



**PORT OF OAKLAND**

# PHASE 1 OUTER HARBOR TERMINAL REDEVELOPMENT

*BUILDING RESILIENCY NOW AND FOR THE FUTURE*

**FY 2022 PORT INFRASTRUCTURE  
DEVELOPMENT PROGRAM (PIDP) GRANT**

*Submitted to*

**U.S. DEPARTMENT OF TRANSPORTATION –  
MARITIME ADMINISTRATION**

*Submitted by*

**PORT OF OAKLAND  
530 WATER STREET  
OAKLAND, CA 94607**

**May 16, 2022**





## Introductory Information—Cover Page

Name of applicant	Port of Oakland
Is the applicant applying as a lead applicant with any private entity partners or joint applicants?	No
What is the project name?	Phase 1 Outer Harbor Terminal Redevelopment—Building Resiliency Now and For the Future
Project description	The project constructs Phase 1 of redeveloping and modernizing the Outer Harbor Terminal area; creating a 25+/- acre off-dock container support facility with truck entry/exit gates and gatehouse, office trailer, perimeter fencing, grounded and wheeled storage, RTG refrigerated container (reefer) and grounded storage, LED high mast lighting, drainage, substation improvements, and battery storage and charging stations to expand the Port's electrical grid capacity and support power reliability and resiliency. The project will improve the Port's ability to accommodate supply chain uncertainties and surges in imports, exports, empties, and refrigerated cargo, particularly agricultural exports; improve operational efficiencies; and advance zero-emissions goals.
Is this a planning project?	No
Is this a project at a coastal, Great Lakes, or inland river port?	Coastal
GIS Coordinates (in Latitude and Longitude format)	37°48'44.78"N, 122°18'55.51"W
Is this project in an urban or rural area?	Urban area
Project Zip Code	94607
Is the project located in a Historically Disadvantaged Community or a Community Development Zone? (A CDZ is a Choice Neighborhood, Empowerment Zone, Opportunity Zone, or Promise Zone.)	Yes, Historically Disadvantaged Community (Census Tract 4017) and Opportunity Zone (06001401700)
Has the same project been previously submitted for PIDP funding?	No
Is the applicant applying for other discretionary grant programs in 2022 for the same work or related scopes of work?	No

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Has the applicant previously received TIGER, BUILD, RAISE, FASTLANE, INFRA or PIDP funding?	Yes-TIGER, PIDP
PIDP Grant Amount Requested	\$36,592,875
Total Future Eligible Project costs	\$48,790,500
Total Project Cost	\$48,790,500
Total Federal Funding	\$36,592,875
Total Non-Federal Funding	\$12,197,625
Will RRIF or TIFIA funds be used as part of the project financing?	No





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# 1 Project Description

## 1.1 Project Description and Components

The **Phase 1 Outer Harbor Terminal Redevelopment—Building Resiliency Now and For the Future Project** is essential to sustain the Port's future growth potential and operational efficiencies, support rural farming communities, and maintain and expand the global competitiveness of the Port and provide the Megaregion's primary connection point to world markets. This project would construct the first phase of a broader Outer Harbor Terminal (OHT) redevelopment (approximately 25 of 116 acres) providing much needed container capacity relief (particularly for refrigerated exports), and would eventually include wharf strengthening, larger container cranes, and related electrical improvements.

The Port of Oakland (Port) serves as a critical global gateway for the vast and diverse San Francisco Bay Area and Northern California Megaregion, supporting more than 500,000 jobs in the state of California (Martin Associates 2018) including the economy of the rural Central Valley farming sector, and is the second largest exporting region in the U.S. It is also the fourth busiest container port in the U.S. West Coast and one of the top ten in the U.S. with anticipated growth projections increasing from 2.45 million twenty-foot equivalent units (TEUs) in 2021 to 5.19 million TEUs in 2050.<sup>1</sup> Approximately 45% of the loaded TEUs are export commodities including recycled paper, nuts, fruit, meat, grains, iron/steel products, and dairy products, with these products often going to markets in Asia, primarily China, Japan and Korea.



COVID-19 revealed vulnerabilities and challenges within the supply chain, most notably in the areas of port capacity and congestion issues. Farm exports which rely heavily on the Port of Oakland have been hit particularly hard with transportation challenges and storage and handling fees. The project represents Phase 1 of modernizing the Outer Harbor Terminal area; creating a 25+/- acre (out of 116 acre total area)

### Project benefits include:

- Accommodations for cargo surges
- Increased container handling capacity
- Reduced congestion, crashes, emissions, and improved operational efficiencies
- Advancing zero-emissions equipment and operations goals
- Support Port reliability and resiliency
- Benefit-cost ratio of 5.0

off-dock container support facility with truck entry/exit gates and gatehouse, an office trailer, perimeter fencing, grounded storage, wheeled storage, rubber tired gantry crane (RTG) refrigerated container (reefer) storage, RTG grounded storage, new light emitting diode (LED) high mast lighting, drainage improvements, pavement and other yard improvements, substation improvements, and battery storage and charging stations to expand the Port's electrical grid capacity and support power reliability and resiliency (see Figure 1). The project will improve the Port's ability to accommodate near-term supply chain uncertainties and surges in imports, exports, and refrigerated cargo; increase its container handling

<sup>1</sup> The Tioga Group and Hackett Associates, 2019-2050 Bay Area Seaport Forecast (Moderate Growth). SF Bay Conservation and Development Commission, 2020 (page 76). <https://www.bcdc.ca.gov/seaport/2019-2050-Bay-Area-Seaport-Forecast.pdf>.

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capacity; reduce congestion and improve operational efficiencies at the Port; make it easier to fill empty shipping containers with agricultural commodities at a facility that can accommodate these transactions at the Port; and advance the Port's and State's goal of a zero-emissions freight transportation system.

As shown in Figure 1 and detailed in the cost estimate in Appendix A—Benefit-Cost Analysis Spreadsheet (Construction Cost worksheet), site work for the project will include: demolition of existing pavement, RTG runway foundation grading, demolition and relocation of K-Rail for perimeter, 8-foot high chain link security fencing on the concrete K-Rail, drainage, pavement markings/stripping, precast concrete (PCC) wheel stops, foundation for lighting, trenching and backfill for the substations, duct banks and conductors for the substations, and conduit and trenching to connect the charging station and reefer racks to the substations. Table 1 contains a summary of the key project components. Values are estimates based on conceptual design.

The project is in the conceptual design stage but could be designed, constructed, and operational within 36 months following availability of funding as described in Section 5.0 Project Readiness. The project meets the PIDP grant eligibility requirements as it is located within the boundary of a port, in a designated Historically Disadvantaged Community and Opportunity Zone. It supports the program's goals of improving: the safety, efficiency, and reliability of loading and unloading of goods at the port; the movement of goods into, out of, around, and within the Port; the Port's resiliency; and reduces environmental and emissions impacts.

The Phase 1 Outer Harbor Terminal Redevelopment—Building Resiliency Now and For the Future Project meets **all six PIDP determinations**. See Section 7 for more details.

**Table 1** Key Phase 1 Outer Harbor Terminal Redevelopment Project Components

Component	Units/Capacity	Description
Pavement replacement	28 acres <sup>2</sup>	7" asphalt concrete (AC) pavement on 17" crushed miscellaneous base (CMP) that will support container stacking and capacity for structural stability.
RTG reefer storage and plugs	48 total ground slots (TGS) with up to 192 plugs (capacity=192)	Stacked up to 4 containers high. Provides flexible reefer import or export storage capacity. Supports rural farmers and other agricultural suppliers to deliver goods to the Port with flexibility to accommodate ever-changing vessel arrivals and departures reducing potential spoilage and lost revenue. Plugs offer power reducing use of gensets (reduced pollutants).
RTG grounded storage	384 TGS (capacity=1,536)	Flexible import, export, and empty RTG grounded container storage stacked up to 4 containers high. In line with adjacent marine terminal RTG row to accommodate future expansion/integration into existing adjacent marine terminal.

<sup>2</sup> Additional acreage above the 25+/- acre site includes extra contingency to address driveways and periphery of the fenced area.

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Component	Units/Capacity	Description
Grounded container storage	1,384 TGS (capacity = 5,536 loaded; 6,920 empty)	Flexible staging/storage area to support empties, imports, or exports depending on need. Empties can be stacked 5 containers high and loaded 4 high.
Wheeled container storage	295 TGS (capacity = 295)	Flexible import, export, and empty storage area for wheeled containers or temporary parking.
Truck exchange lanes	4	Locations to enable pick or placement of containers.
Guard house/entry lanes/exit lanes/security gates	1/2/3/2	Facilities and equipment to restrict access to the Outer Harbor Terminal off-dock container support area. As a restricted area, these serve as a check point to verify and record entities entering or leaving the area.
Trailer modules for office building	3	To support administrative activities for the Outer Harbor Terminal off-dock support facility
LED high mast light poles and hydrants	6	Converting from common high-intensity discharge (HID) with existing lighting to LED which saves on electricity costs (resiliency) and operations and maintenance costs (O&M)
Substation modifications	2	Substation upgrades at two locations in the area, SS-C-36 and SS-C-48. Allows the Port to accommodate increased electrification demands, optimize the battery storage system, and support the reefer plugs and charging station. Needed to support the Port's zero-emissions operational infrastructure.
Charging stations	2	Charging equipment for the yard zero-emissions vehicles (ZEV) trucks. Supports the Port's 2020 and Beyond Plan and West Oakland Community Action Plan (WOCAP) to transition to zero emissions cargo-handling equipment and drayage truck operations.
Battery storage system	1	Located at substation SS-C-48. Expands the Port's electrical grid capacity, allow for operations on green power, and minimize energy reliability risks to the Port.

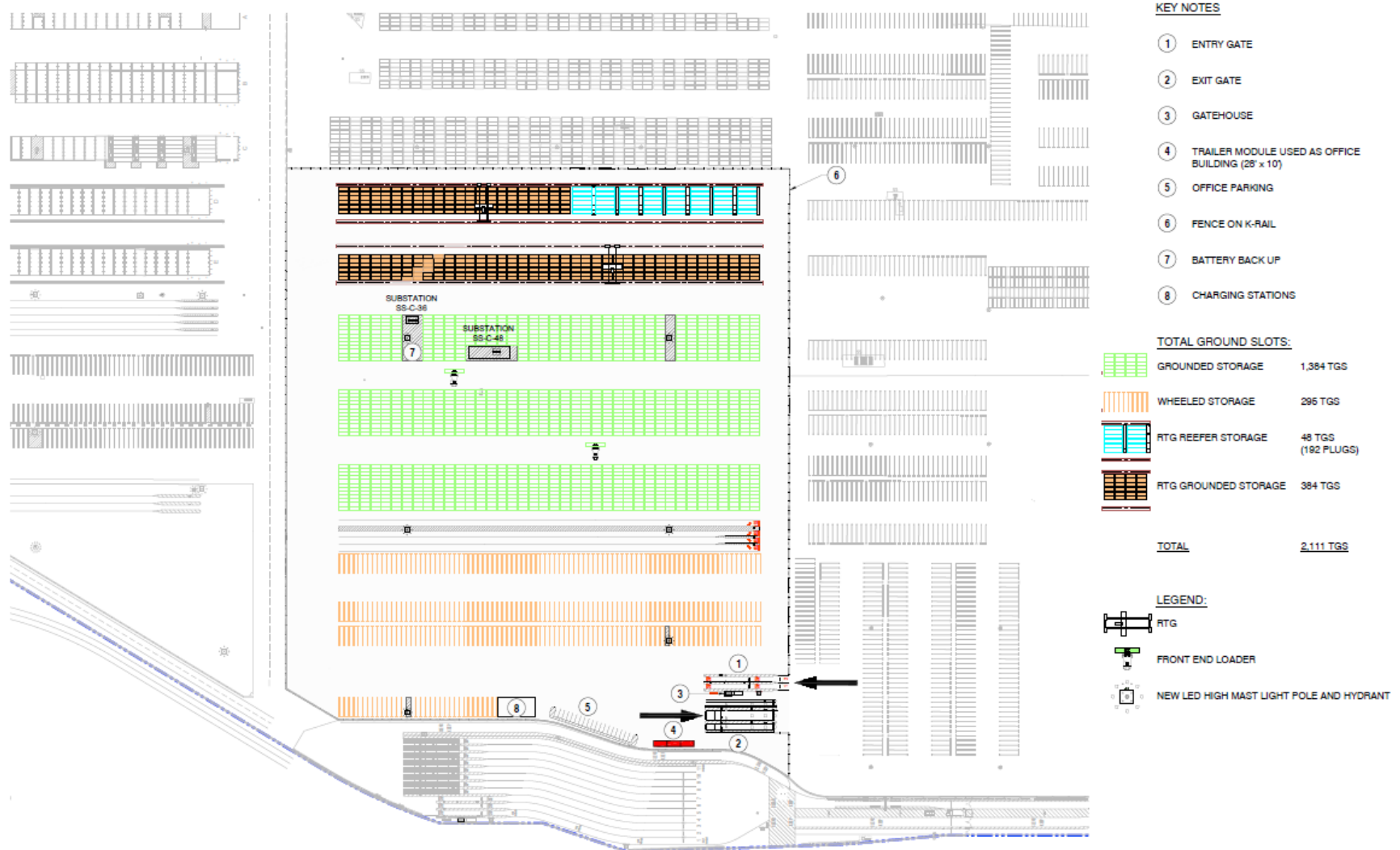


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**Figure 1** Phase 1 Outer Harbor Terminal Redevelopment Concept Diagram





## 1.2 Challenges Addressed by the Project

**Export/Agricultural.** Disruptions in the supply chain have resulted in significant impacts to the Port of Oakland, particularly late arrivals of vessels due to the backlog at the Ports of Los Angeles and Long Beach. The delivery of export containers from agricultural shippers is one of the more notable, since they cannot bring their containers when they are originally scheduled to, nor do the terminals have the capacity to store containers for indeterminate periods of with the surge in imports. This has resulted in extra costs, lost revenue, and shippers diverting their containers to other Ports. A 2022 Martin Associates analysis<sup>3</sup> estimates that the Port of Oakland has lost approximately 2.9 TEUs to the Ports of Los Angeles, Long

Beach, Seattle, and Tacoma with nearly one (1) million of that being exports. The Phase 1 Outer Harbor Terminal Redevelopment Project will convert the current low density wheeled truck parking and container storage area to a mostly stacked yard with a capacity of over 8,000 containers, providing access to equipment, safe plug-in reefer storage, faster turns times since truckers will not need to wait for in-terminal space, and flexible storage of export, import, or empty containers. This will make the Port more reliable and resilient with the ability to better handle disruptions and unpredictability of the supply chain with additional and flexible container capacity.

**Limited Capacity.** With the increased import volumes and near-dock storage near or at capacity, importers and exporters are being forced to use temporary staging areas until their containers are needed at distribution warehouses or until terminals are ready to load them onto vessels. The three temporary container storage facilities being used in Northern California include an armory in Stockton, a former prison in Tracy, and a fairground site in San Joaquin County, all of which are 60 miles or more from the Port. This results in additional truck trips, increased VMT, and increased truck miles without a container or payload (deadhead). These sites are supporting empty dry containers and refrigerated containers being pre-tripped for export until the terminals are ready to accept them. Refrigerated containers at these facilities utilize a Transport Refrigeration Unit (TRU) generator set (genset) to control the temperature. Gensets are powered by a small diesel engine which emits multiple air pollutants including diesel PM, fine particulate matter (PM<sub>2.5</sub>), oxides of nitrogen (NO<sub>x</sub>), and greenhouse gases (GHG). All of these locations are in a Historically

The temporary container storage facilities set up in Stockton, Tracy, and San Joaquin County are causing additional truck trips, increased VMT, increased deadhead miles, but most importantly, increased greenhouse gas emissions in Historically Disadvantaged Communities.

Disadvantaged Community (Census Tracts 55.01, 38.03, and 22.01/22.01) where nearby residents will bear a disproportionate health burden. The project will provide flexible import, export, and refrigerated stacked and wheeled container storage at the Port reducing the need for the off-Port facilities during surges, decreasing VMT, truck trips, deadhead miles, and emissions. The project will also free up empty containers and chassis that would otherwise be unavailable at an off-Port storage facility.



↓2.1  
BILLION \$

Estimated amount lost between May and September 2021 by California farmers due to gridlock at West Coast ports (UC Davis, 2021)



↓1.3  
BILLION \$

Amount lost by the U.S. dairy industry in the first nine months of 2021 due to higher shipping and storage costs and lost business (U.S. Dairy Export Council and National Milk Producers Federation, 2021)

<sup>3</sup> Analysis performed by John C. Martin & Associates based on S&P TRANSEARCH data, March 14, 2022.



In order to help mitigate container storage issues, the Port also has implemented a temporary 22-acre “pop-up” yard dedicated to export distribution as part of a partnership with the U.S. Department of Agriculture (USDA) to help clear bottlenecks impeding outbound shipments. Agricultural exporters have exclusive access to pre-cooled refrigerated containers for loading perishable products. This is located on the Howard Terminal property in the southeastern area of the Port and is anticipated to operate for approximately one year, through early 2023.

The implementation of this project will reduce the need for shippers to divert their containers to other Ports, which has resulted in extra costs and lost revenue across the supply chain.

**Emissions/Disadvantaged Communities.** This project is located within federally designated Historically Disadvantaged Community and Opportunity Zone areas (see Section 2.2). The Port and neighboring communities experience some of the highest levels of air quality pollution in the Bay Area according to the Bay Area Air Quality Management District (BAAQMD) and have been identified as a priority Assembly Bill (AB) 617 Community Health Protection Program area, and are included in the Metropolitan Transportation Commission’s (MTC) Equity Priority Communities effort representing census tracts that have a significant concentration of underserved populations, such as households with low incomes and people of color. Over 90 percent of the cancer risk from local air pollution in the adjacent West Oakland is attributable to diesel particulate matter<sup>4</sup>. Residents also experience higher rates of deaths from cancer, heart disease and strokes, and higher rates of asthma emergency visits and hospitalizations. The Port has been working together with the BAAQMD, West Oakland Environmental Indicators Project (WOEIP), California Air Resources Board (CARB) the freight community, and local community for over 15 years to improve air quality and support public health through major investments, innovation, and commitment. The Port’s new plan for emissions reductions, *Seaport Air Quality 2020 and Beyond Plan, The Pathway to Zero Emissions*, (2019) addresses long-term planning for air quality, including the State’s GHG emissions reductions targets, with extensive community and partner engagement. The electrical infrastructure systems (substation upgrades, charging stations, battery storage) implement actions in the Plan, and providing plug-in reefer storage as an alternative to gensets, supports zero-emissions equipment and operations which is essential to decarbonizing the Port and delivering related air quality community health, and jobs benefits.

**Congestion/Idling.** Trucks utilizing the off-dock container storage facility can avoid the marine terminals, reducing Port congestion, gate queues and idling during the day, as the containers could be moved from the proposed off-dock facility during off-peak or the night shift when there are limited or no gate queues. The Port envisions that containers being moved would be transported using zero-emissions drayage trucks or yard equipment to the extent possible.

### 1.3 Historical Context

**Outer Harbor Terminal (OHT).** The Outer Harbor Terminal (including the proposed 25+/- acre improvement area) has been used as low density wheeled truck parking and container storage, leased to multiple tenants on short term (month-to-month) space assignments of approximately one acre. The sizes of the space assignments are generally very small, with the largest about 1.5 acres. Figure 2 shows an example of recent use of the space.

<sup>4</sup> West Oakland Environmental Indicators Project and BAAQMD, *Owning Our Air: The West Oakland Community Action Plan*, 2019 (page 2-3). <https://woeip.org/featured-work/owning-our-air/>.





**Figure 2** Recent Use of Proposed Site



The Port is currently planning for long-term and permanent facilities for the Outer Harbor Terminal (OHT). As part of a 2021 condition assessment (Moffatt & Nichol) under this effort, the Berth 24 area pavement where the proposed site is located, appears to be in **fair condition and requires a pavement project to extend the life of the functional area**. Future concepts under development include portions of the site being available for integration into adjacent marine terminal expansion, wharf upgrades and structural support to accommodate state of the art cranes, new entry/exit gates and gate house, maintenance buildings, administrative building, longshoreman restroom facility, container wash, fueling station, stacked grounded wheeled storage, reefer storage and reefer racks with plugs, RTG grounded storage, export storage, truck holding lanes, Vehicle and Cargo Inspection System (VAICS), new lighting, shore power, electrical charging equipment and infrastructure, and/or auto shuttle positioning system technology.



*Example of Outer Harbor Terminal Pavement Condition*

**2020 and Beyond Plan and Relationship to Other Plans.** In 2019, the Port formalized its commitment to becoming a zero-emissions Seaport by adopting the *Seaport Air Quality 2020 and Beyond Plan: The*

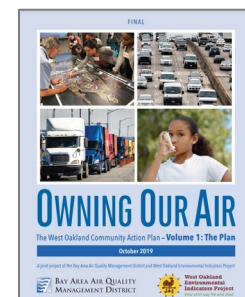




*Pathway to Zero Emissions.*<sup>5</sup> This project includes some of the implementing actions in the 2020 and Beyond Plan including: expanding the electrical charging infrastructure for the Port's vehicle fleet, expansion of electrical infrastructure to support equipment charging at terminals, and Port electrical grid reliability and capacity upgrades. It also builds upon the 2021 Powering the Future PIDP grant.<sup>6</sup>

In addition, the project supports or is consistent with strategies or projects in multiple State, regional, or local plans. Some examples include:

- California State Transportation Agency (CalSTA) and California State Department of Transportation (Caltrans), *California Freight Mobility Plan 2020*, 2020<sup>7</sup>
  - BA\_007 Marine terminal modernization, including LED lighting upgrades. Reduces the Port's carbon footprint and helps the Region/State move towards achieving its zero emissions goal.
  - BA\_008 Port wide electrification, upgrading electrical infrastructure at the Port to increase capacity needed to accommodate the electrification of terminals and equipment.
- Metropolitan Transportation Commission (MTC) and Association of Bay Area Governments (ABAG), *Plan Bay Area 2050*, 2021<sup>8</sup>
  - EN8. Expand clean vehicle initiatives with investment in chargers.
  - T2. Supporting community-led transportation enhancements in Equity Priority Communities.
- West Oakland Environmental Indicators Project (community-based organization) and Bay Area Quality Management District's (BAAQMD), *Owning Our Air: The West Oakland Community Action Plan*, 2019<sup>9</sup>
  - #18 Air District advocates for more electrical infrastructure and power storage, including truck charging stations.
  - #19 Port of Oakland infrastructure plan to remove barriers to adoption of zero emissions trucks, such as cost, land, and ownership of charging equipment.
  - #31 CARB amends transport refrigeration unit regulation to zero-emission technology and supporting infrastructure
  - #37 Port of Oakland supports transition to zero-emissions drayage truck operations
  - #43 Port of Oakland off-terminal container yard that uses zero-emission trucks to move containers to/from terminals



<sup>5</sup> <https://www.portofoakland.com/files/PDF/Volume%20I.pdf>.

<sup>6</sup> <https://www.portofoakland.com/wp-content/uploads/PIDP-Project-Narrative.pdf>.

<sup>7</sup> <https://dot.ca.gov/programs/transportation-planning/division-of-transportation-planning/sustainable-freight-planning/cfmp-2020> (page 497-498).

<sup>8</sup> <https://www.planbayarea.org/> (Chapters 4 and 5).

<sup>9</sup> <https://woeip.org/featured-work/owning-our-air/> (page 6-23 to 6-26).



## 2 Project Location

### 2.1 Project Location

The Port, located in Alameda County within the San Francisco-Oakland urbanized area (3.5 million population)<sup>10</sup>, links the San Francisco Bay Area (7.8 million population)<sup>11</sup>, the Northern California Mega-region (12.7 million population)<sup>12</sup>, and the interior U.S., to the Pacific Rim and the broader world, providing access to global markets and opportunities for increased trade. The 1,300-acre Port complex includes 770 acres of marine terminals, numerous transload/warehouse companies, and is served by two Class I railroads. The Port's facilities include six marine terminals served by more than 20 major ocean carriers, 20 deep-water berths equipped with 35 container cranes, and near-dock rail intermodal facilities operated by the UPRR and BNSF Railway.

The Phase 1 Outer Harbor Terminal Redevelopment Project is located in the northwest area of the Oakland Seaport (see Figure 3). The Port is served by multiple Primary Highway Freight System (PHFS) routes on the National Highway Freight Network (NHFN) that provide connections into and out of the Bay Area, including I-80, I-580, and I-880. Two PHFS intermodal connectors provide access to the project location including West Grand Avenue/Maritime Street and 7th Street.

The geospatial reference data (GIS coordinates) for the key project component locations are shown in Table 2.

**Table 2** GIS Coordinates of Key Project Components

Project Component	GIS Coordinate
<b>General boundary of improvement area</b>	
• Northwest corner	37° 48' 52.03" N, 122° 18' 58.09" W
• Southwest corner	37° 48' 43.88" N, 122° 19' 05.42" W
• Northeast corner	37° 48' 44.02" N, 122° 18' 44.90" W
• Southeast corner	37° 48' 37.18" N, 122° 18' 55.24" W
Substation SS-C-48 upgrades and battery storage	37° 48' 44.78" N, 122° 18' 58.68" W
Substation SS-C-36 upgrades	37° 48' 44.45" N, 122° 19' 00.16" W
Charging stations	37° 48' 40.97" N, 122° 18' 50.51" W
RTG reefer storage area	37° 48' 44.45" N, 122° 19' 00.16" W
Gatehouse, entry and exit gates	37° 48' 49.91" N, 122° 18' 58.52" W

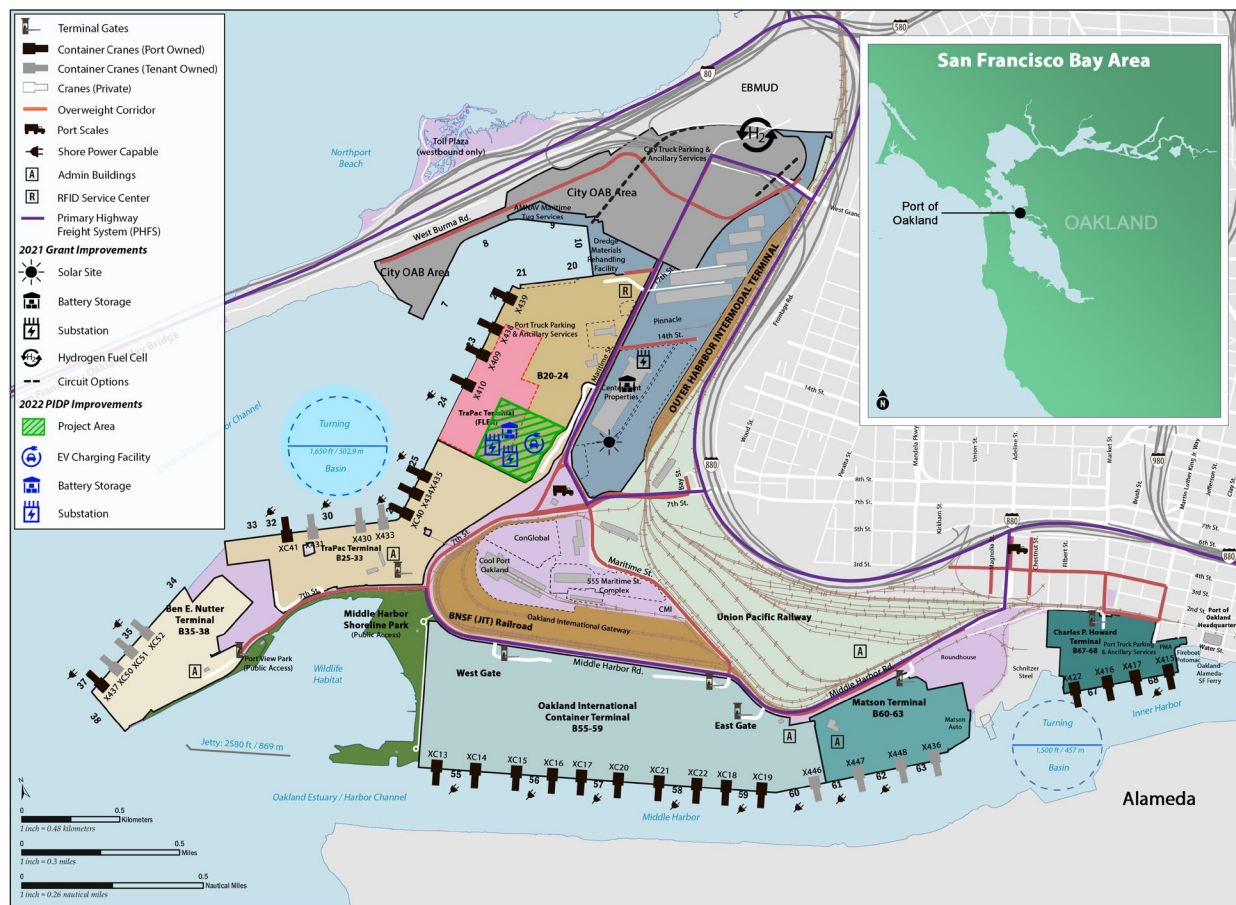
<sup>10</sup> Census Reporter, from U.S. Census Bureau, 2020. American Community Survey 5-year estimates. <https://censusreporter.org/profiles/40000US78904-san-francisco-oakland-ca-urbanized-area/>.

<sup>11</sup> U.S. Census Bureau, 2020 Population and Housing State Data, 2021. <https://www.census.gov/library/visualizations/interactive/2020-population-and-housing-state-data.html>.

<sup>12</sup> Bay Area Council Economic Institute (BACEI), The Megaregional Case for a New Transbay Rail Crossing (Report), 2021 (page 5). <http://www.bayareaeconomy.org/report/megaregionimpactsofnewtransbayrailcrossing/>.



**Figure 3** Project Location



## 2.2 Federal and Census Designations

The Port of Oakland is a Coastal Seaport located in the San Francisco—Oakland, CA Urbanized Area (Code 78904) based on the 2010 Census-designated urbanized areas. The project is located in a federally-designated Historically Disadvantaged Community<sup>13</sup> (Census Tract 4017) and Opportunity Zone<sup>14</sup> (06001401700) (see Figure 4 and Figure 5).

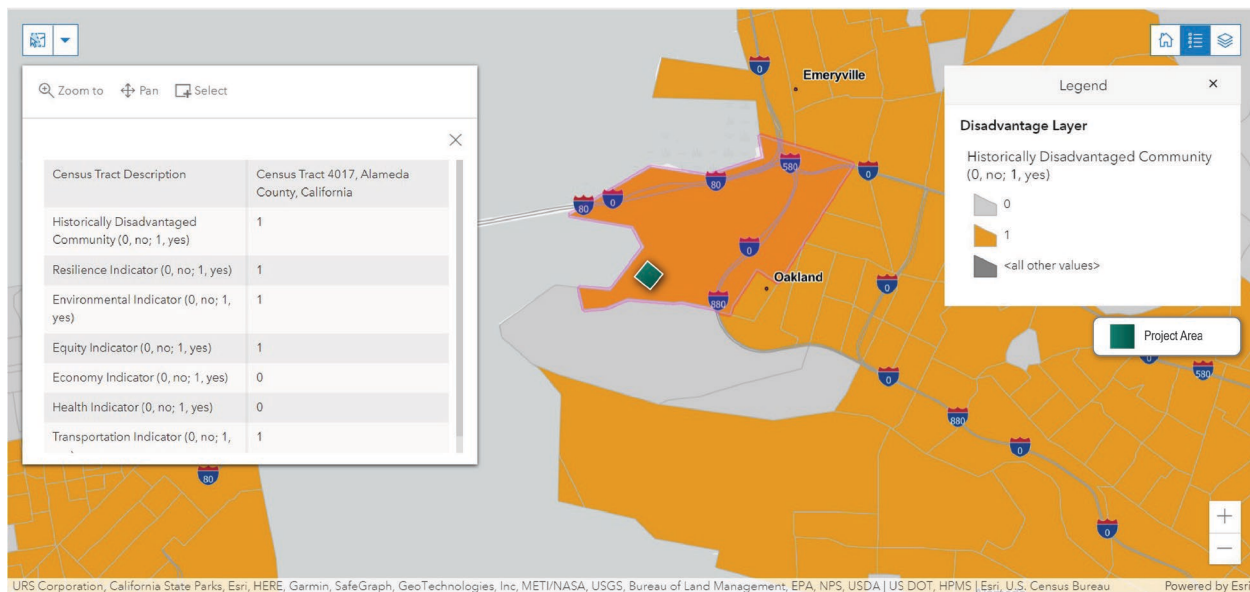
<sup>13</sup> <https://usdot.maps.ArcGIS.com/apps/dashboards/d6f90dfcc8b44525b04c7ce748a3674a>.

<sup>14</sup> <https://opportunityzones.hud.gov/>.

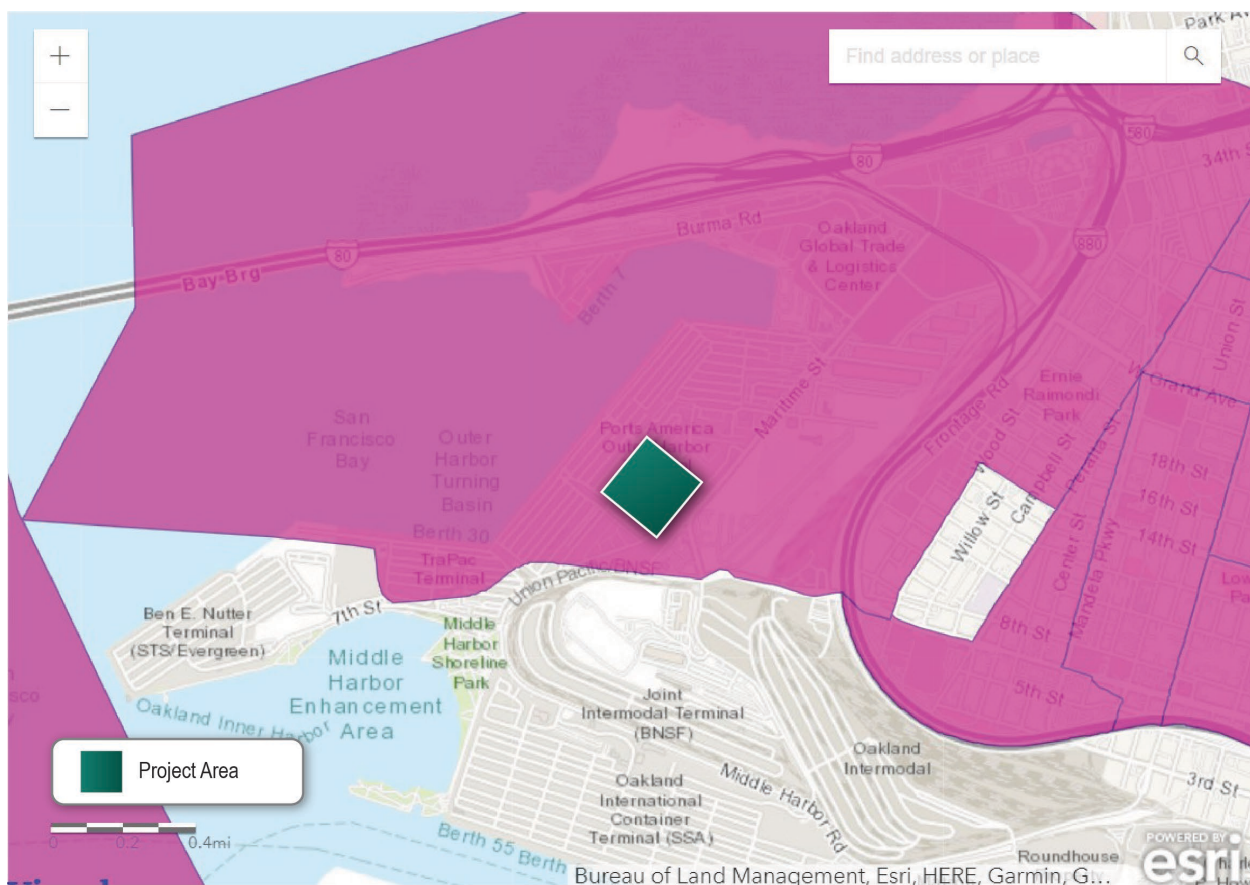




**Figure 4** Project Area Location Within Historically Disadvantaged Community



**Figure 5** Project Area Location Within Opportunity Zone







### 3 Grant Funds, Sources, and Uses of Funds

Table 3 presents the cost of the project, as well as a breakdown of funding sources. A detailed breakdown of the project costs by component with unit costs and quantities is provided in the Appendix A—Benefit-Cost Analysis Spreadsheet. The estimates were prepared in 2022 based on conceptual design (Moffatt & Nichol, 2022).<sup>15</sup> No other Federal funds are available for this project, and all non-Federal funds would be provided by the Port of Oakland. There are no conditions on the Port funds, and the funds can be made available from the Port's reserves as soon as Federal grant funds are obligated. Additional information on leveraging Federal funding can be found in Section 4.5.

**Table 3 Cost Estimate with Sources and Uses of Project Funds**

Item	Total Cost	% Total Cost	Eligible Cost (Y/N)	Port Contribution		PIDP (Federal) Contribution	
				\$	%	\$	%
Construction Cost	\$30,492,500	62%	Y	\$7,623,125	25%	\$22,869,375	75%
Mobilization/ Demolition	\$1,525,000	3%	Y	\$381,250	25%	\$1,143,750	75%
Design, PM, CM, Procurement, Permitting, Port Staff Oversight	\$8,767,000	18%	Y	\$2,191,750	25%	\$6,575,250	75%
Insurance/Legal	\$382,000	1%	Y	\$95,500	25%	\$286,500	75%
Contingencies	\$7,624,000	16%	Y	\$1,906,000	25%	\$5,718,000	75%
<b>Total</b>	<b>\$48,790,500</b>	<b>100%</b>		<b>\$12,197,625</b>	<b>25%</b>	<b>\$36,592,875</b>	<b>75%</b>

### 4 Merit Criteria

The Phase 1 Outer Harbor Terminal Redevelopment Project will support **all of the key objectives of the PIDP program** including improving the safety, efficiency, or reliability of goods movement; supporting economic vitality at the national and regional levels; reducing climate change and environmental justice impacts; advancing equity and opportunity for all; and leveraging Federal funding to attract non-Federal sources of infrastructure investment.

The project will improve the loading and unloading of goods, the movement of goods, and Port operations (including improved port resilience).

<sup>15</sup> Moffatt & Nichol, Port of Oakland PIDP Application Assistance Technical Memo, 2022.



## 4.1 Section A: Achieving Safety, Efficiency, or Reliability Improvements (CS)

### Safety

The project's safety benefits stem from reductions in truck VMT due to the diversion of trucks from the Ports of Long Beach, Los Angeles, Seattle, and Tacoma to travel a shorter distance to the Port of Oakland. The reduced truck VMT leads to a reduction in truck-related crashes that would have resulted without the project. Approximately 96 fatal-injury and 327 property damage only crashes are estimated to be avoided over 20 years with the completion of the Phase 1 Outer Harbor Terminal Redevelopment Project, resulting in \$26.9 million (discounted at 7% in 2020 dollars) in benefits from reduced VMT related incidents. More details on the source of the reduction in truck VMT can be found in Appendix A—Benefit-Cost Analysis Spreadsheet provided as an attachment to this grant application.



Less crashes estimated as result of reductions in VMT from the Phase 1 Outer Harbor Terminal Redevelopment Project

Although not monetized in this application, safety and security benefits of the project also include:

- Improved vision within the off-dock terminal area from the new LED high-mast lighting and entry/exit gates and gatehouse; and
- Reduced worker exposure to accidents through upgrades and replacement of end-of-life electrical infrastructure.

### Efficiency

The Phase 1 Outer Harbor Terminal Redevelopment Project increases cargo throughput efficiency and capacity and provides greater on-dock flexibility by providing additional storage for import, export, and empty containers. It is estimated to divert approximately 288,500 truck TEUs from the Central California areas to/from the Ports of Los Angeles, Long Beach, Seattle, and Tacoma to the Port of Oakland which reduces truck VMT by 13.5 million miles and travel time by 269,407 hours per year on average, and \$85.2 million in vehicle-operating costs (VOC) savings from fuel, maintenance, tires, and depreciation over the 20 years, discounted at 7% in 2020 dollars.

#### Efficiency Benefits

- Average annual reduction in truck VMT of 13.5 million miles
- Average annual travel time savings of 269,407 hours
- \$85.2 million in vehicle-operating costs (VOC) savings from fuel, maintenance, tires, and depreciation over the 20-year life-cycle

The project will reduce or eliminate the need for the three temporary container storage facilities located 60-70 miles from the Port of Oakland in Stockton, Tracy, and San Joaquin County. This would reduce truck trips as the containers could be delivered straight to the Outer Harbor Terminal off-dock support yard and then (to the extent possible) transported via zero-emissions electric drayage trucks at night to the terminals. This would result in reductions in VMT and congestion, deadhead miles, fuel use and VOCs, wait time at the terminal gates, and associated emissions from idling, and would free up empty containers and chassis that would otherwise be unavailable at an off-Port storage facility over 60 miles away. The off-dock container storage available through this project can also improve operational efficiency at the terminals.

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*Building Resiliency Now and for the Future*



Containers can be stored at the Outer Harbor Terminal, freeing up space for processing the inbound and outbound containers, reducing on-dock congestion.

An existing operational marine container terminal is located adjacent to this Outer Harbor Terminal off-dock container support yard. The stacked RTG container rows are proposed to be in line with those within the adjacent terminal providing future integration and expansion opportunities for increased container capacity and improved operational efficiencies when needed in the future.

Lastly, providing electric charging stations within the project site will result in reductions in travel time, VMT, fuel use, and emissions by eliminating the need for trucks to travel to nearby fueling stations.

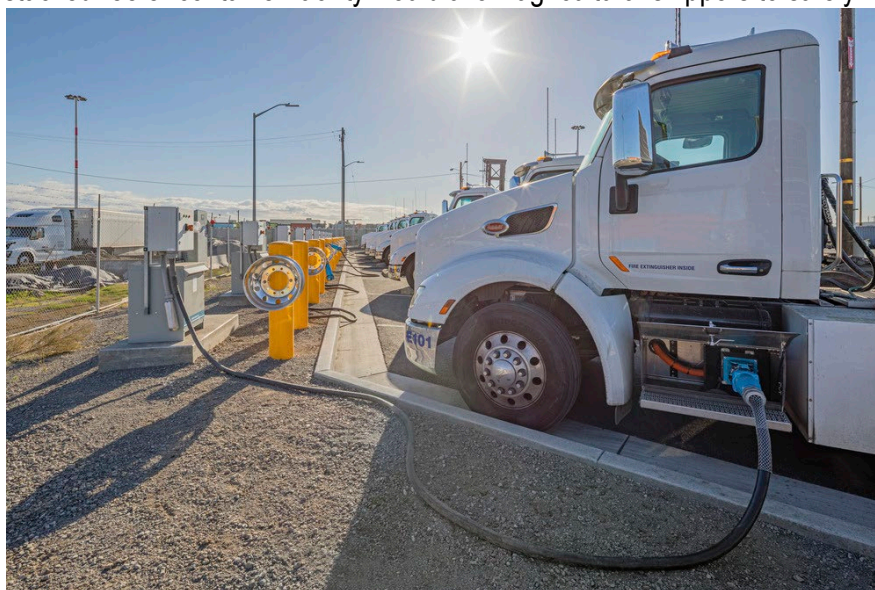
### *Reliability and Resiliency*

The additional container storage at the Outer Harbor Terminal will make the Port more reliable and resilient with the ability to handle disruptions and unpredictability of the supply chain. The site can provide reliability to its customers and terminal operators to handle surges in either imports or exports, most notably peaks in agricultural exports. The project will also improve reliability for the delivery of export containers from agricultural shippers. With the uncertainty of vessel arrivals to the Port of Oakland from congestion issues in Southern California, the new stacked reefer container facility would allow agricultural shippers to safely plug in and store their containers until needed at the terminal.

The project would also provide resiliency for the cold cargo storage and shipments due to power loss and/or energy limitations with the battery storage capabilities.

The project will support electrification of drayage trucks and other port vehicles, and operational infrastructure with electric charging, battery storage infrastructure, and substation upgrades.

It will improve the reliability of the electrical grid and backup power storage and climate resilience to help insulate and protect the Port of Oakland from the impacts of electric power reliability, including rolling blackouts during heat waves and public safety power shutoffs (PSPS).



*Electric Charging Stations and Trucks at the Port of Oakland*

### *Environmental and Emissions Mitigation*

Providing the electrical infrastructure systems (electrical chargers, battery storage, and substation upgrades) to support zero-emissions equipment and operations is essential to decarbonizing the Port and delivering the related air quality and community health benefits in support of State, regional, and local air quality and climate plans and goals. Specifically, the inclusion of chargers and electrical resiliency



upgrades implements measures identified in the Port's Seaport Air Quality 2020 and Beyond Plan. Storage and use of energy from renewable sources reduces air pollution and other health burdens associated with fossil-fuel-based electrical power. From the operational perspective, the project improves Port efficiency and reduces idling by optimizing the use of Port areas adjacent to its terminals. Over 90 percent of the cancer risk from local air pollution in West Oakland is attributable to diesel particulate matter<sup>16</sup>. Residents also experience higher rates of deaths from cancer, heart disease and strokes, and higher rates of asthma emergency visits and hospitalizations. This project would help to reduce harmful emissions and associated negative health impacts for workers at the Port and neighboring communities. Monetized and additional environmental and emissions benefits from the project are described in Section 4.3.

## 4.2 Section B: Supporting Economic Vitality at the Regional or National Level

Based on *The Economic Impact of the Port of Oakland* report by Martin Associates (2018)<sup>17</sup>, the total economic value of marine cargo and vessel activity at the Port is estimated at \$60.3 billion; supporting approximately 500,000 jobs in the State of California, including 11,393 jobs directly created by Port activities, as well as more than 16,000 induced and indirect jobs. Maintaining and

increasing flexible container storage capacity at the Port of Oakland is essential to supporting economic vitality at the local, regional, and State levels, as well as the national level to handle future growth.



5.0

Estimated benefit-cost ratio of the Phase 1 Outer Harbor Terminal Redevelopment Project with net benefits over a 20-year life at \$139.9 million.

A benefit-cost analysis (BCA) was performed for the Phase 1 Outer Harbor Terminal Redevelopment project as summarized in Table 4. **The project has a benefit-cost ratio (BCR) of 5.0:1** with expected net benefits over a 20-year project life of \$139.9 million and total estimated benefits are \$174.7 million when discounted at 7% in 2020 dollars. Benefits accrue from the reduction in truck vehicle miles traveled (VMT) from TEUs diverted from the Ports of Los Angeles/Long Beach and Tacoma/Seattle. The methodology and calculations that support the BCA results are transparent and repeatable, consistent with the 2022 *Benefit Cost Analysis Guidance for Discretionary Grant Programs*, and are detailed in Appendix A—Benefit-Cost Analysis Spreadsheet and [Appendix B—Benefit-Cost Analysis and Methodology Report](#). Table 4 presents the expected monetary benefits costs for travel time savings, vehicle operating cost savings, safety (crash reductions), environmental sustainability (emissions reductions), noise, maintenance and operating costs, and residual value for assets with a useful life greater than 20 years.

**Table 4 Benefit-Cost Analysis Summary, Discounted at 7% in 2020 Dollars**

Benefits and Costs	Discounted Value (2020\$)
Travel Time Savings	\$58,002,447
Vehicle Operating Cost Savings	\$85,191,094

<sup>16</sup> <https://www.baaqmd.gov/~media/files/ab617-community-health/west-oakland/100219-files/final-plan-vol-1-100219-pdf.pdf?la=en> (page 2-3).

<sup>17</sup> <https://www.portofoakland.com/wp-content/uploads/Economic-Impact-Report-2019-FULL-REPORT.pdf> (page 11).





Benefits and Costs	Discounted Value (2020\$)
Safety Crash Cost Reduction	\$26,925,455
Environmental Sustainability	\$8,735,656
Noise Reduction	\$1,785,388
Maintenance & Operations Costs	(\$6,399,922)
Residual Asset Life	\$505,899
<b>Total Benefits</b>	<b>\$174,746,017</b>
<b>Total Costs</b>	<b>\$34,840,054</b>
<b>Benefit/Cost Ratio</b>	<b>5.0</b>
<b>Net-Present Value (NPV)</b>	<b>\$139,905,964</b>

The project is also anticipated to result in the following non-quantified economic benefits:

- Reductions in health-related costs (deaths, cancer, heart disease, strokes, asthma, emergency room visits and hospitalizations) due to reductions in fuel use and emissions from the electrical infrastructure systems;
- Reductions in maintenance and operating expenses associated with more reliable LED lighting and electric-powered operational infrastructure;
- State of good repair (SOGR) benefits from pavement replacement;
- Reductions in lost revenue for the agricultural sector from delayed or missed export shipments and spoilage;
- Provide near- and long-term local, good paying job opportunities at the Port for construction of the project and operations for the facilities, services, and maintenance of the Phase 1 off-dock container terminal area; and
- Supports American industries by complying with the Buy American Act (41 U.S.C. 8301-8305).

## 4.3 Section C: Addressing Climate Change and Environmental Justice Impacts

### Climate Change

As documented by the emissions reductions estimates developed as part of the BCA, the project provides climate change benefits associated with reduced greenhouse gas (GHG) and criteria pollutants from the reductions in VMT. The project is estimated to provide nearly \$8.3 million in emissions reductions benefits, of which \$6.8 million is associated with CO<sub>2</sub>, per the benefit-cost analysis contained in Appendix A—Benefit-Cost Analysis Spreadsheet. Other emissions and air pollutant benefits not included in the monetized benefits include the transition from the use of diesel-fuel based gensets to electric reefer storage and plugs, reduced VMT and deadhead miles from utilizing the container storage facilities in the Central Valley, reduced idling at the terminal gates, and the portion of the drayage trip to transport the containers

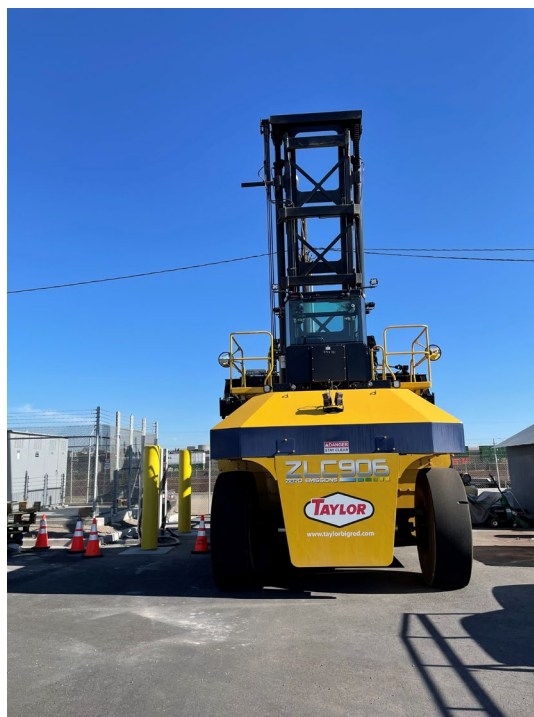
## PHASE 1—OUTER HARBOR TERMINAL REDEVELOPMENT

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to/from the terminal via mostly electric vehicles. The reductions in VMT and associated environmental benefits will also help reduce the impacts on overburdened and disadvantaged communities.

The Phase 1 Outer Harbor Terminal Redevelopment Project improves climate adaptation and resiliency identified in local climate change adaptation plans. As discussed in Section 1.3, the project is included in the Port's *2020 and Beyond Plan* and the *Owning Our Air: The West Oakland Community Action Plan*. In addition, the City of Oakland *2030 Equitable Climate Action Plan* (ECAP) (2020)<sup>18</sup> builds on nearly three decades of progressive, science-based policies and programs that the City has pursued to reduce climate impacts and reverse environmental harms. The project implements the Port of Oakland actions in the ECAP: P-1 Reduce Emissions from Port Vehicles and Equipment and P-2 Reduce Emissions from Electricity. The project will support electrification of drayage trucks and other port vehicles, and operational infrastructure with electric charging, storage infrastructure, and substation upgrades. It will provide backup power and climate resilience to insulate and protect the Port of Oakland from the impacts of electric power reliability, including rolling blackouts during heat waves and public safety power shutoffs (PSPS).



*Battery-Electric Yard Equipment (Top Pick Stacker) at the Port of Oakland*

The project also addresses the goals and key priorities of the regional Bay Area Air Quality Management District's *Spare the Air Cool the Climate, A Blueprint for Clean Air and Climate Protection in the Bay Area Clean Air Plan* (2017), developed in collaboration with MTC, the Bay Conservation and Development Commission, and the Association of Bay Area Governments. The project improvements will help the Plan's two paramount goals, protecting air quality and health at the Regional and Local Scale and protecting the climate, by helping to advance the State's air quality, emissions, and climate goals, reducing disparities among Bay Area communities in cancer health risk from toxic air contaminants, and reducing GHG emissions through the increased use of electric vehicles and operational infrastructure within and near the Port. In addition, the project helps support to decrease demand for fossil fuels by providing the infrastructure to support electrification of drayage trucks and other port vehicles and equipment and the electric powered stacked reefer racks reducing the use of gensets.

Further, the Port has adopted criteria for evaluating the sustainability of proposed capital projects, including risks posed by a changing climate. To inform considerations of physical asset vulnerability and pathways to climate adaptation, in addition to being responsive to Assembly Bill 691, the Port of Oakland conducted a Sea Level Rise Assessment. The Port will soon be undertaking an additional sea level rise and groundwater study to further understand potential asset vulnerabilities, including to core electrical infrastructure. These studies and related mapping projects will be used to vet the final siting of proposed improvements and ensure physical risks to project investments are mitigated to the fullest extent possible.

<sup>18</sup> <https://www.oaklandca.gov/projects/2030ecap> (page 120).



In addition, the project supports efforts to reduce future sea level rise by reducing GHG emissions through electrification and reduced reliance on carbon-based fuels.

The project also supports the SB 671 Clean Freight Corridor Efficiency Assessment nominated by the Port of Oakland, Alameda County Transportation Commission, Solano Transportation Authority, Contra Costa Transportation Authority, and MTC, which connect the Port of Oakland with warehousing and distribution hubs, manufacturing facilities, and agriculture. There is strong support from local jurisdictions, elected officials, and the private sector throughout the region to advance zero emissions technologies along the two major freight corridors serving the Northern California Megaregion and the Port of Oakland.

### *Environmental Justice*

The West Oakland community, adjacent to the Port of Oakland, is considered an environmental justice community due to its high proportion of minority residents and high percentage of low income residents. The census tract where the project is located (06001401700) consists of 61% people of color. According to the U.S. EPA's EJSCREEN, this census tract has a 70 or higher percentile environmental justice index rating for 2017 diesel particulate matter, traffic proximity, superfund proximity, hazardous waste proximity, and underground storage tanks. The project location is located in both a historically disadvantaged community and opportunity zone as shown in Figure 4 and Figure 5.

The Port has been working with the West Oakland community to address health risks, air quality and other environmental impacts from Port operations for decades. The Port has invested substantial financial and staff resources on air quality, transportation, clean water, soil clean-up and open space and parks to improve environmental conditions and quality of life for West Oakland residents. In March 2008, the Port Board of Commissioners adopted the Port Maritime Air Quality Policy Statement which set a goal of reducing the excess community cancer health risk related to exposure to diesel particulate matter (DPM) emissions associated with the Port's maritime operations by 85% from 2005 to 2020, through all practicable and feasible means. It also committed the Port to implement early action emissions reduction measures to reduce the duration of the public's exposure to emissions that may cause health risks, through all practicable and feasible means. Through extensive collaboration with the local community, the Port subsequently prepared the *Maritime Air Quality Improvement Plan* (MAQIP), which was released in 2009.

The Port reinitiated the community consultation and air quality planning process in 2018 to update the MAQIP; the updated plan is the *Seaport Air Quality 2020 and Beyond Plan*, which establishes the planning and policy framework as well as the implementation plan to transition to a zero-emissions seaport. The project includes strategies in the Plan as described in Section 1.3. Throughout the development of the 2020 and Beyond Plan, the community has been clear in its desire to see a complete changeover to zero-emissions trucks and cargo-handling equipment for Port-related activities and has requested that the Port take a leadership role in developing the infrastructure necessary to enable the transition to zero-emissions vehicles and equipment. The Port has also collaborated with the community and the City of Oakland to prepare two truck management plans that address the direct impacts of truck travel and parking in the community. The Port exceeded the 2005 to 2020 emissions reduction goals (e.g., 86 percent reduction in diesel particulate matter emissions) from the Maritime Air Quality Improvement Program (MAQIP), despite an increase in cargo volume.

The neighboring Port of Oakland community wants a complete changeover to zero-emissions trucks and cargo-handling equipment for Port-related activities.



In 2018, the West Oakland community was selected as one of the first communities to develop a Community Air Protection Program (CAPP or Program) under California Assembly Bill (AB) 617. The Program's focus is to reduce exposure in communities most impacted by air pollution. The Program enables selected communities to work together to develop and implement new strategies to measure air pollution and reduce health impacts. The Port has been a participant in the West Oakland air quality planning process since its inception. The West Oakland Community Action Plan (WOCAP) was completed in 2019. The Port continues to participate in implementation of the WOCAP. The project partially implements Strategies 19 (removing barriers to adoption of zero-emissions trucks, including charging equipment) and 37 (supporting the transition to zero-emissions drayage truck operations and investing in needed upgrades to the Port's electrical infrastructure) of the WOCAP.

In addition to its direct engagement with stakeholders in the community, the Port of Oakland implements best practices to ensure its activities are fully compliant with Title VI of the Civil Rights Act of 1964 and other equal access laws. The Port of Oakland's outreach strategies include, but are not limited to:

- Reasonable public access to technical and policy information;
- Adequate public notice of public involvement activities and time for public review and comment at key decision points;
- Concerted efforts to involve the public, especially those traditionally underserved by existing programs or plans including but not limited to low-income and minority households;
- Coordination of planning processes, especially where multiple levels of oversight exist, public processes to enhance public consideration of the issues, plans and programs and reduce redundancies and cost;
- Ensure opportunity for full participation of Limited English Proficiency (LEP) speakers through provision of language interpretation services; and
- Ensure opportunity of full participation of persons with disabilities by providing reasonable accommodations.

### 4.4 Section D: Advancing Equity and Opportunity for All

This section demonstrates how the Port has and will advance equity and promote workforce opportunities per the Notice of Funding Opportunity (NOFO). The Port of Oakland is structured to ensure all individuals benefit from Port and Federal funds. The Port of Oakland consistently reviews its policies and strategies to ensure all communities continue to have access to opportunities provided by Port and federally-funded projects. Port initiatives and staff specifically monitor and address:

- Compliance with state and Federal wage rate requirements.
- Employment and equal opportunity complaints.
- Bid preferences to encourage inclusion of small and local businesses.
- Job creation (especially for economically distressed areas).
- Local hours and apprenticeship goals.
- Environmental health, safety and justice concerns (especially as they affect traditionally marginalized communities).





- Port's Living Wage Policy: The Port living wage is an hourly wage level adopted by some local governments that set wages at a higher level than the local, Federal and/or state minimum wage.
- Port's MAPLA (Maritime and Aviation Project Labor Agreement): MAPLA is an agreement between the Port of Oakland and the Alameda Building and Construction Trades Council that promotes project stability, construction efficiency and local hiring opportunities on all Port projects over \$150,000 that are a part of the Port's Capital Improvement Program (CIP). Contractors are required to pay \$0.30 per work hour into a Social Justice Trust Fund that is used to support local workforce development programming.
- Port's Operations Jobs Policy tenets: (Fair Chance hiring, local hiring preferences/focus on disadvantaged workers and temporary worker protections). In 2017, the Port of Oakland Commissioners passed an Operations Jobs Policy for the Seaport Logistics Complex with Centerpoint Logistics, Inc. Key aspects of this jobs agreement include living wages and benefits for workers, priority consideration for unemployed individuals, armed forces veterans, single parents, ex-offenders, and foster care adults; and a ban on asking applicants about prior criminal offenses.
- Minority-owned, woman-owned, and small business program for construction and professional services contracts: In accordance with 2 C.F.R. 200.321, the Port has small and diverse business goals on its PIDP contracts. The goals are not an element of responsiveness.

In 2018, the Port hired a Workforce Development manager to support workforce policies and initiatives that expand economic opportunities for local impact area (LIA) residents. The LIA (consisting of the Cities of Oakland, Alameda, San Leandro, and Emeryville) encompasses areas most likely to experience benefits and adverse effects of Port operations. The Port's Workforce Development Manager is also tasked with strengthening education and training partnerships and aligning workforce policies and initiatives with the opportunities created by a transition to a zero-emissions Port. The Port adopted a Workforce Development Plan as part of its *2020 and Beyond Plan*. The Workforce Development Plan includes a framework that allows for growth, change, and innovation to support the pathway to a zero-emissions Port while playing a central role in the convening of partners, including state, local, and educational institutions.

The Port has a long history of implementing programs, policies, and initiatives that promote access to Port and Port-related careers, with a focus on reaching workers from communities defined as disadvantaged as a central part of the Port's mission. The Port of Oakland has been at the forefront in pioneering job creation and access to good paying jobs with an intentional focus on mitigating barriers towards employment since 2000, when the Port of Oakland adopted the region's first MAPLA with the Building and Construction Trades in Alameda County (BTC). Over the next two decades, the Port continued to strengthen workforce initiatives and policies to increase economic opportunities for disadvantaged workers with a clear focus on diversity, equity and inclusion.

In the aftermath of Prop 209 Affirmative Action, the Port of Oakland negotiated the first regional public agency project labor agreement (PLA) that included hiring goals for the local impact (LIA) areas (consisting of the Cities of Oakland, Alameda, San Leandro, and Emeryville); local impact areas are those most likely to experience the adverse effects of Port operations, such as traffic and noise. The MAPLA goals are a target to be achieved and are designed to help reassessment and improvement of local hiring strategies. The Social Justice Committee meets monthly to monitor contractor performance and provide recommendations to assist contractors with achieving their MAPLA requirements. MAPLA also requires



construction contractors to contribute into a trust that funds community-based organizations that provide training for construction sector jobs to low-income residents in the Port's LIA.

In 2016, the Port of Oakland issued a 5-year extension of MAPLA that included enhanced commitments that doubled the hourly contractor contributions from \$0.15 to \$0.30 cents; over \$590,000 has been awarded to community-based training programs that serve underrepresented job seekers in the Port's LIA. The Port also strengthened language in MAPLA where the building trades unions commit to increase recruitment from the Port's LIA into the "list trades" and included goals for Disadvantaged Workers. The list trades provide access to some of the highest paying jobs in construction. During the period between 2017 to 2020 over 300 Port LIA residents joined the list trades (comprised of sheet metal workers, electricians, plumbers/pipefitters, glaziers, and elevator constructors). MAPLA compliance and tracking is central to ensuring accountability and commitment to serving our LIA residents. Below is a snapshot of the 2021 achieved goals.

**Table 5 2021 MAPLA Achieved Goals**

MAPLA Performance		2021 MAPLA (July 2020—June 2021)	
Total Hours Worked		5,834,525	Goal
LIA residents	1,762,468	30.21%	50%
LIA apprentices	3,416,504	58.56%	50%
DW app (new goal)	37,537	21.91%	25%
NHA app (new goal)	32,200		N/A

In 2017, the Port adopted the Operations Jobs Policy (Jobs Policy) that included a Cooperation Agreement focused on equity, access, and good paying jobs on the CenterPoint Landing Project, a warehousing development. The language in the Jobs Policy specifically focuses on local hire preferences, "ban-the-box" prohibiting employers from asking about prior criminal offenses, special consideration for disadvantaged residents, living wages and benefits for workers, limits on the use of temporary agencies, support to local community-based workforce partners to conduct outreach, recruitment, job training/placement, and the creation of the Jobs and Stakeholder Working Group (SWG) to support implementation of the agreement.

The SWG is driven by a vision in which all people of color in Oakland and the East Bay are healthy and thriving economically. This vision is rooted in an understanding of longstanding and racialized social and economic inequities in the region. The SWG recognizes that to get there, the Port and its partners must achieve important outcomes around leadership, equitable hiring and institutional change. These key factors are important supports to the specific details outlined in the policy.

The SWG includes diverse and engaged local and regional community leaders, including representatives of the Port, its tenants, labor groups, and representatives of local neighborhoods. The SWG serves as an advisory body to the Port of Oakland. It provides technical expertise, analysis and recommendations to ensure that Port workforce decisions help transform low-income LIA neighborhoods into stable, healthy, thriving communities of opportunity.



The Port's Workforce Development manager also coordinates several workforce initiatives including: an inter-agency project labor agreement (PLA) research project in partnership with the San Francisco Foundation called "Improving Effectiveness of PLAs." The primary focus of this research project is to identify strategies for diversifying the construction workforce through PLAs. Phase I of the research was concluded in early 2021 and through a collaborative stakeholder process performed a scan of PLAs and Community Benefits Agreements nationally; interviewed current and former trade workers representative of Black/Indigenous/Brown People of Color (BIPOC) to better understand their lived experiences in the construction industry; conducted a labor demand and supply analysis of the local building trades, apprenticeship and pre-apprenticeship programs; assessed public agencies certified payroll data; reviewed construction demand forecasts; and generated findings supported by the recommendation below.

**Table 6 Improving Effectiveness of PLAs Recommendations**

No.	Recommendation
1	Set Data-Driven Workforce Goals
2	Establish Clear Responsibilities for Achieving Workforce Goals
3	Collect Data to Track Progress on Workforce Goals
4	Enforce to Ensure Progress on Workforce Goals
5	Support the Retention and Advancement of Diverse Workers
6	Coordinate Ongoing Support for Diverse Workers
7	Collaborate on a Regional Level to Create a Diverse Workforce





Phase 2 of the research project will center on the development of an action and sustainability plan that will prioritize the most effective and efficient implementation of the recommendations. This work is conducted in collaboration with the Port's MAPLA Joint Administrative and Social Justice Committee, an oversight body comprised of labor, management, union, and community representatives.

### 4.5 Section E: Leveraging Federal Funding to Attract Non-Federal Sources of Infrastructure Investment

As shown in Table 3 in Section 3 Grant Funds, Sources, and Uses of Funds, the proposed cost share is 25% non-Federal, 75% Federal. Of the total project costs, the Port's share would likely only cover a portion of the repaving costs (\$12.6 million) without the support of Federal funding. It is important to note the project components are interrelated – repaving the yard alone would not address the supply chain constraints or yield the other project benefits. Federal funding would leverage the Port capital investment to include much needed refrigeration racks to support the Port's agricultural partners, bolster the Port's electrical infrastructure with additional resiliency features, and further implement the Port's zero-emissions equipment goals with charging infrastructure. More importantly, this project provides a long-term solution to address many of the supply chain constraints the Port continues to see. Without funding support, this project would likely be deferred until additional infrastructure funding was available.



*Battery-Electric Yard Equipment (Hostler) at Port of Oakland*

Furthermore, Federal and State grants are commonly available to support the purchase of zero-emissions equipment, and to a lesser degree, support the construction of charging infrastructure. Some examples include the HVIP—Hybrid and Zero-Emission Truck and Bus Voucher Incentive Project, Carl Moyer Memorial Air Quality Standards Attainment Program, and EnergIZE—Energy Infrastructure Incentives for Zero-Emission Commercial Vehicles<sup>19</sup>. These grants are typically awarded to Port tenants who own and operate the equipment, and not to the Port directly. Under this project, the Port would construct the necessary equipment charging infrastructure. With the availability charging infrastructure addressed, Port tenants would be further motivated to apply for funding for zero-emissions trucks and equipment.

In December 2021, the Port was awarded a PIDP grant for the *Powering the Future Project* which supports the Port's expansion of an electric heavy-duty truck fleet and electrically-powered cargo-handling equipment by increasing power capacity and resiliency through modernization of a substation and integration of a fuel cell, solar power generation and battery storage systems. The Port plans to attract

<sup>19</sup> <https://business.ca.gov/industries/zero-emission-vehicles/zev-funding-resources/>.





State funding by submitting the *Green Power Microgrid Project* for the California SB1 Trade Corridor Enhancement Program (TCEP) in late 2022, expanding upon the *Powering the Future Project*, which involves solar installations, battery storage, modernization of substations, and addition of charging stations. The Phase 1 Outer Harbor Terminal Redevelopment Project would further the Port's efforts towards supporting State, regional, and local air quality and climate goals.

## 5 Project Readiness

The Port has extensive experience working with Federal agencies to deliver projects. The funds can easily be obligated and expended within the timeframes desired by DOT, and potential project risks are low.

### 5.1 Technical Capacity

The Port of Oakland has successfully managed, on an ongoing basis, numerous state, Federal, and local grants, including current Federal Airport Improvement Program (AIP) grant dollars for critical upgrades and maintenance work on airport facilities. Over the past decade, in fact the Port of Oakland has successfully received and deployed over \$191 million in AIP funding from the Federal Aviation Administration. The Port also successfully managed two separate TIGER grants (awarded in 2009 and 2012, respectively) for the initiation of the Port's shore power program and later for the development of a rail facility that expanded the intermodal capability of the Port's cargo throughput. The Port of Oakland also has regularly and successfully managed projects through multiple funding rounds of the Port Security Grant Program, administered by the Federal Emergency Management Agency. Most recently, the Port is currently of administering a 2021 PIDP grant to increase local renewable power generation and electric utilities resiliency.

The Port of Oakland has successfully managed numerous state, Federal, and local grants totaling over \$500M with the support of Port staff, specialized technical consultants, and a full-time grants coordinator.

Currently, the Port has an 18-member PIDP grant project delivery team comprised of Port representatives from Maritime, Engineering, Utilities, Finance, Legal, Environmental, and Senior management to implement the latest PIDP grant-funded project. It is likely this same team would implement this project if successfully awarded. Additionally, the Port routinely retains the services of specialized technical consultants to supplement its staff, and maintains on-call, task-order contracts for specialized tasks, including engineering design, energy efficiency, renewable energy implementation, and environmental planning (NEPA/CEQA and environmental permitting) that enable the Port to quickly obtain assistance with specific projects, as needed.

### *Feasibility and Constructability*

The proposed project is highly feasible and constructible. As discussed previously, all work would occur on Port property, and only limited routine approvals, such as City of Oakland building permits, are required. In terms of constructability, there is a substantial pool of qualified contractors in the Port's LIA/LBA who are qualified to perform timely and expert work. As shown in the schedule in Figure 6, there is ample time to construct the project within the 5 year-period required by the grant.



### *Compliance with Federal Requirements*

The Port has a full-time grants coordinator who tracks and manages the requirements of grant funding and works with respective Port project managers to ensure the accurate and timely deliverability of each grant program. The Port of Oakland is in regular compliance with all state and Federal audits of grant funding. The Port's engineering and environmental planning and permitting divisions ensure that each project meets all applicable safety, construction, and environmental requirements. Port inspectors monitor all construction projects to ensure the project's compliance with applicable requirements.

### *Project Relationship to Ongoing Planning Efforts*

The additional refrigeration racks, electrical charging infrastructure and battery storage components of the project are an integral part of several planning efforts. The Port's *2020 and Beyond Plan*, the City of Oakland's *Equitable Climate Action Plan*, and the West Oakland Community Action Plan (WOCAP) all call for increased electrification of Port-related trucks and cargo-handling facilities. The project directly addresses two implementing actions in the *2020 and Beyond Plan* Near-Term Action Plan (Action #9—Replace Electrical Infrastructure That is Beyond its Serviceable Life, and Action #10—Port Electrical Grid Reliability and Capacity Upgrades), part of Strategy 37 in the WOCAP, and Port of Oakland Actions 1 (Reduce Emissions from Port Vehicles and Equipment) and 2 (Reduce Emissions from Electricity) in the ECAP.

### *Project Schedule*

The project schedule is shown in Figure 6. The Port anticipates being ready for obligation of grant funds (i.e., to have obtained all necessary approvals and clearances) no later than July 1, 2024. Aside from the City of Oakland Building Permits and likely Construction stormwater permits from the local regional water quality control board, no other agency approvals will likely be required.

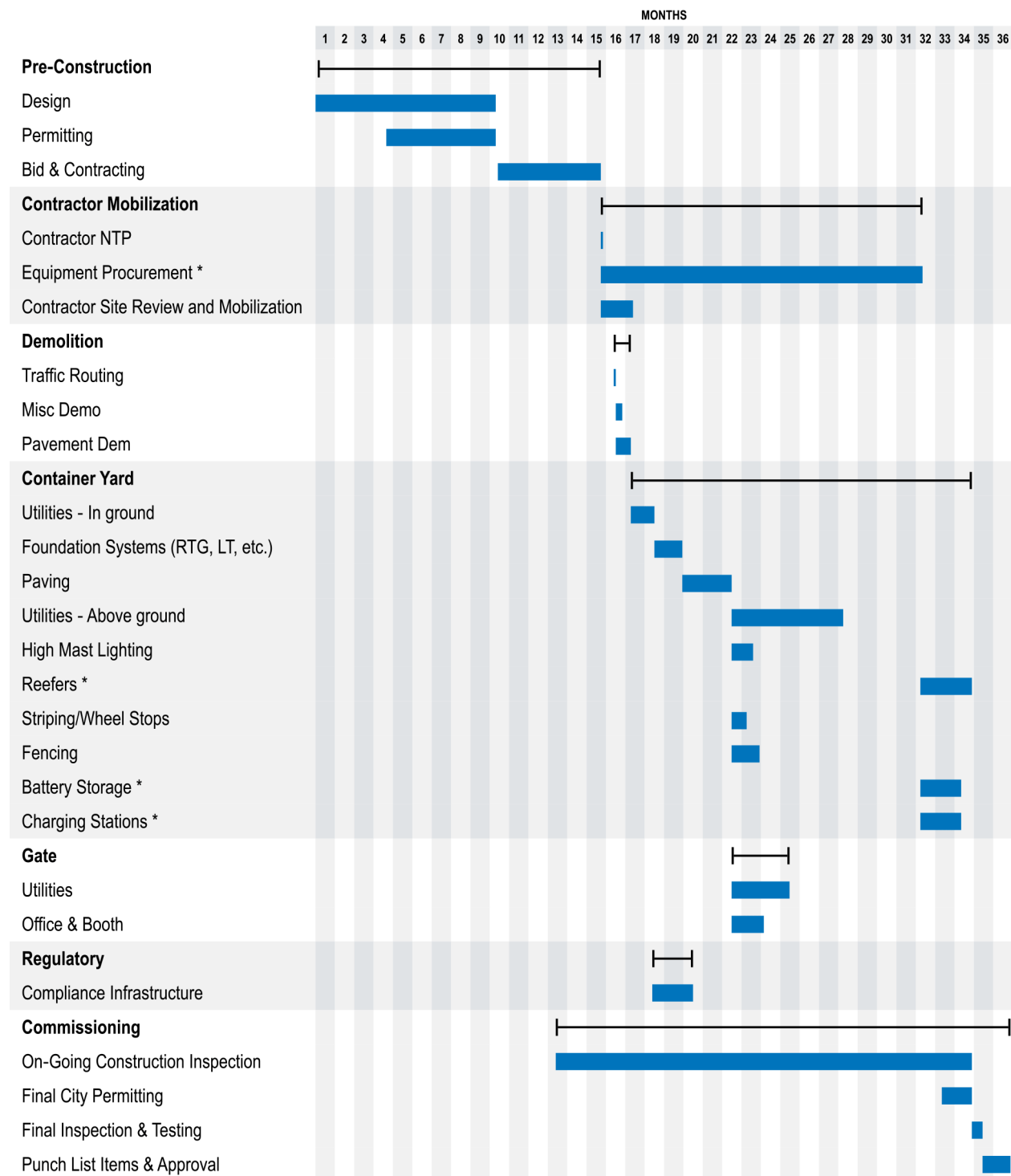
**Approvals and Design.** Design is expected to commence in July 2024. NEPA review will be the primary schedule driver for obligation of funds. As described below, due to the nature and location of the project, the only environmental permit that is required is a construction general stormwater permit that will be obtained by the contractor during mobilization. California Environmental Quality Act Review has been completed. The Port anticipates that NEPA review by MARAD would consist of a Categorical Exclusion, which can be completed quickly.

**Pre-Construction Phase.** The Port would begin the 9-month design process once grant funds have been obligated, with contractor bidding and contracting to begin after completion of design. After contractor selection and contracting, notice to proceed would follow approximately 3 weeks later, after necessary preconstruction submittals have been received. The preconstruction submittals would include an equipment procurement plan to ensure that necessary substation components are available on a timely basis. Contractors would be required to initiate acquisition of all long-lead time items immediately upon the Port's review of the equipment procurement plan. During this time, the contractor would also obtain the construction stormwater permit and other construction-related ministerial permits (e.g., required City of Oakland building permits).

**Construction Phase.** Following receipt of City construction permits (expected to require 2 months), mobilization and initial site work would begin. Site work will partially overlap with material procurement. Construction sequencing of the various project components would be further clarified in the design phase.



**Figure 6 Project Schedule**



\* Long Lead Procurement Items



## 5.2 Environmental Risk

The project enjoys broad public support as evidenced by the letters of support included as [Appendix C—Letters of Support](#). The project is not dependent on or affected by any USACE investment or USACE planning activities.

### NEPA and CEQA

The project is located in a commercial Port area, and there are no sensitive environmental resources at the project location or in the immediate vicinity of the project location. Consequently, the potential for environmental impacts from the relatively minor footprint of construction associated with the project is low. The project provides substantial environmental benefits through increased availability of electric plugs for refrigerated containers, increased use of zero-emission trucks and equipment, and reduced VMT statewide.

**CEQA.** The 2002 Oakland Army Base Area (OAB) Area Redevelopment Plan Environmental Impact Report (2002 OAB EIR)<sup>20</sup> evaluated the potential impacts of redevelopment of the 1,800-acre redevelopment area, including the former OAB and the Maritime sub-district. The EIR was certified by the lead agency, the City of Oakland, in July 2002. On September 17, 2002, the Board of Port Commissioners, acting on behalf of the Port of Oakland as a responsible agency under CEQA, adopted findings and the mitigation program in the City's EIR (Resolution No. 02317). In 2012, the City of Oakland, in consultation with the Port, issued an Initial Study/Addendum<sup>21</sup> to the Redevelopment EIR to evaluate proposed changes to the redevelopment plan. The resulting updated Standard Conditions of Approval/Mitigation Monitoring and Reporting Program (SCA/MMRP) was adopted by the Board of Port Commissioners on June 21, 2012 (Resolution No. 12-76). The OAB EIR, as inclusive of the addendum, includes implementation of utility improvements and relocations and maritime facility improvements such as those included in this proposal. Construction and operational impacts would be the same as described in the 2002 OAB EIR inclusive of the addendum. This action does not trigger any of the conditions set forth in Section 15162 of the CEQA Guidelines, and no further CEQA review is required.

**NEPA.** NEPA review has not been completed. Due to the small physical footprint of the effort, lack of sensitive resources on the site, and low level of impacts, the Port expects the project to qualify for a Categorical Exclusion under NEPA (MARAD Categorical Exclusion (CatEx 4) described in MAO 660-1). CatEx 4 covers projects that involve "Reconstruction, modification, modernization, replacement, repair, and maintenance (including emergency replacement, repair, or maintenance) of equipment, facilities, or structures which do not change substantially the existing character of the equipment/facility/structure." The small footprint of the fuel cell and storage battery components of the project would not substantially change the existing character of the facility, nor would the proposed extensions of Circuit 2, or roof-top solar cells on a new warehouse within the Port area. Should MARAD determine that a more detailed NEPA review is required, a focused EA could be readily completed within 120 days.

### Letters of Support

- California Department of Transportation
- Mayor of Oakland Libby Schaaf
- Bay Area Council
- East Bay Economic Development Alliance
- Bay Planning Coalition
- [and more in Appendix C](#)

<sup>20</sup> <https://www.oaklandca.gov/resources/2002-oakland-army-base-redevelopment-plan-eir>

<sup>21</sup> <https://staging.oaklandca.dev/documents/2012-oakland-army-base-project>





### *Federal and State Permits and Approvals*

The project does not require any Federal or state permits.

### *Local Permits*

Prior to the start of construction, the contractor will be required to prepare a stormwater pollution prevention plan and obtain a Construction General NPDES permit consistent with the level of risk posed by project construction. NPDES permits are routine activities and will readily be accomplished as part of the mobilization and pre-construction process. The City of Oakland will issue building and other construction-related permits for the project.

## 5.3 Risk Mitigation

Potential risks associated with the design and construction of the project are low. Budget risk is low because the Port will set aside budget in its capital improvement program, is familiar with the subsurface conditions in the project area, and has extensive experience building out the infrastructure. Schedule risks are associated with potential delays in receiving the necessary approvals and/or being able to obtain needed equipment. Because the project would be constructed on Port land and the existing tenants have short term month-to-month leases, only limited approvals are required (see Section 5.2). Therefore, schedule risk due to delays in approvals is low; the Port can draw on its on-call consultants if MARAD requires assistance completing the NEPA review.

The primary project construction risk is associated with the ability to obtain needed electrical equipment such as refrigeration racks and battery storage. However, the procurement process for long lead time items would be identified early and begin prior to construction.

As shown in the project schedule, design would begin by July 2024, following grant approval and obligation of funds. Overall design and construction of the project is expected to take 36 months, easily allowing for all obligated funds to be expended within 5 years of obligation, even should there be substantial delays in obtaining needed components.

The project will be constructed in a location not known to have any environmental contamination. Regardless, Port Environmental staff will be able to address any unforeseen environmental conditions during the construction process.

## 6 Domestic Preference

The project will meet the Buy American requirements for all equipment purchased for the project. All equipment will be 100% manufactured domestically and will have a greater than 50% domestic content for individual components as required by the Buy American Act. As part of the project scoping, the Port has developed the budget and cost components with the Buy American Act provisions in mind.



## 7 Determinations

<p>1. The project improves the safety, efficiency, or reliability of the movement of goods through a port or intermodal connection to the port.</p>	<p><b>Safety.</b> The project’s safety benefits stem from reductions in truck VMT due to the diversion of trucks from the Ports in Southern California and Washington to travel a shorter distance to the Port of Oakland. Approximately 420 crashes are estimated to be avoided over 20 years resulting in \$26.9 million in benefits.</p> <p><b>Efficiency.</b> The project increases cargo throughput efficiency and capacity and provides greater on-dock flexibility by providing additional storage for import, export, and empty containers. It is estimated to divert approximately 288,500 truck TEUs from the Central California areas to the Port of Oakland which reduces average annual truck VMT by 13.5 million miles and travel time by 269,407 hours, and vehicle-operating costs (VOC) of \$85.2 million from fuel, maintenance, tires, and depreciation over the 20 years. In addition, providing electric charging stations within the project site will reduce travel time, VMT, fuel use, and emissions by eliminating the need for trucks to travel to nearby fueling stations.</p> <p><b>Reliability and Resiliency.</b> The additional container storage at the Outer Harbor Terminal will make the Port more reliable and resilient with the ability to handle disruptions and unpredictability in the supply chain. The site can provide reliability to its customers and terminal operators to handle import or export surges. With the uncertainty of vessel arrivals due to congestion issues in Southern California, the new stacked reefer container facility would allow agricultural shippers to safely plug in and store their containers until needed at the terminal. The battery storage and substation upgrades would provide resiliency for the cold cargo storage and shipments due to power loss and/or energy limitations. It will improve the reliability of the electrical grid and backup power storage and climate resilience to help insulate and protect the Port from the impacts of rolling blackouts during heat waves and public safety power shutoffs (PSPS).</p> <p><b>Environmental and Emissions Mitigation.</b> Emissions savings from VMT reductions is estimated at \$8.7 million over 20 years. Providing the electrical infrastructure systems (electrical chargers, battery storage, and substation upgrades) to support zero-emissions equipment and operations is essential to decarbonizing the Port and delivering the related air quality and community health benefits. The project reduces VMT and associated emissions, and improves Port efficiency and reduces idling by optimizing the use of Port areas adjacent to its terminals. This project would help to reduce harmful emissions and associated negative health impacts for workers at the Port and neighboring historically disadvantaged communities.</p>
<p>2. The project is cost effective.</p>	<p>As summarized in Section 4.2 and detailed in the Benefit-Cost Analysis Spreadsheet and <a href="#">Benefit-Cost Analysis and Methodology Report</a> (Appendix A and B), the project has a has an estimated benefit-cost ratio of 5.0 with net benefits over a 20-year life at \$139.9 million, and therefore is considered cost-effective.</p>
<p>3. The eligible applicant has the authority to carry out the project.</p>	<p>The Port of Oakland is a department of the City of Oakland governed and managed by the Board of Port Commissioners (“Port Board”) and its appointed staff. Under the Charter of the City of Oakland (“City Charter”),<sup>18</sup> the Port Board has the “complete and exclusive power”:</p> <p><i>“To take charge of, control, and supervise the Port of Oakland, including all the water front properties, and lands adjacent thereto, or under water,</i></p>



	<p><i>structures thereon, and approaches thereto, storage facilities, and other utilities, and all rights and interests belonging thereto, which are now or may hereafter be owned or possessed by the City, including all salt or marsh or tidelands and structures thereon granted to the City in trust by the State of California for the promotion and accommodation of commerce and navigation.”</i></p> <p>As the above dictates, the Port Board has control over tidelands that were granted to the City by the State of California in trust and/or acquired with trust proceeds (“State Tidelands”). All such State Tidelands and other properties over which the Port Board has control and jurisdiction are referred to as the “Port Area” in the Charter. The Port Area includes the Oakland International Airport, the seaport, Jack London Square, and (with some exceptions) public lands along the Oakland waterfront. All of the property on which the project would occur is within the “Port Area.”</p>
4. The eligible applicant has sufficient funding available to meet the matching requirements.	<p>As detailed in Section 3, the total estimated cost of the project is \$48,790,500 including contingency. The Port would fund \$12,197,625 (25%) and PIDP \$36,592,875 (75%). The Port of Oakland is a financially sound organization with a stable revenue base and a firm financial standing. The Port’s liquidity position, comprised of both unrestricted cash and Board reserves, remains strong and provides the Port the financial flexibility to adapt and respond to COVID and other future operational and financial challenges. Furthermore, Port operations are supported by a strong and diverse local economy. The Bay Area continues to be an important center of commerce, and the Port remains an important, key gateway for both domestic and international trade and a top travel destination.</p> <p>Non-Federal funds would be provided by the Port of Oakland; the Port will prioritize and set aside budget in its capital improvement program for the project. There are no conditions on the Port funds, and the funds can be made available from the Port’s reserves prior to obligation of Federal grant funds.</p>
5. The project will be completed without unreasonable delay.	<p>As shown in Figure 6 and discussed in Section 5.1, the Port is prepared to move ahead quickly with the project and be ready for obligation of grant funds (i.e., to have obtained all necessary approvals and clearances) no later than July 1, 2024. Upon notification of grant award, the Port would likely complete any necessary resource planning steps needed to facilitate the beginning of design. Overall, the Port anticipates that design and construction would be completed within 36 months of grant agreement execution. There are few regulatory approvals that would be required prior to construction.</p>
6. The project cannot be easily and efficiently completed without Federal funding or financial assistance available to the project sponsor.	<p>Of the total project costs, the Port’s share would likely only cover a portion of the repaving costs (\$12.6 million) without the support of Federal funding. It is important to note the project components are interrelated – repaving the yard alone would not address the supply chain constraints or yield the other project benefits. Federal funding would leverage the Port capital investment to include much needed refrigeration racks to support the Port’s agricultural partners, bolster the Port’s electrical infrastructure with additional resiliency features, and further implement the Port’s zero-emissions equipment goals with charging infrastructure. More importantly, this project provides a long-term solution to address many of the supply chain constraints the Port continues to see. Without funding support, this project will be deferred until additional infrastructure funding was available.</p>



## Appendices and Attachments

- Application for Federal Assistance (SF-424 and SF-424C) forms
- Disclosure of Lobbying Activities (SF-LLL) form
- Appendix A—Benefit-Cost Analysis Spreadsheet for the Port of Oakland Phase 1 Outer Harbor Terminal Redevelopment—Building Resiliency Now and For the Future
- [Appendix B—Benefit-Cost Analysis and Methodology Report for the Port of Oakland Phase 1 Outer Harbor Terminal Redevelopment—Building Resiliency Now and For the Future](#)
- [Appendix C—Letters of Support](#)