20***	**0**	**0**	**2**	**0**	***2***	**0**	**8**	**0**	**7**	*15*
5:15 PM	**0**	**1**	**8**	**11**	***20***	**0**	**0**	**0**	**0**	***0***	**0**	**4**	**0**	**8**	*12*
5:30 PM	**0**	**0**	**11**	**7**	***18***	**0**	**0**	**1**	**0**	***1***	**0**	**0**	**0**	**5**	*5*
5:45 PM	**0**	**3**	**4**	**9**	***16***	**0**	**0**	**1**	**0**	***1***	**0**	**1**	**0**	**4**	***5***
6:00 PM	0	4	5	7	*16*	0	0	0	0	*0*	0	1	0	3	*4*
6:15 PM	0	2	6	5	*13*	0	0	0	0	*0*	0	1	0	6	*7*
6:30 PM	0	0	4	6	*10*	0	0	0	0	*0*	0	1	0	1	*2*
6:45 PM	0	2	3	6	*11*	0	0	0	1	*1*	3	3	0	3	*9*
7:00 PM	0	0	4	8	*12*	0	0	0	1	*1*	0	1	0	0	*1*
7:15 PM	0	0	3	5	*8*	0	0	0	0	*0*	0	1	0	1	*2*
7:30 PM	0	0	7	2	*9*	0	0	0	0	*0*	0	1	0	3	*4*
7:45 PM	0	0	5	7	*12*	0	0	0	0	*0*	0	3	0	1	*4*
Count Total	0	12	69	84	*165*	0	0	4	2	*6*	3	25	0	42	*70*
Peak Hour	**0**	**4**	**32**	**38**	***74***	**0**	**0**	**4**	**0**	***4***	**0**	**13**	**0**	**24**	***37***

Three-Hour Count Summaries - Heavy Vehicles

Interval Start	Driveway				Baldwin St				Hegenberger Rd				Hegenberger Rd				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
5:00 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**9**	**0**	**0**	**0**	**11**	**0**	**20**	0
5:15 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**8**	**0**	**0**	**0**	**11**	**0**	**20**	0
5:30 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**8**	**3**	**0**	**1**	**6**	**0**	**18**	0
5:45 PM	**0**	**0**	**0**	**0**	**0**	**2**	**0**	**1**	**0**	**0**	**4**	**0**	**0**	**1**	**8**	**0**	**16**	**74**
6:00 PM	0	0	0	0	0	2	0	2	0	0	5	0	0	1	6	0	16	70
6:15 PM	0	0	0	0	0	2	0	0	0	0	6	0	0	0	5	0	13	63
6:30 PM	0	0	0	0	0	0	0	0	0	0	4	0	0	0	6	0	10	55
6:45 PM	0	0	0	0	0	1	0	1	0	0	3	0	0	0	6	0	11	50
7:00 PM	0	0	0	0	0	0	0	0	0	0	4	0	0	1	7	0	12	46
7:15 PM	0	0	0	0	0	0	0	0	0	0	3	0	0	0	5	0	8	41
7:30 PM	0	0	0	0	0	0	0	0	0	0	7	0	0	0	2	0	9	40
7:45 PM	0	0	0	0	0	0	0	0	0	0	5	0	0	0	7	0	12	41
Count Total	0	0	0	0	0	7	0	5	0	0	66	3	0	4	80	0	165	0
Peak Hour	**0**	**0**	**0**	**0**	**0**	**2**	**0**	**2**	**0**	**0**	**29**	**3**	**0**	**2**	**36**	**0**	**74**	**0**

Three-Hour Count Summaries - Bikes

Interval Start	Driveway			Baldwin St			Hegenberger Rd			Hegenberger Rd			15-min Total	Rolling One Hour
	Eastbound			Westbound			Northbound			Southbound				
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT		
5:00 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**2**	0
5:15 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
5:30 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**1**	0
5:45 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**1**	**4**
6:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	2
6:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	2
6:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1
6:45 PM	0	0	0	0	0	0	0	0	0	0	1	0	1	1
7:00 PM	0	0	0	0	0	0	0	0	0	1	0	0	1	2
7:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	2
7:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	2
7:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Count Total	0	0	0	0	0	0	0	3	1	1	1	0	6	0
Peak Hour	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**3**	**1**	**0**	**0**	**0**	**4**	**0**

Note: U-Turn volumes for bikes are included in Left-Turn, if any.

Appendix C:
Intersection LOS Calculation Sheets

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL
Lane Configurations												
Traffic Volume (vph)	4	4	13	292	52	517	14	27	876	113	39	93
Future Volume (vph)	4	4	13	292	52	517	14	27	876	113	39	93
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0	5.0	5.0	5.0			3.0	4.0			3.0
Lane Util. Factor		0.95	0.95	0.91	0.91			0.81	0.81			1.00
Frpb, ped/bikes		1.00	1.00	1.00	1.00			1.00	1.00			1.00
Flpb, ped/bikes		1.00	1.00	1.00	1.00			1.00	1.00			1.00
Frt		0.96	0.85	1.00	0.87			1.00	0.98			1.00
Flt Protected		0.98	1.00	0.95	1.00			0.95	1.00			0.95
Satd. Flow (prot)		1651	1490	1595	2915			1419	5851			1752
Flt Permitted		0.98	1.00	0.95	1.00			0.95	0.93			0.95
Satd. Flow (perm)		1651	1490	1595	2915			1419	5447			1752
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	4	4	13	292	52	517	14	27	876	113	39	93
RTOR Reduction (vph)	0	3	10	0	394	0	0	0	12	0	0	0
Lane Group Flow (vph)	0	8	0	263	204	0	0	38	980	0	0	132
Confl. Peds. (#/hr)								3		4		4
Confl. Bikes (#/hr)										1		
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%
Turn Type	Split	NA	Perm	Split	NA		Prot	Prot	NA		Prot	Prot
Protected Phases	3	3		4	4		1	1	6		5	5
Permitted Phases			3									
Actuated Green, G (s)		2.4	2.4	19.4	19.4			4.2	63.4			8.0
Effective Green, g (s)		2.4	2.4	19.4	19.4			4.2	63.4			8.0
Actuated g/C Ratio		0.02	0.02	0.18	0.18			0.04	0.60			0.08
Clearance Time (s)		5.0	5.0	5.0	5.0			3.0	4.0			3.0
Vehicle Extension (s)		2.0	2.0	2.0	2.0			2.0	2.0			2.0
Lane Grp Cap (vph)		37	33	291	533			56	3273			132
v/s Ratio Prot		c0.00		c0.16	0.07			0.03	0.01			c0.08
v/s Ratio Perm			0.00						c0.17			
v/c Ratio		0.22	0.01	0.90	0.38			0.68	1.41dr			1.00
Uniform Delay, d1		50.9	50.6	42.4	38.0			50.2	10.4			49.0
Progression Factor		1.00	1.00	1.00	1.00			1.00	1.00			1.22
Incremental Delay, d2		1.1	0.0	28.7	0.2			22.6	0.0			77.6
Delay (s)		52.0	50.7	71.1	38.2			72.9	10.4			137.5
Level of Service		D	D	E	D			E	B			F
Approach Delay (s)		51.3			48.2				12.7			
Approach LOS		D			D				B			

Intersection Summary			
HCM 2000 Control Delay	26.1	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.49		
Actuated Cycle Length (s)	106.0	Sum of lost time (s)	17.0
Intersection Capacity Utilization	64.5%	ICU Level of Service	C
Analysis Period (min)	15		

dr Defacto Right Lane. Recode with 1 though lane as a right lane.
c Critical Lane Group

Movement	SBT	SBR
Lane Configurations		
Traffic Volume (vph)	969	99
Future Volume (vph)	969	99
Ideal Flow (vphpl)	1900	1900
Total Lost time (s)	4.0	4.0
Lane Util. Factor	0.81	0.81
Frpb, ped/bikes	1.00	0.98
Flpb, ped/bikes	1.00	1.00
Frt	1.00	0.85
Flt Protected	1.00	1.00
Satd. Flow (prot)	5966	1247
Flt Permitted	1.00	1.00
Satd. Flow (perm)	5966	1247
Peak-hour factor, PHF	1.00	1.00
Adj. Flow (vph)	969	99
RTOR Reduction (vph)	1	36
Lane Group Flow (vph)	978	53
Confl. Peds. (#/hr)		3
Confl. Bikes (#/hr)		
Heavy Vehicles (%)	3%	3%
Turn Type	NA	Perm
Protected Phases	2	
Permitted Phases		2
Actuated Green, G (s)	63.0	63.0
Effective Green, g (s)	63.0	63.0
Actuated g/C Ratio	0.59	0.59
Clearance Time (s)	4.0	4.0
Vehicle Extension (s)	2.0	2.0
Lane Grp Cap (vph)	3545	741
v/s Ratio Prot	0.16	
v/s Ratio Perm		0.04
v/c Ratio	0.28	0.07
Uniform Delay, d1	10.4	9.1
Progression Factor	0.66	0.22
Incremental Delay, d2	0.2	0.2
Delay (s)	7.1	2.2
Level of Service	A	A
Approach Delay (s)	21.1	
Approach LOS	C	

Intersection Summary

Intersection	
Int Delay, s/veh	1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Lane Configurations														
Traffic Vol, veh/h	4	0	7	1	0	5	22	4	1500	5	10	3	1191	2
Future Vol, veh/h	4	0	7	1	0	5	22	4	1500	5	10	3	1191	2
Conflicting Peds, #/hr	0	0	1	1	0	0	0	2	0	22	0	22	0	2
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	-	None	-	-	-	None
Storage Length	-	-	-	-	-	-	-	70	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	-	0	-	-	-	0	-
Grade, %	-	0	-	-	0	-	-	-	0	-	-	-	0	-
Peak Hour Factor	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	4	0	7	1	0	5	22	4	1500	5	10	3	1191	2

Major/Minor	Minor2			Minor1			Major1				Major2			
Conflicting Flow All	1872	2799	600	2080	2798	775	871	1195	0	0	1099	1527	0	0
Stage 1	1220	1220	-	1577	1577	-	-	-	-	-	-	-	-	-
Stage 2	652	1579	-	503	1221	-	-	-	-	-	-	-	-	-
Critical Hdwy	6.46	6.56	7.16	6.46	6.56	7.16	5.66	5.36	-	-	5.66	5.36	-	-
Critical Hdwy Stg 1	7.36	5.56	-	7.36	5.56	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.76	5.56	-	6.76	5.56	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	3.83	4.03	3.93	3.83	4.03	3.93	2.33	3.13	-	-	2.33	3.13	-	-
Pot Cap-1 Maneuver	75	18	379	56	18	291	514	312	-	-	384	214	-	-
Stage 1	139	249	-	77	167	-	-	-	-	-	-	-	-	-
Stage 2	383	166	-	472	249	-	-	-	-	-	-	-	-	-
Platoon blocked, %									-	-			-	-
Mov Cap-1 Maneuver	64	15	378	47	15	285	460	460	-	-	319	319	-	-
Mov Cap-2 Maneuver	64	15	-	47	15	-	-	-	-	-	-	-	-	-
Stage 1	131	218	-	71	154	-	-	-	-	-	-	-	-	-
Stage 2	355	153	-	407	218	-	-	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	33.8	29.2	0.2	1.5
HCM LOS	D	D		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	460	-	-	136	155	319	-	-
HCM Lane V/C Ratio	0.057	-	-	0.081	0.039	0.009	-	-
HCM Control Delay (s)	13.3	-	-	33.8	29.2	16.8	1.3	-
HCM Lane LOS	B	-	-	D	D	C	A	-
HCM 95th %tile Q(veh)	0.2	-	-	0.3	0.1	0	-	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL
Lane Configurations												
Traffic Volume (vph)	8	0	10	99	4	64	58	6	1380	60	4	81
Future Volume (vph)	8	0	10	99	4	64	58	6	1380	60	4	81
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	12	16	12	12	12	12	12	12	12
Total Lost time (s)		5.0			5.0			3.0	4.0			3.0
Lane Util. Factor		1.00			1.00			1.00	0.86			1.00
Frpb, ped/bikes		0.98			1.00			1.00	1.00			1.00
Flpb, ped/bikes		1.00			0.98			1.00	1.00			1.00
Frt		0.93			0.95			1.00	0.99			1.00
Flt Protected		0.98			0.97			0.95	1.00			0.95
Satd. Flow (prot)		1634			1896			1752	6300			1752
Flt Permitted		0.87			0.81			0.95	1.00			0.95
Satd. Flow (perm)		1455			1577			1752	6300			1752
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	8	0	10	99	4	64	58	6	1380	60	4	81
RTOR Reduction (vph)	0	16	0	0	25	0	0	0	4	0	0	0
Lane Group Flow (vph)	0	2	0	0	142	0	0	64	1436	0	0	85
Confl. Peds. (#/hr)			24	24				13				
Confl. Bikes (#/hr)										4		
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%
Turn Type	Perm	NA		Perm	NA		Prot	Prot	NA		Prot	Prot
Protected Phases		3			3		5	5	2		1	1
Permitted Phases	3			3								
Actuated Green, G (s)		13.8			13.8			7.3	71.8			8.4
Effective Green, g (s)		13.8			13.8			7.3	71.8			8.4
Actuated g/C Ratio		0.13			0.13			0.07	0.68			0.08
Clearance Time (s)		5.0			5.0			3.0	4.0			3.0
Vehicle Extension (s)		2.0			2.0			2.0	2.0			2.0
Lane Grp Cap (vph)		189			205			120	4267			138
v/s Ratio Prot								0.04	c0.23			c0.05
v/s Ratio Perm		0.00			c0.09							
v/c Ratio		0.01			0.69			0.53	0.34			0.62
Uniform Delay, d1		40.2			44.1			47.7	7.1			47.2
Progression Factor		1.00			1.00			1.11	0.72			1.00
Incremental Delay, d2		0.0			7.9			2.0	0.2			5.6
Delay (s)		40.2			51.9			55.0	5.4			52.9
Level of Service		D			D			D	A			D
Approach Delay (s)		40.2			51.9				7.5			
Approach LOS		D			D				A			

Intersection Summary			
HCM 2000 Control Delay	11.3	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.41		
Actuated Cycle Length (s)	106.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	51.7%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	SBT	SBR
Lane Configurations		
Traffic Volume (vph)	1039	3
Future Volume (vph)	1039	3
Ideal Flow (vphpl)	1900	1900
Lane Width	12	12
Total Lost time (s)	4.0	
Lane Util. Factor	0.86	
Frpb, ped/bikes	1.00	
Flpb, ped/bikes	1.00	
Frt	1.00	
Flt Protected	1.00	
Satd. Flow (prot)	6342	
Flt Permitted	1.00	
Satd. Flow (perm)	6342	
Peak-hour factor, PHF	1.00	1.00
Adj. Flow (vph)	1039	3
RTOR Reduction (vph)	0	0
Lane Group Flow (vph)	1042	0
Confl. Peds. (#/hr)		13
Confl. Bikes (#/hr)		
Heavy Vehicles (%)	3%	3%
Turn Type	NA	
Protected Phases	6	
Permitted Phases		
Actuated Green, G (s)	72.9	
Effective Green, g (s)	72.9	
Actuated g/C Ratio	0.69	
Clearance Time (s)	4.0	
Vehicle Extension (s)	2.0	
Lane Grp Cap (vph)	4361	
v/s Ratio Prot	0.16	
v/s Ratio Perm		
v/c Ratio	0.24	
Uniform Delay, d1	6.2	
Progression Factor	1.00	
Incremental Delay, d2	0.1	
Delay (s)	6.3	
Level of Service	A	
Approach Delay (s)	9.8	
Approach LOS	A	

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL
Lane Configurations												
Traffic Volume (vph)	0	0	1	204	18	411	26	11	596	77	35	90
Future Volume (vph)	0	0	1	204	18	411	26	11	596	77	35	90
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0		5.0	5.0			3.0	4.0			3.0
Lane Util. Factor		0.95		0.91	0.91			0.81	0.81			1.00
Frpb, ped/bikes		1.00		1.00	1.00			1.00	1.00			1.00
Flpb, ped/bikes		1.00		1.00	1.00			1.00	1.00			1.00
Frt		0.85		1.00	0.86			1.00	0.98			1.00
Flt Protected		1.00		0.95	1.00			0.95	1.00			0.95
Satd. Flow (prot)		1490		1595	2890			1419	5856			1752
Flt Permitted		1.00		0.95	1.00			0.95	0.93			0.95
Satd. Flow (perm)		1490		1595	2890			1419	5459			1752
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	0	0	1	204	18	411	26	11	596	77	35	90
RTOR Reduction (vph)	0	1	0	0	348	0	0	0	11	0	0	0
Lane Group Flow (vph)	0	0	0	184	101	0	0	36	663	0	0	125
Confl. Peds. (#/hr)								1		2		2
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%
Turn Type		NA	Perm	Split	NA		Prot	Prot	NA		Prot	Prot
Protected Phases	3	3		4	4		1	1	6		5	5
Permitted Phases	3		3									
Actuated Green, G (s)		1.0		16.2	16.2			4.2	68.0			8.0
Effective Green, g (s)		1.0		16.2	16.2			4.2	68.0			8.0
Actuated g/C Ratio		0.01		0.15	0.15			0.04	0.64			0.08
Clearance Time (s)		5.0		5.0	5.0			3.0	4.0			3.0
Vehicle Extension (s)		2.0		2.0	2.0			2.0	2.0			2.0
Lane Grp Cap (vph)		14		243	441			56	3517			132
v/s Ratio Prot		c0.00		c0.12	0.03			0.03	0.01			c0.07
v/s Ratio Perm									0.11			
v/c Ratio		0.00		0.76	0.23			0.64	0.96dr			0.95
Uniform Delay, d1		52.0		43.0	39.4			50.2	7.7			48.8
Progression Factor		1.00		1.00	1.00			1.00	1.00			1.22
Incremental Delay, d2		0.0		11.3	0.1			17.3	0.0			60.8
Delay (s)		52.0		54.3	39.5			67.5	7.8			120.4
Level of Service		D		D	D			E	A			F
Approach Delay (s)		52.0			43.8				10.8			
Approach LOS		D			D				B			

Intersection Summary			
HCM 2000 Control Delay	23.7	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.38		
Actuated Cycle Length (s)	106.0	Sum of lost time (s)	17.0
Intersection Capacity Utilization	57.3%	ICU Level of Service	B
Analysis Period (min)	15		

dr Defacto Right Lane. Recode with 1 though lane as a right lane.

c Critical Lane Group

Movement	SBT	SBR
Lane Configurations		
Traffic Volume (vph)	806	59
Future Volume (vph)	806	59
Ideal Flow (vphpl)	1900	1900
Total Lost time (s)	4.0	4.0
Lane Util. Factor	0.81	0.81
Frpb, ped/bikes	1.00	0.99
Flpb, ped/bikes	1.00	1.00
Frt	1.00	0.85
Flt Protected	1.00	1.00
Satd. Flow (prot)	5969	1252
Flt Permitted	1.00	1.00
Satd. Flow (perm)	5969	1252
Peak-hour factor, PHF	1.00	1.00
Adj. Flow (vph)	806	59
RTOR Reduction (vph)	0	19
Lane Group Flow (vph)	812	34
Confl. Peds. (#/hr)		1
Heavy Vehicles (%)	3%	3%
Turn Type	NA	Perm
Protected Phases	2	
Permitted Phases		2
Actuated Green, G (s)	67.6	67.6
Effective Green, g (s)	67.6	67.6
Actuated g/C Ratio	0.64	0.64
Clearance Time (s)	4.0	4.0
Vehicle Extension (s)	2.0	2.0
Lane Grp Cap (vph)	3806	798
v/s Ratio Prot	c0.14	
v/s Ratio Perm		0.03
v/c Ratio	0.21	0.04
Uniform Delay, d1	8.1	7.1
Progression Factor	0.71	0.00
Incremental Delay, d2	0.1	0.1
Delay (s)	5.8	0.1
Level of Service	A	A
Approach Delay (s)	20.0	
Approach LOS	B	

Intersection Summary

Intersection	
Int Delay, s/veh	0.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Lane Configurations														
Traffic Vol, veh/h	1	0	4	1	0	1	13	7	1032	3	9	2	930	5
Future Vol, veh/h	1	0	4	1	0	1	13	7	1032	3	9	2	930	5
Conflicting Peds, #/hr	1	0	0	0	0	1	0	3	0	0	0	0	0	3
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	-	None	-	-	-	None
Storage Length	-	-	-	-	-	-	-	70	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	-	0	-	-	-	0	-
Grade, %	-	0	-	-	0	-	-	-	0	-	-	-	0	-
Peak Hour Factor	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	1	0	4	1	0	1	13	7	1032	3	9	2	930	5

Major/Minor	Minor2			Minor1			Major1				Major2			
Conflicting Flow All	1412	2033	471	1468	2034	519	683	938	0	0	756	1035	0	0
Stage 1	958	958	-	1074	1074	-	-	-	-	-	-	-	-	-
Stage 2	454	1075	-	394	960	-	-	-	-	-	-	-	-	-
Critical Hdwy	6.46	6.56	7.16	6.46	6.56	7.16	5.66	5.36	-	-	5.66	5.36	-	-
Critical Hdwy Stg 1	7.36	5.56	-	7.36	5.56	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.76	5.56	-	6.76	5.56	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	3.83	4.03	3.93	3.83	4.03	3.93	2.33	3.13	-	-	2.33	3.13	-	-
Pot Cap-1 Maneuver	144	56	459	133	56	427	653	416	-	-	595	374	-	-
Stage 1	211	332	-	175	292	-	-	-	-	-	-	-	-	-
Stage 2	505	292	-	549	331	-	-	-	-	-	-	-	-	-
Platoon blocked, %									-	-			-	-
Mov Cap-1 Maneuver	134	51	458	124	51	427	541	541	-	-	537	537	-	-
Mov Cap-2 Maneuver	134	51	-	124	51	-	-	-	-	-	-	-	-	-
Stage 1	203	317	-	169	281	-	-	-	-	-	-	-	-	-
Stage 2	485	281	-	521	316	-	-	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	16.8	23.9	0.2	0.4
HCM LOS	C	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	541	-	-	309	192	537	-	-
HCM Lane V/C Ratio	0.037	-	-	0.016	0.01	0.004	-	-
HCM Control Delay (s)	11.9	-	-	16.8	23.9	11.8	0.3	-
HCM Lane LOS	B	-	-	C	C	B	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0	0	0	-	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL
Lane Configurations												
Traffic Volume (vph)	3	1	1	76	0	49	30	2	1004	43	3	54
Future Volume (vph)	3	1	1	76	0	49	30	2	1004	43	3	54
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	12	16	12	12	12	12	12	12	12
Total Lost time (s)		5.0			5.0			3.0	4.0			3.0
Lane Util. Factor		1.00			1.00			1.00	0.86			1.00
Frpb, ped/bikes		0.99			1.00			1.00	1.00			1.00
Flpb, ped/bikes		1.00			0.99			1.00	1.00			1.00
Frt		0.97			0.95			1.00	0.99			1.00
Flt Protected		0.97			0.97			0.95	1.00			0.95
Satd. Flow (prot)		1733			1904			1752	6301			1752
Flt Permitted		0.86			0.81			0.95	1.00			0.95
Satd. Flow (perm)		1540			1592			1752	6301			1752
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	3	1	1	76	0	49	30	2	1004	43	3	54
RTOR Reduction (vph)	0	1	0	0	37	0	0	0	3	0	0	0
Lane Group Flow (vph)	0	4	0	0	88	0	0	32	1044	0	0	57
Confl. Peds. (#/hr)			14	14				14		1		1
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%
Turn Type	Perm	NA		Perm	NA		Prot	Prot	NA		Prot	Prot
Protected Phases		3			3		5	5	2		1	1
Permitted Phases	3			3								
Actuated Green, G (s)		10.2			10.2			4.5	76.9			6.9
Effective Green, g (s)		10.2			10.2			4.5	76.9			6.9
Actuated g/C Ratio		0.10			0.10			0.04	0.73			0.07
Clearance Time (s)		5.0			5.0			3.0	4.0			3.0
Vehicle Extension (s)		2.0			2.0			2.0	2.0			2.0
Lane Grp Cap (vph)		148			153			74	4571			114
v/s Ratio Prot								0.02	c0.17			c0.03
v/s Ratio Perm		0.00			c0.06							
v/c Ratio		0.03			0.57			0.43	0.23			0.50
Uniform Delay, d1		43.4			45.8			49.5	4.8			47.9
Progression Factor		1.00			1.00			1.09	0.79			1.00
Incremental Delay, d2		0.0			3.2			1.4	0.1			1.3
Delay (s)		43.4			49.0			55.4	3.9			49.1
Level of Service		D			D			E	A			D
Approach Delay (s)		43.4			49.0				5.4			
Approach LOS		D			D				A			

Intersection Summary			
HCM 2000 Control Delay	8.7	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.28		
Actuated Cycle Length (s)	106.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	41.9%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	SBT	SBR
Lane Configurations		
Traffic Volume (vph)	836	2
Future Volume (vph)	836	2
Ideal Flow (vphpl)	1900	1900
Lane Width	12	12
Total Lost time (s)	4.0	
Lane Util. Factor	0.86	
Frpb, ped/bikes	1.00	
Flpb, ped/bikes	1.00	
Frt	1.00	
Flt Protected	1.00	
Satd. Flow (prot)	6342	
Flt Permitted	1.00	
Satd. Flow (perm)	6342	
Peak-hour factor, PHF	1.00	1.00
Adj. Flow (vph)	836	2
RTOR Reduction (vph)	0	0
Lane Group Flow (vph)	838	0
Confl. Peds. (#/hr)		14
Heavy Vehicles (%)	3%	3%
Turn Type	NA	
Protected Phases	6	
Permitted Phases		
Actuated Green, G (s)	79.3	
Effective Green, g (s)	79.3	
Actuated g/C Ratio	0.75	
Clearance Time (s)	4.0	
Vehicle Extension (s)	2.0	
Lane Grp Cap (vph)	4744	
v/s Ratio Prot	0.13	
v/s Ratio Perm		
v/c Ratio	0.18	
Uniform Delay, d1	3.9	
Progression Factor	1.00	
Incremental Delay, d2	0.1	
Delay (s)	4.0	
Level of Service	A	
Approach Delay (s)	6.8	
Approach LOS	A	

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL
Lane Configurations												
Traffic Volume (vph)	4	4	13	292	766	537	14	1585	919	113	39	132
Future Volume (vph)	4	4	13	292	766	537	14	1585	919	113	39	132
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0	5.0	5.0	5.0			3.0	4.0			3.0
Lane Util. Factor		0.95	0.95	0.91	0.91			0.81	0.81			1.00
Frpb, ped/bikes		1.00	1.00	1.00	1.00			1.00	1.00			1.00
Flpb, ped/bikes		1.00	1.00	1.00	1.00			1.00	1.00			1.00
Frt		0.96	0.85	1.00	0.94			1.00	0.99			1.00
Flt Protected		0.98	1.00	0.95	1.00			0.95	0.98			0.95
Satd. Flow (prot)		1651	1490	1595	3151			1419	5782			1752
Flt Permitted		0.98	1.00	0.95	1.00			0.95	0.75			0.95
Satd. Flow (perm)		1651	1490	1595	3151			1419	4452			1752
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	4	4	13	292	766	537	14	1585	919	113	39	132
RTOR Reduction (vph)	0	3	10	0	93	0	0	0	5	0	0	0
Lane Group Flow (vph)	0	8	0	263	1239	0	0	806	1820	0	0	171
Confl. Peds. (#/hr)								3		4		4
Confl. Bikes (#/hr)										1		
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%
Turn Type	Split	NA	Perm	Split	NA		Prot	Prot	NA		Prot	Prot
Protected Phases	3	3		4	4		1	1	6		5	5
Permitted Phases			3									
Actuated Green, G (s)		2.4	2.4	20.0	20.0			7.0	65.6			8.0
Effective Green, g (s)		2.4	2.4	20.0	20.0			7.0	65.6			8.0
Actuated g/C Ratio		0.02	0.02	0.19	0.19			0.07	0.62			0.08
Clearance Time (s)		5.0	5.0	5.0	5.0			3.0	4.0			3.0
Vehicle Extension (s)		2.0	2.0	2.0	2.0			2.0	2.0			2.0
Lane Grp Cap (vph)		37	33	300	594			93	2843			132
v/s Ratio Prot		c0.00		0.16	c0.39			c0.57	0.04			0.10
v/s Ratio Perm			0.00						c0.35			
v/c Ratio		0.22	0.01	0.88	2.09			8.67	7.48dl			1.30
Uniform Delay, d1		50.9	50.6	41.8	43.0			49.5	12.8			49.0
Progression Factor		1.00	1.00	1.00	1.00			1.00	1.00			1.18
Incremental Delay, d2		1.1	0.0	23.1	494.2			3471.7	0.4			174.9
Delay (s)		52.0	50.7	64.9	537.2			3521.2	13.1			232.5
Level of Service		D	D	E	F			F	B			F
Approach Delay (s)		51.3			459.3				1087.8			
Approach LOS		D			F				F			

Intersection Summary			
HCM 2000 Control Delay	591.2	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.57		
Actuated Cycle Length (s)	106.0	Sum of lost time (s)	17.0
Intersection Capacity Utilization	117.8%	ICU Level of Service	H
Analysis Period (min)	15		
dl Defacto Left Lane. Recode with 1 though lane as a left lane.			
dr Defacto Right Lane. Recode with 1 though lane as a right lane.			
c Critical Lane Group			

Movement	SBT	SBR
Lane Configurations		
Traffic Volume (vph)	993	764
Future Volume (vph)	993	764
Ideal Flow (vphpl)	1900	1900
Total Lost time (s)	4.0	4.0
Lane Util. Factor	0.81	0.81
Frpb, ped/bikes	0.99	0.98
Flpb, ped/bikes	1.00	1.00
Frt	0.96	0.85
Flt Protected	1.00	1.00
Satd. Flow (prot)	5699	1247
Flt Permitted	1.00	1.00
Satd. Flow (perm)	5699	1247
Peak-hour factor, PHF	1.00	1.00
Adj. Flow (vph)	993	764
RTOR Reduction (vph)	42	167
Lane Group Flow (vph)	1333	215
Confl. Peds. (#/hr)		3
Confl. Bikes (#/hr)		
Heavy Vehicles (%)	3%	3%
Turn Type	NA	Perm
Protected Phases	2	
Permitted Phases		2
Actuated Green, G (s)	59.6	59.6
Effective Green, g (s)	59.6	59.6
Actuated g/C Ratio	0.56	0.56
Clearance Time (s)	4.0	4.0
Vehicle Extension (s)	2.0	2.0
Lane Grp Cap (vph)	3204	701
v/s Ratio Prot	0.23	
v/s Ratio Perm		0.17
v/c Ratio	0.42	0.31
Uniform Delay, d1	13.3	12.3
Progression Factor	0.59	0.76
Incremental Delay, d2	0.4	1.0
Delay (s)	8.3	10.4
Level of Service	A	B
Approach Delay (s)	28.6	
Approach LOS	C	

Intersection Summary

Intersection	
Int Delay, s/veh	0.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Lane Configurations														
Traffic Vol, veh/h	4	0	7	1	0	5	22	4	1563	5	10	3	1919	2
Future Vol, veh/h	4	0	7	1	0	5	22	4	1563	5	10	3	1919	2
Conflicting Peds, #/hr	0	0	1	1	0	0	0	2	0	22	0	22	0	2
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	-	None	-	-	-	None
Storage Length	-	-	-	-	-	-	-	70	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	-	0	-	-	-	0	-
Grade, %	-	0	-	-	0	-	-	-	0	-	-	-	0	-
Peak Hour Factor	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	4	0	7	1	0	5	22	4	1563	5	10	3	1919	2

Major/Minor	Minor2			Minor1			Major1				Major2			
Conflicting Flow All	2625	3590	964	2435	3589	806	1402	1923	0	0	1145	1590	0	0
Stage 1	1948	1948	-	1640	1640	-	-	-	-	-	-	-	-	-
Stage 2	677	1642	-	795	1949	-	-	-	-	-	-	-	-	-
Critical Hdwy	6.46	6.56	7.16	6.46	6.56	7.16	5.66	5.36	-	-	5.66	5.36	-	-
Critical Hdwy Stg 1	7.36	5.56	-	7.36	5.56	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.76	5.56	-	6.76	5.56	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	3.83	4.03	3.93	3.83	4.03	3.93	2.33	3.13	-	-	2.33	3.13	-	-
Pot Cap-1 Maneuver	25	5	218	33	5	277	259	135	-	-	362	199	-	-
Stage 1	42	108	-	70	155	-	-	-	-	-	-	-	-	-
Stage 2	370	155	-	313	108	-	-	-	-	-	-	-	-	-
Platoon blocked, %									-	-			-	-
Mov Cap-1 Maneuver	22	4	217	28	4	271	222	222	-	-	298	298	-	-
Mov Cap-2 Maneuver	22	4	-	28	4	-	-	-	-	-	-	-	-	-
Stage 1	37	108	-	60	134	-	-	-	-	-	-	-	-	-
Stage 2	321	134	-	303	108	-	-	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	94	39.3	0.4	0.1
HCM LOS	F	E		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	222	-	-	51	111	298	-	-
HCM Lane V/C Ratio	0.117	-	-	0.216	0.054	0.01	-	-
HCM Control Delay (s)	23.4	-	-	94	39.3	17.6	0	-
HCM Lane LOS	C	-	-	F	E	C	A	-
HCM 95th %tile Q(veh)	0.4	-	-	0.7	0.2	0	-	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL
Lane Configurations												
Traffic Volume (vph)	8	0	10	162	4	82	58	6	1380	123	4	99
Future Volume (vph)	8	0	10	162	4	82	58	6	1380	123	4	99
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	12	16	12	12	12	12	12	12	12
Total Lost time (s)		5.0			5.0			3.0	4.0			3.0
Lane Util. Factor		1.00			1.00			1.00	0.86			1.00
Frpb, ped/bikes		0.98			1.00			1.00	1.00			1.00
Flpb, ped/bikes		1.00			0.98			1.00	1.00			1.00
Frt		0.93			0.96			1.00	0.99			1.00
Flt Protected		0.98			0.97			0.95	1.00			0.95
Satd. Flow (prot)		1634			1902			1752	6256			1752
Flt Permitted		0.88			0.79			0.95	1.00			0.95
Satd. Flow (perm)		1478			1555			1752	6256			1752
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	8	0	10	162	4	82	58	6	1380	123	4	99
RTOR Reduction (vph)	0	15	0	0	19	0	0	0	10	0	0	0
Lane Group Flow (vph)	0	3	0	0	229	0	0	64	1493	0	0	103
Confl. Peds. (#/hr)			24	24				13				
Confl. Bikes (#/hr)										4		
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%
Turn Type	Perm	NA		Perm	NA		Prot	Prot	NA		Prot	Prot
Protected Phases		3			3		5	5	2		1	1
Permitted Phases	3			3								
Actuated Green, G (s)		19.9			19.9			7.3	63.5			10.6
Effective Green, g (s)		19.9			19.9			7.3	63.5			10.6
Actuated g/C Ratio		0.19			0.19			0.07	0.60			0.10
Clearance Time (s)		5.0			5.0			3.0	4.0			3.0
Vehicle Extension (s)		2.0			2.0			2.0	2.0			2.0
Lane Grp Cap (vph)		277			291			120	3747			175
v/s Ratio Prot								0.04	0.24			c0.06
v/s Ratio Perm		0.00			c0.15							
v/c Ratio		0.01			0.79			0.53	0.40			0.59
Uniform Delay, d1		35.0			41.0			47.7	11.2			45.6
Progression Factor		1.00			1.00			1.09	0.83			1.00
Incremental Delay, d2		0.0			12.2			0.2	0.0			3.2
Delay (s)		35.1			53.3			52.0	9.3			48.9
Level of Service		D			D			D	A			D
Approach Delay (s)		35.1			53.3				11.1			
Approach LOS		D			D				B			

Intersection Summary			
HCM 2000 Control Delay	14.7	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.53		
Actuated Cycle Length (s)	106.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	60.6%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	SBT	SBR
Lane Configurations		
Traffic Volume (vph)	1704	3
Future Volume (vph)	1704	3
Ideal Flow (vphpl)	1900	1900
Lane Width	12	12
Total Lost time (s)	4.0	
Lane Util. Factor	0.86	
Frpb, ped/bikes	1.00	
Flpb, ped/bikes	1.00	
Frt	1.00	
Flt Protected	1.00	
Satd. Flow (prot)	6343	
Flt Permitted	1.00	
Satd. Flow (perm)	6343	
Peak-hour factor, PHF	1.00	1.00
Adj. Flow (vph)	1704	3
RTOR Reduction (vph)	0	0
Lane Group Flow (vph)	1707	0
Confl. Peds. (#/hr)		13
Confl. Bikes (#/hr)		
Heavy Vehicles (%)	3%	3%
Turn Type	NA	
Protected Phases	6	
Permitted Phases		
Actuated Green, G (s)	66.8	
Effective Green, g (s)	66.8	
Actuated g/C Ratio	0.63	
Clearance Time (s)	4.0	
Vehicle Extension (s)	2.0	
Lane Grp Cap (vph)	3997	
v/s Ratio Prot	c0.27	
v/s Ratio Perm		
v/c Ratio	0.43	
Uniform Delay, d1	9.9	
Progression Factor	1.00	
Incremental Delay, d2	0.3	
Delay (s)	10.3	
Level of Service	B	
Approach Delay (s)	12.4	
Approach LOS	B	

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL
Lane Configurations												
Traffic Volume (vph)	0	0	1	204	600	463	26	1282	708	77	35	192
Future Volume (vph)	0	0	1	204	600	463	26	1282	708	77	35	192
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0		5.0	5.0			3.0	4.0			3.0
Lane Util. Factor		0.95		0.91	0.91			0.81	0.81			1.00
Frpb, ped/bikes		1.00		1.00	1.00			1.00	1.00			1.00
Flpb, ped/bikes		1.00		1.00	1.00			1.00	1.00			1.00
Frt		0.85		1.00	0.94			1.00	0.99			1.00
Flt Protected		1.00		0.95	1.00			0.95	0.98			0.95
Satd. Flow (prot)		1519		1626	3201			1448	5903			1787
Flt Permitted		1.00		0.95	1.00			0.95	0.74			0.95
Satd. Flow (perm)		1519		1626	3201			1448	4494			1787
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	0	0	1	204	600	463	26	1282	708	77	35	192
RTOR Reduction (vph)	0	1	0	0	119	0	0	0	4	0	0	0
Lane Group Flow (vph)	0	0	0	184	964	0	0	654	1435	0	0	227
Confl. Peds. (#/hr)								1		2		2
Turn Type		NA	Perm	Split	NA		Prot	Prot	NA		Prot	Prot
Protected Phases	3	3		4	4		1	1	6		5	5
Permitted Phases	3		3									
Actuated Green, G (s)		1.0		20.0	20.0			7.0	67.0			8.0
Effective Green, g (s)		1.0		20.0	20.0			7.0	67.0			8.0
Actuated g/C Ratio		0.01		0.19	0.19			0.07	0.63			0.08
Clearance Time (s)		5.0		5.0	5.0			3.0	4.0			3.0
Vehicle Extension (s)		2.0		2.0	2.0			2.0	2.0			2.0
Lane Grp Cap (vph)		14		306	603			95	2933			134
v/s Ratio Prot		c0.00		0.11	c0.30			c0.45	0.03			0.13
v/s Ratio Perm									c0.28			
v/c Ratio		0.00		0.60	1.60			6.88	6.17dl			1.69
Uniform Delay, d1		52.0		39.4	43.0			49.5	10.4			49.0
Progression Factor		1.00		1.00	1.00			1.00	1.00			1.09
Incremental Delay, d2		0.0		2.3	277.0			2669.9	0.0			340.7
Delay (s)		52.0		41.6	320.0			2719.4	10.4			394.0
Level of Service		D		D	F			F	B			F
Approach Delay (s)		52.0			279.5				856.9			
Approach LOS		D			F				F			

Intersection Summary			
HCM 2000 Control Delay	444.5	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.23		
Actuated Cycle Length (s)	106.0	Sum of lost time (s)	17.0
Intersection Capacity Utilization	96.2%	ICU Level of Service	F
Analysis Period (min)	15		

dl Defacto Left Lane. Recode with 1 though lane as a left lane.

c Critical Lane Group

Movement	SBT	SBR
Lane Configurations		
Traffic Volume (vph)	868	602
Future Volume (vph)	868	602
Ideal Flow (vphpl)	1900	1900
Total Lost time (s)	4.0	4.0
Lane Util. Factor	0.81	0.81
Frpb, ped/bikes	1.00	0.99
Flpb, ped/bikes	1.00	1.00
Frt	0.96	0.85
Flt Protected	1.00	1.00
Satd. Flow (prot)	5838	1277
Flt Permitted	1.00	1.00
Satd. Flow (perm)	5838	1277
Peak-hour factor, PHF	1.00	1.00
Adj. Flow (vph)	868	602
RTOR Reduction (vph)	37	128
Lane Group Flow (vph)	1132	173
Confl. Peds. (#/hr)		1
Turn Type	NA	Perm
Protected Phases	2	
Permitted Phases		2
Actuated Green, G (s)	61.0	61.0
Effective Green, g (s)	61.0	61.0
Actuated g/C Ratio	0.58	0.58
Clearance Time (s)	4.0	4.0
Vehicle Extension (s)	2.0	2.0
Lane Grp Cap (vph)	3359	734
v/s Ratio Prot	0.19	
v/s Ratio Perm		0.14
v/c Ratio	0.34	0.24
Uniform Delay, d1	11.9	11.1
Progression Factor	0.65	0.41
Incremental Delay, d2	0.3	0.7
Delay (s)	8.0	5.2
Level of Service	A	A
Approach Delay (s)	59.1	
Approach LOS	E	

Intersection Summary

Intersection	
Int Delay, s/veh	1.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Lane Configurations														
Traffic Vol, veh/h	1	0	4	1	0	1	13	7	1196	3	9	2	1637	5
Future Vol, veh/h	1	0	4	1	0	1	13	7	1196	3	9	2	1637	5
Conflicting Peds, #/hr	1	0	0	0	0	1	0	3	0	0	0	0	0	3
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	-	None	-	-	-	None
Storage Length	-	-	-	-	-	-	-	70	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	-	0	-	-	-	0	-
Grade, %	-	0	-	-	0	-	-	-	0	-	-	-	0	-
Peak Hour Factor	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Heavy Vehicles, %	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Mvmt Flow	1	0	4	1	0	1	13	7	1196	3	9	2	1637	5

Major/Minor	Minor2			Minor1			Major1				Major2			
Conflicting Flow All	2184	2904	824	1915	2905	601	1199	1645	0	0	875	1199	0	0
Stage 1	1665	1665	-	1238	1238	-	-	-	-	-	-	-	-	-
Stage 2	519	1239	-	677	1667	-	-	-	-	-	-	-	-	-
Critical Hdwy	6.42	6.52	7.12	6.42	6.52	7.12	5.62	5.32	-	-	5.62	5.32	-	-
Critical Hdwy Stg 1	7.32	5.52	-	7.32	5.52	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.72	5.52	-	6.72	5.52	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	3.81	4.01	3.91	3.81	4.01	3.91	2.31	3.11	-	-	2.31	3.11	-	-
Pot Cap-1 Maneuver	49	16	273	73	16	382	344	191	-	-	520	316	-	-
Stage 1	68	154	-	137	248	-	-	-	-	-	-	-	-	-
Stage 2	466	248	-	374	153	-	-	-	-	-	-	-	-	-
Platoon blocked, %									-	-			-	-
Mov Cap-1 Maneuver	36	11	272	54	11	382	266	266	-	-	465	465	-	-
Mov Cap-2 Maneuver	36	11	-	54	11	-	-	-	-	-	-	-	-	-
Stage 1	63	112	-	127	229	-	-	-	-	-	-	-	-	-
Stage 2	429	229	-	269	111	-	-	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	36.9	43.7	0.3	2.4
HCM LOS	E	E		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	266	-	-	118	95	465	-	-
HCM Lane V/C Ratio	0.075	-	-	0.042	0.021	0.004	-	-
HCM Control Delay (s)	19.6	-	-	36.9	43.7	12.9	2.3	-
HCM Lane LOS	C	-	-	E	E	B	A	-
HCM 95th %tile Q(veh)	0.2	-	-	0.1	0.1	0	-	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL
Lane Configurations												
Traffic Volume (vph)	3	1	1	240	0	97	30	2	1004	207	3	102
Future Volume (vph)	3	1	1	240	0	97	30	2	1004	207	3	102
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	12	16	12	12	12	12	12	12	12
Total Lost time (s)		5.0			5.0			3.0	4.0			3.0
Lane Util. Factor		1.00			1.00			1.00	0.86			1.00
Frpb, ped/bikes		0.99			1.00			1.00	1.00			1.00
Flpb, ped/bikes		1.00			0.99			1.00	1.00			1.00
Frt		0.97			0.96			1.00	0.97			1.00
Flt Protected		0.97			0.97			0.95	1.00			0.95
Satd. Flow (prot)		1767			1957			1787	6283			1787
Flt Permitted		0.89			0.79			0.95	1.00			0.95
Satd. Flow (perm)		1624			1593			1787	6283			1787
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	3	1	1	240	0	97	30	2	1004	207	3	102
RTOR Reduction (vph)	0	1	0	0	32	0	0	0	29	0	0	0
Lane Group Flow (vph)	0	4	0	0	305	0	0	32	1182	0	0	105
Confl. Peds. (#/hr)			14	14				14		1		1
Turn Type	Perm	NA		Perm	NA		Prot	Prot	NA		Prot	Prot
Protected Phases		3			3		5	5	2		1	1
Permitted Phases	3			3								
Actuated Green, G (s)		23.7			23.7			4.5	59.7			10.6
Effective Green, g (s)		23.7			23.7			4.5	59.7			10.6
Actuated g/C Ratio		0.22			0.22			0.04	0.56			0.10
Clearance Time (s)		5.0			5.0			3.0	4.0			3.0
Vehicle Extension (s)		2.0			2.0			2.0	2.0			2.0
Lane Grp Cap (vph)		363			356			75	3538			178
v/s Ratio Prot								0.02	0.19			c0.06
v/s Ratio Perm		0.00			c0.19							
v/c Ratio		0.01			0.86			0.43	0.33			0.59
Uniform Delay, d1		32.0			39.5			49.5	12.5			45.6
Progression Factor		1.00			1.00			1.07	0.83			1.00
Incremental Delay, d2		0.0			17.4			0.1	0.0			3.2
Delay (s)		32.0			57.0			53.0	10.3			48.8
Level of Service		C			E			D	B			D
Approach Delay (s)		32.0			57.0				11.4			
Approach LOS		C			E				B			

Intersection Summary			
HCM 2000 Control Delay	17.1	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.51		
Actuated Cycle Length (s)	106.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	59.7%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	SBT	SBR
Lane Configurations		
Traffic Volume (vph)	1379	2
Future Volume (vph)	1379	2
Ideal Flow (vphpl)	1900	1900
Lane Width	12	12
Total Lost time (s)	4.0	
Lane Util. Factor	0.86	
Frpb, ped/bikes	1.00	
Flpb, ped/bikes	1.00	
Frt	1.00	
Flt Protected	1.00	
Satd. Flow (prot)	6469	
Flt Permitted	1.00	
Satd. Flow (perm)	6469	
Peak-hour factor, PHF	1.00	1.00
Adj. Flow (vph)	1379	2
RTOR Reduction (vph)	0	0
Lane Group Flow (vph)	1381	0
Confl. Peds. (#/hr)		14
Turn Type	NA	
Protected Phases	6	
Permitted Phases		
Actuated Green, G (s)	65.8	
Effective Green, g (s)	65.8	
Actuated g/C Ratio	0.62	
Clearance Time (s)	4.0	
Vehicle Extension (s)	2.0	
Lane Grp Cap (vph)	4015	
v/s Ratio Prot	c0.21	
v/s Ratio Perm		
v/c Ratio	0.34	
Uniform Delay, d1	9.7	
Progression Factor	1.00	
Incremental Delay, d2	0.2	
Delay (s)	9.9	
Level of Service	A	
Approach Delay (s)	12.7	
Approach LOS	B	

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL
Lane Configurations												
Traffic Volume (vph)	4	4	13	292	766	537	14	1585	919	113	43	132
Future Volume (vph)	4	4	13	292	766	537	14	1585	919	113	43	132
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0	5.0	5.0	5.0			3.0	4.0			3.0
Lane Util. Factor		0.95	0.95	0.91	0.91			0.97	0.91			1.00
Frpb, ped/bikes		1.00	1.00	1.00	1.00			1.00	1.00			1.00
Flpb, ped/bikes		1.00	1.00	1.00	1.00			1.00	1.00			1.00
Frt		0.96	0.85	1.00	0.94			1.00	0.98			1.00
Flt Protected		0.98	1.00	0.95	1.00			0.95	1.00			0.95
Satd. Flow (prot)		1651	1490	1595	3151			3400	4934			1752
Flt Permitted		0.98	1.00	0.95	1.00			0.95	1.00			0.95
Satd. Flow (perm)		1651	1490	1595	3151			3400	4934			1752
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	4	4	13	292	766	537	14	1585	919	113	43	132
RTOR Reduction (vph)	0	3	10	0	94	0	0	0	12	0	0	0
Lane Group Flow (vph)	0	8	0	263	1238	0	0	1599	1020	0	0	175
Confl. Peds. (#/hr)								3		4		4
Confl. Bikes (#/hr)										1		
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%
Turn Type	Split	NA	Perm	Split	NA		Prot	Prot	NA		Prot	Prot
Protected Phases	3	3		4	4		1	1	6		5	5
Permitted Phases			3									
Actuated Green, G (s)		2.0	2.0	32.0	32.0			37.0	40.1			14.9
Effective Green, g (s)		2.0	2.0	32.0	32.0			37.0	40.1			14.9
Actuated g/C Ratio		0.02	0.02	0.30	0.30			0.35	0.38			0.14
Clearance Time (s)		5.0	5.0	5.0	5.0			3.0	4.0			3.0
Vehicle Extension (s)		2.0	2.0	2.0	2.0			2.0	2.0			2.0
Lane Grp Cap (vph)		31	28	481	951			1186	1866			246
v/s Ratio Prot		c0.00		0.16	c0.39			c0.47	0.21			0.10
v/s Ratio Perm			0.00									
v/c Ratio		0.26	0.01	0.55	1.30			1.35	0.55			0.71
Uniform Delay, d1		51.3	51.0	30.9	37.0			34.5	25.8			43.5
Progression Factor		1.00	1.00	1.00	1.00			1.00	1.00			1.24
Incremental Delay, d2		1.6	0.0	0.7	143.7			162.4	1.2			7.3
Delay (s)		52.9	51.1	31.6	180.7			196.9	27.0			61.3
Level of Service		D	D	C	F			F	C			E
Approach Delay (s)		52.0			156.1				130.2			
Approach LOS		D			F				F			

Intersection Summary			
HCM 2000 Control Delay	154.4	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.31		
Actuated Cycle Length (s)	106.0	Sum of lost time (s)	17.0
Intersection Capacity Utilization	119.6%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Movement	SBT	SBR
Lane Configurations		
Traffic Volume (vph)	993	764
Future Volume (vph)	993	764
Ideal Flow (vphpl)	1900	1900
Total Lost time (s)	4.0	4.0
Lane Util. Factor	0.81	0.81
Frpb, ped/bikes	0.99	0.98
Flpb, ped/bikes	1.00	1.00
Frt	0.96	0.85
Flt Protected	1.00	1.00
Satd. Flow (prot)	5699	1247
Flt Permitted	1.00	1.00
Satd. Flow (perm)	5699	1247
Peak-hour factor, PHF	1.00	1.00
Adj. Flow (vph)	993	764
RTOR Reduction (vph)	63	111
Lane Group Flow (vph)	1312	271
Confl. Peds. (#/hr)		3
Confl. Bikes (#/hr)		
Heavy Vehicles (%)	3%	3%
Turn Type	NA	Perm
Protected Phases	2	
Permitted Phases		2
Actuated Green, G (s)	18.0	18.0
Effective Green, g (s)	18.0	18.0
Actuated g/C Ratio	0.17	0.17
Clearance Time (s)	4.0	4.0
Vehicle Extension (s)	2.0	2.0
Lane Grp Cap (vph)	967	211
v/s Ratio Prot	c0.23	
v/s Ratio Perm		0.22
v/c Ratio	1.36	1.28
Uniform Delay, d1	44.0	44.0
Progression Factor	0.82	0.69
Incremental Delay, d2	166.8	156.5
Delay (s)	203.0	186.9
Level of Service	F	F
Approach Delay (s)	187.0	
Approach LOS	F	

Intersection Summary

Intersection	
Int Delay, s/veh	0.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Lane Configurations														
Traffic Vol, veh/h	0	0	11	1	0	5	22	4	1567	5	10	3	1919	2
Future Vol, veh/h	0	0	11	1	0	5	22	4	1567	5	10	3	1919	2
Conflicting Peds, #/hr	0	0	1	1	0	0	0	2	0	22	0	22	0	2
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	-	None	-	-	-	None
Storage Length	-	-	0	-	-	-	-	70	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	-	0	-	-	-	0	-
Grade, %	-	0	-	-	0	-	-	-	0	-	-	-	0	-
Peak Hour Factor	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	0	0	11	1	0	5	22	4	1567	5	10	3	1919	2

Major/Minor	Minor2			Minor1			Major1				Major2			
Conflicting Flow All	-	-	964	2439	3593	808	1402	1923	0	0	1148	1594	0	0
Stage 1	-	-	-	1644	1644	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	795	1949	-	-	-	-	-	-	-	-	-
Critical Hdwy	-	-	7.16	6.46	6.56	7.16	5.66	5.36	-	-	5.66	5.36	-	-
Critical Hdwy Stg 1	-	-	-	7.36	5.56	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	6.76	5.56	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	-	-	3.93	3.83	4.03	3.93	2.33	3.13	-	-	2.33	3.13	-	-
Pot Cap-1 Maneuver	0	0	218	33	5	276	259	135	-	-	360	198	-	-
Stage 1	0	0	-	69	154	-	-	-	-	-	-	-	-	-
Stage 2	0	0	-	313	108	-	-	-	-	-	-	-	-	-
Platoon blocked, %									-	-			-	-
Mov Cap-1 Maneuver	-	-	217	28	4	270	218	218	-	-	297	297	-	-
Mov Cap-2 Maneuver	-	-	-	28	4	-	-	-	-	-	-	-	-	-
Stage 1	-	-	-	59	133	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	297	108	-	-	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	22.5	39.3	0.4	0.1
HCM LOS	C	E		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	218	-	-	217	111	297	-	-
HCM Lane V/C Ratio	0.119	-	-	0.051	0.054	0.01	-	-
HCM Control Delay (s)	23.7	-	-	22.5	39.3	17.7	0	-
HCM Lane LOS	C	-	-	C	E	C	A	-
HCM 95th %tile Q(veh)	0.4	-	-	0.2	0.2	0	-	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL
Lane Configurations												
Traffic Volume (vph)	8	0	10	162	4	82	58	6	1380	123	4	99
Future Volume (vph)	8	0	10	162	4	82	58	6	1380	123	4	99
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	12	16	12	12	12	12	12	12	12
Total Lost time (s)		5.0			5.0			3.0	4.0			3.0
Lane Util. Factor		1.00			1.00			1.00	0.86			1.00
Frpb, ped/bikes		0.98			1.00			1.00	1.00			1.00
Flpb, ped/bikes		1.00			0.98			1.00	1.00			1.00
Frt		0.93			0.96			1.00	0.99			1.00
Flt Protected		0.98			0.97			0.95	1.00			0.95
Satd. Flow (prot)		1634			1902			1752	6256			1752
Flt Permitted		0.88			0.79			0.95	1.00			0.95
Satd. Flow (perm)		1478			1555			1752	6256			1752
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	8	0	10	162	4	82	58	6	1380	123	4	99
RTOR Reduction (vph)	0	15	0	0	19	0	0	0	10	0	0	0
Lane Group Flow (vph)	0	3	0	0	229	0	0	64	1493	0	0	103
Confl. Peds. (#/hr)			24	24				13				
Confl. Bikes (#/hr)										4		
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%
Turn Type	Perm	NA		Perm	NA		Prot	Prot	NA		Prot	Prot
Protected Phases		3			3		5	5	2		1	1
Permitted Phases	3			3								
Actuated Green, G (s)		19.9			19.9			7.3	63.5			10.6
Effective Green, g (s)		19.9			19.9			7.3	63.5			10.6
Actuated g/C Ratio		0.19			0.19			0.07	0.60			0.10
Clearance Time (s)		5.0			5.0			3.0	4.0			3.0
Vehicle Extension (s)		2.0			2.0			2.0	2.0			2.0
Lane Grp Cap (vph)		277			291			120	3747			175
v/s Ratio Prot								0.04	0.24			c0.06
v/s Ratio Perm		0.00			c0.15							
v/c Ratio		0.01			0.79			0.53	0.40			0.59
Uniform Delay, d1		35.0			41.0			47.7	11.2			45.6
Progression Factor		1.00			1.00			1.02	0.74			1.00
Incremental Delay, d2		0.0			12.2			1.5	0.2			3.2
Delay (s)		35.1			53.3			50.3	8.5			48.9
Level of Service		D			D			D	A			D
Approach Delay (s)		35.1			53.3				10.2			
Approach LOS		D			D				B			

Intersection Summary			
HCM 2000 Control Delay	14.4	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.53		
Actuated Cycle Length (s)	106.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	60.6%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	SBT	SBR
Lane Configurations		
Traffic Volume (vph)	1704	3
Future Volume (vph)	1704	3
Ideal Flow (vphpl)	1900	1900
Lane Width	12	12
Total Lost time (s)	4.0	
Lane Util. Factor	0.86	
Frpb, ped/bikes	1.00	
Flpb, ped/bikes	1.00	
Frt	1.00	
Flt Protected	1.00	
Satd. Flow (prot)	6343	
Flt Permitted	1.00	
Satd. Flow (perm)	6343	
Peak-hour factor, PHF	1.00	1.00
Adj. Flow (vph)	1704	3
RTOR Reduction (vph)	0	0
Lane Group Flow (vph)	1707	0
Confl. Peds. (#/hr)		13
Confl. Bikes (#/hr)		
Heavy Vehicles (%)	3%	3%
Turn Type	NA	
Protected Phases	6	
Permitted Phases		
Actuated Green, G (s)	66.8	
Effective Green, g (s)	66.8	
Actuated g/C Ratio	0.63	
Clearance Time (s)	4.0	
Vehicle Extension (s)	2.0	
Lane Grp Cap (vph)	3997	
v/s Ratio Prot	c0.27	
v/s Ratio Perm		
v/c Ratio	0.43	
Uniform Delay, d1	9.9	
Progression Factor	1.00	
Incremental Delay, d2	0.3	
Delay (s)	10.3	
Level of Service	B	
Approach Delay (s)	12.4	
Approach LOS	B	

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL
Lane Configurations												
Traffic Volume (vph)	0	0	1	204	600	463	26	1282	708	77	36	192
Future Volume (vph)	0	0	1	204	600	463	26	1282	708	77	36	192
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0		5.0	5.0			3.0	4.0			3.0
Lane Util. Factor		0.95		0.91	0.91			0.97	0.91			1.00
Frpb, ped/bikes		1.00		1.00	1.00			1.00	1.00			1.00
Flpb, ped/bikes		1.00		1.00	1.00			1.00	1.00			1.00
Frt		0.85		1.00	0.94			1.00	0.99			1.00
Flt Protected		1.00		0.95	1.00			0.95	1.00			0.95
Satd. Flow (prot)		1519		1626	3201			3467	5047			1787
Flt Permitted		1.00		0.95	1.00			0.95	1.00			0.95
Satd. Flow (perm)		1519		1626	3201			3467	5047			1787
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	0	0	1	204	600	463	26	1282	708	77	36	192
RTOR Reduction (vph)	0	1	0	0	119	0	0	0	11	0	0	0
Lane Group Flow (vph)	0	0	0	184	964	0	0	1308	774	0	0	228
Confl. Peds. (#/hr)								1		2		2
Turn Type		NA	Perm	Split	NA		Prot	Prot	NA		Prot	Prot
Protected Phases	3	3		4	4		1	1	6		5	5
Permitted Phases	3		3									
Actuated Green, G (s)		1.0		32.0	32.0			37.0	38.7			17.3
Effective Green, g (s)		1.0		32.0	32.0			37.0	38.7			17.3
Actuated g/C Ratio		0.01		0.30	0.30			0.35	0.37			0.16
Clearance Time (s)		5.0		5.0	5.0			3.0	4.0			3.0
Vehicle Extension (s)		2.0		2.0	2.0			2.0	2.0			2.0
Lane Grp Cap (vph)		14		490	966			1210	1842			291
v/s Ratio Prot		c0.00		0.11	c0.30			c0.38	0.15			0.13
v/s Ratio Perm												
v/c Ratio		0.00		0.38	1.00			1.08	0.42			0.78
Uniform Delay, d1		52.0		29.1	37.0			34.5	25.2			42.6
Progression Factor		1.00		1.00	1.00			1.00	1.00			1.19
Incremental Delay, d2		0.0		0.2	28.1			50.7	0.7			11.5
Delay (s)		52.0		29.3	65.1			85.2	25.9			62.0
Level of Service		D		C	E			F	C			E
Approach Delay (s)		52.0			59.9				63.0			
Approach LOS		D			E				E			

Intersection Summary			
HCM 2000 Control Delay	65.7	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.03		
Actuated Cycle Length (s)	106.0	Sum of lost time (s)	17.0
Intersection Capacity Utilization	98.0%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

Movement	SBT	SBR
Lane Configurations		
Traffic Volume (vph)	868	602
Future Volume (vph)	868	602
Ideal Flow (vphpl)	1900	1900
Total Lost time (s)	4.0	4.0
Lane Util. Factor	0.81	0.81
Frpb, ped/bikes	1.00	0.99
Flpb, ped/bikes	1.00	1.00
Frt	0.96	0.85
Flt Protected	1.00	1.00
Satd. Flow (prot)	5838	1277
Flt Permitted	1.00	1.00
Satd. Flow (perm)	5838	1277
Peak-hour factor, PHF	1.00	1.00
Adj. Flow (vph)	868	602
RTOR Reduction (vph)	57	110
Lane Group Flow (vph)	1112	191
Confl. Peds. (#/hr)		1
Turn Type	NA	Perm
Protected Phases	2	
Permitted Phases		2
Actuated Green, G (s)	19.0	19.0
Effective Green, g (s)	19.0	19.0
Actuated g/C Ratio	0.18	0.18
Clearance Time (s)	4.0	4.0
Vehicle Extension (s)	2.0	2.0
Lane Grp Cap (vph)	1046	228
v/s Ratio Prot	c0.19	
v/s Ratio Perm		0.15
v/c Ratio	1.06	0.84
Uniform Delay, d1	43.5	42.0
Progression Factor	0.81	0.61
Incremental Delay, d2	45.7	28.1
Delay (s)	80.8	53.8
Level of Service	F	D
Approach Delay (s)	73.5	
Approach LOS	E	

Intersection Summary

Intersection	
Int Delay, s/veh	1.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Lane Configurations														
Traffic Vol, veh/h	0	0	5	1	0	1	13	7	1197	3	9	2	1637	5
Future Vol, veh/h	0	0	5	1	0	1	13	7	1197	3	9	2	1637	5
Conflicting Peds, #/hr	1	0	0	0	0	1	0	3	0	0	0	0	0	3
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	-	None	-	-	-	None
Storage Length	-	-	0	-	-	-	-	70	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	-	0	-	-	-	0	-
Grade, %	-	0	-	-	0	-	-	-	0	-	-	-	0	-
Peak Hour Factor	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Heavy Vehicles, %	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Mvmt Flow	0	0	5	1	0	1	13	7	1197	3	9	2	1637	5

Major/Minor	Minor2			Minor1			Major1				Major2			
Conflicting Flow All	-	-	824	1916	2906	601	1199	1645	0	0	876	1200	0	0
Stage 1	-	-	-	1239	1239	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	677	1667	-	-	-	-	-	-	-	-	-
Critical Hdwy	-	-	7.12	6.42	6.52	7.12	5.62	5.32	-	-	5.62	5.32	-	-
Critical Hdwy Stg 1	-	-	-	7.32	5.52	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	6.72	5.52	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	-	-	3.91	3.81	4.01	3.91	2.31	3.11	-	-	2.31	3.11	-	-
Pot Cap-1 Maneuver	0	0	273	72	16	382	344	191	-	-	519	316	-	-
Stage 1	0	0	-	137	248	-	-	-	-	-	-	-	-	-
Stage 2	0	0	-	374	153	-	-	-	-	-	-	-	-	-
Platoon blocked, %									-	-			-	-
Mov Cap-1 Maneuver	-	-	272	53	11	382	266	266	-	-	464	464	-	-
Mov Cap-2 Maneuver	-	-	-	53	11	-	-	-	-	-	-	-	-	-
Stage 1	-	-	-	127	229	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	267	111	-	-	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	18.5	44.6	0.3	2.4
HCM LOS	C	E		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	266	-	-	272	93	464	-	-
HCM Lane V/C Ratio	0.075	-	-	0.018	0.022	0.004	-	-
HCM Control Delay (s)	19.7	-	-	18.5	44.6	12.9	2.3	-
HCM Lane LOS	C	-	-	C	E	B	A	-
HCM 95th %tile Q(veh)	0.2	-	-	0.1	0.1	0	-	-

HCM Signalized Intersection Capacity Analysis
3: Hegenberger Rd & Baldwin St 02/08/2024

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL
Lane Configurations												
Traffic Volume (vph)	3	1	1	240	0	97	30	2	1004	207	3	102
Future Volume (vph)	3	1	1	240	0	97	30	2	1004	207	3	102
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	12	16	12	12	12	12	12	12	12
Total Lost time (s)		5.0			5.0			3.0	4.0			3.0
Lane Util. Factor		1.00			1.00			1.00	0.86			1.00
Frpb, ped/bikes		0.99			1.00			1.00	1.00			1.00
Flpb, ped/bikes		1.00			0.99			1.00	1.00			1.00
Frt		0.97			0.96			1.00	0.97			1.00
Flt Protected		0.97			0.97			0.95	1.00			0.95
Satd. Flow (prot)		1767			1957			1787	6283			1787
Flt Permitted		0.89			0.79			0.95	1.00			0.95
Satd. Flow (perm)		1625			1593			1787	6283			1787
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	3	1	1	240	0	97	30	2	1004	207	3	102
RTOR Reduction (vph)	0	1	0	0	56	0	0	0	23	0	0	0
Lane Group Flow (vph)	0	4	0	0	281	0	0	32	1188	0	0	105
Confl. Peds. (#/hr)			14	14				14		1		1
Turn Type	Perm	NA		Perm	NA		Prot	Prot	NA		Prot	Prot
Protected Phases		3			3		5	5	2		1	1
Permitted Phases	3			3								
Actuated Green, G (s)		23.3			23.3			4.3	60.1			10.6
Effective Green, g (s)		23.3			23.3			4.3	60.1			10.6
Actuated g/C Ratio		0.22			0.22			0.04	0.57			0.10
Clearance Time (s)		5.0			5.0			3.0	4.0			3.0
Vehicle Extension (s)		2.0			2.0			2.0	2.0			2.0
Lane Grp Cap (vph)		357			350			72	3562			178
v/s Ratio Prot								0.02	0.19			c0.06
v/s Ratio Perm		0.00			c0.18							
v/c Ratio		0.01			0.80			0.44	0.33			0.59
Uniform Delay, d1		32.3			39.2			49.7	12.3			45.6
Progression Factor		1.00			1.00			1.07	0.84			1.00
Incremental Delay, d2		0.0			11.8			1.3	0.2			3.2
Delay (s)		32.3			51.0			54.5	10.5			48.8
Level of Service		C			D			D	B			D
Approach Delay (s)		32.3			51.0				11.7			
Approach LOS		C			D				B			

Intersection Summary			
HCM 2000 Control Delay	16.4	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.49		
Actuated Cycle Length (s)	106.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	59.7%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	SBT	SBR
Lane Configurations		
Traffic Volume (vph)	1379	2
Future Volume (vph)	1379	2
Ideal Flow (vphpl)	1900	1900
Lane Width	12	12
Total Lost time (s)	4.0	
Lane Util. Factor	0.86	
Frpb, ped/bikes	1.00	
Flpb, ped/bikes	1.00	
Frt	1.00	
Flt Protected	1.00	
Satd. Flow (prot)	6469	
Flt Permitted	1.00	
Satd. Flow (perm)	6469	
Peak-hour factor, PHF	1.00	1.00
Adj. Flow (vph)	1379	2
RTOR Reduction (vph)	0	0
Lane Group Flow (vph)	1381	0
Confl. Peds. (#/hr)		14
Turn Type	NA	
Protected Phases	6	
Permitted Phases		
Actuated Green, G (s)	66.4	
Effective Green, g (s)	66.4	
Actuated g/C Ratio	0.63	
Clearance Time (s)	4.0	
Vehicle Extension (s)	2.0	
Lane Grp Cap (vph)	4052	
v/s Ratio Prot	c0.21	
v/s Ratio Perm		
v/c Ratio	0.34	
Uniform Delay, d1	9.4	
Progression Factor	1.00	
Incremental Delay, d2	0.2	
Delay (s)	9.6	
Level of Service	A	
Approach Delay (s)	12.4	
Approach LOS	B	

Intersection Summary