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Project No. 8620192890

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Subject: **Shell Alameda Distribution Center Remediation Project Focused Construction-Related Traffic Impact Analysis**

1.0 Introduction

Wood Environment & Infrastructure Solutions, Inc. (Wood) has prepared this focused construction-related traffic impact analysis to independently evaluate potential transportation impacts associated with the proposed Shell Alameda Distribution Center Remediation Project (Project) in the City of Alameda (City).

The proposed Project involves the demolition of existing pavements, buildings, and other infrastructure (e.g., aboveground storage tanks [ASTs], buried pipelines, and other appurtenances) as well as excavation and removal of contaminated soils and groundwater generated during excavation activities (see Section 3.0, *Project Description*). Upon completion of demolition, excavation, and backfilling, the entire Project site would be cleared of equipment and regraded. No redevelopment or other operational use is considered as a part of the proposed Project.

2.0 Existing Transportation Setting

Regulatory Framework

The Alameda County Transportation Commission (Alameda CTC) serves as the Congestion Management Agency for Alameda County and is responsible for administering the State-mandated Congestion Management Program (CMP), a plan that describes the strategies to assess, monitor, and improve the performance of the County's multi-modal transportation system, address congestion, and protect the environment with strategies that reduce greenhouse gas (GHG) emissions. Alameda CTC is also responsible for preparing the Countywide Transportation Plan (CTP), which establishes a long-range transportation vision for the County and informs the Regional Transportation Plan and Sustainable Communities Strategy (RTP/SCS; *Plan Bay Area 2040*) prepared by the Alameda CTC and Association of Bay Area Governments (ABAG).

Several regional and local multi-modal transit districts serve the Project vicinity. The Alameda-Contra Costa Transit District (AC Transit) oversees the County's public bus transit system, which includes express bus services to several nearby Bay Area Rapid Transit (BART) stations in Oakland. BART is a heavy rail-elevated, surface, and subway system that serves the Bay Area. The San Francisco Bay Ferry provides ferry service to San Francisco (Oracle Park Terminal) and Oakland (Oakland Terminal) at the Alameda Main Street Terminal on Alameda Island and Harbor Bay Terminal on Bay Farm Island. The City of Alameda operates the Alameda Loop Shuttle, which provides access to major shopping destinations and medical facilities on Alameda Island and Bay Farm Island.

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The City is responsible for planning and implementing improvements to the local roadways within its jurisdiction. Applicable programs and plans that are relevant to the Project site and vicinity include: the Transportation Element of the *City of Alameda General Plan* (2009a); *Transportation Choice Plan* (2018); *Bicycle Plan Update* (2010); and the *Pedestrian Master Plan* (2009b). The City also has a designated truck route network, which allows truck traffic on a limited number of streets and only allows use on non-truck routes when it is necessary in order to reach a specific destination (City of Alameda 2009c).

According to *Plan Bay Area 2040*, the Bay Area is ranked as one of the most congested metropolitan areas in the nation. The Bay Area transportation planning agencies, including Alameda CTC, are addressing congestion by operating the existing roadways and transit networks more efficiently by increasing non-auto travel mode share and reducing vehicle miles travelled (VMT)[1] through transit improvements and active transportation modes, such as bicycling and walking. The City of Alameda supports a multi-modal transportation system and works to reduce the impact of vehicle trips on the community through various design and operational features, including a street classification system, modal network overlays, and designated truck routes.

Existing Circulation Network

The existing circulation system on Alameda Island is comprised of a grid of residential arterial roads and streets and a state highway. Regional access to Alameda Island is provided primarily by the interstate freeway system, which is accessible to and from the Project site via Interstate (I-) 880. The main regional arterial of the local road network on the northern portion of Alameda Island includes State Route (SR-) 61. The road network also consists of the Webster and Posey Tubes, Webster Street, Constitution Way, Park Street, Atlantic Avenue/Ralph Appezzato Memorial Parkway, Clement Avenue, Buena Vista Avenue, and Grand Street. Project construction worker and heavy haul truck trips (e.g. dump trucks) would primarily use the designated truck routes to access the Project site (see Figure 1). A description of each road and local street included as part of this network is provided below.

Interstate 880

I-880 is a major north/south interstate highway in the San Francisco Bay. It runs parallel to the San Francisco Bay from SR-17 in San Jose to I-80 and I-580 in Oakland. It connects to Alameda Island at the Park Street Bridge and via the Webster and Posey Tubes. Annual average daily trips (Annual ADT) on I-880 near the Project site at the Oakland Embarcadero is approximately 225,000 Annual ADT and at the junction with I-980, approximately 196,000 Annual ADT (California Department of Transportation [Caltrans] 2019).

State Route 61

SR-61 is an east/west regional arterial that bisects Alameda Island along Central Avenue, Encinal Avenue, Broadway, and Otis Drive before crossing the Bay Farm Island Bridge. SR-61 continues as Doolittle Drive past the Oakland International Airport and into San Leandro. SR-61 includes two travel lanes in each direction and sidewalks on both sides of the street; on-street parallel parking is allowed on both sides of the road. Annual ADT on SR-61 between Broadway and Encinal Avenue is 12,300 vehicles (Caltrans 2019). SR 61 is a designated truck route (City of Alameda 2009c).

[1] Vehicle miles traveled (VMT) is a measure used extensively in transportation planning for a variety of purposes. It measures the amount of travel for all vehicles in a geographic region over a given period of time, typically a one-year period. It is calculated as the sum of the number of miles traveled by each vehicle.

Marina Village Parkway
Constitution Way
Webster Street
(SR 61/SR 260)
Atlantic Avenue
Sherman Street
Oakland
Inner Harbor
880
Buena Vista Avenue
Clement Avenue
Grand Street
Central Avenue (SR 61)
Encinal Avenue (SR 61)
Park Street
Bridge
Park Street
Miller-
Sweeney
Bridge
Tilden Way
Broadway

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Explanation

- Site Boundary
- Designated Truck Route
- Proposed Truck Route

Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

N

0 1,000 Feet

Designated and Proposed Truck Routes
Construction-Related Traffic Impact Analysis
Shell Pennzoil-Quaker State Alameda Distribution Center
2015 Grand Street
Alameda, California

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Webster Street

Webster Street is a north/south roadway identified as a regional arterial (City of Alameda 2009a). It extends between Central Avenue in the south and the City of Oakland in the north, travelling through the Webster and Posey Tubes. Webster Street provides two travel lanes in each direction. Sidewalks are provided on both sides of the street south of Willie Stargell Avenue, and parallel parking is allowed south of Atlantic Avenue. Webster Street connects the Project site to I-880 and downtown Oakland and is a major corridor in and out of Alameda.

Constitution Way

Constitution Way is a north/south regional arterial between the Webster and Posey Tubes in the north and Lincoln Avenue in the south. South of Lincoln Avenue, the road continues as 8th Street. Constitution Way provides two travel lanes in each direction, with left turn lanes at most intersections. Sidewalks are provided on both sides of the street, and on-street parking is prohibited.

Park Street

Park Street is a north/south regional arterial between the Park Street Bridge in the north and Shore Line Drive in the south. Park Street provides two travel lanes in each direction. North of San Jose Avenue, sidewalks are provided on both sides of the street, and on-street parallel parking is allowed. The Park Street Bridge via Clement Avenue and Park Street connects the Project site with Oakland and I-880 and is a major corridor in and out of Alameda. Park Street is a designated truck route (City of Alameda 2009c).

Atlantic Avenue/Ralph Appezzato Memorial Parkway

Atlantic Avenue/Ralph Appezzato Memorial Parkway is an east/west regional arterial between Ferry Point in the west and Wind River Way in the east. South of Wind River Way, the road continues as Sherman Street. The segment between Main and Webster Streets is called Ralph Appezzato Memorial Parkway and continues as West Atlantic Avenue to the west. Atlantic Avenue provides two travel lanes in each direction west of Constitution Way and one travel lane in each direction east of Constitution Way. Atlantic Avenue includes sidewalks and Class II bikeways (bike lanes) on both sides of the street east of Constitution Way. West of Constitution Way, sidewalks are only provided on the north side of the street, and no bikeways are provided. On-street parking is prohibited along the entire street.

Clement Avenue

Clement Avenue is an east/west regional arterial along the northern Alameda waterfront between Grand Street in the west and Broadway in the east. The road intersects the Project site between Fortmann Way and Ellen Crag Avenue. Clement Avenue provides one travel lane in each direction, with sidewalks and on-street parallel parking on both sides of the street.

Photograph 1. *Within the vicinity of the Project site Clement Avenue is a two-lane roadway that ends in a "T"-shaped stop sign controlled intersection with Grand Street.*

Clement Avenue is currently being extended in phases between Grand Street and the eastern end of the planned Jean Sweeney Open Space Park at Atlantic Avenue, and would form an intersection at the boundary between Sherman Street and Atlantic Avenue to the west of the Project site. The Marina Cove and Marina Shores residential developments (situated to the west of the Project site) completed the extension between the Project site and Entrance Road at Encinal Terminals. An additional extension between Entrance Road and Atlantic Avenue

is planned for construction. Once the approximate 250-foot portion through the Project site to Grand Avenue and the westward extension through to Atlantic Avenue are completed, Clement Avenue would provide an alternate route for trucks and vehicles currently using Buena Vista Avenue to the south. Clement Street is a designated truck route (City of Alameda 2009c).

Buena Vista Avenue

Buena Vista Avenue is an east/west collector street between Poggi Street in the west and Northwood Drive in the east. The street is classified as a transitional arterial between Sherman and Grand Streets and as a local street east of Broadway and west of Webster Street (City of Alameda 2009a). Buena Vista Avenue continues in the west as Poggi Street. The street provides two travel lanes in each direction and left-turn lanes between Jay and Hibbard Streets and at the intersection with Broadway. Sidewalks are provided on both sides of the street, and on-street parallel parking is allowed along the entire roadway except between Sherman and Benton Streets. Buena Vista is a designated truck route (City of Alameda 2009c).

Grand Street

Grand Street is a north/south arterial between the Alameda Marina in the north and Shore Line Drive in the south. The street is classified as a local street north of Clement Avenue, and provides direct access to the Project site. Grand Street provides one travel lane in each direction. Sidewalks and Class II bikeways (bike lanes) are provided on both sides of the street, but on-street parallel parking is prohibited. Grand Street is not a designated truck route, but trucks would need to access Grand Street via Clement Street to reach the Project site. The Project site entrance is located along Grand Street (see Photograph 2).

Photograph 2. *The Project site entrance is located along the west side of Grand Street, beyond on-site parking available adjacent to the Administrative Building.*

Bicycling and Pedestrian Travel

Alameda's flat terrain and temperate climate make bicycling and walking a feasible mode of transportation around the island (City of Alameda 2009a). Bicycle access between downtown Oakland and the east side of Alameda Island is provided by a substandard, narrow, raised, and shared pedestrian walkway in the Posey Tube. Bicyclists can take AC Transit buses across the estuary via the Webster and Posey Tubes. Sidewalks along the Park Street and Fruitvale Avenue bridges on the east side of Alameda Island also provide bicycle access between Oakland and Alameda. Sidewalks are provided along both sides of most residential streets in the City and although sidewalks were not typically provided in former industrial areas near the Project site, new residential development in these areas include sidewalks. Within the Project vicinity, sidewalks are provided on both sides of Fortmann Way, both sides of Clement Avenue, the east side of Grand Street, the south side of Ellen Crag Avenue, and the west side of Hibbard Street.

Photograph 3. *A Class II (i.e., striped) bicycle lane is located adjacent to the Project site along Grand Street. Residences along Ellen Crag Avenue are visible beyond the fence line.*

There are Class I (bike path), Class II (bike lane), Class III (bike route), and Class IV (separated bikeways) in the City

of Alameda (City of Alameda 2009b) (see Figure 2). A Class II bikeway is provided along Grand Street, directly adjacent to the eastern side of the Project site (see Photograph 3). The Grand Street bicycle lanes are provided on both sides of the entire length of the street. These bike facilities connect with other Class II bikeways on Santa Clara Avenue and Central Avenue, which provide access to Webster Street and Park Street. The Grand Street bike lane also provides access to a Class I bike path along the northern and southern shoreline and Class III bike routes on Pacific Avenue and San Jose Avenue. The *City of Alameda Bicycle Master Plan* proposes Class II bikeways on Clement Street (adjacent to Project site) between Atlantic Avenue and Tilden Way (City of Alameda 2010).

Public Transportation

AC Transit, BART, and San Francisco Bay Ferry provide public transit services in the Project vicinity. AC Transit provides fixed-route bus services in the City and throughout Alameda and Contra Costa counties, including several transit routes near the Project site along Buena Vista Avenue, Santa Clara Avenue, Park Street, and Fruitvale Avenue into Oakland via Lines 19, 20, 21, and 51A. The nearest AC Transit bus route to the Project site is Line 19, which operates along Buena Vista Avenue with stops at Grand Street, Chestnut Street, and Willow Street (Alameda County Congestion Management Agency [ACCMA] 2015) (see Figure 3). This line provides access to downtown Oakland to the west and the Fruitvale BART station to the east. The nearest BART station to the Project site is the Fruitvale Station, which can be accessed by AC Transit Lines 19, 20, 21, and 51A. As previously mentioned, the San Francisco Bay Ferry provides ferry service to the Oracle Park Terminal and Oakland Terminal at the Alameda Main Street Terminal and Harbor Bay Terminal. The City of Alameda also operates the Alameda Loop Shuttle that provides access to major shopping destinations and medical facilities.

Photograph 4. *The nearest AC Transit bus route to the Project site is Line 19 with a bus route stop along Buena Vista Avenue in between Grand Street and Minturn Street.*

Marina Village Parkway
Constitution Way
Webster Street
(SR 61/SR 260)
Atlantic Avenue
Sherman Street
Oakland
Inner Harbor
880
Buena Vista Avenue
Clement Avenue
Central Avenue (SR 61)
Grand Street
Park Street
Bridge
Encinal Avenue (SR 61)
Miller-
Sweeney
Bridge
Park Street
Tilden Way
Broadway

Q:\3551 Planning\Shell ISMND 8620192890\MXD\ReportFigures\Traffic\Fig2 Bicycle Amenities.mxd

Explanation

Site Boundary

Bike Routes

Class I

Class II

Class III

Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

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Bicycle Amenities in Project Vicinity
Construction-Related Traffic Impact Analysis
Shell Pennzoil-Quaker State Alameda Distribution Center
2015 Grand Street
Alameda, California

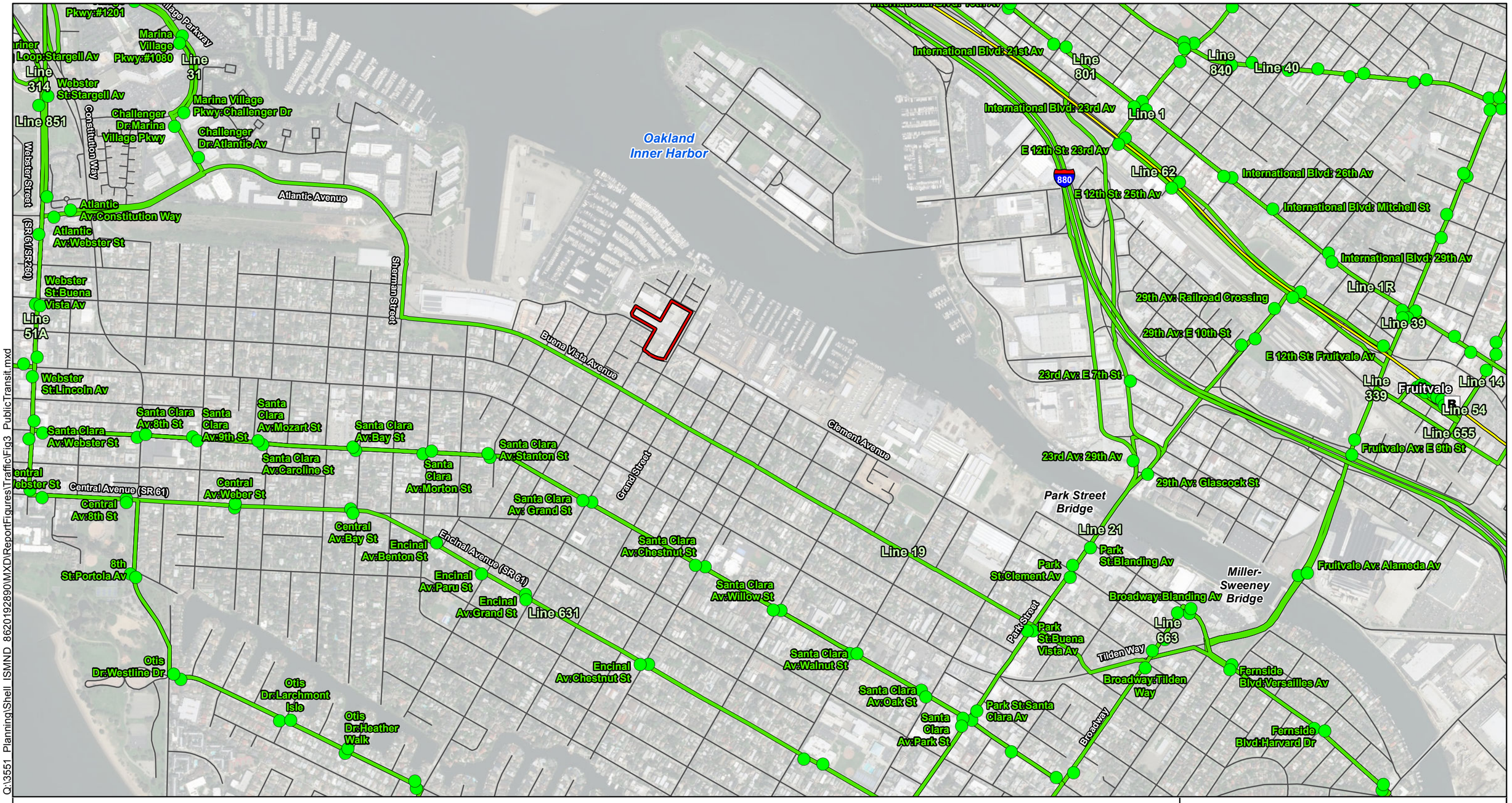
wood.

By: CCN

Date: 06/22/2020

Prj. No. 8620192890.09

Figure **2**



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Explanation

- Site Boundary
- B BART Station
- BART Line
- AC Transit Stops
- AC Transit Route

Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

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Public Transit in Project Vicinity
Construction-Related Traffic Impact Analysis
Shell Pennzoil-Quaker State Alameda Distribution Center
2015 Grand Street
Alameda, California

wood.

By: CCN	Prj. No. 8620192890.09
Date: 06/22/2020	Figure 3

While the Project site is accessible by public transit services, construction workers are expected to arrive at the Project site in personal vehicles.

Public Parking in the Project Vicinity

On-street parallel parking in the immediate Project vicinity is provided along Grand Street, Fortmann Way, both sides of the portion of Clement Avenue east of Grand Street, and the south side of the portion of Clement Avenue past Hibbard Street.

3.0 Project Description

Project Background

The Project site and its facilities has been owned and operated by Pennzoil-Quaker State Company dba SOPUS Products (SOPUS) since 1951. The facilities were originally used as a blending, packaging, and distribution center for bulk and packaged petroleum-based lubricant products (i.e., motor oil). SOPUS ceased blending and packaging operations in 1995 and currently only distribute bulk and pre-packaged industrial lubricants.

Former underground storage tanks (USTs) containing gasoline and diesel fuel contributed to shallow soil and subsequent groundwater contamination in the northeastern portion of the Project site. Accidental product spills associated with leaking and overfilling ASTs also contributed to shallow soil contamination and groundwater impacts in the tank farm area in the southwestern portion of the Project site. While small-scale excavations removed impacted soil within the vicinity of the tank farm in 2002, soil contamination and groundwater contamination consisting of total petroleum hydrocarbons as gas, diesel, and motor oil (TPHg, TPHd, TPHmo); and benzene, toluene, ethylbenzene, and xylenes (BTEX) remain in areas of the Project site within shallow soil approximately 2 to 4 feet below ground surface (bgs; Consulting Engineers 1985; Arcadis G&M, Inc [ARCADIS] 2005; Conestoga-Rovers & Associates 2015). Limited groundwater contamination consisting of TPHg, TPHd, TPHmo; and BTEX is present due to the high groundwater levels in the vicinity that range from approximately 1 to 4 feet bgs. There were also numerous groundwater monitoring wells installed throughout the Project site.

Proposed Project

The proposed Project would involve the demolition of existing pavement, buildings, and other infrastructure on the Project site, abandonment of existing groundwater monitoring wells, soil excavation and offsite disposal, and backfill with clean fill. The San Francisco Bay Regional Water Quality Control Board (RWQCB) issued Site Cleanup Requirements Order No. 98-121 for the Project site, which included a categorical exemption from the California Environmental Quality Act (CEQA), but did not consider source removal activities such as soil excavation that are part of the proposed Project.

Prior to remediation activities, soil test pits were excavated across the Project site to determine groundwater depths and infiltration rates, and to conduct waste profiling sampling according to the Sampling and Analysis Plan (SAP) developed for the Project site. Soil test pitting and waste profiling were conducted to inform the design and sequencing of the remedial excavation and on-site dewatering, if required.

Once soil test pitting and waste profiling are completed, construction activities associated with remediation of the contaminated soil and groundwater would consist of mobilization and staging of construction equipment; demolition and removal of existing on-site pavements, buildings, and other infrastructure (e.g., ASTs); excavation and removal of contaminated soil, dewatering during excavation, import and compaction of clean backfill, and re-grading to pre-excavation levels; and demobilization. The proposed Project activities would occur in the following five phases:

- **Phase 1:** Mobilization;
- **Phase 2:** Limited demolition of existing pavement, buildings, and other infrastructure;

- **Phase 3:** Excavation, dewatering, backfilling and compaction, and grading;
- **Phase 4:** Demolition of remaining on-site buildings and warehouses; and
- **Phase 5:** Demobilization and post-remediation.

Mobilization

The first phase would involve mobilization and staging of demolition/construction equipment and materials. All equipment and materials would be delivered and staged within the concrete slab and asphalt parking area within the northeastern portion of the Project site near the existing loading dock area. These materials are expected to be delivered to the Project site within 1 month prior to the initiation of demolition activities. Construction access to the Project site would be provided at the entrance along Grand Street.

Prior to mobilization, existing on-site monitoring wells were removed according to the requirements of the Well Destruction Work Plan. Additionally, the construction limits of work for the entire northeastern portion of the Project site would be fenced and signage would be installed to maintain site security. Mobilization would require a total of 6 construction workers for construction equipment staging, traffic control, and health and safety oversight. Table 1 lists the type and amount of equipment that would be staged at the Project site during mobilization and used during the demolition and excavation activities.

Table 1 Construction Equipment

Construction Equipment	Units	Duration (weeks)
Operated Dump Truck (with flatbed trailers)	2	3
Torch and Acetylene Tanks	2	3
60-Foot Articulating Boom Lift	1	2
Excavator Sheer Attachment	1	3
Excavator Hydraulic Hammer	1	3
815 Compactor	1	2
Mobile Concrete Crushing/Screen Unit	1	2
18,000-lb Excavator	1	2
85,000-lb Excavator	2	10
4-CY Loader	1	7
Motor Grader	1	2
12K Reach Forklift	1	1
D6 Dozer	1	1
Skip Loader	1	2
Track Skid Steer	1	3
4,000-gallon Water Truck	1	10
2,000-gallon Water Truck	1	3
Pick-Up Truck	2	10
185 CFM Air Compressor	1	3
Pressure Washer	2	4

Construction Equipment	Units	Duration (weeks)
21,000-gallon Frac Tank	2	10

Source: ICS 2020.

Limited Demolition of Existing On-Site Buildings and AST Removal

The second phase would involve the removal and demolition of the maintenance building and carport located within the northeastern portion of the Project site. Once this portion of the Project site is cleared of vegetation and debris, the maintenance building and covered carport would be removed, including the surrounding asphalt pavement. The demolition sequence would involve a top-down technique that first removes roofing, followed by the structure and foundation. Debris and construction waste would be temporarily stockpiled near the loading docks prior to removal. All demolition and construction waste would be removed and handled according to the requirements of a Waste Management and Transportation Plan (WMTP). The WMTP would summarize procedures for managing waste during the proposed demolition and excavation activities, including ensuring the proposed Project meets the City's diversion rate of 77 percent.

Once demolition in the northeastern portion of the Project site is complete, the compounding building and the remaining 11 active ASTs in the southwestern portion of the Project site would be removed. The compounding building would be demolished first, but a portion of the building's outer perimeter concrete wall would remain to reduce dust and noise generation during the removal of the ASTs. Once the 11 ASTs are cleaned and removed from the Project site, the outer perimeter concrete wall of the compounding building would be removed using an excavator, grapple, and concrete pulverizing equipment.

The demolition and removal activities during this phase would require 5 to 10 construction workers. Construction equipment would demolish buildings and heavy haul trucks would remove demolition debris and building waste over a 1-month period. Heavy haul trucks and other construction vehicles would limit travel to designated truck routes, such as Clement Avenue and Park Street within the City of Alameda. Table 2 indicates the duration of each construction phase and the corresponding truck trips associated with project construction equipment staging, limited demolition, excavation and soil removal, and final demolition.

Table 2 Daily Truck Trip Generation by Construction Activity

Construction Phase	Duration	# Worker Commute Trips (/day)[1,2]	# Off-Haul Trips (/day)[3]	# Import Trips (/day)	Total Trips (/day)
Mobilization	2 weeks	6	0	12	18
Limited Demolition and AST Removal	1 month	10	50	5	65
Excavation, Export/Import, Grading	2 months	12	16	16	44
Demolition of Remaining On-site Buildings	1 month	15	13	0	28
Demobilization of Post-Remediation Equipment	1 week	6	6	0	12

Sources: ICS 2020; Wood 2020.

Notes:

[1] Expressed in round trips; one trip equals one vehicle going to and leaving form the Project site. Assumes each worker arrives in their personal vehicle each day and generates one inbound trip during the morning peak hour and one outbound trip during the evening peak hour. Average commute distances are anticipated consist of 40 mile round trips within the Bay Area.

[2] Assumes each average daily trip is associated with excavation off-haul and import. The debris sorting and disposal facility is assumed to be Republic's Keller Canyon Landfill in Pittsburgh (approximately 35 miles to the northeast).

[3] Assumes an additional 5 trips would be required to off-haul approximately 20,000 gallons of residual oily water associated with the clean-out of the ASTs and piping. These residual oily water would be exported in a 5,000-gallon vac truck to either a transfer station in Richmond or Rio Vista, California.

Excavation, Import/Export, and Backfilling

The third phase would involve excavation of contaminated soil. Excavation, backfilling, compaction, and grading operations would be completed in accordance with the City of Alameda Grading Permit. Heavy equipment would be utilized for the excavation of contaminated soil and backfilling and compaction with clean soil. This equipment would likely include track mounted excavators, front end loaders, compaction equipment, breaker hammer equipment (possibly vibratory to remove concrete slabs and asphalt areas), and trucks (end dump trucks and possibly transfer dumps) for soil disposal. Up to 11,400 banked cubic yards (bcy) of soil may be excavated (6,500 bcy in the northeast area and 4,900 bcy in the tank farm area). Excavated soil and debris would be removed, sorted, and handled according to the requirements of the WMTP and SAP, which would describe the results of the soil investigation to pre-profile soil for disposal, the procedures required to sample and analyze soil for direct burial at the landfill (if required), and the procedures required to verify the backfill material meets the criteria for clean soil import.

The extent of excavation at the Project site would be focused in three locations: the tank farm area, northeast area, and the former wash area in the Taylor Warehouse. The entire excavation area includes approximately 2 acres (approximately 49 percent) of the 4.1-acre Project site. Approximately 11,400 bcy of clean fill would be imported to the Project site to backfill the remedial excavations. Backfilling would use a loader, dozer, excavator, vibratory compactor, and water truck.

The excavation activities would begin in the tank farm area and then move to the northeast area. The excavation extent in the former tank farm area excludes the vacated portion of Clement Avenue, a portion of Hibbard Street, and the railroad tracks, where proposed construction would occur along Clement Avenue between Hibbard Street and Grand Street. The tank farm area would include up to 3 feet of soil excavation based on cleanup goals for the Project site contaminants of concern (COC). This would result in a total of approximately 4,900 bcy of soil excavation, however, preliminary soil sampling at the bottom of the 3-foot excavation depth would determine whether excavation below 3 feet bgs would be required. Excavation is not expected to extend deeper than 5 feet bgs (anticipated depth of groundwater). Off-site hauling of the contaminated soil and import of fill material would require approximately 460 truck trips and the equivalent of 460 import trips of clean fill deliveries over a 2-month construction period. Average tandem axel commercial dump trucks hold between 12 to 14 cy of soil.[2]

Excavation activities would then proceed with the excavation of approximately 100 bcy of soil and fill within the former UST and wash area in the Taylor Warehouse. Removal of the contaminated fill would require approximately 8 additional truck trips and the equivalent of 8 import truck trips of clean fill deliveries for a total of 16 truck trips over the same 2-month period.

Once excavation is complete within the former wash area, excavation would occur within the northeast portion of the Project site. The excavation extent in the northeastern area excludes the loading dock area, as there is no indication the extent of contamination extends into this area. The northeastern excavation area would include up to 6 feet of soil excavation (up to anticipated depth of groundwater) for a total of approximately 6,500 bcy of soil. Soil confirmation sampling at the base of the 6-foot excavation depth would determine whether excavation

[2] Truck trips were estimated by ICS in March 2020. Tandem axel dump trucks with an average capacity of 12 cy per load would off-haul contaminated soil and demolition debris, and import clean backfill. The tank farm would require a total of 920 trips (460 export/460 import). The UST and washrack area in the Taylor Warehouse would require a total of 16 truck trips (8 export/8 import). The northeast excavation area would require a total of 966 truck trips (483 export/483 import). These trips would occur over a 2-month period.

below 6 feet bgs is required. Off-hauling the contaminated soil would require approximately 483 truck trips and the equivalent of 483 import trips of clean fill deliveries over the same 2-month construction period for the other two excavation areas, for a total of 966 truck trips.

Excavation activities would require a total of 10 construction workers, including 6 construction workers for excavation and backfilling, and approximately 4 additional construction workers for traffic control, street sweeping and maintenance, as well as health and safety oversight. Excavation equipment would include excavators equipped with a bucket attachment, rubber-tired loaders, and semi-end dump trucks for hauling contaminated soil off site and importing clean soil for backfilling. If dewatering is required during excavation, water would be pumped from the excavation into a tank with secondary containment. Water removed during excavation would be treated onsite (if necessary) and discharged into the East Bay Municipal Utility District's (EBMUD) sanitary sewer. If treated groundwater is tested and found to contain concentrations in excess of the EBMUD discharge limits, it would be disposed at an off-site, SOPUS-approved, local treatment, storage, and disposal facility (TSDF) as non-hazardous waste.

Demolition of Remaining On-Site Buildings

The final phase of site work would involve the demolition of the administrative building and three warehouses, and storage facility located within the central portion of the Project site. Small building and concrete pad demolition would likely be conducted using excavators equipped with a breaking hammer and pulverizers to demolish concrete and break it up into smaller more manageable pieces. This would allow building components to be broken into smaller pieces that are safer to remove and reduce fugitive dust generation. Based on the approximate square footage of the existing buildings on site (i.e., 68,100 square feet), over 5,500 tons of construction debris is anticipated to be stockpiled and removed from the Project site.[3]

Construction waste would be temporarily stockpiled within the staging area near the loading docks in the northeastern portion of the Project site and designated as non-hazardous or hazardous waste, depending on the waste type, building, or Project site origin. The staging area would store construction equipment near the former maintenance building and carport. The construction waste would then be transferred to a sorting location. Based on the size and construction of the existing on-site buildings, off-site hauling of the demolition construction waste would require approximately 392 truck trips over a 1-month period, or approximately 13 trips per day during the demolition phase (see Table 3).

Table 3. Estimated Loads of Construction Waste from On-Site Building Demolition

Demolition of Remaining On-Site Buildings	Truck Loads of Debris
Debris	85
Recycled Metals	52
Recycled Concrete	207
Recycled Asphalt	42
Universal Waste, ACM, Other	6
Total	**392**

Source: ICS 2020

Demobilization and Post-Remediation

Upon completion of demolition, excavation, and backfilling activities, the entire Project site would be cleared of equipment, regraded, and restored with a final layer of clean fill soil. Construction crews would demobilize the

[3] Assumes average building demolition yields 155 pounds of waste per square foot.

Project site over a 1-week period by removing construction equipment. The Project site would then be fenced, screened, and temporarily closed.

Post-excavation groundwater monitoring would be dependent on groundwater concentrations observed during excavation dewatering, but is not anticipated. At this time, there are no plans to reinstall the abandoned groundwater monitoring wells.

Construction Schedule

Remediation activities associated with the proposed Project would begin in August 2020, last for approximately 5 to 6 months, with completion anticipated in early 2021. Approximately 5 to 10 construction workers would work during construction activities. All construction activities would occur between 7:00 a.m. and 7:00 p.m., Monday through Friday consistent with the City of Alameda Municipal Code (AMC) Chapter 4-10 - *Noise Control*.

4.0 Thresholds of Significance

Construction-related traffic impacts from project construction worker trips, heavy haul truck trips, and other construction vehicles would be considered potentially significant if project construction would materially interfere with the area traffic flow and capacity of the street system; cause unsafe conditions on other motorists, bicyclists, or pedestrians in the vicinity; or introduce substantial heavy truck traffic through a residential area.

Senate Bill 743

Senate Bill (SB) 743 changes the way that transportation impacts are analyzed to better align local environmental review with statewide objectives to reduce greenhouse gas (GHG) emissions, encourage infill mixed-use development in designated priority development areas, reduce regional sprawl development, and reduce VMT in California. VMT is a measure of the total number of miles driven to and from a development and is sometimes expressed as an average per trip or per person. Since the adoption of SB 743, new CEQA Guidelines Section 15064.3 subdivision (b) was adopted in December 2018 by the California Natural Resources Agency. The revisions to the CEQA Guidelines criteria related to determining the significance of transportation impacts are primarily focused on projects within transit priority areas, and shifts the focus from driver delay to reduction in GHG emissions, creation of multi-modal networks, and promotion of a mix of land uses.

Recently adopted guidance from the State of California Governor's Office of Planning and Research (OPR) provides that a lead agency may elect to be governed by the provision of this section immediately. The provision becomes mandatory beginning on July 1, 2020, and the provisions of this section shall apply statewide. Alameda CTC has been the lead agency responsible for working with various partners and local jurisdictions to transition from the delay-based Level of Service (LOS) to the VMT metric under CEQA analysis (Alameda CTC 2020). Alameda CTC is developing VMT thresholds for per capital and per employee VMT at the County and Planning Area levels from the countywide transportation model, as well as proposing to follow Caltrans' guidance for the evaluation of all transportation projects (Alameda CTC 2020). As a result, the City of Alameda has been engaged in the process of VMT thresholds, but has not formally adopted updated transportation significance thresholds, or its transportation impact analysis procedures (Dong 2020).

Technical Advisory on Evaluating Transportation Impacts in CEQA

OPR released a technical advisory in December 2018 titled, *Technical Advisory on Evaluating Transportation Impacts in CEQA* on screening thresholds for small projects and evaluating transportation impacts. The technical advisory states, "[a]bsent substantial evidence indicating that a project would generate a potentially significant level of VMT, or inconsistency with an SCS or general plan, projects that generate or attract fewer than 110 trips per day generally may be assumed to cause a less than significant transportation impact" (OPR 2018). The proposed Project would generate a maximum of 65 trips per day during demolition and excavation activities (i.e., up to 50 trips per day to haul excavated asphalt, concrete, soil, and other materials off site; 5 trips to haul water

associated with AST clean-out[4]; and up to 10 construction worker trips). Therefore, the proposed remediation activities would generate fewer trips than the OPR's threshold of 110 trips per day. Additionally, these trips would be temporary and would not continue following the completion of the proposed remediation activities.

5.0 Focused Construction-Related Traffic Impact Analysis

The Project's construction-related traffic analysis evaluates construction worker trips and heavy truck traffic associated with mobilization, construction equipment staging, excavation, and demolition over the duration of the 5- to 6-month construction period. Additionally, the analysis evaluates the potential for construction related impacts on traffic flows, reduction in lane capacities, parking availability, delays or alterations of transit service, and impacts to pedestrian and bicycle circulation.

Construction Worker Commute Trips

Construction worker trips and heavy truck traffic generated from equipment delivery and staging, demolition, excavation, and groundwater monitoring (if required) trips would occur over the duration of an approximately 5- to 6-month construction period. The short-term construction impacts associated with the proposed Project assumes each of the 15 construction workers would travel to/from the Project site every day in a single occupancy vehicle, resulting in the addition of up to 15 round trips to Alameda Island each day. This number of vehicle trips in relation to average daily traffic on I-880 and into Alameda via either the Webster Street and Posey Tubes and Atlantic Avenue, or via Park Street and Fruitvale Bridge and Clement Avenue each day is not anticipated to substantially affect traffic in the area (Caltrans 2019).

The number of construction worker trips are derived based on similar remediation projects, and based on the number of construction workers needed to operate construction equipment, and assumed to be the maximum needed during demolition of the on-site buildings. Construction worker trips assume each construction worker arrives in a single occupancy vehicle each day and generates one inbound trip during the morning peak hour and one outbound trip during the evening peak hour. While these construction worker trip routes would potentially vary, they would all access the Project site via the Webster Street and Posey Tubes and Atlantic Avenue or the Park Street and Fruitvale Bridge and Clement Street; the analysis does not assume construction workers would commute to the Project site via public transit. Given the proposed remediation activities, no routine vendor trips are expected (e.g., for delivery of construction materials). The number of construction worker and heavy haul truck trips generated would also vary during construction phase depending on the activities involved, as detailed in Table 2 above.

Heavy Haul Truck Trips

The proposed Project would require the delivery of construction equipment during mobilization and removal of contaminated soil and other materials at the construction staging area. Equipment deliveries and haul trucks supporting construction activities and excavation at the proposed Project would access the Project site along designated truck routes by I-880 via Park Street Fruitvale Avenue Bridge to Clement Avenue to Grand Street. According to the City's General Plan and Municipal Code, Atlantic Avenue, Buena Vista Avenue, Park Street, and Clement Avenue are designated truck traffic routes (City of Alameda 2009c). Heavy haul trucks and other heavy construction equipment would access the Project site via Grand Street.

The proposed Project would generate a total of 5,766 vehicle trips over the life of the proposed Project, and assuming the average trip length for both heavy haul truck trips and construction worker trips is 39 miles per trip, this equates to a total of 224,874 VMT (daily vehicle trips multiplied by the number of miles per trip), or

[4] Approximately 20,000 gallons of residual oily water from cleaning out the ASTs and associated piping would be generated during excavation and removal activities. Using a 5,000-gallon vac truck an additional 5 trips would be needed to remove this residual oily water.

approximately 1,874 VMT per day over a 4-month period.[5] The number of heavy haul trips needed is based on the dimensions of the proposed northeastern excavation area and the tank farm excavation area, and the average capacity of a heavy haul truck (i.e., 12 to 16 cy). Peak truck activity would occur at the Project site during the excavation phase when up to 65 daily worker trips and truck trips would occur over a 2-month period. These heavy haul trips take into account the distance to the main off-site hauling destination, which is located approximately 35 to 40 miles northeast of the Project site in Livermore. Because the proposed Project would only generate 65 trips per day during peak construction activities, which is less than the 110 trips per day threshold identified by the OPR *Technical Advisory on Evaluating Transportation Impacts in CEQA,* these additional construction and heavy haul truck trips would not result in a measurable long-term impact on VMT. These trips would also be temporary and would not continue once proposed remediation activities are complete.

In combination with existing trips in the vicinity, the addition of 65 daily truck trips would represent an increase of traffic on I-880 of less than 1 percent. The magnitude of this increase is also within the range of typical daily variation in traffic levels that can be expected on major roadways serving the Project site, and operating conditions on these roadways would remain similar to current conditions. The existing LOS for several of the surrounding intersections in the Project vicinity, including Webster Street/Atlantic Avenue, Constitution Way/Atlantic Avenue, Atlantic Avenue/Buena Vista Avenue, Grand Street/Buena Vista Avenue, and Grand Street/Clement Street is LOS B and LOS C (Fehr & Peers 2017). The intersections with the highest delay (i.e. LOS C) are those that provide access to and from Oakland and I-880 on the approach to the Webster and Posey Tubes, Park Street Bridge, or High Street Bridge (Fehr & Peers 2017). As a result, the construction-related Project traffic is not expected to degrade the existing LOS at these surrounding intersections given the limited and temporary trip generation.

During construction, no local streets would be temporarily closed and the construction contractor would make its own arrangement for on-site storage of equipment and worker parking, if necessary. All construction contractor equipment and parking would occur within the Project site. All construction activities would occur between 7:00 a.m. and 7:00 p.m., Monday through Friday consistent with the City of Alameda Municipal Code (AMC) Chapter 4-10, *Noise Control*. No construction is proposed on weekends. Work would be conducted to ensure construction activities would not interfere unnecessarily with the residential setting of the immediate vicinity. Therefore, the proposed Project would not affect on-street parking availability, public transit operations, or pedestrian or bicycle traffic. The proposed Project would also involve the implementation of a Traffic Control Plan (TCP) as part of a WMTP. Traffic control measures, such as construction noticing to local residences, designated truck routing, ingress/egress to the Project site, and construction equipment staging, loading, and unloading areas would be summarized in the WMTP and TCP. As previously mentioned, implementation of the WMTP would include procedures for managing waste during the proposed demolition and activities and measures to minimize the temporary impact of construction traffic on the existing traffic setting throughout the construction of the Project. Together, both the WMTP and TCP would include traffic controls that would minimize potential traffic congestion and traffic-related hazards in the Project vicinity.

Vehicle Queuing and Potential Safety Hazards

Construction access to the Project site would be provided at the entrance along Grand Street. During construction, heavy haul trucks that enter and leave the Project site could limit residents from entering and exiting the immediate neighborhood. These heavy haul truck trips could also result in local travel delays. Given there are only 65 total trips anticipated during peak periods of construction activities (i.e., less than 1 truck every 10 minutes) most truck staging and queuing would occur within the Project site. The local traffic delays would be

[5] Total VMT is estimated based on total trips per phase and duration shown in Table 2. For example, Phase 1 would generate 18 trips per day for 14 days, or 252 trips total. When taking into account the total trips per phase and duration for each phase this equals 5,766 vehicle trips over the life of the proposed Project. This estimate assumes construction work would occur 7 days/week; however, construction is not currently proposed to occur on weekends.

temporary and are not expected to result in vehicle queuing and related safety hazards. The implementation of the WTMP and TCP would also minimize potential travel delays and impacts to on-street parking availability.

Operational Trips

Post-remediation and maintenance activities at the Project site would be negligible and would require at most five annual trips of one vehicle per visit that would utilize existing on-site parking. These trips would also only occur if post-remediation groundwater monitoring and/or soil vapor monitoring are needed, neither of which are anticipated. No impacts to the existing traffic setting are expected during operations.

6.0 Conclusion

In summary, increased Project construction-related traffic on regional and minor arterial roads, particularly heavy haul trucks and other heavy equipment deliveries may disrupt traffic flows and generally slow traffic movement in the immediate Project area. While this construction traffic may result in local traffic delays and potentially interfere with transit operations and pedestrian and bicycle circulation, construction trips would result in limited trip generation (i.e. up to 65 trips per day) that would not measurably contribute to intersection delays in the Project vicinity. The increase in vehicle trips would also be temporary, and small in comparison to the Annual ADT on major roadways, and would not significantly impact VMT or emergency access in the immediate area. Hauling operations may also be scheduled to occur during off-peak hours on the surrounding road network between 10:00 a.m. and 3:00 p.m., thereby reducing impacts on the surrounding street network during morning and evening commutes (PM peak hour). For these reasons, the proposed Project construction worker and heavy haul truck trips would have no measurable long-term impact on VMT, and would not significantly impact the existing traffic flows, on-street parking, or emergency access on the surrounding street network.

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If you have any questions or need clarification on any of the information provided, please do not hesitate to call me at (303) 503-7794.

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