# Response to Questions for Detroit Wayne County Port Authority RFQP

*Engineering and Design Services*

*6/16/25*

We have the following questions:

1) Will a walkthrough of each facility be available prior to bid to examine the condition and size of electrical equipment?

   Answer: Notice of the opportunity to walkthrough some of the sites on Tuesday, June 10th was posted in Addendum #1.

2) Will power bill showing peak demand available for each facility, or do we need to plan on metering any facilities to determine available system capacity?

   Answer: Existing power bills can be provided to the selected candidate for each facility, as requested.

3) Are existing architectural and electrical drawings (including a one-line diagram or riser) available for each facility?

   Answer: No, these would need to be generated as needed.

4) What is the tolerance for downtime at each facility if upgrades to the electrical services are required?

   Answer: EV charging needs to be available continuously. This does not include the need for secondary power except for the Holcim site. Electricity generated by the solar array is intended to power the EV chargers. Secondary power is needed from DTE in situations where the solar array is not able to generate sufficient power.

5) Is December 31, 2028 the date that upgrades need to be completed by for compliance with any grants or earmarks?

   Answer: December 31, 2028 is the end date for completion of the project pursuant to the EPA grant. The completion date for the construction work will need to occur prior to that and will be incorporated into the engineering and design contract with the selected contractor.

6) For the Holcim Terminal, is the solar array proposed to be roof mounted or grade mounted? (Due to shading from the silo, grade mounting may be preferred to maximize output.)

Answer: Ground mounted.

7) If roof mounted, are existing structural drawings available for the building?

   Answer: N/A

8) If roof mounted, do we need to carry costs for structural analysis of the structure to support PV?

   Answer: N/A

9) If roof mounted, do we need to carry costs

   Answer: N/A

10) For Civil and Geotechnical Engineering, is there a list of approved bidders we should use, or can we reach out to a partner that we commonly work with to include as a sub-consultant with our bid?

    Answer: No

11) Does the grant specify a kw rating of the DC Fast Charge systems to be installed?

    Answer: All DC fast chargers are estimated to be 240 kW.

12) Can a copy of the grant be provided to the bidders?

    Answer: Yes- see attached.

13) Will the projects be designed and bid as 1 project, or as 5 separate projects?

    Answer: The projects will be designed and bid for efficiency of cost and timing, whether that is 1 or multiple bid packages. The Port Authority will hold the contracts.

14) If separate projects for the purposes of bidding, will the projects have a similar design schedule?

    Answer: Yes, provided this is the most efficient from a cost and timing perspective.

15) Are any general plans available showing where the DC Fast Chargers will be located in reference to the electrical services at the buildings? (This is of more interest at the larger terminal facilities).

    Answer: Yes- see attached.

16) Is there any general guidance on number of submittals for review prior to bids? We would propose a 50% CD review, 90% CD review, and Bid set.

    Answer: Project concept and rough order of magnitude cost estimate up to a 30% CD review, 60% CD review, 90% CD review, issue for bid set, issue for construction set, as built set.

17) The due date listed is a Sunday, at 5:00 pm. Is this correct?

    Answer: The new due date is Tuesday, June 17, 2025 at 5pm, which has been posted as Addendum #2.

18) Is there a site plan for the intended location of each site? This information will ensure the survey and geotechnical pricing will be equal and competitive.

    Answer: See attached.

19) Are there any specifications available for the intended equipment to be procured (forklifts, boom, tractor, rail mover, crane, boats)?

    Answer: This would be generated as part of completing the overall project. This is not available at this time.

20) Are there any special provisions of the grant that has been received that may impact the scope of work?

    Answer: Procurement must be compliant with Buy America requirements. This includes conduits, wiring, etc.

21) For the civil engineering, what area will need to be covered by a survey at each site? It is not clear from the RFP where the DC Fast Chargers will go at each site. We will need an idea of where the electrical service comes in, where the DC fast charge service will come from, and where the chargers will be located to get a good idea of any boundaries needed for the site surveys.

    Answer: Please see attached.

22) Will the DC Fast Chargers be connected to existing buildings/services or will they have new dedicated electrical services?

    Answer: Fast chargers at Holcim will be interior to buildings. One charger will be installed in the boat house at the Harbormaster location. All other EV chargers will be exterior to buildings.

23) For the civil engineering, what area will need to be covered by a survey at each site? It is not clear from the RFP where the DC Fast Chargers will go at each site. We will need an idea of where the electrical service comes in, where the DC fast charge service will come from, and where the chargers will be located to get a good idea of any boundaries needed for the site surveys.

Answer: Please see the attached *General Site Locations and Equipment Loadings* information.

24) Will the DC Fast Chargers be connected to existing buildings/services or will they have new dedicated electrical services?

Answer: Two EV chargers will be installed in buildings at the Holcim site. Additionally, one EV charger will be installed in a boathouse at the Harbormaster site. All remaining EV chargers will be installed exterior to buildings. A new dedicated electrical service is anticipated to be needed at each site.

25) Please confirm that the design of the PV array including battery storage and inverter are by a 3rd party and that the scope for this project is only coordination and tie in. Will PV vendor be responsible for additional tie-in coordination with DTE due to PV?

Answer: The RFQP is only responsible for coordination and tie in for the solar array. No, additional coordination with DTE regarding the solar array is not included in this scope.

26) It is our understanding that procurement and selection of the chargers themselves is done separately from the work outlined in the RFP, correct?

Answer: Correct.

27) The answer to question 20 of the previous round of questions indicated that procurement must be compliant with Buy America requirements. The Grant language that was attached to the Q&A response indicated that procurement was to be compliant with Build America Buy America (BABA) requirements, which is generally more stringent that Buy America. Should we assume that BABA is correct?

Answer: Build America Buy America (BABA) is correct.

# Attachment 1

## *General Site Locations and Equipment Loadings*

# Summary of Clean Port Program Beneficiaries

## *General Site Locations and Equipment Loadings*

**Beneficiary 1. Harbormaster**

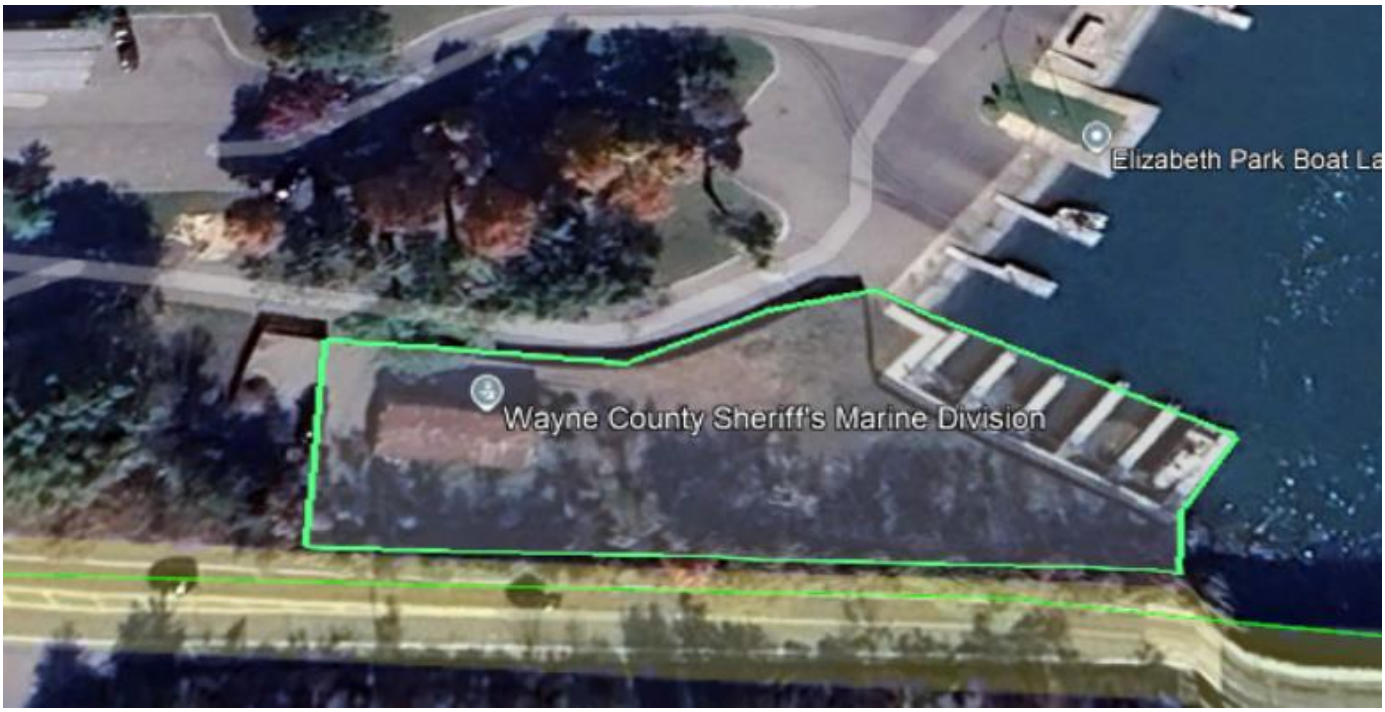
- Two EV chargers are needed, one in the boathouse and one along the dock.
- Green box represents approximately survey area
- Equipment for site-

| Anticipated Equipment | Power (kW) |
|---|---|
| 25' boat w 126 kW inboard motor | 126 |
| 90kW outboard motor | 90 |
| 90kW outboard motor | 90 |
| 225kW outboard motor | 225 |
| 225kW outboard motor | 225 |
| DC Fast Charger | 240 |
| DC Fast Charger | 240 |
| Subtotal | 1236 |
| Estimated Peak Load (0.8 demand factor) | 989 |

**Beneficiary 2. Wayne County Sheriff Department**

- Two EV chargers are needed, both will be installed along the dock.
- Green box represents approximately survey area
- Equipment for site-

| Anticipated Equipment | Power (kW) |
|---|---|
| 25' boat w 126 kW inboard motor | 126 |
| 90kW outboard motor | 90 |
| 90kW outboard motor | 90 |
| 225kW outboard motor | 225 |
| 225kW outboard motor | 225 |
| DC Fast Charger | 240 |
| DC Fast Charger | 240 |
| Subtotal | 1236 |
| Estimated Peak Load (0.8 demand factor) | 989 |



**Beneficiary 3. Holcim**

- Component 1 - This is anticipated to be a 316kW, 1-acre solar array. This is intended to provide power to the EV chargers. Secondary power provided by DTE is a requirement. White box represents approximate survey area.

- Component 2 – Green box represents approximate survey area. EV charger will be installed in building. This area will receive the following equipment:

| Anticipated Equipment | Power (kW) |
|---|---|
| DC Fast Charger | 240 |
| Medium Duty Forklift | 60 |
| Light Duty Forklift | 27 |
| Light Duty Forklift | 26 |
| Subtotal | 353 |
| Estimated Peak Load (0.8 demand factor) | 282.4 |

- Component 3 – Pink box represents approximate survey. EV charger will be installed in building. This area will receive the following equipment:

| Anticipated Equipment | Power (kW) |
|---|---|
| DC Fast Charger | 240 |
| Rail Car Mover | 357 |
| Subtotal | 597 |
| Estimated Peak Load (0.8 demand factor) | 477.6 |

**Beneficiary 4. Waterfront (Site 1)**

- One EV chargers are needed
- Green box represents approximately survey area
- Equipment for site-

| Anticipated Equipment | Power (kW) |
|---|---|
| DC Fast Charger | 240 |
| Electric Terminal Tractor | 225 |
| Rail Car Mover | 357 |
| Electric Forklift | 55 |
| Subtotal | 877 |
| Estimated Peak Load (0.8 demand factor) | 701.6 |

**Beneficiary 4. Waterfront (Site 2)**

- One EV chargers are needed
- Green box represents approximately survey area
- Equipment for site-

| Anticipated Equipment | Power (kW) |
|---|---|
| DC Fast Charger | 240 |
| Gantry Crane | 500 |
| Subtotal | 740 |
| Estimated Peak Load (0.8 demand factor) | 592 |

**Beneficiary 5. Holcim**

- Three EV chargers are needed. Design concept and cost estimate is needed to determine location.
  - Two EV charger would be placed by near the powerhouse (Option 1, 2, or 3)
  - One EV charger would be placed in the warehouse (Site 2, Option 1)
  - *Alternative*- All EV chargers could be placed at the hybrid option location
- Green box represents approximately survey area
- Equipment for site-

| **Anticipated Equipment** | **Power (kW)** |
|---|---|
| Medium Duty Forklift Truck | 246 |
| Medium Duty Forklift Truck | 246 |
| Medium Duty Forklift Truck | 246 |
| Heavy Duty Forklift Truck | 369 |
| Heavy Duty Forklift Truck | 369 |
| Heavy Duty Forklift Truck | 369 |
| DC Fast Charger | 240 |
| DC Fast Charger | 240 |
| DC Fast Charger | 240 |
| Subtotal | 2565 |
| Estimated Peak Load (0.8 demand factor) | 2052 |


Site 2 Option 1
Hybrid option
Option 3
Option 2
Option 1

**Attachment 2**

***Grant Application***

## Section 1 - Project Summary and Approach

### a. Overall Project and Proposed Impact

*Clean Haul Michigan: Decarbonizing Port Operations in Southwest Detroit* is a coalition application led by the Detroit/Wayne County Port Authority (Port Authority) in partnership with the City of Detroit (City) and wet and dry port partners, respectively. In accordance with guidance provided in the NOFO, Q/A, the Port Authority (the Port) is submitting two separate applications for the Environmental Protection Agency (EPA) Clean Ports Program: Zero-Emission Technology Deployment Competition EPA-R-OAR-CPP-24-04.

1. The Wet Port Application (WS01303022) is in collaboration with Wet Port Partners which includes three marine terminals and two marine police agencies.
2. The Dry Port Application (WS01327689) is in collaboration with Dry Port Partners, including two drayage companies and a *Class I* railroad which operates in the Detroit Junction/Livernois Intermodal Terminal (Livernois Intermodal).

*Clean Haul Michigan's* objective is to transition fossil fuel combustion vehicles to zero emission vehicles, to improve air quality and reduce emissions, prioritizing the needs of historically disadvantaged communities in the region. The project outlined in this grant application have been carefully designed to directly benefit disadvantaged communities in Southwest Detroit, where most of the port operations take place. The zip codes that will be prioritized through this grant include: 48209; 48210; 48216; and 48217. These initiatives will create opportunities for workforce development, economic empowerment, and community revitalization, further advancing environmental justice initiatives in the region.

A subgrant award program is a key component of the proposed project. Sub-grants will be made to local non-profit organizations with a proven track record of successfully implementing EPA grants in Southwest Detroit, specifically related to clean energy and decarbonization. These local organizations will work directly with community to prioritize technical and social project concepts to maximize benefits and harms reduced to the impacted communities.

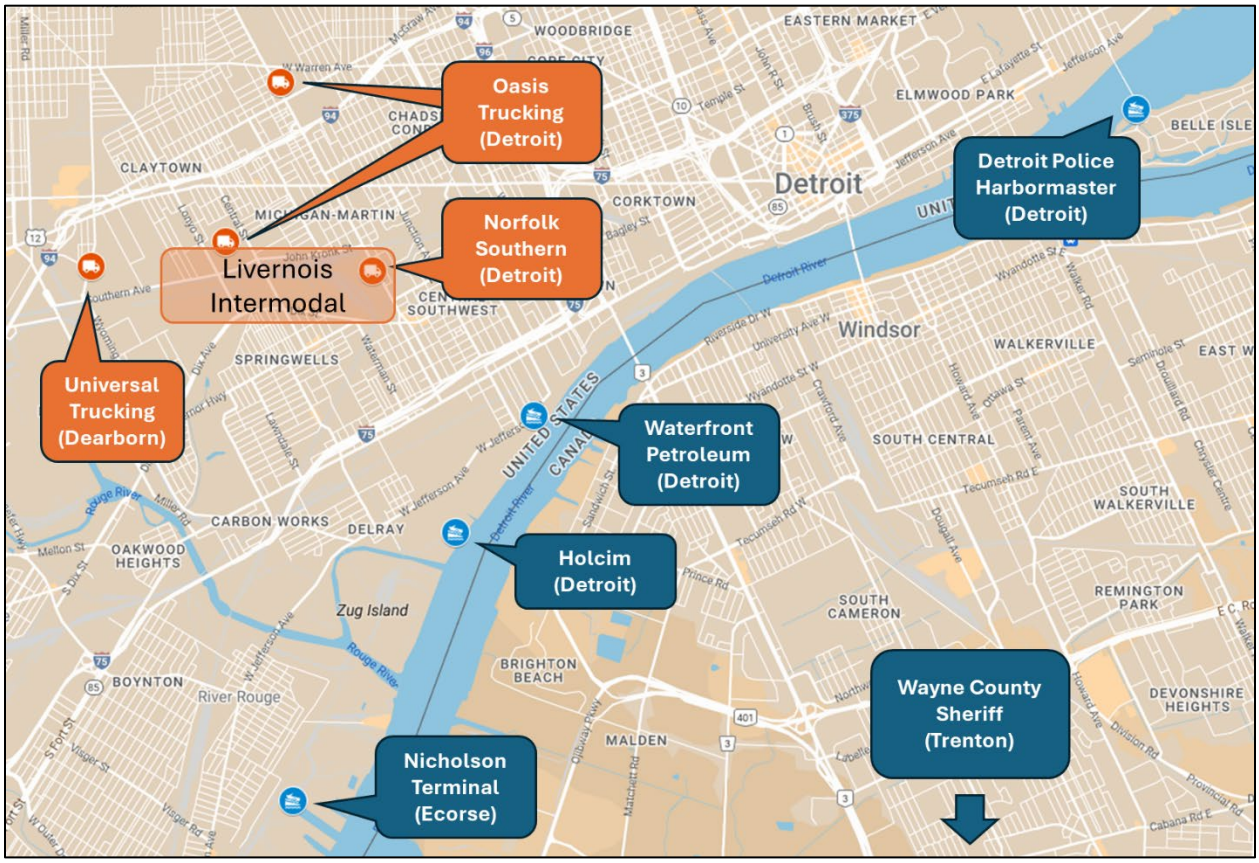
The program will support local workforce development, especially for electrical workers, through a pre-apprentice program in collaboration with the local building trades association. In addition, the Port Authority will manage project procurement, implementation, administration, and financial accounting with the aid of a program management firm and an accounting firm following a competitive bid process.

The Port Authority seeks $21,905,782 in funding for the *Clean Haul Michigan Wet Port Application* to support the acquisition of battery electric mobile equipment, vehicles, vessels, charging equipment, related infrastructure, and solar arrays to initiate the transition to a zero-emission future for the Port of Detroit and the nearby *Livernois Intermodal*. The total cost of the wet port projects, when including local match funding ($3,262,835) amounts to a total of $25,168,616. *(As a reference, the total cost of the Dry Port projects referenced above including local match funding of $8,049,331 will be $76,623,246.)*

This project will support the first implementation activity in the recently completed Port of Detroit Decarbonization and Air Quality Improvement Plan (the "Decarb Plan"). The Decarb plan follows a year-long engagement by the Port Authority with Port of Detroit entities – 18 private terminals and terminal support entities to develop a baseline emissions inventory of the entire Port of Detroit. It also established strategies to reduce carbon emissions, improve air quality, reduce negative health impacts for the community and reach net-zero by 2040. The full report will be published June 2024. See draft report in Appendix 1.

A near-term decarbonization strategy identified is the reduction of 30,000 tons of carbon emitted annually through the replacement of cargo handling equipment, drayage trucks and port patrol vessels with battery-electric equivalents. Since the focus of the Decarb Plan was on the wet ports, this project creates a unified approach to decarbonize the entire footprint of both wet and dry ports, improve air quality for neighboring communities. This project, jointly led by the City and Port Authority, will serve as a catalyst for scaling the decarbonization of all future freight, logistics and industrial activity in the ports and adjacent industrialized areas, seeking to provide short- and long-term benefits to one of the most disadvantaged and pollution burdened areas in the state of Michigan.

While the funding requests for the Wet and Dry Ports is not tie-barred, the projects are linked as part of a coordinated effort to address an intertwined heavy freight industry that both impact the community, which cannot distinguish the emissions impacts of freight activities at wet or dry ports located in the same area. The Port of Detroit and Livernois Intermodal sit less than two miles apart and are integral to the industrial production of the Midwest and to trade between the US and Canada, with over $44 billion in exports crossing between Detroit and Canada annually, and over $600 million in daily trade. Of the 10,000 trucks crossing the border daily, and approximately 40% end their trips in Southeast Michigan and 60% begin or end in Wayne County. It is also estimated that nearly 2,000 truck trips per day are generated by drayage, rail, and port facilities outlined in this project. The Southeast Michigan Council of Governments (SEMCOG) projects truck traffic in the region to increase 128% by 2050.




***Map: Dry Port (Orange) and Wet Port (Blue) Facilities***

Below is a summary of the zero-emission mobile port equipment and infrastructure included in the Wet Port Application and the corresponding Wet Port Partner location. All are battery electric and will be used 100% for port operations. They will be replacing existing diesel or gasoline-powered equipment:

| Wet Port Partner | Equipment and Infrastructure | Voluntary Scrappage |
|---|---|---|
| Nicholson Terminal | 3 medium duty and 3 heavy duty forklift trucks and 3 DC fast chargers | 3 medium duty and 3 heavy duty diesel forklift trucks |
| Waterfront Terminal | 1 boomlift, 1 terminal tractor, 1 rail car mover, 1 forklift, 1 mobile gantry crane and 2 DC fast chargers | 1 forklift and 1 terminal tractor |
| Holcim Terminal | 1 medium duty and 2 light duty forklift trucks, 1 rail car mover, 2 DC fast chargers and a 316-kW solar array | 2 forklift trucks<br>1 railcar mover |
| Wayne County Sheriff | 1 patrol boat with electric inboard motor, 4 additional electric outboard motors for existing boats and 2 DC fast chargers | 4 gasoline outboard motors |
| Detroit Harbormaster | 1 patrol boat with electric inboard motor, 4 additional electric outboard motors for existing boats and 2 DC fast chargers | 1 patrol boat (including motor) and 4 additional outboard motors |

***Table 1: Equipment Summary***

**Activity Summaries**

**Nicholson Terminal Project:** Nicholson Terminal & Dock Co., is the only general cargo dock within the Port of Detroit, providing general cargo, stevedoring, warehouse storage and drydock services vital to Detroit manufacturing. It receives steel coils, heavy equipment and large project cargo that are needed for automobile production. The project will replace six (6) of Nicholson's heavy and medium duty forklift trucks, which move steel coils weighing as much as 60,000 pounds. Three (3) DC fast chargers and related electrical upgrades will also be installed. Nicholson is a member of the Low Carbon Port Committee.

**Waterfront Terminal Project:** Waterfront Petroleum Terminals is one of only two US fueling locations in the western Great Lakes, supplying over 30% of all fuel consumed by merchant marine and military ships. It also supplies liquid asphalt cement for road construction and roofing projects. They will replace a forklift and terminal tractor with battery electric equivalents; add a boomlift; a rail car mover and a mobile gantry crane to support more efficient cargo movement. The project will occur at its primary location and at rail yard space that it leases on Zug Island, a mile away. Waterfront is a member of Green Marine, an international certification program that sets standards for decarbonization and environmental stewardship in maritime operations, and an active member of the Low Carbon Port Committee.

**Holcim Terminal Project:** Holcim USA, Inc. is one of the largest cement and building products companies in the world and its Detroit terminal provides supplies for local building and road projects. The project will replace three forklift trucks, replace a rail car mover and two DC fast chargers. In addition, Holcim will add a one-acre 316kW solar array to charge its equipment. Holcim has developed a robust company-wide sustainability plan that focuses on reducing the carbon footprint of its product lines as well as its logistics operations. Holcim is an active member of the Low Carbon Port Committee.

**Wayne County Sheriff – Marine Division and Detroit Harbormaster**: Serving as the critical local law enforcement agencies for the ports, the Sheriff and Harbormaster coordinate services to ensure the efficient flow of cargo through the port and safety for all operations. Patrol boats are used to manage

water traffic and provide search and rescue services. Each agency will receive a new patrol boat equipped with an inboard 126 kW electric motor, and two 225 kW and two 90k W outboard motors. The Harbormaster will retire an existing patrol boat (with motors) and 4 outboard motors, and the Sheriff will retire four outboard motors. The Port Authority believes that higher horsepower electric motors (than identified through the grant development period) will be available during the bidding period.

**Supporting Services**: **Community Engagement, Workforce and Economic Development**: The Port Authority has partnered with Southwest Detroit Environmental Vision (SDEV) whose mission is to improve the environment and strengthen the economy of Southwest Detroit through the partnership with residents, community organizations, government agencies, schools, businesses, and industry leaders to combat negative environmental issues. They have extensive experience working with the Port Authority on the Decarb Plan, developing clean diesel initiatives, and overseeing community engagement on development projects in Southwest Detroit. SDEV will provide community engagement services focused on workforce development training and neighborhood hiring initiatives, small and diverse business networking, and hosting community updates by working with the Port Authority and the private terminal operators on implementation of the grant. SDEV has previously received more than $6.5 million directly from US EPA for clean diesel projects in Southwest Detroit.

**Supporting Services**: **Technical Advisory**: The Port Authority has partnered with Michigan Clean Cities (MCC), a non-profit whose mission is to help Michigan based companies meet their goals in adopting clean transportation solutions. MCC will provide technical advisory services to the Port Authority and to each of the project partners and small fleet award recipients on the Dry Port application throughout design and implementation. This includes developing specifications for equipment and charging infrastructure, supporting bid evaluation, and assisting with deployment.

**Supporting Services**: **Program Management, Engineering & Design and Program Evaluation**: The Port Authority anticipates contracting for several services through competitive bidding to support this zero-emissions deployment program. This includes a program manager to support Port Authority staff to support competitive bidding, coordinate engineering of all project sites, oversee construction, ensure compliance, for charger and solar panel installations, and an accounting services firm to support budget tracking, payments, reporting and program evaluation that includes performance and impacts.

**Project Labor Agreement/Workforce Development**: The Port Authority will enter into a Project Labor Agreement (PLA) with the local building trades association to ensure a ready supply of highly qualified union workers for installation of charging equipment and electrical upgrades. The PLA will also include preferences for local union workers for this project and a pre-apprentice program to recruit and accelerate local youth through a training program that advances them into union apprentice positions. SDEV will lead neighborhood outreach around job opportunities from the port partners, identify neighborhood employment seekers, and develop in collaboration with the port partners appropriate community-based training programs based upon those identified skill gaps.

**Project Scalability**

The Port is willing to scale each of the project scopes as required in the event available funding is insufficient to achieve the full scope presented in the applications.

**Build America Buy America**

All the equipment and infrastructure acquired under this program will comply with applicable Build-America Buy-America (BABA) requirements, except for the outboard motors and solar panels. In all

categories of equipment and vehicles, the Port Authority has identified at least one model available that is built in the United States. Details for each category of new equipment is set forth below.

| Equipment | Build America, Buy America Eligible? |
|---|---|
| Forklift Trucks | The forklift trucks for the Nicholson Terminal will meet the BABA requirement. US Manufacturers: Taylor "Big Red" and Kalmar |
| Forklifts | The medium and light duty forklifts for the Holcim and Waterfront terminals will meet the BABA requirements. Several brands made in the US are available, including Caterpillar, Toyota USA, and Kalmar |
| Boom lift | The boomlift will meet the BABA requirement for Waterfront Terminal. JLG manufacturers it's all electric boomlifts in the Shippensburg, PA |
| Rail Car Movers | The 2 railcar movers will meet the BABA requirement. US Manufacturer: Shuttlewagon, and soon Trackmobile |
| Mobile Gantry Crane | The mobile gantry crane for Waterfront will meet the BABA requirements. US Manufacturer: Sinnebogen |
| Terminal Tractor (gator) | The terminal tractor for Waterfront will mee the BABA requirements. Several US manufacturer: John Deere |
| Patrol Boat | The patrol boat will be eligible for a BABA waiver, as more than 55% of content is made in the US by Safe Boats. However, the inboard motor is made in Europe by Vita Power |
| Outboard Motors | The currently available electric outboard motors will not meet the BABA requirement, as there is not a US made outboard motor with sufficient power. Mercury Marine makes electric outboard motors in the US and may develop one with sufficient horsepower by the time of solicitation. Evoy makes two models in Europe. The purchase may qualify for a waiver. |
| Solar charging equipment | The solar panels may not meet the BABA requirement as it has been difficult to locate solar panels fully made in the US. A waiver may be needed. However, it is expected that US manufacturing of solar panels will increase and create options during the procurement phase. |
| Charging Equipment | BABA eligible charging equipment is available by waiver for DC Fast Chargers. |

***Table 2: Build America, Buy America***

**b. <u>Partnerships and Collaboration</u>**

To identify project partners for the Michigan application to the EPA *2024 Clean Ports Program Zero Emission Deployment Competition,* the Port Authority solicited a call for projects to the port community and received interest from private terminal operators interested in collaboration related to the transition to zero emission operations.

The *Clean Haul Michigan Project* will involve significant collaboration and partnerships between the Port Authority, privately operated terminals, public police agencies who operate in the port, non-profit community and technical entities and the City of Detroit. All these relationships preceded the announcement of EPA's Clean Ports program and owe much to the Port Authority's recently developed Decarb Plan, a year-long planning process with active involvement by the entire Port of Detroit community, including the parties to the Wet Port Application.

A table of the partnerships and collaborating entities is included below. Each partner has submitted a letter of commitment that can be found in the supporting documents. (Appendix 2) Private partners have committed to a financial match of 12% for the supporting services to the Port and the private

terminals which exceeds the EPA's 10% local match requirement. Letters of support from other stakeholders and partners are also included as part of Appendix 3.

| Entity | Role | Responsibility/Commitments |
|---|---|---|
| Detroit/Wayne County Port Authority | Applicant | Provide leadership and direction, fiscal management, and program accountability. |
| City of Detroit | Collaborating Entity (no match and no subaward) | Provide support to the Port Authority, as needed, including multi-departmental resources to aid in implementation |
| Southwest Detroit Environmental Vision (SDEV) | Collaborating Entity, sub awardee | Responsible for implementing community and workforce engagement and economic development services. |
| Michigan Clean Cities (MCC) | Collaborating Entity, sub awardee | Responsible for technical assistance for implementation and project implementation services. |
| Nicholson Terminal and Dock Co. | Collaborating Entity, recipient of grant funded port equipment and charging infrastructure | Project site. Providing local match and commitment to local workforce hiring goals |
| Waterfront Petroleum Terminals | Collaborating Entity, recipient of grant funded port equipment and charging infrastructure | Project site. Providing local match and commitment to local workforce hiring goals |
| Holcim USA, Inc. | Collaborating Entity, recipient of grant funded port equipment and charging infrastructure | Project site. Providing local match and commitment to local workforce hiring goals. |
| Wayne County Sheriff – Marine Division | Collaborating Entity, recipient of grant funded port equipment and charging infrastructure | Project site. No local match. |
| Detroit Police Harbormaster | Collaborating Entity, recipient of grant funded port equipment and charging infrastructure | Project site. No local match. |
| DTE Energy | Energy Partner | Provide support for electrical infrastructure improvements |

***Table 3: Collaborating Entities***

The Port Authority has included with this application signed copies of Letters of Commitment from each Collaborating Entity, specifying, where applicable, the local match commitment. Below is further elaboration on the collaboration and partnering that will be present throughout the implementation of the Michigan Clean Haul program.

The Wet Port Application and Dry Port Applications, although submitted separately, represent a regional collaboration to combat climate change, improve air quality and provide substantial economic and health benefits to the residents of Southwest Detroit. This is done in cooperation with local partners, the state and region's Priority Climate Action Plans, as well as the MI Healthy Climate Plan and the City of Detroit Climate Strategy. Southwest Detroit Environmental Vision (SDEV) is an award-winning, Detroit-based 501c3 non-profit organization founded in 1992, with a mission is to improve the environment and strengthen the economy of Southwest Detroit through the partnership with residents, community

organizations, government agencies, schools, businesses, and industry leaders to combat environmental issues. They have extensive experience working with the Port Authority on its Decarb Plan, developing clean diesel initiatives, and overseeing community engagement on projects in Southwest Detroit with an environmental impact. For this project, SDEV will provide community engagement, workforce, and economic development services by working with the Port Authority and the private terminal operators on implementation of the zero-emissions port equipment.

Additionally, the Port Authority has partnered with Michigan Clean Cities (MCC) which is part of NextEnergy, a Detroit-based non-profit innovation hub focused on building smarter, cleaner, and more accessible solutions for cities. NextEnergy works with a variety of industry partners to improve access and deployment of emerging technologies including zero emissions equipment. MCC is a part of a network of nearly 90 coalitions nationally through the U.S. Department of Energy Clean Cities Initiative. MCC's mission is to help Michigan based companies meet their goals in adopting clean transportation solutions and reducing dependence on oil in transportation fuels through alternative fuels, vehicle U.S. age, and fuel economy practices. MCC will provide technical advisory services to the Port Authority and to each of the project partners throughout design and implementation. This includes developing specifications for equipment and charging infrastructure, supporting bid evaluation, and assisting with deployment. The Port Authority will also collaborate with the local building and traders' association to further the goal of creating good paying union construction jobs for residents. The City of Detroit Office of Development and Grants also plans to assist the Port Authority as a project partner in the administration of the grant and working with each of the project partners.

The Port Authority and the City are working closely with DTE Energy, the regional gas and electric utility in Southeast Michigan, on evaluating power capacity at the different private terminal sites to support electric equipment charging, fueling and solar capacity. DTE Energy has participated in weekly workgroup meetings with the Port Authority and the private terminal partners to understand project scopes and anticipated power usage at the various sites. This collaboration has included reviewing existing grid capacity, demand for electric vehicle (EV) charging, and coordination of planned utility upgrades in the area. The completed Utility Partnership Template is included as part of this application to demonstrate the robust relationship and engagement that has taken place. (Appendix 4)

**c. Coordination and Complementary Initiatives**

The *Clean Haul Michigan* project aligns with the Decarb Plan by implementing zero-emission equipment and battery-electric vehicles (BEV) to move cargo and adding zero-emission vessels to handle essential port services. In addition to the alignment with the Decarb Plan, the efforts described in the Clean Haul Michigan Application directly addresses satisfy local, State, and Federal freight, decarbonization, and environmental justice initiatives, especially as they relate to the clean energy transition and the transition to zero-emissions transportation. The regional and coalition-based approach between the City of Detroit, the Port Authority, local non-profit partners, and private terminal operators represents a strong and cohesive strategy for the City, County, Region, and State towards the modernization and decarbonization of maritime and freight activities in Detroit's ports. This project builds on the City's designation as an inaugural Thriving Communities partner by USDOT to address the burden of freight activity on the residents of Southwest Detroit. On the Federal level, *Clean Haul Michigan* supports the USDOT and the Department of State's initiatives to establish Green Shipping Corridors, which establishes a forum for collaboration around reducing greenhouse emissions (GHG) from maritime activity.

The Port Authority and the City are Alliance Members in a U.S. Department of Energy (DOE) Hydrogen Hubs project awarded to the Midwest Alliance for Clean Hydrogen (MachH2). Part of the MachH2

project is the development of the *Truck Stop of the Future* that will be sited within the project footprint of the *Clean Haul Michigan Program*. The Truck Stop of the Future reimagines the role of a travel center within the broader transportation ecosystem and its relationship to other critical infrastructure. This state-of-the-art facility will provide zero-emission (hydrogen and electric) refueling and charging for medium and heavy-duty trucks.

The *Clean Haul Michigan* program is directly aligned with state strategic initiatives towards zero emissions transportation including the Michigan Future Mobility Plan, Michigan Healthy Climate Plan, and the Michigan Mobility 2045 plan. These plans call for an accelerated fleet transition of freight vehicles by providing incentives for small and medium businesses, low-income neighborhoods, and fleets in areas with history of environmental injustice. Additionally, State plans call for expanded public and private sector partnerships on mobility innovation and to support initiatives that improve air quality and reduce emissions.

Locally, the *Clean Haul Michigan* project timing is aligned well with the 2024 completion of the Gordie Howe International Bridge (GHIB), a new international bridge crossing in Detroit between the U.S. and Canada focused on goods movement. The bridge completion is anticipated to increase demand for freight services by all modes in the region. The Dry Ports application will follow the work completed through the Detroit Intermodal Freight Terminal (DIFT) concept of a modernized rail-to-truck hub in Southwest Detroit, that was partially implemented by the State in 2010. The purpose of the DIFT was to support the economic competitiveness of southeastern Michigan and the state by improving freight transportation opportunities and efficiencies for business, industry, and the military.

The coalition-based approach of the *Clean Haul Michigan Program* incentivizes wet and dry port operators to take advantage of bulk purchasing for zero emission port equipment, trucks, and charging infrastructure, centralized design, engineering services, and consolidated technical advisory services that would otherwise be cost prohibitive for private terminal operators to procure independently manage. The collaborative approach encourages unified purchasing decisions, opportunities for cross-training between facilities, and connects industry competitors. By engaging private terminal operators as collaborating entities (with a financial private match commitment, outlined in the letters of commitment and budget narrative) the project will be able to directly invest in community engagement, workforce development, and technical advisory services, furthering local investments for project partners and subgrant recipients (minority/women-owned business) that support port operations.

This grant application and program proposal is coordinated with several other grant initiatives, including those awarded and submitted Port Improvement Development Program (PIDP) projects to private marine terminal operators through the Port Authority to modernize freight operations along the Detroit River. While not submitted, an intersecting group of coalition stakeholders is evaluating supplementary programming to successfully be awarded funding through the 2024 EPA Clean Heavy Duty Vehicles Funding Opportunity that would focus efforts on the modernization of Class 6 and Class 7 freight vehicles in Detroit serving various port and freight facilities.

**d. Project Risk Mitigation**

The Port Authority and its Collaborating Entities have identified the following risks to the project and the means of addressing those risks. The Port Authority's experience with multi-entity projects, the collaborative nature of the Clean Haul Michigan Team, and the support the Port Authority expects from the City and at State of Michigan, will ensure that these and other potential risks will be managed in a way that does not jeopardize the successful implementation of the project.

| | Risk | Mitigation |
|---|---|---|
| **Risk #1** | Insufficient funding for purchasing zero-emission equipment due to funding shortfalls in federal or non-federal funding. | The project parties have developed a carefully vetted and robust budget drawn from significant consultation with each collaborating entity, which includes the possibility of inflationary pressure on the cost of the equipment that is built into the project budget.<br>In addition to seeking federal funding, the Port Authority has received conditional approval from the State of Michigan's Competitiveness Fund program for $2 million in funding for the project and the private sector collaborating entities are committing to a range of 12 to 15% in non-federal matching funds for the project. |
| **Risk #2** | Technology Risks caused by unproven or unreliable zero-emission technologies. | The statutory partners have worked extensively to identify proven and available ZE equipment and have shared knowledge with all parties during weekly conference calls and private discussions. |
| **Risk #3** | Operational Risks caused by potential disruptions during equipment transition. | The project parties have agreed to a phased implementation to replace existing equipment on a feasible timeline to minimize operational disruptions and to instruct employees on new equipment and provide ongoing technical assistance. |
| **Risk #4** | Supply Chain issues caused delays in equipment delivery or availability. | As part of their due diligence, the project parties have worked to calculate the availability of the proposed equipment procurement and foresee no immediate issues with supply chain disruptions, although they will continue to monitor the supply chain to assess lead times and potential bottlenecks. |

***Table 4: Risk Mitigation***

**e. <u>Applicant Fleet and Infrastructure Description</u>**

The equipment types selected for this grant are not experimental or pilot models but have been placed in U.S. in other ports. For example, Taylor, the leading US manufacturer of heavy-duty forklift trucks and other port equipment, has twelve models of battery electric forklifts, reach stackers and container handlers. Taylor's equipment is in use at the Port of Long Beach (SSA Pier J), Port of Los Angeles (Everport and LBCT), Port of San Bernadino (BNSF), and Port of Oakland (Shippers Stevedoring SSA). Electric rail car movers have been manufactured by Trackmobile since 1991.

| Specific Equipment Type | General Equipment Type | Cost per Equipment (2024) | Number of Equipment | Total Cost[1] |
|---|---|---|---|---|
| Forklift Truck ZH-650L | Heavy Electric Forklift 369 kW | $850,000 | 2 | $1,817,565 |
| Forklift Truck ZH-550H | Heavy Electric Forklift 369 kW | $750,000 | 1 | $801,867 |
| Forklift Truck ZH-360M | Light Electric Forklift 246kW | $500,000 | 1 | $534,578 |
| Forklift Truck ZH-160M | Light Electric Forklift 246 kW | $250,000 | 2 | $534,578 |
| Boom lift | 48 V DC, 8 6 V batteries | $85,000 | 1 | $90,878 |
| Gator (terminal tractor) | 4 kW | $20,000 | 1 | $21,383 |

| | | | | |
|---|---|---|---|---|
| Rail Car Mover | 357 kW | $900,000 | 2 | $1,924,480 |
| Forklift Truck | Medium Electric Forklift 60 kW | $100,000 | 2 | $213,832 |
| Mobile Gantry Crane | Heavy Duty 500 kW | $6,300,000 | 1 | $6,735,683 |
| Forklift Truck | Light Electric Forklift 27 kW | $35,000 | 2 | $74,841 |
| Patrol Boat | 25' boat w 126 kW inboard motor | $750,000 | 2 | $1,603,734 |
| Outboard Motors | 225 kW | $100,000 | 4 | $427,662 |
| Outboard Motors | 90 kW | $70,000 | 4 | $299,364 |
| **Total** | | | **25** | **$15,080,445** |

***Table 5 Equipment Summary***

*1) Incorporates 3.4% inflation over two years to account for delay in purchasing equipment.*

Below is a summary of the charging infrastructure to be purchased and installed:

| Equipment Type | Cost per Equipment | # | Total Equipment Cost | Installation Cost | Permits | Total Equipment & Install Cost (2024 values) | Total Equipment & Install Cost (with inflation) [1] |
|---|---|---|---|---|---|---|---|
| DC Fast Chargers | $75,000 | 11 | $825,000 | $1,000,000 | $125,000 | $1,950,000 | $2,084,845 |
| Solar for charging equipment 316kW | $700,000 | 1 | $700,000 | $250,000 | $25,000 | $975,000 | $1,042,427 |
| Partner Site Electrical Upgrades | $3,000,000 | 1 | $3,000,000 | | | $3,000,000 | $3,207,468 |
| **Total** | | **13** | | **1,250,000** | **$50,000** | **$5,925,000** | **$6,334,749** |

***Table 6 Charging Infrastructure Summary***

**1** Incorporates 3.4% inflation over two years to account for delay in purchasing equipment.

See Supplemental for additional information.

**Section 2 - Environmental Results—Outcomes, Outputs and Performance Measures**

a. Expected Project Outputs and Outcomes.

**There are two ways to quantify environmental impacts for this project:**

1. Replacement/retirement of existing conventional fuel assets.
2. Foregone emissions from conventional fuel vehicles that would have been purchased.

Funding from this grant will provide both types of positive environmental impacts by retiring conventional fuel vehicles early and assisting with the purchase of zero emission vehicles when fossil fuel combustion (conventional) vehicles might be more easily otherwise procured due to lower up-front costs and less risk to operationalize. Across all new and scrapped vehicles, the following environmental impacts can be realized:

| *Annual values* | Annual Carbon Emissions avoided (tC02) | Avoided PM 2.5 Emissions (kg) | Avoided NOx Emissions (kg) | Gallons of fuel avoided |
|---|---|---|---|---|
| Dry Ports | 7,771 | 6,716 | 104,334 | 761,076 |
| Wet Ports | 871 | 1,540 | 15,995 | 55,741 (diesel + gas) |

***Table 7: Summary Annual Emissions Savings (Scrappage + New Fleet)***

| Terminal | # of Vehicles Scrapped | Annual Carbon Emissions avoided (tC02) | Avoided PM 2.5 Emissions (kg) | Avoided NOx Emissions (kg) | Gallons of diesel fuel avoided |
|---|---|---|---|---|---|
| **Nicholson** | 6 | 212 | 329 | 3,708 | 20,800 |
| **Waterfront** | 2 | 4.6 | 0.5 | 25.4 | 4,619 |
| **Holcim** | 4 | 15 | 29.4 | 302 | 1,510 |
| **Wayne County Sheriff** | 4 | 11 | 6.2 | .04 | 1288 (gas) |
| **Detroit Harbormaster** | 5 | 15.8 | 8.7 | .06 | 1803 (gas) |
| **Total** | **21** | **260** | **374** | **4,036** | **22,310 (dsl) 7,710 (gas)** |

***Table 8: Annual Emissions Avoided - Scrappage***

| Terminal | # of New Vehicles | Annual Carbon Emissions avoided (tC02) | Avoided PM 2.5 Emissions (kg) | Avoided NOx Emissions (kg) | Gallons of diesel fuel avoided |
|---|---|---|---|---|---|
| **Nicholson** | 6 | 170 | 324 | 3326 | 16,640 |
| **Waterfront** | 5 | 398 | 760 | 7,790 | 4,125 (dsl) 385 (gas) |
| **Holcim** | 4 | 6.2 | 12 | 122 | 100 (dsl) 1,299 (CNG) |
| **Wayne County Sheriff** | 5 | 18.41 | 35 | 360 | 1803 (gas) |
| **Detroit Harbormaster** | 5 | 18.41 | 35 | 360 | 1803 (gas) |
| **Total** | **25** | **611** | **1,166** | **11,959** | **20,865 (dsl) 3,991 (gas) 1,299 (CNG)** |

***Table 9: Annual Emissions Avoided – New Fleet***

Beyond the emissions and air quality improvements, the *Clean Haul Michigan* project will increase community awareness of and input regarding zero emission technology, employment training and small business development in the energy transition sector. Moreover, these efforts will build the structure for these critical features of the transformation of the Wet and Dry Ports. Below is a table of the expected outcomes for community engagement and workforce and economic development.

| ***Activities*** | ***Outputs*** | ***Outcomes*** |
|---|---|---|
| ZE Equipment for Nicholson | Purchase of 3 - 369kW and 3 - 246 kW heavy duty forklifts<br>Installation of 3 DC fast chargers (240kW)<br>Scrappage of 6 diesel forklifts | • Improved air quality in near port communities<br>• Reduction in fuel consumption and emissions<br>**See Tables 8 & 9 annual emissions savings** |
| ZE Equipment for Waterfront Petroleum | Purchase of 1 55kW forklift, 1 357kW railcar mover, 1 500kW gantry crane, 1 225kW terminal tractor, and 1 370kW boomlift<br>Installation of 2 DC fast chargers (240kW)<br>Scrappage of 1 terminal tractor and 1 forklift | • Improved air quality in near port communities<br>• Reduction in fuel consumption and emissions<br>**See Tables 8 & 9 annual emissions savings** |
| ZE Equipment for Holcim | Purchase of 2 27kW forklifts, 1 60kW forklift, and 1 357kW railcar mover<br>Installation of 1 316kW solar array<br>Installation of 2 DC fast chargers (240kW)<br>Scrappage of 3 forklifts and 1 railcar mover | • Improved air quality in near port communities<br>• Reduction in fuel consumption and emissions<br>**See Tables 8 & 9 annual emissions savings** |
| ZE Equipment for Wayne County Sheriff | Purchase of 2 90kW outboard motors, 2 225kW outboard motors, and 1 126kW police vessel<br>Installation of 2 DC fast chargers (240kW)<br>Scrappage of 4 outboard motors | • Improved air quality in near port communities<br>• Reduction in fuel consumption and emissions<br>**See Tables 8 & 9 annual emissions savings** |
| ZE Equipment for Harbormaster | Purchase of 2 90kW outboard motors, 2 225kW outboard motors, and 1 126kW police vessel<br>Installation of 2 DC fast chargers (240kW)<br>Scrappage of 4 outboard motors and 1 patrol vessel | • Improved air quality in near port communities<br>• Reduction in fuel consumption and emissions<br>**See Tables 8 & 9 annual emissions savings** |

| | | |
|---|---|---|
| Community Engagement Materials and Events | Participation (in-person/ virtual) from a minimum of 500 community members. | • Stakeholder Engagement Plan (2024-2028) to identify all targets and approaches for the project.<br>• One (1) community website with project information, contact information and surveys. |
| | A minimum of 12 community meetings and listening sessions. | |
| Workforce Engagement & Development | A minimum of four (4) annual pre-workforce engagement mentorship sessions for recruitment | • One (1) *Clean Haul Michigan Workforce Guidebook*, prepared by SDEV and MCC to provided resources for both workers and employees in one place.<br>• Two (2) classes of successfully trained apprentices.<br>• Eight (8) workforce educational/ youth events. |

***Table 10: Anticipated Outputs and Outcomes***

**b. <u>Performance Measures and Plan</u>**

The *Clean Haul Michigan Application* proposed budget includes the funding for a program manager firm, a project accounting firm, as well as two full time positions: Project Staffer and Compliance/ Accounting Manager – as well as partial funding for the Executive Director to for oversight, track, measure, and report progress on the implementation of grant funds and measure expected outputs and outcomes.

The Port Authority is the applicant of this project and will track and oversee the performance of the procurement and operation of the zero-emission equipment and charging infrastructure, as well as the proper documentation of the scrappage of the replaced equipment, by the private terminal operators and partners. All collaborating entities receiving funding for this program will be required to submit compliance reports to the Port Authority during the period of performance and for three (3) years following the conclusion of project implementation. The Port Authority will oversee subgrant recipient management; contractors and vendors; finance tracking and reporting project progress; and tracking, measuring, and reporting accomplishments and proposed milestones outlined across the grant scopes. Additionally, the Port Authority will hire a program evaluation firm to evaluate program effectiveness, key metrics outlined in the outputs table, and general performance of zero emissions infrastructure & equipment (runtime, weather conditions, reliability, etc.).

The Port Authority will establish a regular cadence of meetings with project members to ensure regular communications, reporting on activities and expected outcomes. Below is an outline of the Port Authority's project implementation regular meeting schedule.

| Meeting Type | Topics | Frequency | Outcomes |
|---|---|---|---|
| Project Construction and Implementation | Construction, procurement budget, scrappage compliance, | Monthly for program-wide; weekly for construction; | • On-time and on-budget<br>• Accurate documentation and accounting<br>• Federal/ contractual compliance |
| Community Engagement | Community outreach activities and progress on tasks and outputs. subaward budgets and accounting | Bi-Monthly | • Consistent progress toward engaging community<br>• Reports of outputs<br>• Compliance |
| Workforce and Economic Development | Worker and small business engagement activities; outputs; subaward budgets, accounting | Bi-Monthly | • Consistent progress toward engaging community<br>• Reports of outputs<br>• Compliance |

***Table 11: Implementation Meeting Schedule***

The *Port Authority* will facilitate direct collaboration across government agencies, environmental organizations, advocacy groups, industry partners and freight operators through regularly occurring meetings and reporting throughout the life of the award period (ending December 31, 2028). A key component to the success of the *Clean Haul Michigan Project* will be workforce development activities aimed at ensuring that residents have access to high-quality jobs; on-site training to fill positions created by the grant and to support current workers by upskilling for the clean energy transition. The initial assessment and planning of this program will include conducting a comprehensive baseline assessment of current emissions at the dry port. This assessment will support developing a combined wet and dry port transition plan towards zero emission operations, including timelines, milestones, and goals.

**c. Timeline and Milestones**

The table below shows the estimated timeline for the project from award notice to final reporting.

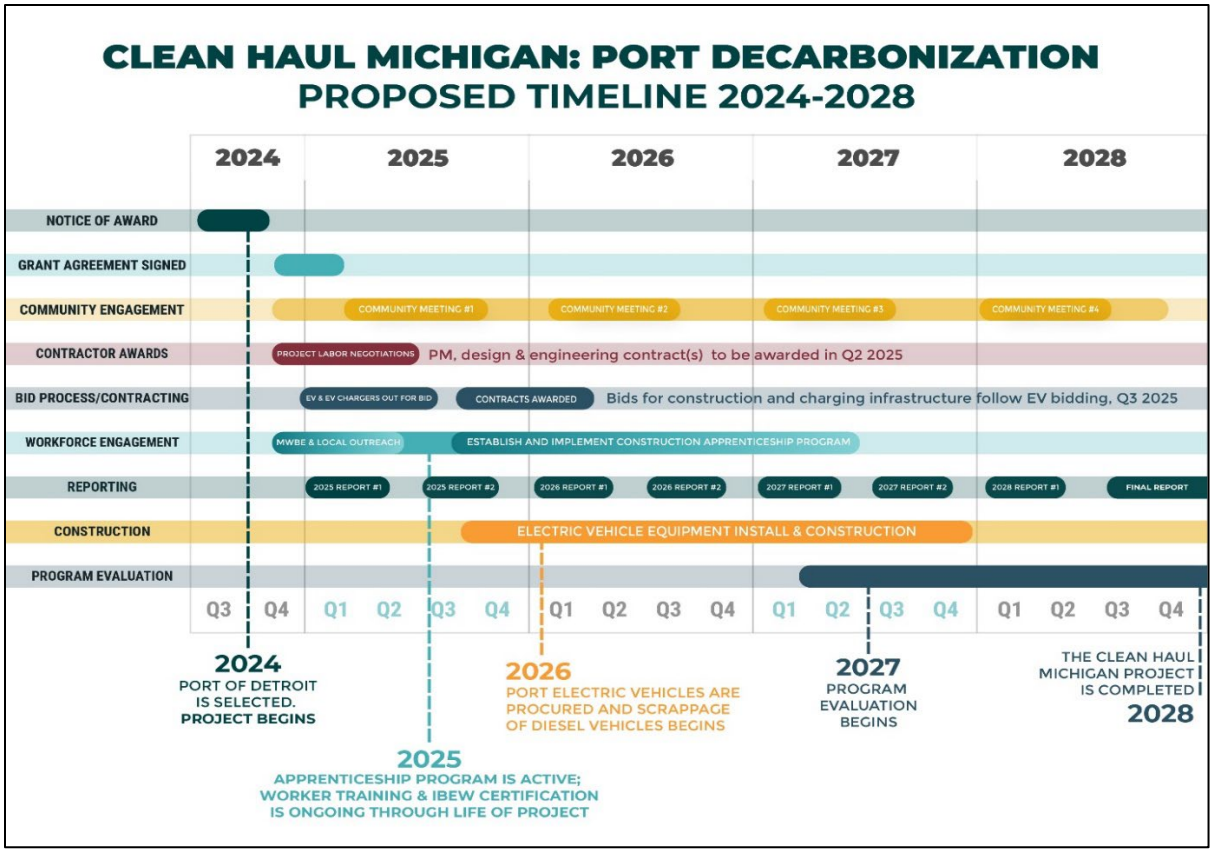



***Table 12: Clean Haul Michigan Program Timeline***

The table below shows when partners expect to have their equipment in full service after award of grant funding:

| OPERATIONAL TIMELINE (WET PORTS) | 2024 | | 2025 | | | | 2026 | | | | 2027 | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Q3 | Q4 | Q1 | Q2 | Q3 | Q4 | Q1 | Q2 | Q3 | Q4 | Q1 | Q2 | Q3 | Q4 |
| Nicholson Terminal | | | | | | | | | | | | | | |
| Waterfront Petroleum | | | | | | | | | | | | | | |
| Holcim | | | | | | | | | | | | | | |
| Wayne County Sheriff | | | | | | | | | | | | | | |
| Detroit Police Harbor Master | | | | | | | | | | | | | | |

***Table 13: Dry Ports Operational Timeline***

**d. <u>Scrappage</u>**

The Wet Port projects will result in significant scrappage of diesel and gasoline equipment. 21 of the 25 new equipment, vehicles and motors that will be purchased under this program will have an equivalent powered ICE engine or motor removed from the fleet and disabled and will never again produce greenhouse gas emissions. As further detailed in the attached Supplemental Application Template, Tab 4b, the Wet Port partners will permanently disable the following equipment from their fleet:

- **Nicholson Terminal:** three (3) heavy duty and three (3) light duty forklift trucks
- **Waterfront Terminal:** one (1) terminal tractor and one (1) forklift
- **Holcim Terminal:** one (1) rail car mover and three (3) forklift trucks
- **Wayne County Sheriff:** four (4) outboard motors
- **Detroit Harbormaster:** four (4) outboard motors and one (1) patrol boat (and outboard)

**Section 3 - Programmatic Capability and Past Performance**

**a. Past Performance and Reporting Requirements**

Below is a list of five federally or state funded assistance agreements performed or currently bring performed by the Port Authority and the City of Detroit in the previous five years.

| Program | Description | Amount | Status |
|---|---|---|---|
| EPA Brownfield Supplemental Revolving Loan<br><br>CDFA: 66.818 | The grant will allow the Port Authority to continue providing loans for environmental contamination remediation | $1,300,000 | Awarded in 2023 to continue the program that was successfully administered by the Port Authority and EPA from 2011-2023. Meeting reporting requirements.<br>AA Number: EE001034 |
| USDOT Port Infrastructure Development Program (PIDP)<br><br>CDFA: 20.823 | The project will fund infrastructure improvements to Waterfront Petroleum Terminal, a vital fueling terminal for Great Lakes ships, including an additional berthing pump and seawall improvements, added fuel storage; modification for biodiesel lieu of rail enhancements is pending. | $16,030,000 | Awarded in 2022 and project agreement with MARAD is pending |
| Michigan EDC State Grant Program | The grant was awarded to develop a decarbonization and air quality improvement plan for the Port. | $1,000,000 | The Port Authority completed the grant scope in April 2024. Will be published June 2024. |

***Table 14: Port Authority Past Performance***

| Program | Description | Amount | Status |
|---|---|---|---|
| USDOT Safe Streets for All<br><br>CDFA: 20.939 | The grant addresses safety needs of Detroit by making traffic calming and road safety improvements | $24,800,000 | Grant agreement was signed in December 2023 and grant is being implemented. Meeting reporting requirements.<br><br>AA Number: 693JJ32440035 |
| HUD Choice Neighborhood<br><br>CDFA: 14.889 | The grant will allow the City of Detroit to preserve housing affordability and construct new affordable housing throughout Historic and North Corktown. | $30,000,000 | Awarded in May 2021 and augmented by an additional $5 million Choice Neighborhoods Supplemental Grant in April 2023. Meeting reporting requirements.<br><br>AA Number: MI5F536CNG120 |

***Table 15: City of Detroit Past Performance***

**b. Staff Expertise**

The *Clean Haul Michigan* project team and coalition bring together a diverse array of expertise, encompassing decarbonization initiatives, port and yard operations, project management, and inclusive community engagement. They have managed major construction programs utilizing program management services and significant engagement with a unionized construction workforce and local workforce development. Their collective experiences span across mobility, economic policy, infrastructure planning, freight planning, supply chain management and maritime operations. They have spearheaded initiatives aimed at enhancing road safety and promoting the use of cleaner fuels, including the operationalization of the first liquified natural gas retail station. They have also been instrumental in setting infrastructure priorities at local, state, and national levels. Their unwavering commitment to stakeholder and community engagement is evident in their collaborations and their ability to foster a culture of innovation that generates revenue and supports the local economy. Their combined expertise, industry leadership, and dedication to sustainable solutions position them as a consortium of industry pioneers. Their proven track record and the trust they have established within the local community underscore their capacity to successfully execute this program. See Appendix 5 for Clean Haul Michigan Organizational Chart and Resumes.

## Section 4 - Environmental Justice and Disadvantaged Communities

a. **Disadvantaged Communities: Nonattainment Areas**
b. **Disadvantaged Communities: Areas with Air Toxics Concerns**

Southwest Detroit, located within Wayne County, Michigan, is an area that has long faced environmental justice challenges, including air toxin concerns resulting from industrial activities and transportation infrastructure. This region is a historically disadvantaged community, largely populated by minorities and immigrants with lower incomes. Many of the residential neighborhoods border the industrial area leading to increased exposure to pollutants and air toxics concerns.

The Clean Haul Michigan project takes place entirely within Wayne County which includes numerous census tracts identified as disadvantaged in the CEJST tool. Of the 611 census tracts within Wayne County, 362 are disadvantaged using the EJScreen Supplemental Index Tool, Wayne County has numerous Census Block Groups that exceed 90th percentile including low income, exposure to particulate matter, and the general supplemental demographic index. (Appendix 6)

Wayne County qualifies as a disadvantaged community in terms of both non-attainment and areas with air toxics concerns. This information can also be found on the Supplemental Application Cover Sheet.

**c. Community Engagement Prior to Application and During Project**

An essential part of the Decarb Plan (developed in 2023-24) is community engagement. SDEV served as the leader of outreach and community engagement to ensure that the experiences of the community were reflected in the plan's findings and action plan. Three community meetings were held to gain awareness of the community concerns, review preliminary findings and solutions, and to invite the community to participate in the plan's implementation. A Port of Detroit Decarbonization and Air Quality Advisory Board has been created and will meet twice a year to monitor progress of the plan's implementation and infuse the action steps with community concerns.

Visioning for a cleaner community in Southwest Detroit started decades ago, with grassroots organizers and residents working to bring attention to the environmental challenges they face. Stakeholder engagement and workforce development will be managed by Southwest Detroit Environmental Vision

(SDEV) and Michigan Clean Cities (MCC). MCC supported the Port through numerous engagement efforts and will continue their partnership through this project. SDEV will work directly with the Detroit Office of Sustainability to further their previous engagement from the 2019 Sustainability Action Agenda and Climate Strategy (2024). This engagement resulted in establishing Climate Equity Advisory to help facilitate community engagement, provide feedback on equity implications of proposed climate actions, and inform indicators chosen for the Community Vulnerability Assessment. Inclusive and accessible engagement is a key pillar of the Port's success and should be viewed as an ongoing process - not a single event.

The Southwest Detroit Trucks Table (SWDTT) is another stakeholder group that will be engaged through both the Decarb Plan and the efforts of the Clean Haul Michigan Program. SWDTT provides a platform for 14 local organizations to evaluate and access direct resources, such as involvement with the U.S. Department of Energy's Clean Cities & Communities Program (through MCC), and other resources that can directly support small and disadvantaged businesses with port-related fleet operations. increasing more equitable access to low- and zero-emission equipment. Additionally, SWDTT continues SDEV's Clean Diesel Initiative funded through CMAQ, SEPs, EPA and State of Michigan DERA grants.

SDEV will create a Stakeholder Engagement Plan that will detail extensive efforts to gather public and stakeholder input (including views on freight, rail, transit bicycle, pedestrian, and other transportation issues important to the community) to identify how a reimagined port can serve the community and the industry more equitably. To achieve this, they will leverage the UNESCO City of Design designation (2015) and will refer to the Design Core Inclusive Design Process as a framework for conducting engagement. This process merges independent experiences and acquired skills with technical expertise to develop broad solutions. All engagement activities and materials for participation will be accessible to persons with disabilities, in compliance with Americans with Disabilities Act of 1990 (ADA, 1990 and Limited English Proficiency (EO 13166) This includes conducting outreach through discussions with disabled individuals; through various forms of communication, including digital and print; and providing accommodations such as American Sign Language (ASL) interpretation and transcripts of virtual events.

**d. Long-Term Community Engagement**

As described above, the Port Authority is committed to community engagement and as described in the Decarb Plan, a community oversight advisory board consisting of residents and local leaders and has been established and will meet at least twice annually to monitor progress of the action steps in the plan. The Port Authority and SDEV are committed to a long-term engagement with the community regarding decarbonizing Port activities and improving air quality.

The Coalition will also build upon existing community-level organizing efforts such as engagement with the Detroit Green Task Force; will coordinate with the City of Detroit Department of Neighborhoods and with stakeholders that have been previously engaged in port and freight specific engagement opportunities, such as the Gordie Howe International Bridge Project and the recently passed, Fugitive Dust Ordinance; city-led engagement around the Detroit Climate Strategy, and outreach related to the Gordie Howe International Bridge Project. A complete list of engagement partners can be viewed in Appendix 7.

In addition to this outreach, the project team will host a series of workshops and public meetings where they can provide technical resources to residents (and leverage existing resident expertise) on the benefits of the zero emissions technology, project status updates, and address community concerns as they arise. These workshops will also serve as an opportunity to share information regarding local workforce development programs from this project. For successful deployment and implementation of zero emission equipment, all project partners are committed to providing training necessary and will

help develop clear career pathways for local workers to aid in the framework of developing long-term employment opportunities. This engagement will also be targeted, ranging from engaging local youth and school programs, internship, and apprenticeship programs, to upskilling the existing workforce with specialized training to handle the new zero emissions equipment.

**Section 5 - Project Sustainability**

**a) Baseline port mobile source inventory for greenhouse gases, PM2.5 and/or NOx**

The Port Authority recently completed the initial phase of its Decarb Plan, which has the goals of a) reducing greenhouse gas emissions from port activity to net zero by the year 2040; and b) reducing other harmful emissions from port activity like fugitive dust, odors, sound, vibrations, and light emissions that negatively impact health and the environment. The Port Authority partnered with SDEV to engage residents and organizations concerned about air quality and the environment and participate in the study. The Plan concludes that the Port of Detroit wet ports contribute over 27,869 tons of carbon dioxide annually to the atmosphere – 30% from shipping, 15% from goods handling and 55% from drayage. A similar inventory of the dry ports included in this application will be accomplished in the same manner before the end of the project period.

**b) Plan to reduce port mobile source emissions**

During the development of Phase I of the Decarb Plan, the decarbonization team hosted three community engagement events to provide community members the opportunity to share project concerns, day-to-day experiences, and learn about project advancements. This engagement helped the team to develop an open dialogue on industry, policies, neighborhoods, and community health that will continue to inform the Decarb Plan for the Port of Detroit and the Detroit Climate Strategy. The plan's scope will be expanded to include the dry ports as part of the funding contained in this application.

**Section 6 - Job Quality and Equitable Workforce Development**

a. **Supporting High Quality Jobs**

The City of Detroit, the Port Authority, SDEV and all collaborating partners are committed to creating high quality jobs that will further enhance the quality of life for residents and provide better prospects to work within their own community. The implementation of the project will provide excellent opportunities for workers in two broad areas of work: 1) construction-related jobs associated with the buildout of EV charging equipment and related infrastructure improvements; and 2) ongoing work related to EV deployment – operating vehicles and equipment, maintenance, training and even sales.

**Construction-related jobs.** The Port estimates that as many 19 workers will be employed on project sites as electricians, equipment operators, cement masons, iron workers, laborers, and apprentices, equating to 16 full-time equivalent construction jobs, primarily electricians.

Below are the local prevailing wages (including fringes) for these jobs.

| Job Category | Wage/Fringe (Full-Time) | Wage/Fringe (Apprentice) |
|---|---|---|
| Electrician | $71.28 | $45.69 |
| Equipment Operator | $62.64 | $50.44 |
| Cement Mason | $58.90 | $39.26 |
| Iron Worker | $63.59 | $47.70 |
| Laborer | $46.03 | $39.75 |

***Table 16: Construction Job Wages***

To ensure a ready supply of qualified construction workers, ensure payment of at least prevailing wages, and harmony on the job sites, the Port plans to negotiate and project labor agreement ("PLA") with the Michigan Building Trades Council ("MBTC"), which includes all applicable trades unions for the construction work that will be performed under the project. A PLA is a great way to ensure a ready supply of qualified union workforce, no strike clauses, and preferences for local workers.

**EV operation/maintenance and related jobs.** With the help of the SDEV, the team will develop a workforce guidebook that will highlight a detailed understanding of existing workforce conditions, identify gaps, and clearly lie out a plan of outreach and engagement with the community to ensure all partners are committed to hiring locally. This outreach will include resources such as translation, application assistance, and industry standard training.

b. **Expanding Access to High-Quality Jobs**

The MBTC member unions, including IBEW, have successfully implemented pre-apprenticeship programs recruit, train and accelerate young people and others who live in disadvantaged communities into apprenticeship positions. These are especially common on large scale projects. Clean Haul Michigan will model the pre-apprenticeship program on these, and other successful accelerator programs developed across the country.

Funding for the pre-apprenticeship program is included in the budget and the Port Authority and SDEV will work with the MBTC and IBEW, build on their successful models, and recruit young people and those who are underemployed or displaced by changing technology into the program, where they will receive training to become ready for entry into apprenticeship positions. The Port Authority intends to train at least 15 pre-apprentices in electrical, equipment operator, cement masonry and general labor categories.

The PLA will also be used as leverage to unsure that union workers who live within the near port areas have preference for construction work available under this program. Often, seniority provisions may prevent local workers from projects in their area. PLAs are a method to give priority for local workers.

The Port Authority and SDEV will utilize worker re-training resources approved by Gov. Whitmer's recently approved Clean Energy & Climate Action Package, which established the Office of Worker and Community Economic Transition and targets communities like Southwest Detroit with worker re-training resources to help residents transition into clean energy jobs.

**Section 7 - Project Resilience to Climate Impacts**

The Port Authority is aware of the need to ensure the equipment and infrastructure funded by this project will be protected from the impact of extreme weather. The Port will ensure that all bid specifications for equipment, vehicles and vessels will contain duty requirements for extreme cold and hot temperatures. The Collaborating entities in the Wet and Dry Ports each confirmed that, other than rail car movers and the electric cranes, which are very large, there will be on-site covered storage or warehouses for EV equipment in the event of extreme heat or cold weather. Charging equipment will be sited and installed to avoid climate risks such as overland flooding (though no locations are proposed to be installed within FEMA designated floodplains).

**Section 8 – Budget**

Mandatory Cost Share: The Port Authority will comply with the mandatory cost share, exceeding the stipulated 10% minimum as set forth below:

| Wet Ports | Amount | Percent |
|---|---|---|
| Federal Cost Share | $21,905,782 | 87.04% |
| Local Match Amount | $3,262,835 | 12.96% |
| **Total Project Amount** | **$25,168,616** | **100%** |

***Table 17: Wet Ports Budget Overview***

The privately operated Collaborating Entities in their attached Letters of Commitment have committed to providing at least 10% up to a dollar figure representing approximately 12% of the project cost. Each, which will help offset any administrative and supporting services costs for which there is no match amount. Letters of commitment to fund this match have been secured from the following partners: Nicholson, Waterfront and Holcim. Please see letters attached to this application.

**c)** Target Apportionment Among Cost Categories:

The Port Authority will comply with the target apportionment for ZE equipment and shore power infrastructure by spending 85% of the requested funds on ZE mobile source equipment purchase and installation, greatly exceeding the 50% target. All spending under "Fleet Equipment" and "Charging Equipment + Install" lines are applicable to the 50% target.

The budget is broken down into four distinct sections:

1. Fleet equipment – spend apportioned for purchase of ZE vehicles.
2. Charging equipment and installation – spend apportioned for charger equipment, installation costs, permitting, solar installations, and site electrical upgrades.
3. Personnel – spend apportioned for local government resources for managing planning and execution of proposed projects.
4. Supporting services – spend apportioned for community engagement, technical advisory, sub-grant processes, and program evaluation.

See table below for the breakdown of the apportionment:

| Wet Ports | Amount | Percent |
|---|---|---|
| Fleet Equipment | $15,080,445 | 60% |
| Charging Equipment + Install | $ 6,334,749 | 25% |
| Personnel | $1,240,905 | 5% |
| Supporting Services | $ 2,512,517 | 10% |
| **Total Project** | **$25,168,616** | **100%** |

***Table 18: Apportionment***

**a. Budget Detail (5 points)**

| **Line Item & Itemized Cost**<br>***Note: EPA and Non-Federal Cost Share includes 3.4% inflation from current year for 2-year period. Line-item number reflect current year cost.*** | **EPA Funding** | **Non-Federal Cost Share** |
|---|---|---|
| Personnel | | |
| Environmental Engineer @ $60/hr x 40 hrs/wk x 208 wks | $533,723 | |
| Compliance/Accounting Manager @ $45/hr x 40 hrs/wk x 208 wks | $400,292 | |
| Executive Director @ $90/hr x 5 hrs/wk x 208 wks | $100,073 | |
| **TOTAL PERSONNEL** | **$1,034,088** | |

| | | |
|---|---|---|
| Fringe Benefits | | |
| Full-time Employees @ 20% of Salary and Wages x Total Personnel<br>- Retirement, Health Benefits, FICA, SUI | $206,818 | |
| **TOTAL FRINGE BENEFITS** | **$206,818** | |
| Travel | | |
| **TOTAL TRAVEL** | **$0** | |
| Equipment | | |
| 1 Mobile Gantry Crane @ $6,300,000/unit | $6,062,115 | $673,568 |
| 3 Heavy Electric Forklifts @ $816,667/unit | $2,357,489 | $261,943 |
| 2 Rail Car Movers @ $900,000/unit | $1,732,033 | $192,448 |
| 2 25' 2x63kW motors @ $750,000/unit | $1,603,734 | $0 |
| 5 Medium Electric Forklifts @ $214,000/unit | $1,029,597 | $114,400 |
| 11 DC Fast Chargers @ $75,000/unit | $825,923 | $56,131 |
| 8 Outboard Motors @ $75,000/unit | $727,026 | $0 |
| 1 316kW solar array @ $700,000/array | $673,568 | $74,841 |
| 2 Light Electric Forklift @ $100,000/unit | $192,448 | $21,383 |
| 1 Boomlift @ $85,000/unit | $81,790 | $9,088 |
| 1 Gator @ $20,000/unit | $19,245 | $2,138 |
| **TOTAL EQUIPMENT** | **$15,304,968** | **$1,405,940** |
| Supplies | | |
| | $0 | |
| **TOTAL SUPPLIES** | **$0** | |
| Contractual | | |
| 5 DC Fast Charger Installations and site upgrades @ $200,000/site | $1,005,007 | $64,149 |
| Program management, compliance, project management | $534,578 | |
| 1 316kW solar array installation @ $250,000/site | $240,560 | $26,729 |
| Partner site electrical upgrades @ $1,000,000/partner | $1,986,721 | $1,220,747 |
| Pre-apprentice Training | $534,578 | $0 |
| **TOTAL CONTRACTUAL** | **$3,766,866** | **$1,311,625** |
| Other | | |
| Community Engagement & Workforce | $0 | $534,578 |
| Technical Advisory for Partners | $267,289 | |
| 6 permit applications for fast chargers and solar array @ $25,000/site | $149,682 | $10,692 |
| **TOTAL OTHER** | **$1,593,042** | **$545,270** |
| Indirect Charges | | |
| **TOTAL INDIRECT** | **$0** | **$0** |
| **TOTAL FUNDING** | **$21,905,782** | **$3,262,835** |
| **TOTAL PROJECT COST** | **$25,168,616** | |

***Table 19: Budget Detail***

The only leveraged funds included in the proposed budget are the $1,250,000 provided from the State of Michigan's competitiveness fund. This funding would increase the local match amount towards the 10% requirement for this grant and be used for starting up a local apprenticeship program. A letter of financial commitment is included in Appendix 8.

C.1 Personnel: Two full-time personnel, an environmental engineer and compliance manager, will be dedicated to overseeing the Wet Ports projects. Part of the Executive Director's time will be spent supervising this team.

| Position | Hourly rate ($/hr) | Hours per week | # weeks | Total Program Cost ($) |
|---|---|---|---|---|
| Environmental engineer | 60 | 40 | 208 (4 years) | $533,723 |
| Compliance/Accounting manager | 45 | 40 | 208 (4 years) | $400,292 |
| Executive Director | 90 | 5 | 208 (4 years) | $100,073 |
| **TOTAL PERSONNEL** | | | | **$1,034,088** |

***Table 20: Personnel Overview***

C.2 Fringe Benefits: Fringe benefits were calculated using 20% of all wages paid to the employees described above to account for all non-salary compensation.

C3. Travel: No travel costs were included as any travel costs incurred during these projects will be absorbed by the Port Authority's budget.

C4. Equipment: Twenty-five (25) total pieces of equipment are budgeted within this proposal for five different entities: Waterfront Petroleum (5), Nicholson Terminal (6), Holcim (4), Wayne County Sheriff (5), and Detroit Police Harbor Master (5). 13 pieces of charging equipment are budgeted to assist partners with charging a new fleet of ZE vehicles: Waterfront Petroleum (2), Nicholson Terminal (3), Holcim (3), Wayne County Sheriff (2), and Detroit Police Harbor Master (2). See equipment itemized in Section 1A, Tables 5 and 6.

An additional $3.2M for Waterfront, Nicholson, and Holcim is requested to assist with site electrical upgrades. Heavy investment for increased power draws and new utility connections is expected to be required. The breakdown of the $3,207,468 line item is as follows:

| Position | Investment |
|---|---|
| Partners (10%) | $220,747 |
| State of Michigan competitiveness funds | $1,000,000 |
| Federal Cost Share | $1,986,721 |
| **TOTAL** | **$3,207,468** |

***Table 21: Site Partner Upgrades Match Detail***

C5. Supplies: No additional supplies are requested in the budget

C6. Contractual: Five (5) charging site installations will be required, one for each entity receiving new ZE vehicles: Waterfront Petroleum, Nicholson Terminal, Holcim, Wayne County Sheriff, and Detroit Police Harbor Master. Each site will have an installation cost of $213,831.00; Holcim will also install one (1) solar array at an estimated cost of $267,289.00. These site installations will be contracted out on an individual basis in a competitive bid process. The installations should take no longer than 3 years. $534,578.00 is requested for a competitive bid process to award for the program management of these projects.

| Partner | Service | Amount |
|---|---|---|
| Program Manager | Program management, compliance, project management | $1,069,156 |
| Program Evaluation, Environmental, & ZE Vehicle Performance Data Analysis Vendor | Program Evaluation | $641,494 |
| Workforce Partner | Pre-Apprentice Training Budget | $534,578 |

***Table 22: Contracts Budget***

C7. Other

| Partner | Service | Amount |
|---|---|---|
| Southwest Detroit Environmental Vision (SDEV) | Community Engagement & Workforce | $534,578 |
| Michigan Clean Cities (MCC) | Technical Advisory for Partners | $267,289 |

***Table 23: Other Budget***

$641,494 is requested for program evaluation resources to ensure the desired outcomes are achieved.

$534,578 will be invested by the Port using funding from the state of Michigan to support an apprenticeship program dedicated to training a workforce capable of building, operating, and maintaining ZE machinery and charging equipment. This amount is expected to pay for six months of training for entry-level candidates to prepare for an apprenticeship.

$534,578 in funding will be used by the SDEV to inform the local community and workforce of the upcoming development plans. This funding will be entirely provided by local match funding from partners.

$267,289 in funding will be used for hiring Next Energy to provide technical advisory to the Port Authority regarding specifications of equipment, EV technology and other matters. Permitting is estimated to cost $26,729 per site across the six sites mentioned in section C6 (5 charging and 1 solar array)

Indirect: There are no indirect costs related to these projects. Indirect costs will be absorbed by funding from the Port Authority.

**Appendix Index:**

- Appendix 1: Final Draft Port of Detroit Decarbonization and Air Quality Improvement Plan
- Appendix 2: Letters of Commitment
- Appendix 3: Letters of Support
- Appendix 4: DTE Utility Partnership Template
- Appendix 5: Clean Haul Michigan Organizational Chart and Resumes
- Appendix 6: EJ Screen
- Appendix 7: Engagement Partners
- Appendix 8: Michigan Competitiveness Fund Financial Commitment