Appendix HYD

Civil Infrastructure Technical Report

Civil Narrative-CEQA Support

Oakland Athletics Proposed Development

Oakland, California

December 13, 2019

PREPARED BY:

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CIVIL NARRATIVE-CEQA SUPPORT

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1. INTRODUCTION

A. Purpose

The Oakland Athletics are reviewing the feasibility of a new baseball stadium and site development at the Howard Terminal site in Oakland, California. This Civil Narrative is provided to evaluate the project site for the technical aspects of the Civil Infrastructure required to support the proposed stadium and associated development. This narrative describes the site location, existing conditions, opportunities and constraints of the site, as well as specific details of the civil infrastructure components of the proposed stadium as required for the project Environmental Impact Review (EIR).

B. Project Site

The project site is located in the western Jack London District in Oakland, California. Currently owned and operated by the Port of Oakland, the site and adjacent parcels include approximately 57-acres of ancillary maritime uses, including parking and storage. The waterfront site is bounded by Embarcadero Road and Union Pacific Railroad tracks to the north, Oakland Inner Harbor to the south, Clay Street to the east and an existing scrap metal facility to the west (Schnitzer Steel). The project site fronts the Oakland Inner Harbor on the south side, and is accessed from Interstate 980, Interstate 880 and City of Oakland surface streets on the north, west and east.

BART stations are located approximately three quarters of a mile away at the 12th Street station on Broadway, and the West Oakland Bart Station at 7th Street and Mandela Parkway. The Amtrak/Railroad station is approximately one half mile east, at the Jack London Square station at 2nd and Alice Street. Ferry terminal access is within walking distance from Clay Street, on the east side of the site.

Martin Luther King Junior Way and Market Street currently connect the site to downtown Oakland in the north/south direction, and Union Pacific Railroad (UPRR) and Embarcadero run adjacent to the site in the east/west direction.

The southern portion of the Project site is an existing cast-in-place wharf structure that is supported by piles. The remaining site is understood to be on grade pavement supported by a quay wall. Existing hardscape and at-grade drainage facilities are located at the surface, and it is understood that the site has existing utility infrastructure to support the current Port operations, including water, power, storm drain and sewer. In addition, there are two existing City of Oakland storm drain mains

that run through the site at the extension of Market and Martin Luther King Junior Way, with outfalls to the bay.

Vistra (Dynergy) and Pacific Gas & Electric (PG&E) have facilities adjacent to the project site which front the northern portion of the project development. The existing scrap metal facility fronts the western side of the site. The northern side of the property is fronted by the existing Embarcadero, which runs east west along the frontage, as well as the existing Union Pacific Railroad tracks. The Union Pacific Railroad tracks are located within the railroad right of way directly adjacent to the Embarcadero, and include two railroad tracks, with a third track at some locations. The railroad tracks, Embarcadero and the terminus of the north-south City streets of Market Street, Martin Luther King Junior Way and Jefferson Street converge at the northern property line, and Embarcadero serves as the boundary of the site improvements. The existing 105-inch EBMUD sewer interceptor is a utility design consideration within 2nd Street, and 3rd Street (at Filbert Street) north of the project. The Oakland Inner Harbor fronts the south side of the project, with the existing wharf edge fronting the existing shoreline.

EXISTING BOUNDARY INFORMATION NOTE:

THIS BOUNDARY HAS NOT BEEN FIELD VERIFIED, NOR HAS IT BEEN CHECKED AGAINST ANY TITLE REPORTS OR ANY ADJACENT VESTING DEED DOCUMENTS. THE EXTERIOR BOUNDARY LINES AND DIMENSIONS OF HOWARD TERMINAL ARE BASED ON THE LEGAL DESCRIPTION CONTAINED IN THE DOCUMENT ENTITLED, "COVENANT TO RESTRICT USE OF PROPERTY, ENVIRONMENTAL RESTRICTION" RECORDED ON 3/03/03, IN DOC. 2003121181, ALAMEDA COUNTY RECORDS.

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PROJECT BASE MAP

HOWARD TERMINAL

12/13/19

EX1.0

C. Project Datum

Elevations, including tidal, floodplain, site and utility elevations, referred to herein, are based on several historically used datums. The City of Oakland Datum is understood to be the required datum for the project, as it is required for projects permitted within the City of Oakland, where there is an established monument network. The datum reference for each specific elevation is listed throughout the document and supporting exhibits, for clarity. The City of Oakland Datum, referred to as COD, is equal to the:

- North American Vertical Datum of 1988 (NAVD 88) plus 5.77 feet
- North Geodetic Vertical Datum of 1929 (NGVD 29, tidal) plus 0.06 feet
- Port of Oakland Datum (PORT) minus 6.24 feet

We understand the project will be permitted under the City of Oakland datum, and references to other datums are utilized to relay data from varying sources, when necessary.

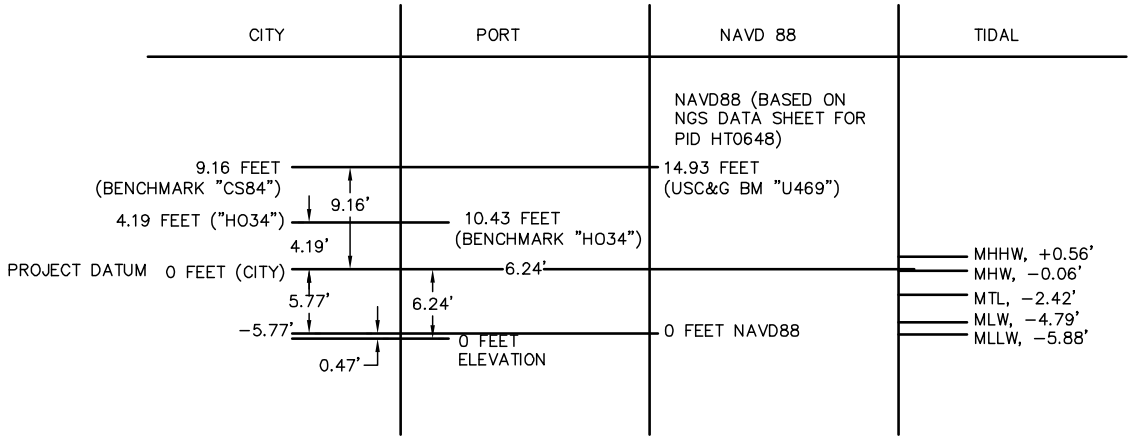
BENCHMARK

ELEVATIONS SHOWN HEREIN ARE ON THE CITY OF OAKLAND VERTICAL DATUM AND BASED ON CITY OF OAKLAND BENCHMARK "CS 84":
A FOUND U.S.C. & G.S. DISK AT THE CROSSING OF 5TH AVENUE AND THE SOUTHERN PACIFIC RAILROAD, BENEATH THE SOUTHBOUND LANES OF THE 880 FREEWAY, SET IN THE NORTHERLY FACE OF A COLUMN, APPROXIMATELY 25' WEST OF THE CENTERLINE OF 5TH AVENUE, 4.4 FEET ABOVE GROUND.
ELEVATION = 9.164 FT., CITY OF OAKLAND DATUM.

DATUM SUMMARY

BENCHMARK CITY OF OAKLAND DATUM
CITY OF OAKLAND BENCHMARK "CS84"
FOUND UCS&GS DISK AT THE CROSSING OF 5TH AVENUE AND THE SOUTHERN PACIFIC RAILROAD, BENEATH THE SOUTH-BOUND LANES OF 880 FREEWAY, SET IN NORTHERLY FACE COLUMN, APPROXIMATELY 25' WEST OF THE CENTERLINE OF 5TH AVENUE AND 4.4 FEET ABOVE THE GROUND.
ELEVATION USED: 9.16 FT., CITY OF OAKLAND DATUM
NOTE BENCHMARK IS NOW DESTROYED. INFORMATION SHOWN IS BASED ON OBSERVATIONS AND DATA PROVIDED IN 2002. NOT CURRENT.

BENCHMARK PORT DATUM ELEVATION
PORT OF OAKLAND BENCHMARK "H034 TBM"
FOUND BRASS DISK "SHIP" IN MONUMENT WELL STAMPED "EBMUD CONTROL SURVEY SHIP 1960" OPPOSITE ENTRANCE TO KAISER CEMENT, 401 EMBARCADERO.
ELEVATION USED: 10.43 FT., PORT OF OAKLAND DATUM



1. TO CHANGE FROM CITY ELEVATION TO A PORT ELEVATION: SUBTRACT 6.24 FEET.

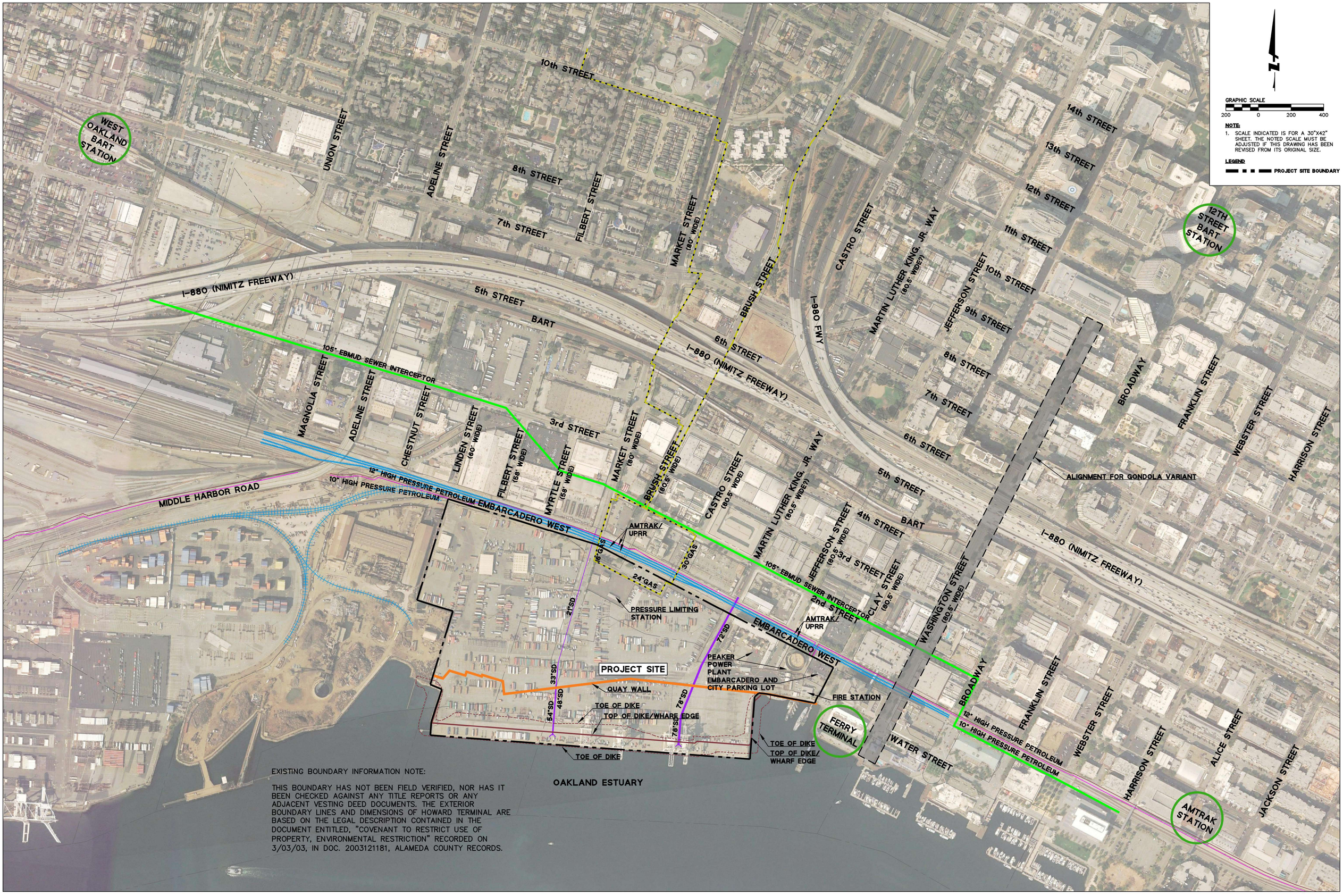
2. TO CHANGE FROM PORT ELEVATION TO A CITY ELEVATION: ADD 6.24 FEET.

D. Project Description

The proposed development at the project site includes a 35,000 seat ballpark, as well as supporting ballpark amenities and concessions, a performance center, hotel, hotel conference room, retail and civic spaces, office and residential development, public pedestrian promenades and public circulation spaces, as well as the supporting transportation infrastructure. Specific site improvements include: at-grade public streets for vehicular and pedestrian circulation, aerial gondola service from downtown Oakland, parking garages/lots, drop off and pick up zones for private, public and paid transportation services, offsite pedestrian overcrossings, at-grade railroad crossings at Market Street and Martin Luther King Junior Way, supporting utility infrastructure and landscaping, as well as designation of development parcels with mixed-use commercial, retail and residential units. In addition to the 35,000 seat stadium, 270,000 square feet of retail, cultural and civil spaces, 280,000 square feet of hotel space and a 50,000 square foot performance center, the project proposes approximately 3,300,000 square feet of residential space, as well as public open space along the project waterfront and the areas surrounding the proposed stadium. The project includes several variants, project elements that may or may not be implemented. A variant with significant civil infrastructure components includes aerial gondola service from downtown.

The project includes plans to extend existing City streets into the project site, including Market Street and Martin Luther King Junior Way. Market Street and Martin Luther King Junior Way cross the Union Pacific Railroad at-grade, prior to entering the project site. (There is no existing grade separation of the roadway and railroad tracks). Martin Luther King Junior Way and Market Street currently connect downtown Oakland to the project site in the north/south direction, and Union Pacific Railroad (UPRR) and Embarcadero run adjacent to the site in the east/west direction. Pedestrian and vehicular traffic will need to cross the UPRR tracks to gain access to the Stadium.

The Oakland Athletics are currently reviewing transportation and infrastructure improvements that may be required to support the project. We understand this traffic analysis will be provided under separate cover, which will assist in developing the transportation needs of the site, and to further define the roadway infrastructure needs, locations of proposed improvements, and on site infrastructure demands (parking garage sizes and locations, as well as roadway widths and locations, and how they are accessed).



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OVERALL CONSTRAINTS MAP WITH VARIANTS

HOWARD TERMINAL

12/13/19

EX2.0

E. Civil Design Constraints

The proposed Oakland Athletics Ballpark at the project site provides several opportunities for development of the stadium and the associated site improvements. In addition, there are civil design constraints associated with development at the existing site:

1. **Vistra (Dynergy) facilities and associated utility infrastructure:** Located on the northeastern side of the site, adjacent to Embarcadero at Jefferson Street, there is an existing Vistra (Dynergy) facility and utility "drum". These existing facilities are undergoing a change in their current operations. It is our understanding that this facility may be relocated and/or reconfigured on site as part of the Peaker Power Plant Project variant. We understand that the project developer and their architects will be reviewing the feasibility of frontage improvements in this area to accommodate the existing conditions at the interface to the ballpark development.

2. **Pacific Gas and Electric (PG&E) gas pressure limiting station and associated infrastructure:** Located between Market Street and Castro Street, south of Embarcadero, the existing PG&E pressure limiting station includes 24-inch high pressure gas transmission lines. It is our understanding that this facility is proposed to be relocated as part of a separate project, unrelated to the Project development. We understand that the site will be moved approximately one block north, and that the existing gas transmission main infrastructure will not be active in the current location. It is assumed that this parcel will be reviewed for the feasibility of improvements in this area to incorporate the layout into the surrounding ballpark development.

3. **Union Pacific Railroad (UPRR) tracks:** Within the Embarcadero roadway, on the northern side of the site, the existing Union Pacific Railroad tracks run east/west through this area of west Oakland. Several City streets cross the UPRR tracks at-grade, including Market Street and Martin Luther King Junior Way. These roadways are assumed to remain in place. The Project development plans to connect to the existing City streets north of the project site, and anticipates needing improvements to the vehicular and pedestrian crossings at the UPRR tracks to accommodate the proposed increase in traffic through this area. The California Public Utilities Commission (CPUC) and Union Pacific have defined standards for at-grade roadway crossings, and it is anticipated that these standards will be implemented at the at-grade crossings. Considerations at these crossings include pedestrian gates, fences, barriers

and signals, as well as signal interconnects to move vehicles through the intersection when trains are approaching. These improvements will be further considered as the project moves forward.

4. **City of Oakland 54-inch storm drain outfall:** There is an existing storm drain outfall to the Oakland Inner Harbor from Market Street, extending into the Project site, and discharges beneath the existing Wharf structure at the shoreline. This existing gravity storm drain infrastructure is one of two City of Oakland storm drain discharges to the bay within the site. This pipe collects storm water from the upstream city storm drain mains in the streets, and discharges them in a 54-inch outfall to the bay. We have assumed this storm drain main is required to remain and plan to maintain the outfall in place. The Project will decrease stormwater runoff below existing condition flows and plans to tie into the existing outfall at multiple locations, possibly upstream of existing onsite connections. As such, it may be necessary to upsize a segment of the existing onsite storm drain in order to accommodate stormwater flows in the proposed condition.

5. **City of Oakland 78-inch storm drain outfall:** There is an existing storm drain outfall to the Oakland Inner Harbor from Martin Luther King Jr. Way, extending into the Project site, which discharges beneath the existing Wharf structure at the shoreline. This existing gravity storm drain infrastructure is one of two City of Oakland storm drain discharges to the bay within the site. This pipe collects storm water from the upstream city storm drain mains in the streets, and discharges them in a 78-inch outfall to the bay. We have assumed this storm drain main is required to remain; however, relocation of this pipe is assumed to be feasible, and may be necessary to relocate in order to accommodate the proposed development at the site. Where the existing storm drain line is in conflict with proposed building improvements, the storm drain route is planned for relocation to a new outfall to the bay.

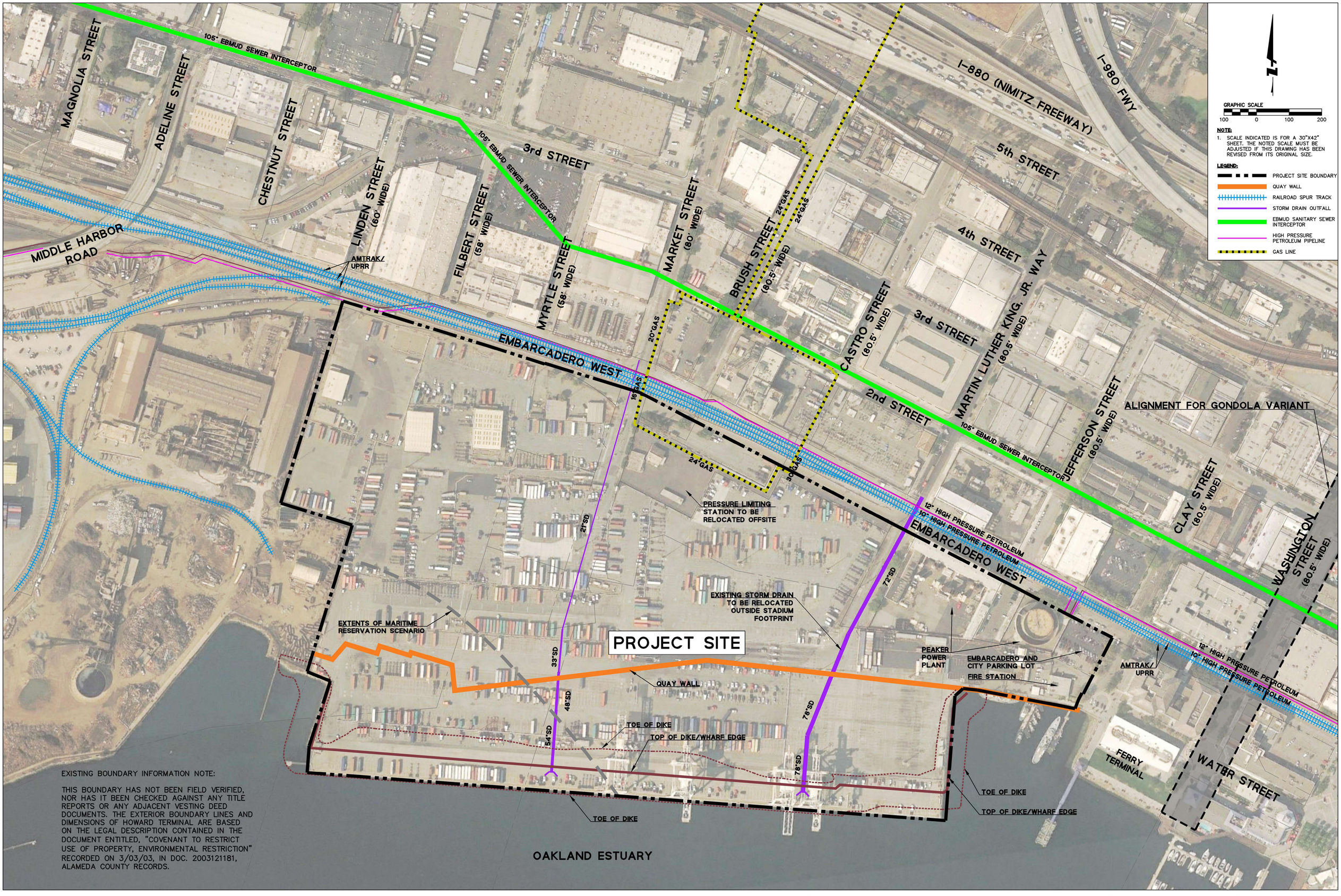
6. **Below-grade concrete quay wall**: There is an existing below grade concrete quay wall situated east-west, bisecting the site between the at-grade and pile supported portions of the parcel. This existing wall supports the shoreline underneath the site, and we understand it will remain in place. This infrastructure has been evaluated in a separate effort by the project Geotechnical Engineer.

7. **Below-grade rock dike:** There is an existing below-grade rock dike at the project site, adjacent to the shoreline at the Oakland Inner Harbor. This existing dike provides structural

support to the shoreline underneath the site, and is assumed to remain. The infrastructure is being evaluated under a separate effort, by the project Geotechnical Engineer and Shoreline Engineer.

8. **10-inch and 12-inch High Pressure Petroleum pipelines:** These existing high pressure pipelines are located within the Embarcadero roadway. The Project development does not plan to impact these existing facilities, and will consider their locations and operations in future utility and infrastructure designs.

9. **East Bay Municipal Utility District (EBMUD) 105-inch sanitary sewer interceptor pipe:** This existing sewer pipe is a transmission pipeline to route sewage from the City mains to the regional EBMUD sewer treatment plan near the Bay Bridge. The Project site development does not plan to impact this existing facility, and will consider its location in future utility and infrastructure designs.



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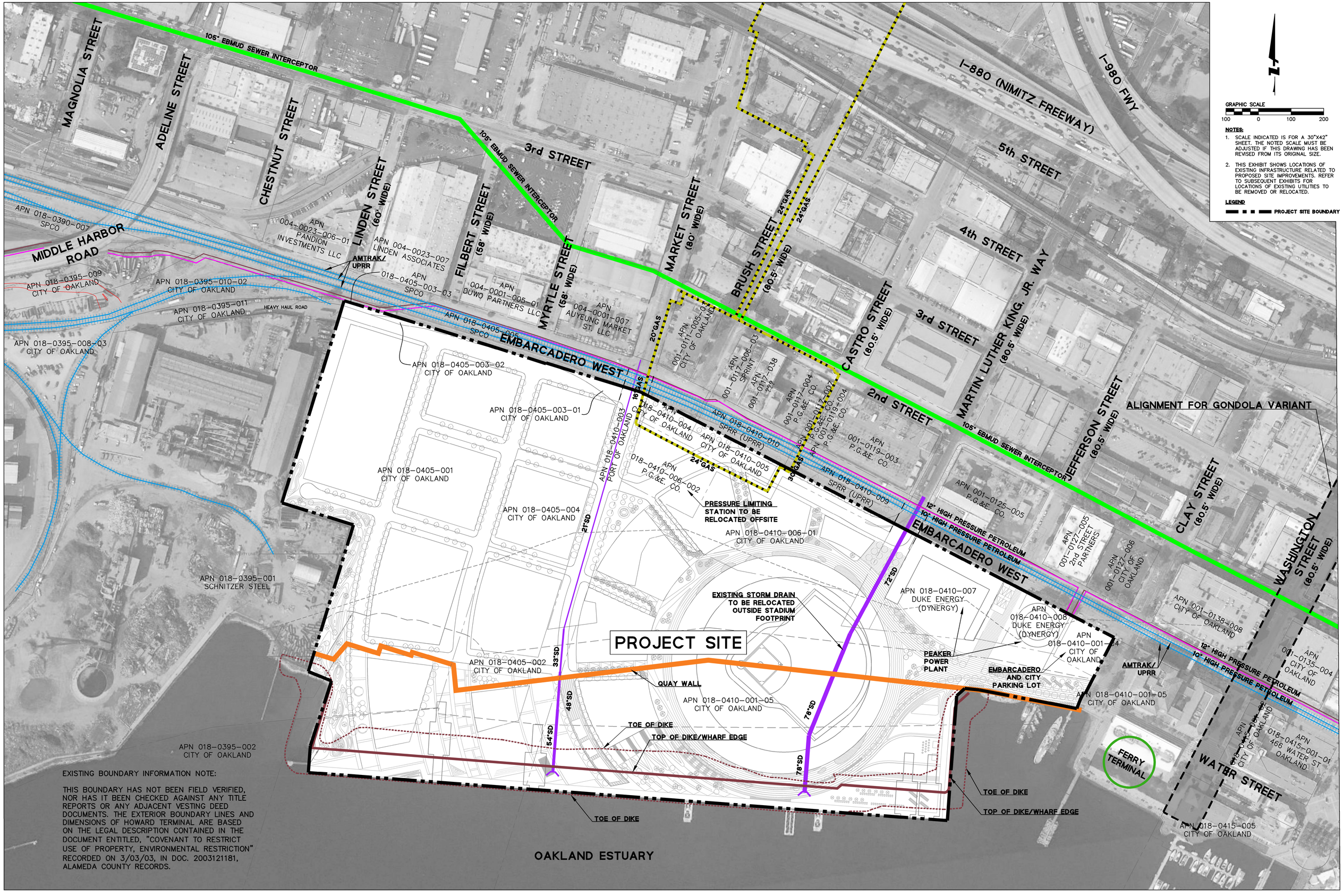
PROJECT CONSTRAINTS MAP WITH VARIANTS

HOWARD TERMINAL

12/13/19

EX3.0



GRAPHIC SCALE

100 0 100 200

NOTES:

1. SCALE INDICATED IS FOR A 30"X42" SHEET. THE NOTED SCALE MUST BE ADJUSTED IF THIS DRAWING HAS BEEN REVISED FROM ITS ORIGINAL SIZE.
2. THIS EXHIBIT SHOWS LOCATIONS OF EXISTING INFRASTRUCTURE RELATED TO PROPOSED SITE IMPROVEMENTS. REFER TO SUBSEQUENT EXHIBITS FOR LOCATIONS OF EXISTING UTILITIES TO BE REMOVED OR RELOCATED.

LEGEND

PROJECT SITE BOUNDARY

EXISTING BOUNDARY INFORMATION NOTE:

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PROPOSED SITE PLAN AND PROJECT CONSTRAINTS

HOWARD TERMINAL

12/13/19

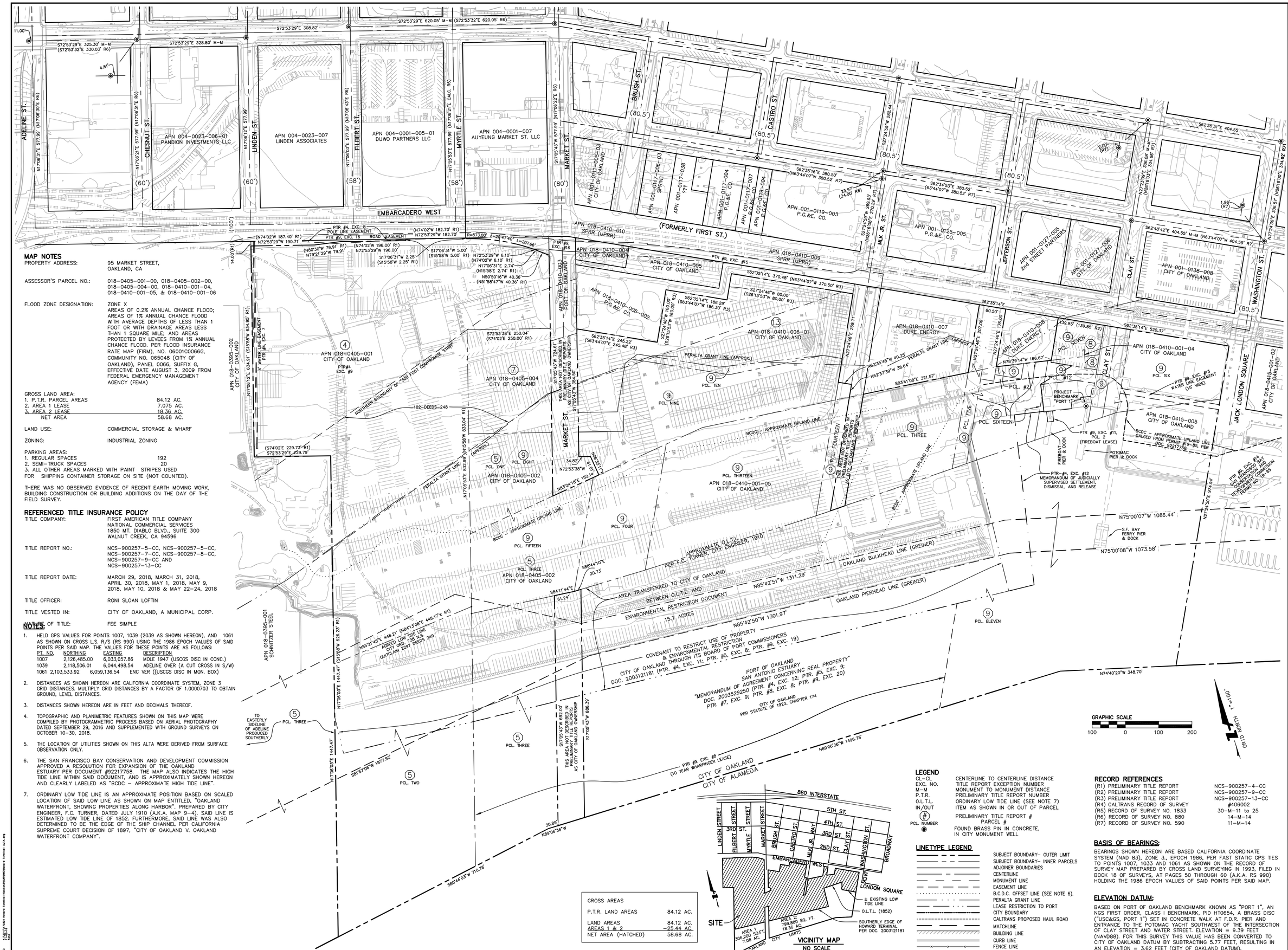
EX4.0

2. SITE IMPROVEMENTS

A. Existing Topography

Topographic surveys of the project site have been performed within the site and the adjacent street network. Based on the City of Oakland datum, the existing wharf structure on the south side of the site is approximately elevation 7.5, which slopes down to elevation 4 to 5 on the north side of the site, where the site meets the existing streets along Embarcadero road. Existing elevations at Market Street are elevation 4, at Martin Luther King Junior Way the elevation is approximately elevation 5, and at Jefferson Street the existing elevation is approximately 4, City of Oakland datum.

The existing grades shown in the preliminary topographic survey are consistent with the record drawings obtained from the Port of Oakland, and confirm the existing elevations and drainage pattern.



MAP NOTES

PROPERTY ADDRESS: 95 MARKET STREET, OAKLAND, CA

ASSESSOR'S PARCEL NO.: 018-0405-001-00, 018-0405-002-00, 018-0405-004-00, 018-0410-001-04, 018-0410-001-05, & 018-0410-001-06

FLOOD ZONE DESIGNATION: ZONE X
AREAS OF 0.2% ANNUAL CHANCE FLOOD; AREAS OF 1% ANNUAL CHANCE FLOOD WITH AVERAGE DEPTHS OF LESS THAN 1 FOOT OR WITH DRAINAGE AREAS LESS THAN 1 SQUARE MILE; AND AREAS PROTECTED BY LEVEES FROM 1% ANNUAL CHANCE FLOOD. PER FLOOD INSURANCE RATE MAP (FIRM), NO. 06001C0066G, COMMUNITY NO. 065048 (CITY OF OAKLAND), PANEL 0066, SUFFIX G, EFFECTIVE DATE AUGUST 3, 2009 FROM FEDERAL EMERGENCY MANAGEMENT AGENCY (FEMA)

GROSS LAND AREA:

1. P.T.R. PARCEL AREAS	84.12 AC.
2. AREA 1 LEASE	7.075 AC.
3. AREA 2 LEASE	18.36 AC.
NET AREA	58.68 AC.

LAND USE: COMMERCIAL STORAGE & WHARF

ZONING: INDUSTRIAL ZONING

PARKING AREAS:
1. REGULAR SPACES 192
2. SEMI-TRUCK SPACES 20
3. ALL OTHER AREAS MARKED WITH PAINT STRIPES USED FOR SHIPPING CONTAINER STORAGE ON SITE (NOT COUNTED).

THERE WAS NO OBSERVED EVIDENCE OF RECENT EARTH MOVING WORK, BUILDING CONSTRUCTION OR BUILDING ADDITIONS ON THE DAY OF THE FIELD SURVEY.

REFERENCED TITLE INSURANCE POLICY

TITLE COMPANY: FIRST AMERICAN TITLE COMPANY
NATIONAL COMMERCIAL SERVICES
1850 MT. DIABLO BLVD., SUITE 300
WALNUT CREEK, CA 94596

TITLE REPORT NO.: NCS-900257-5-CC, NCS-900257-5-CC, NCS-900257-7-CC, NCS-900257-8-CC, NCS-900257-9-CC AND NCS-900257-13-CC

TITLE REPORT DATE: MARCH 29, 2018, MARCH 31, 2018, APRIL 30, 2018, MAY 1, 2018, MAY 9, 2018, MAY 10, 2018 & MAY 22-24, 2018

TITLE OFFICER: RONI SLOAN LOFTIN

TITLE VESTED IN: CITY OF OAKLAND, A MUNICIPAL CORP.

NATURE OF TITLE: FEE SIMPLE

NOTES:

1. HELD GPS VALUES FOR POINTS 1007, 1039 (2039 AS SHOWN HEREON), AND 1061 AS SHOWN ON CROSS L.S. R/S (RS 990) USING THE 1986 EPOCH VALUES OF SAID POINTS PER SAID MAP. THE VALUES FOR THESE POINTS ARE AS FOLLOWS:

PT. NO.	NORTHING	EASTING	DESCRIPTION
1007	2,126,485.00	6,033,057.86	MOLE 1947 (USCGS DISC IN CONC.)
1039	2,118,506.01	6,044,498.54	ADELINE OVER (A CUT CROSS IN S/W)
1061	2,103,533.92	6,059,136.54	ENC VER ((USCGS DISC IN MON. BOX)

2. DISTANCES AS SHOWN HEREON ARE CALIFORNIA COORDINATE SYSTEM, ZONE 3 GRID DISTANCES. MULTIPLY GRID DISTANCES BY A FACTOR OF 1.0000703 TO OBTAIN GROUND, LEVEL DISTANCES.
3. DISTANCES SHOWN HEREON ARE IN FEET AND DECIMALS THEREOF.
4. TOPOGRAPHIC AND PLANIMETRIC FEATURES SHOWN ON THIS MAP WERE COMPILED BY PHOTOGRAMMETRIC PROCESS BASED ON AERIAL PHOTOGRAPHY DATED SEPTEMBER 29, 2016 AND SUPPLEMENTED WITH GROUND SURVEYS ON OCTOBER 10-30, 2018.
5. THE LOCATION OF UTILITIES SHOWN ON THIS ALTA WERE DERIVED FROM SURFACE OBSERVATION ONLY.
6. THE SAN FRANCISCO BAY CONSERVATION AND DEVELOPMENT COMMISSION APPROVED A RESOLUTION FOR EXPANSION OF THE OAKLAND ESTUARY PER DOCUMENT #92217758. THE MAP ALSO INDICATES THE HIGH TIDE LINE WITHIN SAID DOCUMENT, AND IS APPROXIMATELY SHOWN HEREON AND CLEARLY LABELED AS "BCDC - APPROXIMATE HIGH TIDE LINE".
7. ORDINARY LOW TIDE LINE IS AN APPROXIMATE POSITION BASED ON SCALED LOCATION OF SAID LOW LINE AS SHOWN ON MAP ENTITLED, "OAKLAND WATERFRONT, SHOWING PROPERTIES ALONG HARBOR". PREPARED BY CITY ENGINEER, F.C. TURNER, DATED JULY 1910 (A.K.A. MAP 9-4). SAID LINE IS ESTIMATED LOW TIDE LINE OF 1852. FURTHERMORE, SAID LINE WAS ALSO DETERMINED TO BE THE EDGE OF THE SHIP CHANNEL PER CALIFORNIA SUPREME COURT DECISION OF 1897, "CITY OF OAKLAND V. OAKLAND WATERFRONT COMPANY".

GROSS AREAS	
P.T.R. LAND AREAS	84.12 AC.
LAND AREAS	84.12 AC.
AREAS 1 & 2	-25.44 AC.
NET AREA (HATCHED)	58.68 AC.

VICINITY MAP
NO SCALE

BKF NO. 20170324

LEGEND

CL-CL CENTERLINE TO CENTERLINE DISTANCE
EXC. NO. TITLE REPORT EXCEPTION NUMBER
M-M MONUMENT TO MONUMENT DISTANCE
P.T.R. PRELIMINARY TITLE REPORT NUMBER
O.L.T.L. ORDINARY LOW TIDE LINE (SEE NOTE 7)
IN/OUT ITEM AS SHOWN IN OR OUT OF PARCEL
(#) PRELIMINARY TITLE REPORT # PARCEL #
PCL. NUMBER
FOUND BRASS PIN IN CONCRETE, IN CITY MONUMENT WELL

LINETYPE LEGEND

SUBJECT BOUNDARY- OUTER LIMIT
SUBJECT BOUNDARY- INNER PARCELS
ADJOINER BOUNDARIES
CENTERLINE
MONUMENT LINE
EASEMENT LINE
B.C.D.C. OFFSET LINE (SEE NOTE 6).
PERALTA GRANT LINE
LEASE RESTRICTION TO PORT
CITY BOUNDARY
CALTRANS PROPOSED HAUL ROAD
MATCHLINE
BUILDING LINE
CURB LINE
FENCE LINE
× 12.34 SPOT ELEVATION

RECORD REFERENCES

(R1) PRELIMINARY TITLE REPORT	NCS-900257-4-CC
(R2) PRELIMINARY TITLE REPORT	NCS-900257-9-CC
(R3) PRELIMINARY TITLE REPORT	NCS-900257-13-CC
(R4) CALTRANS RECORD OF SURVEY	#406002
(R5) RECORD OF SURVEY NO. 1833	30-M-11 to 25
(R6) RECORD OF SURVEY NO. 880	14-M-14
(R7) RECORD OF SURVEY NO. 590	11-M-14

BASIS OF BEARINGS:

BEARINGS SHOWN HEREON ARE BASED CALIFORNIA COORDINATE SYSTEM (NAD 83), ZONE 3., EPOCH 1986, PER FAST STATIC GPS TIES TO POINTS 1007, 1033 AND 1061 AS SHOWN ON THE RECORD OF SURVEY MAP PREPARED BY CROSS LAND SURVEYING IN 1993, FILED IN BOOK 18 OF SURVEYS, AT PAGES 50 THROUGH 60 (A.K.A. RS 990) HOLDING THE 1986 EPOCH VALUES OF SAID POINTS PER SAID MAP.

ELEVATION DATUM:

BASED ON PORT OF OAKLAND BENCHMARK KNOWN AS "PORT 1", AN NGS FIRST ORDER, CLASS I BENCHMARK, PID HT0654. A BRASS DISC ("USC&GS, PORT 1") SET IN CONCRETE WALK AT F.D.R. PIER AND ENTRANCE TO THE POTOMAC YACHT SOUTHWEST OF THE INTERSECTION OF CLAY STREET AND WATER STREET. ELEVATION = 9.39 FEET (NAVD88). FOR THIS SURVEY THIS VALUE HAS BEEN CONVERTED TO CITY OF OAKLAND DATUM BY SUBTRACTING 5.77 FEET, RESULTING IN AN ELEVATION = 3.62 FEET (CITY OF OAKLAND DATUM).

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408-467-9199 (FAX)

ALTA/NSPS LAND TITLE SURVEY
HOWARD TERMINAL
95 MARKET STREET
ALAMEDA COUNTY, CALIFORNIA
OAKLAND

No.	Revisions

Date: 11-02-2018
Scale: 1" = 100'
Design: ---
Drawn: DPH
Approved: DSD
Job No: 20180634

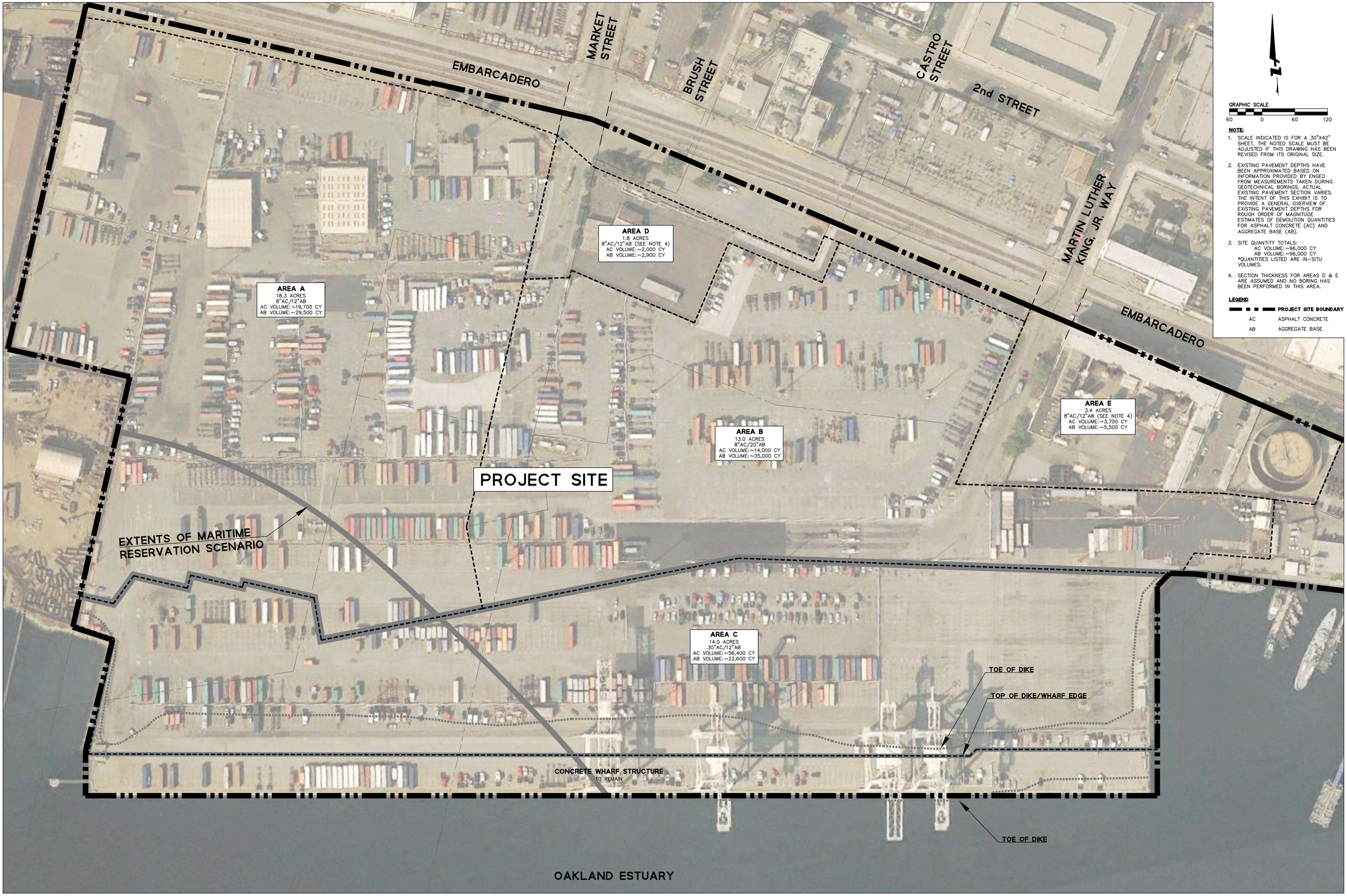
Drawing Number:
ALTA
3 OF 7

B. Demolition

Port of Oakland record drawings show that the existing site consists of at-grade fill, as well as an existing wharf structure supported by piles. A concrete quay wall delineates the onsite fill from the Oakland Inner Harbor and existing wharf on the northern portion of the site, and a rock dike supports the on-site fill at the southern portion of the site.

Demolition of the existing site is expected to accommodate the proposed improvements. It is assumed that select demolition of the existing fill will be required. Geotechnical and structural review of the existing fill and wharf structure is on-going, and recommendations are provided to the project team under separate cover.

Existing site drawings provided by the Port of Oakland show the existing conditions at the project site based on NAVD 29 datum, which is 5.77 feet higher than City of Oakland Datum. The preliminary topographic survey of the site is based on the City of Oakland datum because the site development will be reviewed and permitted by the City, and there is an established monument network to support the City of Oakland datum. An aerial topographic survey was also prepared for use in design level evaluations of the existing conditions. The aerial will further define the existing topography and site features on the City of Oakland Datum. When reviewing historical documents for the site, they are likely on NGVD 29 datum and a conversion of 5.77 feet is required.



GRAPHIC SCALE

60 0 60 120

NOTE:

1. SCALE INDICATED IS FOR A 30"X42" SHEET. THE NOTED SCALE MUST BE ADJUSTED IF THIS DRAWING HAS BEEN REVISED FROM ITS ORIGINAL SIZE.
2. EXISTING PAVEMENT DEPTHS HAVE BEEN APPROXIMATED BASED ON INFORMATION PROVIDED BY ENGEO FROM MEASUREMENTS TAKEN DURING GEOTECHNICAL BORINGS. ACTUAL EXISTING PAVEMENT SECTION VARIES. THE INTENT OF THIS EXHIBIT IS TO PROVIDE A GENERAL OVERVIEW OF EXISTING PAVEMENT DEPTHS FOR ROUGH ORDER OF MAGNITUDE ESTIMATES OF DEMOLITION QUANTITIES FOR ASPHALT CONCRETE (AC) AND AGGREGATE BASE (AB).
3. SITE QUANTITY TOTALS:
   AC VOLUME:~96,000 CY
   AB VOLUME:~96,000 CY
   *QUANTITIES LISTED ARE IN-SITU VOLUMES.
4. SECTION THICKNESS FOR AREAS D & E ARE ASSUMED AND NO BORING HAS BEEN PERFORMED IN THIS AREA.

LEGEND

	PROJECT SITE BOUNDARY
AC	ASPHALT CONCRETE
AB	AGGREGATE BASE

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EXISTING ONSITE PAVEMENT DEPTHS

HOWARD TERMINAL

12/13/19

EX5.0

C. Proposed Grading & Topography

The proposed Project development will be graded to connect at-grade to Market Street, Martin Luther King Junior Way, and Embarcadero on the north. It is assumed that improvements to the existing streets and associated sidewalks is required to facilitate the proposed development. Detailed street improvements will be identified as the project progresses, and traffic-based street improvements are identified, for both vehicular and pedestrian traffic.

The project site will be graded to accommodate the Federal Emergency Management Agency (FEMA) flood elevations, with proposed development above the base flood elevations. In addition, because the project is within the Bay Conservation and Development Commission (BCDC) jurisdiction at the 100-foot shoreline band, sea level rise will need to be accommodated on site. Because the site is high relative to the adjacent grades, both FEMA and sea level rise are anticipated to be accommodated within the proposed site development within the proposed grading and development concept.

GRAPHIC SCALE

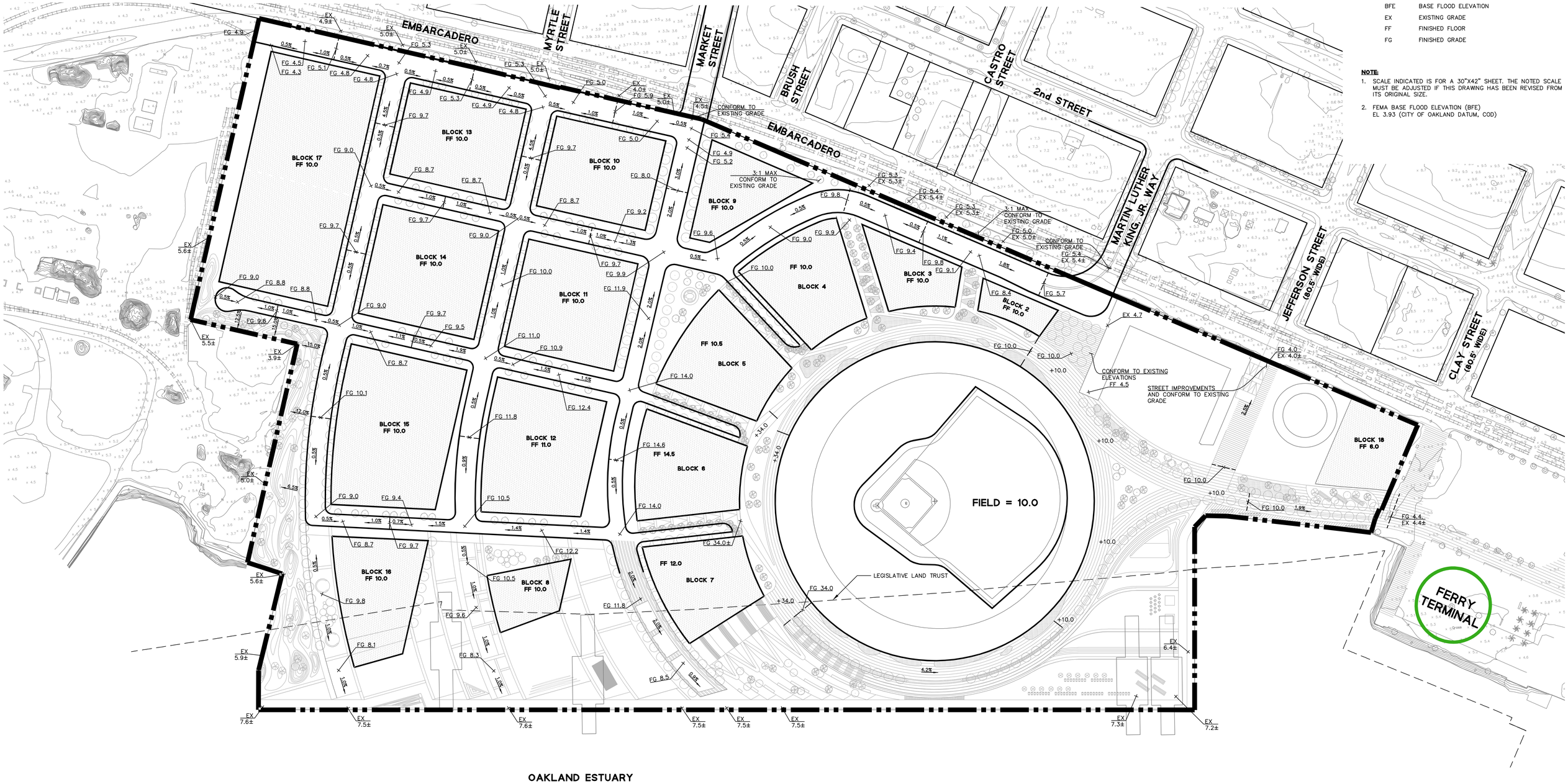
80 0 80 160

LEGEND

	SITE BOUNDARY
	GRADE BREAK AT HIGH POINT
BFE	BASE FLOOD ELEVATION
EX	EXISTING GRADE
FF	FINISHED FLOOR
FG	FINISHED GRADE

NOTE:

1. SCALE INDICATED IS FOR A 30"X42" SHEET. THE NOTED SCALE MUST BE ADJUSTED IF THIS DRAWING HAS BEEN REVISED FROM ITS ORIGINAL SIZE.
2. FEMA BASE FLOOD ELEVATION (BFE) EL 3.93 (CITY OF OAKLAND DATUM, COD)



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PRELIMINARY SITE GRADING

HOWARD TERMINAL

12/13/19

EX6.0

D. Overall Development Proposal

It is our understanding that the proposed improvements include the following elements. These elements are being considered, as the baseline site upgrades required to make the site feasible for a proposed development by the Oakland Athletics. Throughout the Civil Infrastructure Review, we have considered the following improvements, and identified the infrastructure opportunities and constrains associated with these improvements:

1. Proposed 35,000 person capacity ballpark,
2. Development of residential, retail, cultural and civic uses,
3. Hotel and conference room,
4. Performance center,
5. At-grade, and structurally supported open spaces,
6. Pedestrian and vehicular accommodations for drop off, circulation and parking,
7. Associated site utility infrastructure and roadway facilities.

E. Street & Pedestrian Improvements

Roadway and pedestrian infrastructure improvements are expected at the existing streets to support the proposed ballpark and development. Details of these improvements are described in separate project documents.

Market Street and Martin Luther King Junior Way currently cross at-grade with the UPRR tracks at stop-controlled intersections. A pedestrian walkway over the railroad to the project site is being considered, to provide a dedicated pedestrian crossing

A separate study is being performed by Fehr & Peers, which analyzes overall traffic patterns, mass transit options, and additional offsite infrastructure upgrades for street widths, lane configurations and signal installations or modifications.

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F. Gondola

The project is proposing use of a gondola as a mass transit option for people visiting the project site on a daily basis, and for events. The enclosed gondola would transport people from downtown Oakland to the Oakland waterfront, where they would then walk to the Howard stadium and adjacent development. The proposed gondola route is along the existing Washington Street alignment, within the City of Oakland Right of Way. The gondola is proposed to start at a new gondola station adjacent to the City of Oakland Convention Center at 10th Street, between Broadway and Clay Street. The gondola would then travel overhead on a cable that would be centered by a tower at the 4th and Washington Street intersection. The gondola would end at a new gondola station adjacent to the Oakland Inner Harbor at the Water Street and Washington Street intersection. Along this route, the gondola is proposed to traverse over the Nimitz Freeway at the Interstate 880 and 980 interchange. A separate report has been provided that details the gondola variant

3. UTILITIES

A. Sanitary Sewer

1. Existing Infrastructure

a. *Wastewater Treatment*

Sanitary sewer treatment is provided by East Bay Municipal Utility District (EBMUD) at the Main Wastewater Treatment Plant (MWWTP), which is located at the eastern end of the San Francisco-Oakland Bay Bridge. The plant's maximum treatment capacity is 320 million gallons per day (mgd) for primary treatment and 168 mgd for secondary treatment. 63 million gallons of wastewater is treated at the plant every day, and storage basins provide plant capacity for a short term hydraulic peak of 415 mgd. In 2008, the treatment plant was operating at 69 million gallons per day, which seems to imply that the treatment plant is currently operating below capacity. EBMUD has been recycling, reusing and producing renewable energy at its wastewater plan since 1985, and it utilizes sewage inflow for creation of green energy, nutrient rich solid conditioner and recycled water, according to the EBMUD website.

b. *Collection System*

The existing sanitary sewer collection within and surrounding the site is presented on the following exhibit. The City owns and operates the collection system, while EBMUD owns and operates the interceptor trunk lines, which convey wastewater to the MWWTP. The Project site is currently served by two City of Oakland sewer lines in Market Street and Martin Luther King Jr. Way. Both of these sewer lines run north under Embarcadero road, where they connect to the EBMUD 105-inch interceptor within 2nd Street.

2. Proposed Infrastructure

a. *System Capacity*

The City of Oakland has sewer flow allocation at the EBMUD treatment plant for discharge and treatment of the wastewater generated within the City of Oakland. The City's sewer flow allocation is divided into basins and sub-basins based on the sewer collection system networks. The Project site is located in sub-basin 64, as shown on the City basin map. The City of Oakland was contacted, but did not provide comment about the current system capacity in Sub basin 64 prior to issuance of this report.