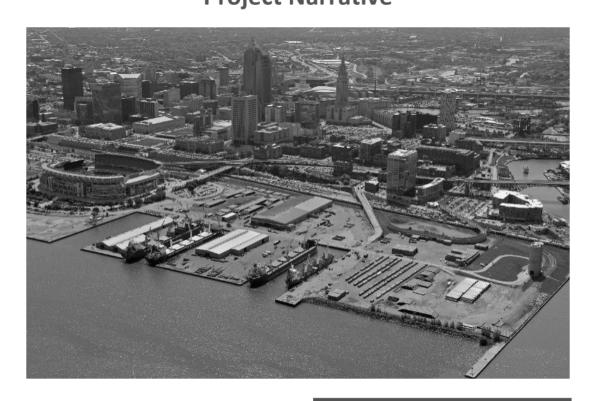


PORT OF CLEVELAND'S ELECTRIFICATION AND WAREHOUSE A MODERNIZATION PROJECT

FY 2022 PIDP Urban Large Port Grant Application Project Narrative



Submitted by: The Cleveland-Cuyahoga County Port Authority May 16, 2022

GRANT CONTACT:

Nicholas LaPointe, P.E.
Director, Planning & Capital Development
1100 W. 9th Street Suite 300
Cleveland, OH 44113
419-349-7553
nicholas.lapointe@portofcleveland.com



2022 Port Infrastructure Development Program (PIDP) Project Information Form

Field Name	Response
Name of applicant	Cleveland-Cuyahoga County Port Authority
Is the applicant applying as a lead applicant with any private entity partners or joint applicants?	No
What is the project name?	Electrification and Warehouse A Modernization Project
Project description	The Project will improve cargo handling efficiency; more effectively utilize limited Terminal real estate; modernize a 144,000 square foot warehouse (Warehouse A) critical to the region's manufacturing industry; expand stormwater collection and treatment infrastructure to improve the quality of stormwater discharge to Lake Erie; fund the construction of a modernized maintenance and repowering facility for Terminal equipment; install electric infrastructure to meet the power requirements of ship cold ironing and electrified cargo handling equipment; and construct a new maritime training and resource center to support expanding workforce opportunities in the maritime industry.
Is this a planning project?	No
Is this a project at a coastal, Great Lakes, or inland river port?	Yes – Great Lakes
Is this application for a small project at a small port?	No
Is this project located in a noncontiguous State or U.S. territory?	No
GIS Coordinates (in Latitude and Longitude format)	41.503722°, -81.704231°
Is this project in an urban or rural area?	Urban
Project Zip Code	44113
Is the project located in a Historically Disadvantaged Community or a Community Development Zone? (A	Yes – Historically Disadvantaged Community and Opportunity Zone (Census Tract 1071.01)

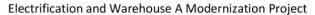


Field Name	Response
CDZ is a Choice Neighborhood, Empowerment Zone, Opportunity Zone, or Promise Zone.)	
Has the same project been previously submitted for PIDP funding?	No
Is the applicant applying for other discretionary grant programs in 2022 for the same work or related scopes of work?	No
Has the applicant previously received TIGER, BUILD, RAISE, FASTLANE, INFRA or PIDP funding?	Yes — PIDP FY 2019 — \$11,000,000
PIDP Grant Amount Requested	\$27,614,711
Total Future Eligible Project costs	\$34,518,389
Total Project Cost	\$34,518,389
Total Federal Funding	\$27,614,711
Total Non-Federal Funding	\$6,903,678
Will RRIF or TIFIA funds be used as part of the project financing?	No



TABLE OF CONTENTS

I.	PR	OJECT DESCRIPTION	7
A.	F	Port of Cleveland Background and Economic Impacts	8
В.	Т	he Great Lakes-St. Lawrence Seaway System	9
C.	N	Manufacturing and Cargo Movement at the Port of Cleveland	10
II.	PR	OJECT LOCATION	11
A.		ocation Map	
В.	Т	ransportation Linkages	12
C.	H	distorically Disadvantaged Community and Qualified Opportunity Zone	12
III.	GF	RANT FUNDS, SOURCES, AND USES OF PROJECT FUNDS	13
A.		Project Costs	
В.	F	- unding Sources	14
IV.	М	ERIT CRITERIA	15
A.		Achieving Safety, Efficiency, or Reliability Improvements	
	i.	Loading and Unloading of Goods at a Port	15
	ii.	Movement of Goods into, out of, around, or within a Port	16
	iii.	Operational Improvements	16
	iv.	Environmental and Emissions Mitigation Measures	18
В.	S	Supporting Economic Vitality at the Regional or National Level	18
C.	A	Addressing Climate Change and Environmental Justice Impacts	19
D.	A	Advancing Equity and Opportunity for All	22
E.	L	everaging Federal Funding to Attract Non-Federal Sources of Infrastructure Investment	23
V.	PR	OJECT READINESS	24
A.	Т	echnical Capacity	24
	i.	Applicant's History	24
	ii.	Project Schedule	25
	iii.	Inclusion in Local, Regional, and State Plans	26
В.	Е	Environmental Risk	26
	i.	NEPA Status	26
	ii.	Environmental Permits and Reviews	27
	iii.	State/Local Approvals	27
C.	F	Risk Mitigation	28







VI. D	OMESTIC PREFERENCE	29
VII.	DETERMINATIONS	30
VIII.	SUPPORTING DOCUMENTS	32



TABLE OF FIGURES

Figure 1: Port of Cleveland's Electrification and Warehouse A Modernization Project Components	7
Figure 2: The Great Lakes-St. Lawrence Seaway System	10
Figure 3: Steel Coil Cargo Being Off-Loaded at the Port of Cleveland	11
Figure 4: Steel Coil Cargo Inside Warehouse A	11
Figure 5: Project Location	12
Figure 6: Historically Disadvantaged Community	13
Figure 7: Opportunity Zone	13
Figure 8: Impacted Column and Cross-Bracing in Warehouse A	17
Figure 9: 2021 Warehouse A Roof Damage	17
Figure 10: Stormwater Drainage Areas	20
Figure 11: Emissions at the Port of Cleveland	21
Figure 12: Davis Students Aboard Flotsam & Jetsam	22
LIST OF TABLES	
Table 1: Project Costs	14
Table 2: Project Funding Schedule	15
Table 3: BCA Summary Results (7% discount)	
Table 4: Electrification Emissions Reductions	22
Table 5: Recent Federal Grants	24
Table 6: Project Schedule	25
Table 7: Project Risks and Mitigation Strategies	28



I. PROJECT DESCRIPTION



Figure 1: Port of Cleveland's Electrification and Warehouse A Modernization Project Components

PIDP Grant Request: \$27.615 million (80%)
Non-Federal Match: \$6.904 million (20%)
Total Project Cost: \$34.519 million

The Cleveland-Cuyahoga County Port Authority (the Port) is requesting a \$27.615 million PIDP grant for the Electrification and Warehouse A Modernization Project (the Project), located at the Port's General Cargo Terminal (the Terminal). The Project will improve cargo handling travel lanes and more efficiently utilize Terminal real estate, bring the Terminal's largest warehouse (Warehouse A) to a state of good repair, continue the implementation of the Port Authority's Stormwater Master Plan to improve the quality of Terminal stormwater discharging into Lake Erie, make necessary electrification investments to prepare the Port for a zero-emissions future, and construct a new on-Terminal Maritime Learning and Resource Center to support hands-on learning programs that prepare Davis Aerospace & Maritime High School students for employment opportunities in the maritime industry. The Project is located within a Historically Disadvantaged Community and Qualified Opportunity Zone and will leverage investments



previously made to the Port's infrastructure. The Project has a Benefit-Cost Ratio of 3.29, at a 7% discount rate.

The Project consists of both development phase (planning, permitting, engineering, and design) and construction activities for the following major components (Figure 1):

- 1. W. 3rd Lot Cargo Movement Efficiency Improvements: Demolish existing cargo handling equipment maintenance facility and hiring hall building and reconstruct as annexed wings off Warehouse A.
- 2. Warehouse A Rehabilitation and Modernization: Bring Warehouse A to a state of good repair with improvements, including, but not limited to, structural steel repairs and coatings, security and communication improvements, new central bay overhead crane, overhead door consolidation and replacement, window replacement, restroom facility upgrades and enhancements, LED lighting conversion, concrete slab and sill replacement, and fire suppression system replacement. Tie in exterior pavement grades with interior elevated grades of Warehouse A. Replace existing roof and assess roof structure for solar panel outfitting suitability. As budget permits and pending the findings of the solar suitability assessment, deploy solar array on the roof of Warehouse A to offset Port's annual electric demands through net metering agreement between the Port and Cleveland Public Power.
- 3. Electrification and Stormwater Enhancements: Conduct electrification and clean air master planning study. Based on planning study results, make necessary power upgrades to electrical feeds on the Terminal and outfit Warehouse A, including the locomotive storage area and the newly constructed maintenance facility wing, with sufficient charging, refueling, and/or maintenance infrastructure to serve as the hub for future low or zero-emissions fleet. As budget permits, run electrical feeds through previously installed duct banks from Warehouse A to Docks 22, 24, and 26W to meet future cold ironing and electric mobile harbor crane needs. Consolidate drainage in Project area and direct to previously installed or new stormwater treatment infrastructure in accordance with the Port's Stormwater Master Plan.
- **4. Maritime Learning and Resource Center:** Construct a new 1,000+ square foot annexed wing from Warehouse A that will house training and education programs for students from Davis Aerospace & Maritime High School, part of the Cleveland Metropolitan School District.

A. PORT OF CLEVELAND BACKGROUND AND ECONOMIC IMPACTS

As the premier port on the Great Lakes, the Port of Cleveland's mission is to spur job creation and economic vitality in Cuyahoga County. The Port is an economic engine for the community, a key to Northeast Ohio's global competitiveness, and a partner in building the region's future.



There are two public marine terminals within Cleveland Harbor, including the General Cargo Terminal, where this Project is located. These facilities handle containers, iron ore, limestone, cement, and breakbulk cargoes, such as steel coils, tin plate and wire rod. The Terminal is an 80-acre general cargo operation with two mobile cranes with 92.6-ton capacity each, one stationary crane with 150-ton capacity, two Class 1 railroads, laydown areas, and enclosed warehouse storage capacity for weather-sensitive cargo.

The Port is one of the largest ports on the Great Lakes, with more than 13 million tons of cargo moving through Cleveland Harbor each year. According to a 2016 Port-commissioned economic impact study, this cargo handling activity results in the following annual economic benefits¹:

- 20,273 jobs (direct, indirect, induced) supported by maritime activity
- \$3.5 billion of total economic value supported in the region
- \$1.4 billion total personal income and local consumption

B. THE GREAT LAKES-ST. LAWRENCE SEAWAY SYSTEM

The Port is the first major U.S. port of call on the Great Lakes for ships transiting the St. Lawrence Seaway System and is a gateway to major Midwest markets, including Cincinnati, Columbus, Pittsburgh, Indianapolis, and Chicago. The Great Lakes-St. Lawrence Seaway (Figure 2) is a low-cost marine super-highway and the world's longest deep-draft navigation system. It extends 2,300 miles and borders eight states (Illinois, Indiana, Michigan, Minnesota, New York, Ohio, Pennsylvania, and Wisconsin) and two Canadian provinces (Ontario and Quebec). More than 100 commercial ports, including the Port of Cleveland, line the navigation channel, serving as gateways for waterborne commerce moving both within the region and between North American and overseas destinations. The St. Lawrence Seaway's navigation season generally extends from late March to late December.

The Electrification and Warehouse A Modernization Project is one of many steps being taken to increase the use and competitiveness of the St. Lawrence Seaway System, with the goal of increasing national transportation system resiliency, improving transportation safety into the nation's large population base, reducing environmental costs of moving goods from the East Coast to inland locations, and reducing transportation costs on coastal seaports and transportation networks. An investment in the Port of Cleveland, more specifically the Electrification and Warehouse A Modernization Project, is an investment that has far reaching benefits beyond the Port of Cleveland. Ships that discharge their cargo at the Port of Cleveland go on to load cargo, primarily bulk material cargo, at other ports in the System.

_

 $^{{}^{1}\,\}underline{\text{http://www.portofcleveland.com/media/1108/cccpaupdate_combined-final-report_120516.pdf}}$



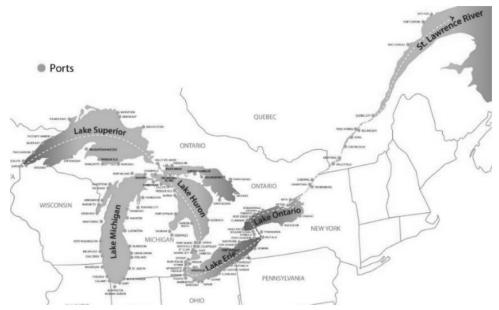


Figure 2: The Great Lakes-St. Lawrence Seaway System

C. MANUFACTURING AND CARGO MOVEMENT AT THE PORT OF CLEVELAND

Although the Port's General Cargo Terminal is used predominantly for the import of high-grade steel products from Europe, including steel coil (hot and cold rolled), steel sheets, tin plate, and wire rod, the Port has recently positioned itself to serve the broader Midwest import and export markets through the start-up of the Cleveland-Europe Express, which is the only container service on the Great Lakes. The Port also handles iron ore, limestone, heavy machinery and equipment, wind-turbine components, and other oversized project cargo.

The cargo moving via the Port's marine terminals has a far-reaching impact on the local, regional, and national economies and is not just limited to activity at the marine terminals. The imported cargo is used as a primary input in local and regional manufacturing, while the export cargo (mostly machinery, steel, and other industrial products) is produced regionally and trucked and railed to the Port to serve domestic and international destinations. The General Cargo Terminal brings benefits to the entire St. Lawrence Seaway System and to the global supply chain with a diversified mix of bulk commodities and finished products.





Figure 3: Steel Coil Cargo Being Off-Loaded at the Port of Cleveland

Warehouse A, a focus of this Project, is the largest (144,000 square feet) and most utilized warehouse at the General Cargo Terminal and features extensive cargo capacity, locomotive storage space, terminal operator offices, and the Terminal's only warehouse overhead crane. Warehouse A is critical for the storage and handling of approximately 225,000 metric tons of

weather-sensitive cargo annually for major customers, such as Chesterfield Steel, Tata International, SSAB, Saarstahl, Salzgitter, ArcelorMittal, ThyssenKrupp, and Algoma Steel (Figure 4). The unique size and location of this warehouse allow it to serve these customers with cargo throughout the winter months when access into the St. Lawrence Seaway System is restricted. There are few, if any, Ports within the Great Lakes that have comparable warehouse capacity to be able to handle this weather-sensitive cargo storage and throughput.



Figure 4: Steel Coil Cargo Inside Warehouse A

II. PROJECT LOCATION

A. LOCATION MAP

The Electrification and Warehouse A Modernization Project is located at the Port's General Cargo Terminal in an urban area of downtown Cleveland at 600-1101 Erieside Avenue, Cleveland, OH 44113 at the mouth of the Cuyahoga River on Lake Erie (41.503722°, -81.704231°) (Figure 5). The Terminal is a major node in the Great Lakes transportation system, serving both regional ports in the U.S. and Canada, as well as overseas ports. The Port is located within an 8-hour drive of half of all U.S. households, businesses, and manufacturing plants.



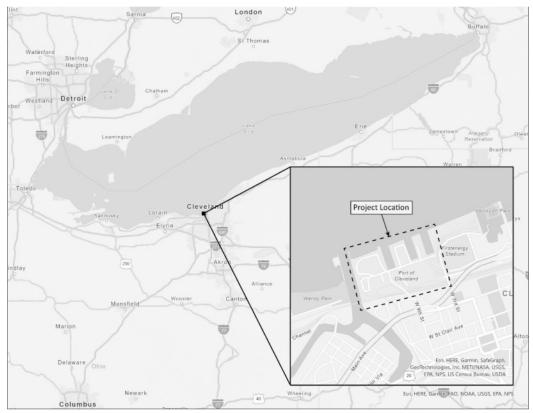


Figure 5: Project Location

B. Transportation Linkages

From the Port's main gate on West 3rd Street, trucks have immediate access to State Route 2 and I-90. Quick access to I-77 and I-71 are minutes away, and The Ohio Turnpike (80) is 25 miles away. The Port has direct on-dock rail service by two Class 1 Railroads, CSX and Norfolk Southern.

C. HISTORICALLY DISADVANTAGED COMMUNITY AND QUALIFIED OPPORTUNITY ZONE

The Port of Cleveland's General Cargo Terminal is located within both a Historically Disadvantaged Community² and a Qualified Opportunity Zone³ (census tract 1071.01), as shown in Figures 6 and 7.

² https://usdot.maps.arcgis.com/apps/dashboards/d6f90dfcc8b44525b04c7ce748a3674a

³ <u>https://opportunityzones.hud.gov/</u>







Figure 6: Historically Disadvantaged Community

Figure 7: Opportunity Zone

III. GRANT FUNDS, SOURCES, AND USES OF PROJECT FUNDS

The total cost of the Electrification and Warehouse A Modernization Project is estimated at \$34.519 million (Table 1). The Port is allocating \$6.904 million to the Project, but \$27.615 million is still needed for Project construction. If federal PIDP grant funds are not awarded, construction of the Project will be delayed as the Port seeks alternate sources of funding, which will result in additional costs due to rising construction costs. This will put the future of Warehouse A, and its associated cargo throughput, at risk, as well as leave the Port unable to advance necessary efficiency, environmental impact, and community engagement improvements aligned with its Strategic Plan and federal government initiatives.



A. PROJECT COSTS

Table 1: Project Costs

Project Component		Cost	Funding A	% Overall			
			PIDP Funds	Local Funds	Project		
1	W. 3 rd Lot Cargo Movement Efficiency Improvements	\$2,823,250	\$2,258,600	\$564,650	8%		
2	Warehouse A Rehabilitation and Modernization	\$18,531,976	\$14,825,581	\$3,706,395	54%		
3	Electrification & Stormwater Enhancements	\$8,172,015	\$6,537,612	\$1,634,403	24%		
4	Maritime Learning & Resource Center	\$488,750	\$391,000	\$97,750	1%		
	Construction Total	\$30,015,991	\$24,012,793	\$6,003,198	87%		
	Planning, Design, & Permitting	\$3,001,599	\$2,401,279.25	\$600,320	9%		
	Inspection & Compliance	\$1,500,800	\$1,200,639.63	\$300,160	4%		
	TOTAL	\$34,518,389	\$27,614,711	\$6,903,678	-		

The cost data shown in Table 1 was compiled in April of 2022 by the Port's Director of Planning & Capital Development from various sources, including previous historic cost data, subcomponent quotes, and the Port's Stormwater Master Plan. A SF-424C form is provided as an application attachment. No previously incurred expenses or expenses that will be incurred prior to grant award announcement are included in the cost data.

B. FUNDING SOURCES

The Port of Cleveland will provide a non-federal match of \$6,903,678 (20% of the total Project costs) from its Capital & Maintenance Program funds, derived from revenue the Port generates on an annual basis. The Project's funding breakdown by year and source is shown in Table 2. A letter of commitment from the Port for the non-federal match is attached to this application.



Table 2	: Proiect	Funding	Schedule
---------	-----------	----------------	----------

	2023	2024	2025	2026	2027	TOTAL
Federal (PIDP) Contribution	\$800,426	\$1,600,854	\$10,085,373	\$10,085,373	\$5,042,686	\$27,614,711
Port of Cleveland Contribution	\$200,106	\$400,213	\$2,521,343	\$2,521,343	\$1,260,672	\$6,903,678
TOTAL	\$1,000,532	\$2,001,067	\$12,606,716	\$12,606,716	\$6,303,358	\$34,518,389

IV. MERIT CRITERIA

A. ACHIEVING SAFETY, EFFICIENCY, OR RELIABILITY IMPROVEMENTS

i. Loading and Unloading of Goods at a Port

The Electrification and Warehouse A Modernization Project will great improve the speed and safety of loading and unloading goods at the Port. The existing maintenance facility and hiring hall buildings south of Erieside Ave. are obsolete as constructed and currently impede the flow of cargo to and from vessels and the W. 3rd St. Laydown Lot to the south of Erieside Ave. Demolishing these facilities and reconstructing as annexed wings off Warehouse A will improve the flow of cargo to and from the W. 3rd Lot and all docks, greatly enhancing cargo handling efficiency and capacity on the

Loading/Unloading of Goods

- ✓ Unrestricted Port cargo handling travel lanes to the W. 3rd St. Lot and Warehouse A
- Additional acre of laydown space
- ✓ Save over 100 hours in cargo handling time

Terminal. The additional acre in laydown space is invaluable with close proximity to the Terminal's most used docks, Docks 24 and 26, which are currently undergoing rehabilitation with PIDP funds (PIDP Grant No. 693JF71910010). The removal of these buildings and opening of the laydown yard is consistent with the Port's Facility Development Plan.

The movement of goods to and from vessels and into Warehouse A is also significantly hampered by the current state of disrepair of the warehouse. Cracks and unevenness in the concrete slab and adjacent pavement cause tripping hazards for employees and require heavy machinery to slow down considerably to safely move cargo. By removing this approximately 30 second delay in each cargo move to and from a vessel and Warehouse A, the Project is estimated to save over 100 hours in cargo handling time, a significant improvement in efficiency considering the seasonal shutdowns at the Port with the closing of the St. Lawrence Seaway System. Loading and unloading goods more efficiently is expected to lead to additional benefits, including reduced runtime of machinery, quicker vessel turnaround times, and the opportunity to move more cargo through the Port.



ii. Movement of Goods into, out of, around, or within a Port

The rehabilitation and modernization of Warehouse A is critical to keeping the warehouse open and servicing the Port and the region in a safe and effective manner. The warehouse is beyond its anticipated useful life and is in a state of disrepair, limiting efficient movement and throughput of cargo and elevating workplace hazards for employees. The overhead crane, also past its useful life, is often undergoing costly repairs, with replacement parts increasingly difficult to source. If

Movement of Goods

- ✓ Fully and safely utilize Warehouse A for throughput of over 225,000 metric tons of cargo annually
- √ \$5.4 million in safety benefits
- √ \$8.2 million in external truck and national infrastructure benefits
- √ \$24.6 million in economic competitiveness benefits

left unaddressed, Warehouse A operations will become increasingly restricted until eventual closure, resulting in the rerouting of the 225,000 metric tons of weather-sensitive cargo stored and handled annually.

Under the Without Project Scenario, the increased highway-truck miles to redirect this cargo through the Port of Toledo, the closest port with comparable warehouse capacity, would lead to an additional \$5.4 million in safety costs due to the increased probability of crashes and an additional \$8.2 million in external trucking and national infrastructure costs due to increased highway/pavement repair, highway congestion, and noise pollution. In addition, the closure of Warehouse A would lead to \$24.6 million in economic competitiveness costs due to increased costs for transporting and trucking cargo.

iii. Operational Improvements

Built in 1975, Warehouse A reached the end of its anticipated useful life in 2015 and is prohibitively expensive, inefficient, and unsafe to maintain. Based on a 2021 inspection of the Warehouse A Middle Bay and crane runway system, all cross-bracing members between columns were determined to be in critical condition and needing replacement in the next one to three years. Many columns need straightened and new/repaired concrete encasements for protection from future potential impacts, while beams and rails need aligning, tightening, and general cleaning and painting (Figure 8). Six of the 24 crane bays are currently inaccessible due to poor infrastructure conditions.

Operational Improvements

- Provide an additional 40 years of useful life to
 Warehouse A
- Save ~\$200,000 in annual maintenance and repair costs
- ✓ Stormwater infrastructure resiliency







Figure 8: Impacted Column and Cross-Bracing in Warehouse A

In 2021, a portion of Warehouse A's roofing was destroyed during a storm event (Figure 9). While insurance was able to ensure minimum repairs were made, the rest of the roof remains beyond its useful life and at risk for severe damage from high winds. To protect the safety of employees and minimize the risk of Warehouse A downtime or closure, a new roof designed for resiliency against storm events is greatly needed.



Figure 9: 2021 Warehouse A Roof Damage

Based on 2019-2021 data, the Port spends over \$238,000 annually in maintenance costs for Warehouse A due to the warehouse's state of disrepair. Based upon historic review of repair and maintenance records, this number has been exponentially increasing. Additional safety concerns include cracks and unevenness in the concrete slab, which have become tripping hazards to employees and added additional time and effort to safely block and store cargo, and an outdated and unreliable fire suppression system, which limits the diversity of cargo that can be handled in the warehouse. Rehabilitation and modernization of Warehouse A will return the warehouse to a state of good repair and extend its life by an estimated 40 years. The Port has determined reinvestment in and modernization of this asset to be more cost-effective than reconstructing a new warehouse.

The Project will also incorporate aspects to improve the Port's resiliency and prepare for future natural or human-made disasters. The stormwater management and treatment aspects of this Project will be designed with climate change in mind to ensure the Port is well-prepared for future changes in lake levels, precipitation, and stormwater regulations. If funding is available from within the established Project budget, the installation of solar and improvements in electrical infrastructure could improve the Port's energy independence and reduce the likelihood of power outages.



iv. Environmental and Emissions Mitigation Measures

The Electrification and Warehouse A Modernization Project incorporates significant environmental and emissions reduction investments, which will greatly reduce the environmental and community impacts of port operations. The section on Merit Criteria C: "Addressing Climate Change and Environmental Justice Impacts," provides detailed information on scope items and quantifiable emissions reductions.

B. SUPPORTING ECONOMIC VITALITY AT THE REGIONAL OR NATIONAL LEVEL

A Benefit-Cost Analysis (BCA) was conducted for the Electrification and Warehouse A Modernization Project. The BCA provides a monetization and discounting of Project costs over a 20-year horizon, in a common unit of measurement in present day dollars. This BCA attempts to be comprehensive and objective in identifying and quantifying Project benefits and costs and complying with the guidelines for the BCA as outlined in the PIDP Notice of Funding Opportunity.

The Project's benefits are derived from analyzing With Project and Without Project Scenarios. If the Project is not built, Warehouse A will need to close, and its cargo throughput would likely be diverted to the Port of Toledo, the closest Port with comparable warehouse storage capacity. This analysis assumes that the warehouse space is available and can accommodate the diversion of cargo.

Many of the benefits quantified to determine the Benefit-to-Cost Ratio stem from the potential increase in highway-truck miles in a Without Project Scenario. Increased truck miles on the nation's highway system lead to the following costs:

- Increased emissions
- Increased highway safety costs
- Highway congestion
- Highway pavement deterioration
- Increased noise pollution
- Increased truck operating and value of time costs

Additional environmental benefits are determined from the investments in electrification infrastructure and resulting emissions reductions from cargo handling equipment and vessels at berth.

This BCA reflects USDOT's standard guidance regarding forecast periods and discount rates. As such, all estimates were calculated over a 20-year forecast period, starting in 2022. The Project has a Benefit-Cost Ratio of 3.29, with a discount rate of 7% used throughout the analysis.



A summary of the BCA results is shown in Table 3, and a detailed explanation of the analysis is available in the separate BCA Report Appendix. This BCA does not quantify the overall benefits to the other Great Lakes ports or the St. Lawrence Seaway system. However, vessel rotations on the Great Lakes typically involve numerous to serve both importing and exporting industries, and many times the Port of Cleveland is the keystone in that vessel rotation.

Table 3: BCA Summary Results (7% discount)

Category	Description	Present Value
Emissions	Reduction in nitrogen oxides (NO _x), Volatile Organic Compounds (VOC), Fine Particulate (PM), Sulfur Oxides (SO _x), and Carbon Dioxide (CO ₂) emissions due to decreased highway miles and electrification of cargo handling equipment and vessels at berth	\$40,793,006.26
Safety	Reduction in truck crash probability due to decreased highway miles	\$5,375,870.63
External Truck and National Infrastructure	National congestion, and noise pollution costs due to	
Economic Competitiveness	Reduction in truck operating and value of time costs due to decreased highway miles	\$24,635,958.82
Net Present Value o	\$79,031,239.21	
Net Present Value o	\$24,046,381.64	
Benefit-to-Cost Rati	3.29	

C. Addressing Climate Change and Environmental Justice Impacts

The Project includes significant stormwater infrastructure investments necessary to not only maintain compliance with the Port's industrial stormwater permit and be prepared for potentially stricter regulations in the future, but also be better stewards of Cuyahoga River and Cleveland Harbor, which continue to become more popular for recreation and fishing. Historically, all stormwater that fell within the Port's Terminal flowed directly into Lake Erie without treatment. With the ongoing Dock 24 and 26 Master Modernization and Rehabilitation Project, funded in part by a FY 2019 PIDP grant award, new stormwater collection infrastructure, subsurface

Climate Change and Environmental Justice

- √ \$40.8 million in environmental benefits
- Treat 21 million gallons of stormwater annually
- Reduce emissions for nearby communities facing environmental justice concerns

detention vaults, and above ground treatment devices are being installed to collect and treat



stormwater from approximately 15.3 acres of the Terminal. This Project will complement the Dock 24 and 26 investments and treat an additional 21 million gallons of stormwater annually and more than double the area treated on the Terminal from 15.3 acres to 37 acres (Figure 10). Stormwater management designs will be guided by the Port's Stormwater Master Plan and consider projected climate change impacts.

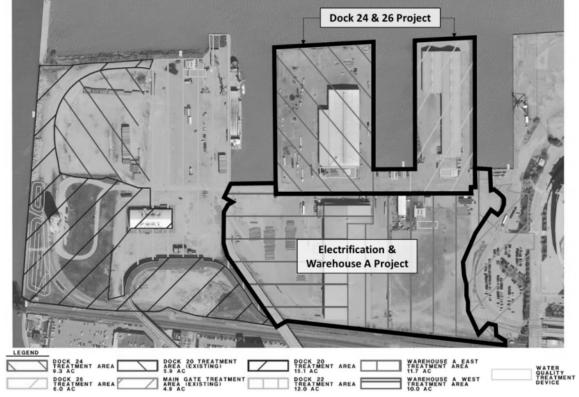


Figure 10: Stormwater Drainage Areas

In addition, planning, design, and updated infrastructure are needed to lay the groundwork for the Port's transition towards electrification and net-zero emissions. Like many ports, the Port's General Cargo Terminal is located in a county which is in nonattainment or maintenance for several National Ambient Air Quality Standards (2014 8-hour ozone, 2008 8-hour ozone, 2012 PM_{2.5}, and 2006 PM_{2.5}) and is a priority diesel PM area based on the 2014 National Air Toxics Assessment. Many members of the surrounding communities face environmental justice concerns and health disparities. According to the US DOT's Disadvantaged Census Tract tool, the Project is located in a Historically Disadvantaged Community, facing environmental, equity, economic, and transportation access disadvantages. Per EPA's Environmental Justice Screening and Mapping Tool (EJSCREEN) Environmental Justice Indices, the Project area is in the 87th percentile for the Air Toxics Respiratory Hazard Index, 88th percentile for PM_{2.5} levels, and 90th percentile for diesel PM.⁵ A summary of the emissions from the Port is shown in Figure 11,

⁴ https://usdot.maps.arcgis.com/apps/dashboards/d6f90dfcc8b44525b04c7ce748a3674a

⁵ https://ejscreen.epa.gov/mapper/



identifying vessels at berth (hoteling) and cargo handling equipment as the two leading sources of emissions.

Port-Related Emissions by Source Category and Pollutant

SO₂ CO DPM PM2.5 NOx0 10 20 30 40 50 70 90 tons per year ■ Ocean-going vessels ■ Cargo handling equipment ■ Harbor craft ■ On-road heavy-duty trucks

Figure 11: Emissions at the Port of Cleveland

The Project's resulting reduction in emissions will have numerous environmental and public health impacts on the area and communities surrounding the Terminal and the Greater Cleveland Area. As part of the Project, a comprehensive Electrification and Clean Air Plan will be developed for the Port, including a thorough review of the Port's existing electrical infrastructure, recommendations and costs for upgrades, realistic goals and timelines for tracking progress, and a solar feasibility study for the Terminal. It is anticipated as part of this plan that the reconstructed Maintenance Shop wing on Warehouse A will be outfitted with charging, refueling, and/or other infrastructure to serve as the hub for the Port's future zero-emissions fleet, and power will be installed along Docks 22, 24, and 26 for cold ironing and the powering of electrified dockside mobile harbor cranes. By laying the groundwork for a smooth transition towards electrification, the Port will be prepared to start replacing equipment and powering vessels at berth over an approximate 20-year period as technology allows. In addition to emissions benefits at the Terminal, keeping Warehouse A in operation will ensure cargo does not have to be rerouted to other ports and spend additional time trucked on highways. An approximate two million truck miles will be saved by keeping Warehouse A in use. The benefits of electrifying appropriate cargo handling equipment and vessels at berth and investing in Warehouse A rehabilitation are shown in Table 4. These environmental benefits are valued at approximately \$40.8 million.



	Approximate Annual Emissions Reductions (short tons)						
Pollutant	Vessels at	Cargo Handling	Highway	TOTAL			
Pollutant	Berth	Equipment	Miles	TOTAL			
Nitrogen Oxides (NO _x)	29.10	3.60	72.15	104.85			
Volatile Organic	1.00	0.20	2.63	3.83			
Compounds (VOC)	1.00	0.20	2.03	3.63			
Fine Particulate (PM)	1.20	0.50	2.85	4.55			
Sulfur Oxides (SO _x)	1.40	0.02	0.13	1.55			
Carbon Dioxide (CO ₂)	2,348.00	1,173.70	5,491.65	9,013.35			

Table 4: Electrification Emissions Reductions

D. ADVANCING EQUITY AND OPPORTUNITY FOR ALL

The Port prioritizes advancing racial equity and reducing barriers to opportunity as a dynamic, job-generating enterprise in the City of Cleveland. In its Strategic Plan, the Port includes a key goal of "inclusive practices to reflect [its] diverse community." To further this important goal, the Port has launched recent initiatives to address equity and barriers to opportunity, which include a \$15 minimum wage policy for port-related work, 30% minority and female business participation goals, and the creation in November 2020 of a Port Community Investment Grant program dedicated to economically vulnerable neighborhoods and their residents.

Equity and Opportunity

- Maritime and Learning Resource Center will provide opportunities for underserved student populations
- ✓ Application of Port minimum wage and inclusion policies in all Project activities

The Port's program makes grants to aid Cuyahoga County based nonprofit programs and organizations focused on workforce development, economic development, and community improvement and quality of life issues. The Board resolution establishing these internal initiatives is provided as an attachment to this application.



Figure 12: Davis Students Aboard Flotsam & Jetsam

The Project's newly constructed Maritime and Learning Resource Center wing off Warehouse A will continue to advance the Port's goals of advancing equity and providing opportunity for community members. This center will provide space for experiential learning opportunities for students from Davis Aerospace & Maritime High School, founded by the Cleveland Metropolitan School District and PHASTAR Corporation, a 501(c)(3) organization whose mission is "to break the cycle of poverty and increase equity in education by providing hands-on

⁶ https://www.portofcleveland.com/strategic-plan/



experiential learning opportunities and work experience for youth interested in exploring careers in aerospace and maritime." The Davis Aerospace & Maritime High School student population is largely underserved, with 100% of students considered economically disadvantaged and all students eligible for free lunches. The student population is 64.5% African American, 15.7% Caucasian, 16.6% Hispanic, and 0.9% Asian, 25.35% of the students have a disability, and 13.1% of enrolled students have limited English proficiency. 200-300 students are enrolled in Davis Aerospace & Maritime High School each year. The Port currently contracts with PHASTAR to operate the Port's two debris harvesting vessels, Flotsam and Jetsam, including students aboard the vessels (Figure 13).

E. LEVERAGING FEDERAL FUNDING TO ATTRACT NON-FEDERAL SOURCES OF INFRASTRUCTURE INVESTMENT

The Port has demonstrated on recent projects that Federal grant funding sparks additional state and local investment beyond the original matching grant amount. Examples of partially federally funded Port projects that have spurred or are spurring additional backside/upland investments include the following:

- Dock 24 and 26 Master Modernization and Rehabilitation Project: This partially PIDP funded project (FY 2019 \$11 million) has garnered more than double state and local investments, with approximately \$8.5 million coming from the Ohio Department of Transportation (ODOT) Maritime Assistance Program (MAP) and over \$3.6 million from Port local funds. The Electrification and Warehouse A Modernization Project will build off components from the Dock 24 and 26 Project, such as tying in new stormwater infrastructure with treatment devices installed on Dock 24 and extending electrical infrastructure through duct banks installed along the sides of Dock 24 and 26.
- Port of Cleveland's Main Gate & Access Road Improvements: This partially federally funded project (U.S. DOT Federal Highway Administration Earmark OH302) at the Port's main gate, completed in 2021, included added technology to improve the security clearance process and lay the groundwork to improve the cargo processing and throughput efficiency of the General Cargo Terminal. The Port is working with its Terminal operator on added improvements and enhancements to move cargo more efficiently off the Terminal.
- Cleveland Bulk Terminal Maritime Rehabilitation Project: This partially federally funded project (U.S. DOT Federal Highway Administration Earmarks OH360 and OH351), completed in 2019, involved the rehabilitation of the Bulk Terminal maritime infrastructure, which laid the groundwork for the extension of the upland ore conveyance tunnel, completed in 2021. This project leveraged over \$2.15 million in ODOT MAP funds,

⁷ https://phastar.org/who-we-are/mission-history/

⁸ https://phastar.org/faqs/



\$4 million in funding from the Port's terminal operator, and \$1 million in funding from the Port.

The Port has had significant success in applying for and obtaining funding from the ODOT MAP in recent years and anticipates on applying for additional funds if the program is re-authorized. From 2020-2021, the Port acquired \$20,197,126 from the ODOT MAP for several projects at the Port's terminals and in Cleveland Harbor. The Port is well experienced in obtaining local and state funds to fully leverage federal funds and maximize project benefits.

V. PROJECT READINESS

A. TECHNICAL CAPACITY

i. Applicant's History

The Port's Planning & Development and Accounting teams have extensive experience in planning, design, and construction projects and federal grant management and have successfully met all reporting requirements for federally funded grants received. Most notably, the Port received \$11 million during the FY 2019 PIDP grant cycle for the Dock 24 and 26 Master Modernization and Rehabilitation Project, which is currently in progress. The Port has also teamed with the Northeast Ohio Areawide Coordinating Agency (NOACA) to acquire \$9 million in INFRA funds in 2019 for the stabilization of Irishtown Bend, a hillside that threatens to slide into the Cuyahoga River and disrupt shipping. Additional federal funds received in recent years are included in Table 5.

Table 5: Recent Federal Grants

Fiscal Year	Funding Program	Project Title	Assistance Agreement Number	Funding Amount	Status
2021	U.S. EPA Great Lakes Restoration Initiative	Green Bulkhead at Irishtown Bend	00E03067	\$1,700,000	In Progress
2021	U.S. EPA Diesel Emissions Reduction Act	Cleveland Bulk Terminal Loader Replacement	00E03004	\$186,250	In Progress
2019	U.S. DOT MARAD Port Infrastructure Development Program	Dock 24 and 26 Master Modernization and Rehabilitation Project	693JF71910010	\$11,000,000	In Progress
2019	U.S. DOT FHWA Federal Earmark	General Cargo Terminal Main	80986	\$2,675,000	Complete



Construction

	and Toll Revenue Credit Funds	Gate and Access Road Project			
2017	U.S. DOT FHWA Federal Earmark and Toll Revenue Credit Funds	Cleveland Bulk Terminal Maritime Rehabilitation Project	80987	\$6,384,126	Complete
2017	U.S. DOT FHWA (through regional MPO) Congestion Mitigation and Air Quality (CMAQ) Program	Bulk Terminal Tunnel and Conveyance Extension	112415	\$3,152,500	Complete
2015	U.S. DOT FHWA (through regional MPO) Congestion Mitigation and Air Quality Program	Port Cranes Purchase Project	99005	\$4,621,830	Complete

ii. Project Schedule

Planning and design will proceed from the fourth quarter of 2023 through 2024, allowing sufficient time for the grant agreement execution and NEPA process to occur in late 2022 and through 2023. Construction is estimated to begin in the first quarter of 2025 and continue through mid-2027. Construction will be phased to allow all areas of the Port to remain open to limit impacts to Terminal operations.

Table 6: Project Schedule

If the NEPA and grant agreement processes can be completed earlier than scheduled, the Port will move up the dependent design and construction tasks accordingly.



iii. Inclusion in Local, Regional, and State Plans

Components of the Electrification and Warehouse A Modernization Project are included in several internal Port planning documents, including the Port's 2019 Facility Development Plan, 2021 Stormwater Master Plan, and 2017-2022 Strategic Plan.⁹

At the state level, the Port and its growth in containerized and breakbulk cargo is identified as a key resource in ODOT's current Statewide Freight Plan. While not specifically listed as a project that will be funded by national freight funding dollars, the Project will assist the State in fulfilling its obligations towards better air quality and ensure the Port continue to grow. The Project will also help advance ODOT'S Long-Range Transportation Plan, which discusses climate variability and methods Ohio can deploy

"The State Freight Plan encourages Ohio Ports to modernize and prepare for an alternative energy future. Marine ports have a tremendous opportunity to reduce air emissions and modernize through shore power systems, wind, solar and renewable energies, and investments in electric or alternative energy equipment. The Port of Cleveland's application establishes the foundation to advance these goals."

Mark Locker, AICP
ODOT Project Manager; Freight, Maritime, & Logistics

to achieve better air emissions, and ODOT's Ohio Maritime Strategy,¹² which lays out a plan to better utilize ports to achieve a more balanced transportation system and supply chain network.

"This project promotes NOACA's goals for the region to build a sustainable multimodal transportation system that supports economic development and enhanced quality of life."

> Grace Galluci NOACA Executive Director & CEO

At the regional level, the Project fits well within several of Northeast Ohio Areawide Coordinating Agency's (NOACA) strategic plans, including its Long-Range Plan, eNEO2050, ¹³ which focuses on maintaining existing transportation assets, economic development, sustainable technologies, encouraging employment, and environmental protection. NOACA is the metropolitan planning organization (MPO) for the Cleveland metropolitan area.

B. ENVIRONMENTAL RISK

i. NEPA Status

Based on current MARAD NEPA documentation (MAO 600-1 Appendix 1, Items 4, 9, and 10), it is anticipated that the Project can achieve environmental clearance as a Categorical Exclusion. The Categorical Exclusion will summarize all technical studies, reports, coordination, and other activities conducted throughout the environmental process. The document will also include any

⁹ https://www.portofcleveland.com/strategic-plan/

¹⁰ https://www.transportation.ohio.gov/programs/transport-ohio#page=1

¹¹ https://www.transportation.ohio.gov/programs/access-ohio-2045/access-ohio-2045#page=1

¹² https://www.transportation.ohio.gov/programs/maritime-freight/resources/maritime-strategy

¹³ https://www.eneo2050.com/



special environmental commitments that will be required prior, during, and after Project construction.

While NEPA review has not yet started, Port personnel are well experienced working with MARAD's Office of Environmental Compliance to complete the NEPA process in a timely and efficient manner. Based on MARAD personnel availability, the Port has planned for final NEPA determination to conclude by the end of 2023.

ii. Environmental Permits and Reviews

Based on the scope of the Project, environmental permitting is expected to be limited. The Port anticipates no impacts to Lake Erie or the adjacent Federal Navigation Channel, and no real estate will need to be acquired. Based off a precursory review, no impacts to Section 106 properties or endangered species are expected. The Project is not dependent on any U.S. Army Corps of Engineers investments or planned activities. Permits likely to be needed include the following:

- Due to the Project's proximity to Burke Lakefront Airport, a FAA 7460 Airspace Determination may be required for construction equipment and/or new infrastructure.
- If the amount of disturbed area is greater than 1 acre, an Ohio EPA construction general stormwater permit will be required. The Port is well experienced with acquiring these permits in collaboration with contractors and monitoring contractors for compliance.
- A City of Cleveland Building Permit will likely be required for construction of the annexed maintenance facility, hiring hall, maritime training center, and the electrical upgrades to Warehouse A.
- The Port will need to update its existing industrial stormwater permit Stormwater Pollution Prevention Plan (SWPPP) to account for the changes in drainage patterns and installation of treatment infrastructure as part of this Project. The Project is expected to greatly improve the Port's ability to comply with permit benchmarks and be better prepared for future more restrictive requirements.

Port personnel have significant experience with all expected permitting requirements and will be well positioned to obtain necessary permits during design in 2023 and 2024.

iii. State/Local Approvals

The Project's investments are consistent with the Port's Facility Development Plan, Stormwater Master Plan, and Strategic Plan, which has approval from the Board. The Project has broad support from stakeholders, including the Terminal's operator, customers, ODOT, state and local politicians, and PHASTAR Corporation. Letters of support are provided as attachments to this application.



C. RISK MITIGATION

The Port has identified potential risks to the Project's proposed schedule and budget and has compiled mitigation strategies for these risks in Table 7.

Table 7: Project Risks and Mitigation Strategies

Risk	Table 7: Project Risks ar Description	Impact/Probability	Mitigation Strategies
Funding	-Current funding challenges to modernize Warehouse A -Rising costs due to inflation and current market forces -Uncertainties in design	High/Moderate	-PIDP grant -ODOT MAP grant -Port cash reserves -Fine-tuning of scope -Explore additional federal funding sources, such as CMAQ, Reduction of Truck Emissions at Ports Program, or Carbon Reduction Program
NEPA	-Preparation of MARAD Categorical Exclusion documents	Low	-Categorical Exclusion highly anticipated -Close coordination with MARAD -Provide ample time in schedule
Permitting	-FAA 7460 Airspace Determination likely required as result of construction equipment operation height and proximity to Burke Lakefront Airport -Construction Stormwater General Permit likely required due to area of disturbance -City of Cleveland Building Permit likely required -Industrial Stormwater General Permit SWPPP modification required after Project	Low	-Acquire early on in design process -Provide ample time in schedule



VI. DOMESTIC PREFERENCE

All iron, steel, manufactured products, and construction materials to be used in the Project will be sourced from U.S. manufacturers. The Project contract will include a "Build America, Buy America Act Requirements" provision, per MARAD requirements. The Port will audit the contractor's fulfillment of the requirement through the submission of delivery tickets and TE-24s on all permanent materials. The contractor will be required to submit proof all materials comply with requirements.

Through the Port's ongoing PIDP Dock 24 and 26 Master Modernization and Rehabilitation Project, as well as past federally funded projects, Port personnel have ample experience in monitoring and enforcing domestic content requirements. The Port has performed upfront due diligence to verify the overhead crane proposed to be replaced under this Project can be sourced domestically and will meet Buy America requirements.



VII. DETERMINATIONS

Project Determination	Response
1. The project improves the safety, efficiency, or reliability of the movement of goods through a port or intermodal connection to the port.	 The following Project aspects will improve the safety, efficiency, or reliability of the movement of goods through the Port of Cleveland's General Cargo Terminal: Demolishing the existing maintenance facility and hiring hall buildings will improve the efficiency of cargo movement in and out of the W. 3rd St. Lot and create an additional acre of laydown capacity. Restoring Warehouse A's concrete slab and adjacent pavement will reduce inefficiencies and save over 100 hours in cargo handling time. Keeping Warehouse A in service will ensure the 225,000 metric tons of weather-sensitive cargo do not need to be rerouted and cause an additional \$5.4 million in safety costs, \$8.2 million in national infrastructure costs, and \$24.6 million in economic competitiveness costs due to increased highway truck miles. Restoring Warehouse A to a state of good repair will address several safety concerns, including impacted columns and cross-bracing, unevenness in the concrete slab, and an unreliable fire suppression system. Replacing Warehouse A's overhead crane will reduce costs and downtime due to repairs. Electrification preparation will greatly reduce the emissions that can negatively impact the health of employees and nearby communities facing environmental justice concerns. Stormwater management and treatment improvements will ensure the Port can maintain compliance with its industrial stormwater permit and avoid operational delays or shutdowns from regulators. Minimum wage and inclusion policies and the new Maritime and Learning Resource Center will ensure the future of the maritime workforce is well-prepared.



2. The project is cost effective.	The Project has a Benefit-Cost Ratio of 3.29, with a
3. The eligible applicant has the authority to carry out the project.	discount rate of 7% used throughout the analysis. The Cleveland-Cuyahoga County Port Authority was established in 1968 to manage maritime operations pursuant to the provision in ORC Chapter 4582.
4. The eligible applicant has sufficient funding available to meet the matching requirements.	The Port will provide a 20 percent non-federal match of \$6,903,678 over the life of the Project from its capital budget and cash reserves. A letter of commitment from President and CEO William D. Friedman is included as an attachment to this application.
	The Project will be completed in a timely manner as follows and as further detailed in the Project Schedule section of this application:
5. The project will be completed without unreasonable delay.	Award Notice: Q4 2022 NEPA Documentation and Grant Agreement Execution: Q1-Q4 2023 Design and Permitting: Q1-Q4 2024 Construction: Q1 2025-Q2 2027
	Project tasks will be moved up accordingly based on early completion of the NEPA and grant agreement processes.
6. The project cannot be easily and efficiently completed without Federal funding or financial assistance available to the project	The Port of Cleveland's current (2022) operating budget is \$10,113,110, and capital budget is \$26,513,242, almost \$25 million of which is needed for paving on Dock 22, mandatory U.S. Customs and Border Protection facility investments, and the Dock 24 and 26 Master Modernization and Rehabilitation Project. With approximately \$12 million in reserves and given the Port's current and future budget constraints, PIDP funding is critical to move this Project forward. Answers to individual questions provided in the Notice of Funding Opportunity are shown below:
sponsor.	How would the project scope be affected if PIDP (or other Federal) funds were not received?
	Without funding assistance, the Port does not anticipate having the budget flexibility in the coming years to make investments beyond minimal repairs and maintenance to keep sections of Warehouse A in operation as long as possible. Given the current conditions and age of the



infrastructure, it is anticipated Warehouse A will eventually need to close without the significant renovations described in this application.

2. How would the project schedule be affected if PIDP (or other Federal) funds were not received?

The Project would continue to be delayed until sufficient funding is obtained from federal and/or state sources.

3. How would the project cost be affected if PIDP (or other Federal) funds were not received?

Due to the delay of the Project, costs would continue to rise due to inflation and the uncertainties in the supply chain and labor market.

VIII. SUPPORTING DOCUMENTS

The following supporting documents are included as attachments in the application package:

- 1. SF-424C
- 2. Funding Commitment Letter
- 3. BCA Narrative
- 4. BCA Spreadsheet (Excel)
- 5. Port's Workforce Policy and Community Investment Fund Board Resolution
- 6. Letters of Support



May 11, 2022

The Honorable Pete Buttigieg Secretary of Transportation 1200 New Jersey Ave, S.E. Washington, DC 20590

RE: Port of Cleveland's Electrification and Warehouse A Modernization Project

Letter of Commitment for Non-Federal Matching Funds

Dear Secretary Buttigieg,

As the President and Chief Executive Officer of the Cleveland-Cuyahoga County Port Authority, I write to confirm that \$6,903,678 in readily available and unencumbered funds have been designated as non-federal matching funds for the Port of Cleveland's Electrification and Warehouse A Modernization Project, should it be awarded a grant from the Fiscal Year 2022 Port Infrastructure Development Program.

Sincerely,

William D. Friedman

President & CEO

PORT OF CLEVELAND ELECTRIFICATION AND WAREHOUSE A MODERNIZATION PROJECT BENEFIT COST ANALYSIS APPENDIX

Prepared for the Port of Cleveland



Prepared by:

MARTIN ASSOCIATES

941 Wheatland Ave., Suite 203

Lancaster, PA 17603

(717) 295-2428

www.johncmartinassociates.com

MAY 16, 2022

TABLE OF CONTENTS

I.	PF	ROJECT DESCRIPTION	1
II.		/ITHOUT AND WITH PROJECT CONDITIONS	
		•	
Α	١.	WITHOUT PROJECT	2
В	8.	WITH PROJECT	3
C		BCA METHODOLOGY	3
Γ).	KEY ASSUMPTIONS	
		ENEFITS ANALYSIS	_
III.	BE		
	1.	. Safety Benefits	5
	2.		6
	3.	. External Truck and National Infrastructure Cost Savings Benefits	7
	4.	Economic Competitiveness Benefits	8
	5.		9
IV.	cc	OSTS	9
V.	BF	ENEFIT-COST CALCULATION	10
VI.	SENSITIVITY ANALYSIS1		10

Port of Cleveland's Electrification and Warehouse A Modernization Project

I. PROJECT DESCRIPTION

The Project consists of both development phase (planning, permitting, engineering, and design) and construction activities for the following major components:

- W. 3rd Lot Cargo Movement Efficiency Improvements: Demolish existing cargo handling equipment maintenance facility and hiring hall building and reconstruct as annexed wings off Warehouse A.
- 2. Warehouse A Rehabilitation and Modernization: Bring Warehouse A to a state of good repair with improvements, including, but not limited to, structural steel repairs and coatings, security and communication improvements, new central bay overhead crane, overhead door consolidation and replacement, window replacement, restroom facility upgrades and enhancements, LED lighting conversion, concrete slab and sill replacement, and fire suppression system replacement. Tie in exterior pavement grades with interior elevated grades of Warehouse A. Replace existing roof and assess roof structure for solar panel outfitting suitability. As budget permits and pending the findings of the solar suitability assessment, deploy solar array on the roof of Warehouse A to offset Port's annual electric demands through net metering agreement between the Port and Cleveland Public Power.
- 3. Electrification and Stormwater Enhancements: Conduct electrification and clean air master planning study. Based on planning study results, make necessary power upgrades to electrical feeds on the Terminal and outfit Warehouse A, including the locomotive storage area and the newly constructed maintenance facility wing, with sufficient charging, refueling, and/or maintenance infrastructure to serve as the hub for future low or zero-emissions fleet. As budget permits, run electrical feeds through previously installed duct banks from Warehouse A to Docks 22, 24, and 26W to meet future cold ironing and electric mobile harbor crane needs. Consolidate drainage in Project area and direct to previously installed or new stormwater treatment infrastructure in accordance with the Port's Stormwater Master Plan.
- 4. Maritime Learning and Resource Center: Construct a new 1,000+ square foot annexed wing from Warehouse A that will house training and education programs for students from Davis Aerospace & Maritime High School, part of the Cleveland Metropolitan School District.

II. WITHOUT AND WITH PROJECT CONDITIONS

In this section, the without project baseline and with project conditions are described for each element of the project.

A. WITHOUT PROJECT

Under the without project baseline scenario, without the Electrification and Warehouse A Modernization Project, it is estimated that the Port will no longer be able to accommodate about 225,000 metric tons of steel products now handled through Warehouse A. In the absence of this project, the steel products now handled at Warehouse A would be diverted to the Port of Toledo, which would then serve the same steel products consumption locations that are currently served via the Port of Cleveland, however at a mileage and logistics cost penalty. Table 1 shows the mileage penalty that would occur to the importers of the steel products should the Warehouse A project not be completed, and the cargo would move to the consumption points as shown in the Table 1. The mileage difference between the use of the Port of Cleveland and the use of the Port of Toledo is further weighted by the volume of steel now moving to the inland origins from the Port of Cleveland. As this table shows, should Warehouse A not be replaced, an additional 69.4 truck miles would be traveled to serve the steel import consumer market using the Port of Toledo.

Table 1
Mileage Penalty for Steel Products if Project Not Completed

		Miles			
	POC Market				Weighted
	Share by			Mileage	Mileage
Destination	Destination	Toledo	Cleveland	Penalty	Penalty
Cleveland, OH	25.00%	115	20	95	23.75
Akron, OH	25.00%	137	41	96	24.00
Warren, OH	15.00%	159	58	101	15.15
Findlay, OH	2.50%	50	125	-75	-1.88
Girard, PA	15.00%	198	83	115	17.25
Detroit, MI	2.50%	61	171	-110	-2.75
Chicago, IL	2.50%	249	346	-97	-2.43
South Bend, IN	2.50%	160	259	-99	-2.48
Ghent, KY	2.50%	259	305	-46	-1.15
Weirton, WV	2.50%	226	129	97	2.43
Ironton, OH	2.50%	260	261	-1	-0.03
Milwaukee, WI	2.50%	339	438	-99	-2.48
Mileage Penalty					69.40

Furthermore, without the demolition of the maintenance shed, the modernization of Warehouse A and the development of the electrification infrastructure to replace the current diesel-powered yard equipment, the emissions from the current yard operations would not be eliminated, even if the warehouse structure were to be repaired without the electrification infrastructure.

Similarly, without the project, the electrification of the infrastructure to provide cold ironing of the vessels while at berth will not be completed. Without the development of the infrastructure to support cold ironing, the emissions currently generated by the vessels at berth at the Port of Cleveland will continue.

Table 2 shows the current short tons of emissions generated by the diesel-powered yard equipment, and Table 3 shows the current short tons of emissions generated by the current fleet that berth at the Port of Cleveland without shore power (Cold Ironing).

Table 2
Current Emissions Generated by the Diesel-Powered Yard Equipment

	Reduction in Emissions (short tons) per Year on
Emissions	Terminal
Nitrogen Oxides (NOx)	3.57
Volatile Organic Compounds (VOC)	0.21
Fine Particule (PM)	0.46
Sulfur Dioxide (SO2)	0.02
Carbon Dioxide	1,173.68

Table 3
Current Emissions from Vessels Berthing at The Port of Cleveland in the absence of Cold
Ironing

	0
	Reduction in Emissions (short tons) per Year at
Emissions	Berth
Nitrogen Oxides (NOx)	29.10
Volatile Organic Compounds (VOC)	1.00
Fine Particulate (PM)	1.20
Sulfur Dioxide (SO2)	1.40
Carbon Dioxide (CO2)	2,348.00

B. WITH PROJECT

With the completion of the Electrification and Warehouse A Modernization Project, the 69.4 additional truck miles to serve the steel importers now using the Port of Cleveland would be saved, resulting in a reduction in truck miles traveled (in the absence of the project) and providing associated environmental, safety, national infrastructure, and economic competitiveness benefits. Similarly, the emissions now generated by the electrification of the yard equipment for which the project would provide the necessary infrastructure would be eliminated, as the diesel-powered equipment would be replaced by electric powered equipment. The ability to use the cold ironing infrastructure that would be developed with the repair and modernization of Warehouse A would result in the elimination of the emissions generated by vessels now berthing at the Port of Cleveland in the absence cold ironing (use of electric shore power).

C. BCA Methodology

Strict guidelines for measuring the merits of projects applying for the grants are outlined in The Notice of Funding Opportunity for the Department of Transportation's Port Infrastructure Development Grants. Furthermore, the benefit-cost guidelines to be applied to the project are set forth in the "Benefit-Cost Analysis Guidance for Discretionary Grant Programs, U.S." Department of Transportation, March 2022. Martin Associates has followed these guidelines to assess the benefits of the Warehouse A and Maintenance Shed Modernization and Electrification Project. These benefits

are then combined with the costs of the project, as developed by the Port of Cleveland to estimate the benefit-cost ratio under a 7 percent discount rate.¹

The benefit criteria applied to the project are:

- Environmental Benefits will be generated by the savings in the truck miles (over the use of the Port of Toledo) to deliver the 225,000 metric tons of steel products to the key inland imported steel consumption points. The development of the electrification infrastructure with the renovation of the Port's maintenance shed and Warehouse A modernization will provide the infrastructure required to provide power to support for an all-electric yard equipment fleet, while the electrification infrastructure developed will also provide the electrical delivery infrastructure to support cold ironing of vessels while at berth in the Port of Cleveland.
- *Safety Benefits* will be generated by the savings in the truck miles (over the use of the Port of Toledo) to deliver the 225,000 metric tons of steel products to the key inland imported steel consumption points.
- External Trucking and National Infrastructure Benefits will be generated by the savings in the truck miles (over the use of the Port of Toledo) to deliver the 225,000 metric tons of steel products to the key inland imported steel consumption points.
- Economic Competitiveness Benefits will be generated by the savings in the truck miles (over the use of the Port of Toledo) to deliver the 225,000 metric tons of steel products to the key inland imported steel consumption markets. The reduced truck distance generates tucker time savings and truck operating costs. These benefits can be viewed as economic competitiveness benefits, as the modernization of Warehouse A will lower the overall cost to steel importers to use the Port of Cleveland.

These benefits are quantified over a 20-year period (2022-2042). It is assumed that the Warehouse A Modernization project element including the development of the infrastructure to support the electrification of the yard equipment and the cold ironing system will be completed by 2026. The replacement of the diesel powered yard equipment will be dependent upon the availability of electric powered yard equipment which we assume will occur in 2027. Cold ironing operations are assumed to begin in 2026. The 20-year period is chosen as the useful life of the project – 2022-2042. The year 2020 is used as base year 0 in both the benefits and the cost calculations and discounting, as stipulated in the "Benefit-Cost Analysis Guidance for Discretionary Grant Programs, U.S." Department of Transportation, March 2022.

D. KEY ASSUMPTIONS

Warehouse A Modernization Project Element

In 2021, 225,000 metric tons or 247,838 short tons of steel products were moved via the Port of Cleveland. A 3% annual growth rate is assumed through 2030, with the growth rate falling to 1.5%

¹ Previously, U.S. DOT Benefit Cost Guidelines required the benefits and costs to be discounted under a 3% and 7% discount rate. As of March 2022, the 3% discount rate has been removed from the requirements.

through 2042. Should the Warehouse A modernization project element not be completed to provide adequate storage capacity for the imported steel products, it is assumed that this volume would move to the Port of Toledo, and then be delivered to inland locations of the steel importers, as described in Table 1. The weighted average savings of truck miles by using the modernized Warehouse A rather than losing the steel products to the Port of Toledo is then converted into truck miles saved and truck ton miles saved.

Vehicle Miles Traveled (VMT) saved are estimated by first calculating the number of truck trips that would be saved by using the modernized Warehouse A. The savings in truck trips are calculated by dividing the annual short tons (278,943 short tons in 2026) by 22 short tons per truck. Truck miles traveled saved are then calculated by multiplying the annual number of truck trips saved (12,679 truck trips in 2026) by the number of miles saved (69.4 miles) with the modernization of Warehouse A. An empty backhaul is assumed. Therefore, the one-way truck miles saved per trip (69.4 miles) are then multiplied by 2 to reflect the empty backhaul return to the Port. In 2026, a total of 1,759,879 vehicle miles are saved by the modernization of Warehouse A.

Ton-miles saved are calculated by multiplying the number of tons of steel products per year by the 69.4 miles saved. In 2026, a total 19.4-million-ton miles are saved by the Warehouse A modernization project element.

The vehicle miles traveled (VMT) and ton miles saved are then used to estimate the environmental, safety, infrastructure and economic competitiveness benefits of the proposed Electrification and Warehouse A Modernization Project.

In addition to the benefits generated by the savings in vehicle truck miles and ton-miles saved, the Electrification and Warehouse A Modernization Project will support significant environmental benefits due to the electrification infrastructure development element of the project to support future yard equipment electrification and cold ironing. It is assumed that electrification infrastructure portion of the project will be developed by 2026, and the cold ironing operations will begin in 2026. It is further assumed that the electric yard equipment will come on-line in 2027.

The key conversion metrics used to compute the benefits for each category are described in the following sections.

III. BENEFITS ANALYSIS

1. Safety Benefits

Definition: Safety benefits are defined in terms of reduced accidents and associated injuries as the result of the reduced vehicle truck miles traveled due to the capacity enhancement that will result with the Electrification and Warehouse A Modernization Project.

Methodology: Accidents per 100 million vehicle miles traveled were developed from Surface Transportation, A Comparison of the Costs of Road, Rail and Waterways Freight Shipments that are not Passed on

to Consumers, GAO, Report to the Subcommittee on Select Revenue Measures, Committee on Ways and Means House of Representatives, January 2011. The value of an accident, a fatality, injury, or property damage only (PDO) was collected from BTS Motor Vehicle Safety Data, 2015 National Transportation Statistics, 2015, and the Benefit Cost Analysis Guidelines for Discretionary Grant Programs, March 2022, Table A-1.

Table 4
Accidents per 100 Million VMT

	Accident Probability/ 100 million VMT	
Fatal Accident Cost (K)	1.13369	\$11,600,000
Severe Injury Accident Cost (A)	78.92426	\$302,600
PDO Accident Cost (no injury)	203.40039	\$4,600

Source: Traffic accident incident per 100 million miles from BTS Motor Vehicle Safety Data, 2015 National Transportation Statistics, 2015; Benefit Cost Analysis Guidance for Discretionary Grant Programs, Office of the Secretary, U.S. Department of Transportation, March 2022, Table A-1: Value of Reduced Fatalities and Injuries

The accident rates per 100 million VMT by type of accident were multiplied by the vehicle miles traveled savings annually to estimate the number of accidents by type (due to the reduced VMT). The estimated number of annual accidents by type saved were then multiplied by the value of accidents (by type) to estimate the total annual value of accidents that would be avoided under the BUILD scenario due to savings in VMT. These safety savings were estimated through 2042, and then discounted under a 7 percent discount rate.

Savings: The present value of the savings benefits of the Project are \$5.4 million.

2. Environmental Benefits

Definition: Environmental benefits are generated due to the reduced ton miles traveled with the completion of the Warehouse A Modernization element of the project plus the reduction in emissions due to the development of the electrification infrastructure to support the substitution of electric powered yard equipment for the current diesel-powered yard equipment, and further to provide cold ironing of vessels at berth capability.

Methodology: Emissions of air pollutants are generated per million-ton miles, and the metrics used to estimate the volume of emissions per truck million-ton miles are shown in Table 5. These emission rates are measured in terms of short tons emitted per million-ton miles.

Table 5
Short Tons of Emissions per Million Ton-Miles

Emissions	TONS EMITTED PER MILLION TON MILES
Nitrogen Oxides (NOx)	3.0193
Volatile Organic Compounds (VOC)	0.11
Fine Particule (PM)	0.1191
Sulfur Dioxide (SO2)	0.0055
Carbon Dioxide	229.8

Source: Surface Transportation, A Comparison of the Costs of Road, Rail and Waterways Freight Shipments that are not Passed on to Consumers, GAO, Report to the Subcommittee on Select Revenue Measures, Committee on Ways and Means House of Representatives, January 2011

Similarly, the reduced annual emissions that will result from the development of the electrification infrastructure to support the use of electric powered yard equipment and cold ironing were previously shown in Tables 2 and 3.

The costs per metric ton of the emissions by type of emission were developed from Benefit Cost Analysis Guidance for Discretionary Grant Programs, Office of the Secretary, U.S. Department of Transportation, March 2022, Table A-6: The ton-miles saved (in terms of million ton miles saved) under the With Project scenario were multiplied by the short tons emitted per million ton-miles, by emissions type, to estimate short tons of emissions saved under the With Project scenario. Similarly, the short tons saved in emissions from the development of the electrification infrastructure were calculated. The short tons emitted were multiplied by the cost per short ton (after conversion from cost per metric ton to cost per short ton) of each emission type was then multiplied by the corresponding level of short tons emitted that would be saved with the electrification infrastructure project elements of the Warehouse A and Maintenance Shed Modernization and Electrification Project.

Savings: The net present value of the environmental benefits are \$40.8 million.

3. External Truck and National Infrastructure Cost Savings Benefits

Definition: External truck and national infrastructure benefits consist of reduced costs of highway/pavement repair, highway congestion, and noise pollution, due to reduced truck vehicle miles traveled resulting from the added capacity due to the Warehouse A modernization and capacity enhancement.

Methodology: Metrics that measure highway/pavement degradation costs per vehicle mule traveled, noise pollution costs per vehicle mile traveled and highway congestion per vehicle mile are published in the 1997 Federal Highway Cost Allocation Study, Final Report, USDOT, Federal Highway Administration, May 2000, Table 13.

The external and infrastructure costs per vehicle mile traveled metrics shown in Table 6 were multiplied by the annual vehicle mile savings under the With Project scenario to estimate the external truck and national infrastructure benefits.

Since the reduction of miles traveled under the With Project scenario will result in a loss in federal gasoline tax revenues, it is necessary to subtract the reduced federal fuel tax from the pavement degradation benefits, as these tax revenues are used in interstate highway maintenance and repair. The federal fuel tax on diesel fuel, \$0.244 per gallon, was used to estimate the lost federal fuel tax revenue from the vehicle miles savings. The gallons saved were estimated by dividing the vehicle miles traveled savings each year by 6.4 miles per gallon. The lost federal tax revenue is estimated by multiplying the gallons of diesel saved multiplied by the \$0.244 federal fuel tax per gallon. This lost federal fuel tax revenue was subtracted from the pavement degradation benefits to compute the benefits of the project on pavement damage.

Table 6
External Truck and National Infrastructure Cost Savings, 2020

Combination Truck 4 Axle	Cost/VMT 2020\$
Congestion	\$0.3100
Noise	\$0.0393
Pavement (Urban Interstate)	\$0.2698

Source: 1997 Federal Highway Cost Allocation Study, Final Report, USDOT, Federal Highway Administration, May 2000.

These metrics are applied to the VMT saved under the Warehouse A and Maintenance Shed Modernization and Electrification Project.

Savings: The present value of the External Truck and National Infrastructure benefits are \$8.2 million.

4. Economic Competitiveness Benefits

Definition: The economic competitiveness benefits resulting from the project consists of the transportation cost savings due to the trucking the steel products from the Port of Cleveland to the steel import markets as the result of lower truck costs due to the savings in VMT. After the project is completed, the steel products will be handled at the Port of Cleveland rather than the Port of Toledo and transported to the inland consumption markets. The Economic Competitive Benefits of the Project consists of the savings in operating costs of the truck (excluding the driver time) plus the savings in the value of time of the truck driver.

Methodology: To estimate the transportation cost savings the operating cost per mile for a truck of \$0.94 per mile was obtained from the Benefit Cost Analysis Guidance for Discretionary Grant Programs, Office of the Secretary, U.S. Department of Transportation March 2022; Table A.5 Vehicle Operating Costs. The cost per mile was then multiplied by the vehicle miles traveled savings each year to estimate the cost savings in truck operating costs.

To estimate the value of time saved for the truck driver, the hours saved with the Parking Structure Project Element was calculated by dividing the vehicle mileage saved by 40 miles per hour. The savings in hours were multiplied by average hourly value of a truck driver, \$32.00 per hour, to calculate savings in trucker time. (Benefit Cost Analysis Guidance for Discretionary Grant Programs, Office of

the Secretary, U.S. Department of Transportation March 2022; Table A-3 Value of Travel Time Savings).

The value of time savings for a truck driver, plus the savings in truck operating costs provides an estimate of the transportation cost savings as the result of the Electrification and Warehouse A Modernization Project.

Savings: The present value of the economic competitiveness benefits of the Electrification and Warehouse A Modernization Project are \$24.6 million.

5. Summary of the Benefits

Table 7 presents the discounted benefits of the Electrification and Warehouse A Modernization Project over the 2022-2042 period, under a 7% discount rate, with the base year of 2020.

Table 7
Benefits of the Electrification and Warehouse A Modernization Project

BENEFIT CATEGORIES	7% DISCOUNT
EMISSIONS	\$40,793,006.26
SAFETY	\$5,375,870.63
EXTERNAL TRUCK	\$8,226,403.49
ECONOMIC COMPETITIVENESS	\$24,635,958.82
TOTAL BENEFITS	\$79,031,239.21

IV. COSTS

The cost of the project in current dollars is \$34.5 million. The project costs are summarized in Table 8.

Table 8
Cost Summary

PORT OF CLEVELAND ELECTRIFICATION & WAREHOUSE A MODERNIZATION PROJECT						
YEAR	2023	2024	2025	2026	2027	TOTAL
CAPITAL INVESTMENT OUTLAY	\$1,000,532	\$2,001,067	\$12,606,716	\$12,606,716	\$6,303,358	\$34,518,389
ANNUAL REPAIRS & PREVENTATIVE MAINTENANCE						
CAPITAL REINVESTMENT & ASSET UPKEEP						
TOTAL	\$1,000,532	\$2,001,067	\$12,606,716	\$12,606,716	\$6,303,358	\$34,518,389

The benefit-cost analysis in the next section is based on a \$35.7 million project life cycle cost which includes annual maintenance costs over the 2022-2042 period. The schedule of these costs over the 20-year life cycle period are shown in the accompanying Excel BCA spreadsheet model for this project, including scheduled maintenance costs over the life of the project. The net present value of the life cycle cost of the project is \$24.1 million. The life cycle costs are discounted over the 20-year period using a 7% discount rate, and year 2020 as year 0 for the benefit cost calculations.

V. BENEFIT-COST CALCULATION

The Electrification and Warehouse A Modernization Project has a 3.29 benefit-cost ratio, reflecting the benefits of the project due to the reduction in truck traffic on the nation's highways, in turn resulting in significant environmental benefits, safety benefits, external truck benefits, and economic competitive benefits. Adding to these benefits form the ability to handle the 225,000 tons of steel products, are the reduced emissions that will result from the development of the electrification project and the conversion of the diesel powered yard equipment to electric powered equipment. The annual benefits and project costs are presented in the attached excel spreadsheet file, as are all sources and assumptions and calculations.

Table 9
Benefit-Cost Ratio of the Project

NPV of Benefits @7%	\$79,031,239.21
NPV of Costs @7%	\$24,046,381.64
BC Ratio	3.29

VI. SENSITIVITY ANALYSIS

To test the stability of the project, a sensitivity analysis was performed on the benefits of the project. While current warehouse capacity does not exist at Ashtabula, Martin Associates estimated the benefits that would occur should the Port of Ashtabula be used in the without project case, assuming that warehouse capacity would be developed, but not including the cost of this development. Using Ashtabula rather than the current warehouse infrastructure at Toledo, the mileage cost penalty would be reduced to 21.1 miles, reducing the benefits of the project. Under the use of the Port of Ashtabula (with the assumption that warehouse capacity would be built at Ashtabula to handle 225,000 tons of steel products), the benefit-cost ratio of the project is 1.44, as shown in Table 10.

Table10
Benefit-Cost Ratio of the Project - Sensitivity Analysis

NPV of Benefits @7%	\$34,579,419.21
NPV of Costs @7%	\$24,046,381.64
BC Ratio	1.44

PORT OF CLEVELAND ELECTRIFICATION AND WAREHOUSE A MODERNIZATION PROJECT- BENEFIT COST ANALYSIS MODEL

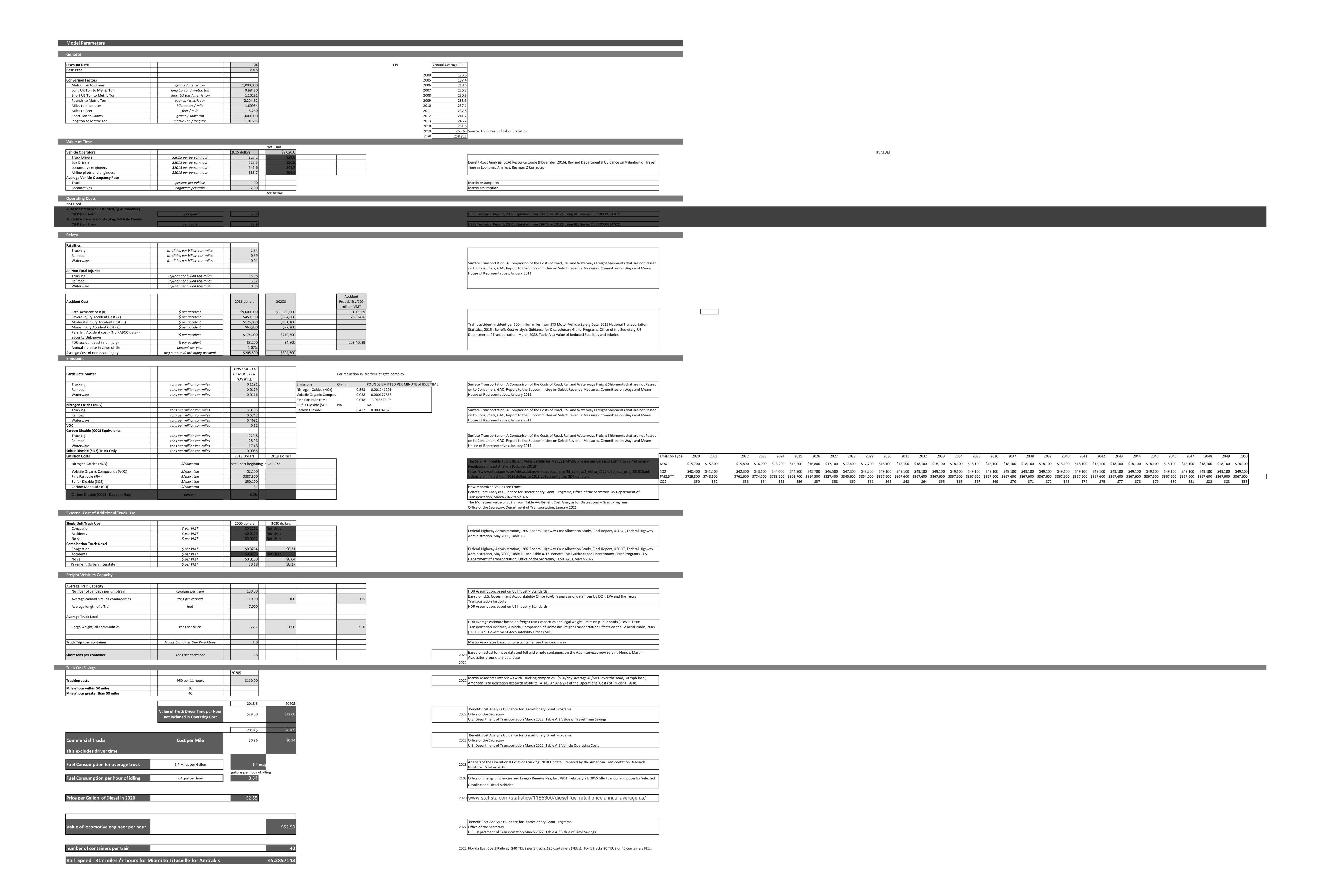
Prepared for:
Prepared for:
Port of Cleveland

Prepared by:
Martin Associates
941 Wheatland Ave. Suite 203
Lancaster, PA 17603



www.johncmartinassociates.com

April 16, 2022



	•	

NPV AT 7%
EMISSIONS
SAFETY
EXTERNAL TRUCK

ECONOMIC COMPETITIVENESS TOTAL BENEFITS

\$15,160,508.20

\$15,160,508.20

\$0.00 \$0.00 \$0.00



		Miles			
	POC Market Share				Weighted Mileage
Destination	by Destination	Toledo	Cleveland	Mileage Penalty	Penalty
Cleveland, OH	25.00%	115	20	95	23.75
Akron, OH	25.00%	137	41	. 96	24.00
Warren, OH	15.00%	159	58	101	15.15
Findlay, OH	2.50%	50	125	-75	-1.88
Girard, PA	15.00%	198	83	115	17.25
Detroit, MI	2.50%	61	171	-110	-2.75
Chicago, IL	2.50%	249	346	-97	-2.43
South Bend, IN	2.50%	160	259	-99	-2.48
Ghent, KY	2.50%	259	305	-46	-1.15
Weirton, WV	2.50%	226	129	97	2.43
Ironton, OH	2.50%	260	261	-1	-0.03
Milwaukee, WI	2.50%	339	438	-99	-2.48
Mileage Penalty					69.40
				1	
				ANNUAL SHORT	
Projected Volume Assumptions		Steel Products		TONS	
Annual throughput		247,838		247,838	
Tons per truck		22			
				7	

PROJECTED TRUCK TRIPS																								
		Year	prior to warehouse completio 1 2019 2020	247,838 24 1 2021	47,838 255272.625 1 1.03 2022 2023	262930.8038 1.03 2024	270818.7279 278943.28 1.03 1.0 2025 20	97 03 1.03 26 2027	1.03 2028	1.03 1.03 2029 2030	1.015	1.015 1 2032	1.015 1.015 2033 2034	1.015 2035	1.015 2036	1.015 1.015 2037 2038	1.015 2039	1.015 1 2040 2	.015 1.015 2041 2042	5 1 2 2043	1 2044	1 2045 204	1 1 6 2047	1 1 2048 2049
TON MILE OR VEHICLE MILES TRAVELED SAVINGS		total truck trips 1 way=autos/8	0 0	0	0 0	0	0 12,6	79 13,060	13,451	13,855 14,271	. 14,485	14,702 14	14,922 15,146	15,373	15,604	15,838 16,076	16,317	16,562 16,	,810 17,062	2 17,062	17,062	17,062 17,06	17,062	17,062 17,062
	VMT saved = Truck trips * mileage savings	Truck Vehicle Miles Saved = Truck Trips * Miles Saved per Trip with empty backhaul	0 0	0	0 0	0	2025 202 0 1,759,8°	26 2027 79 1,812,675	1,867,055	2029 2030 1,923,067 1,980,759	2,010,470	2,040,627 2,071	2033 2034 71,237 2,102,305	2,133,840	2,165,847	2037 2038 ,198,335 2,231,310	2,264,780	2,298,751 2,333	,233 2,368,231	2 2043 2043 2,368,231	2,368,231	2045 204 2,368,231 2,368,23	1 2,368,231	2048 2049 2,368,231 2,368,231
		Annual ShortTons	2019 2020	2021	2022 2023	2024	2025 20.	0 26 2027	2028	2029 2030	2031	2032	2033 2034	2035	2036	2037 2038	2039	2040 2	2041 2042	2 2043	2044	2045 204	6 2047	2048 2049
Current Destinations Short tons Miles Saved Steel Tonnage 247,838 69.40 Average Miles Saved 69.40	Ton Miles = one-way miles* tons	ton miles	0 0	0	0 0	0	0 19,358,6	64 19,939,424	20,537,607 2:	1,153,735 21,788,347	22,115,172	22,446,900 22,783	33,604 23,125,358	23,472,238	23,824,322 24	,181,686 24,544,412	24,912,578	25,286,266 25,665 ₁	,560 26,050,54 ²	4 26,050,544	26,050,544 2	6,050,544 26,050,54	4 26,050,544	26,050,544 26,050,544
Average Miles Saved 69.40		Total Vehicle Miles Traveled Saved Ton Miles Saved		0	0 0	0	0 1,759,8° 0 19,358,6°	79 1,812,675 64 19 939 424	1,867,055	1,923,067 1,980,759 1,153,735 21,788,347	2,010,470	2,040,627 2,071 22,446,900 22,783	71,237 2,102,305	2,133,840	2,165,847 2 23,824,322 24	,198,335 2,231,310 .181.686 24.544.412	2,264,780	2,298,751 2,333 25,286,266 25,665	,233 2,368,231 560 26,050,544	1 2,368,231 4 26,050,544	2,368,231 26.050,544 2	2,368,231 2,368,23 6,050,544 26,050,54	1 2,368,231 4 26,050,544	2,368,231 2,368,231
ENVIRONMENTAL SAVINGS	Short tons emitted=million ton miles saved*tons of emissions per million to	on	2010	2021	2022	2024		36 3027	20,557,607	22,700,017		22,740,300	2022	2035			2 1,5 12,5 1 0	23,280,260	20,030,342	20,030,344	20,030,344			26,050,544
TONS EMITTED PER MILLION TON Emissions MILES	miles	Short tons emitted Fine Particulate Matter (PM2.5)	0.00 0.00	0.00	0.00 0.00	0.00	0.00 2	31 2.37	2.45	2029 2030	2.63	2.67	2033 2034 2.71 2.75	2.80	2.84	2037 2038 2.88 2.92	2.97	3.01	3.06 3.10	0 3.10	3.10	3.10 3.1	0 3.10	3.10 3.10 2
Nitrogen Oxides (NO 3.0193 Volatile Organic Com 0.11 Fine Particule (PM) 0.1191 Sulfur Dioxide (SO2) 0.0055 Carbon Dioxide 229.8		Nitrogen Oxides (NOx) Sulfur Dioxide (SO2) Carbon Dioxide CO2 VOC	0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00	0.00 58. 0.00 0. 0.00 4,448. 0.00 2.	45 60.20 11 0.11 62 4,582.08 13 2.19	62.01 0.11 4,719.54 2.26	63.87 65.79 0.12 0.12 4,861.13 5,006.96 2.33 2.40	66.77 0.12 5,082.07 2.43	67.77 6 0.12 5,158.30 5,23 2.47	68.79 69.82 0.13 0.13 235.67 5,314.21 2.51 2.54	70.87 0.13 5,393.92 2.58	71.93 0.13 5,474.83 2.62	73.01 74.11 0.13 0.13 5,556.95 5,640.31 2.66 2.70	75.22 0.14 5,724.91 2.74	76.35 7 0.14 5,810.78 5,89 2.78	7.49 78.65 0.14 0.14 7.95 5,986.41 2.82 2.87	5 78.65 4 0.14 1 5,986.41 7 2.87	78.65 0.14 5,986.41 2.87	78.65 78.6 0.14 0.1 5,986.41 5,986.4 2.87 2.8	5 78.65 4 0.14 1 5,986.41 7 2.87	78.65 78.65 72 0.14 0.14 0 5,986.41 5,986.41 5,491 2.87 2.87 2
Emissions Cost/Short Ton Emitted Nitrogen Oxides (NO \$0.00		Value of Emission Tons Savings due to Truck to Fine Particulate Matter	n mile reductions \$0.00 \$0.00	\$0.00	\$0.00 \$0.00	\$0.00	\$0.00 \$1,704,879.	69 \$1,783,837.91	\$1,866,665.43 \$1,99	53,314.59 \$2,043,953.87	\$2,074,613.18 \$	\$2,105,732.38 \$2,137,31	\$2,169,378.14	\$2,201,918.81	\$2,234,947.60 \$2,26	8,471.81 \$2,302,498.89	\$2,337,036.37 \$2	372,091.92 \$2,407,67	3.30 \$2,443,788.39	9 \$2,443,788.39	\$2,443,788.39 \$2,4	43,788.39 \$2,443,788.3	9 \$2,443,788.39	\$2,443,788.39 \$2,443,788.39
cost metrics not used Volatile Organic Com \$0.00 Fine Particule (PM) \$0.00	Value of emissions saved = metric ton o		\$0.00 \$0.00 \$0.00 \$0.00	\$0.00 \$0.00	\$0.00 \$0.00 \$0.00 \$0.00	\$0.00 \$0.00	\$0.00 \$891,469. \$0.00 \$4,417.	39 \$934,610.14 43 \$4,629.60	\$979,537.02 \$1,00 \$4,850.53	26,318.35 \$1,080,997.35 \$5,091.11 \$5,341.76	\$1,097,212.31 \$ \$5,421.88	\$1,113,670.49 \$1,130,37 \$5,503.21 \$5,58	\$1,147,331.18 \$5,669.54	\$1,164,541.15 \$5,754.59	\$1,182,009.27 \$1,19 \$5,840.91 \$	9,739.41 \$1,217,735.50 5,928.52 \$6,017.45	\$1,236,001.53 \$1, \$6,107.71	\$6,199.32 \$6,29	9.68 \$1,292,460.07 2.31 \$6,386.70	7 \$1,292,460.07 0 \$6,386.70	\$1,292,460.07 \$1,2 \$6,386.70	92,460.07 \$1,292,460.0 \$6,386.70 \$6,386.7	7 \$1,292,460.07 0 \$6,386.70	\$1,292,460.07 \$6,386.70 \$6,386.70
Sulfur Dioxide (SO2)	emissions	Carbon Dioxide (CO2) Equivalen VOC Total Emission savings	\$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00	\$0.00 \$0.00 \$0.00	\$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00	\$0.00 \$0.00 \$0.00	\$0.00 \$230,205. \$0.00 \$0. \$0.00 \$2,600,766.	00 \$0.00	\$0.00	\$281,826.29 \$0.00 \$4,724.05 \$3,130,292.98	\$0.00	\$299,710.44 \$308,95 \$0.00 \$ \$3,224,906.08 \$3,273,27	\$0.00 \$0.00	\$0.00	\$0.00	3,142.63 \$363,560.34 \$0.00 \$0.00 4,139.74 \$3,526,251.83	\$0.00	\$385,099.62 \$396,230 \$0.00 \$1 632,832.79 \$3,687,32	0.00 \$0.00	3 \$418,478.40 0 \$0.00 7 \$3,742,635.17	\$0.00	29,347.97 \$434,782.7 \$0.00 \$0.0 42,635.17 \$3,742,635.1	0 \$0.00	\$445,652.32 \$451,087.10 \$0.00 \$0.00 \$3,742,635.17 \$3,742,635.17
		Schedule of emission monetized values Emission Type NOX \$	2020 2021 15,700.00 \$15,600.00	2022 \$15,800.00 \$16,0	2023 2024 000.00 \$16,200.00	2025 \$16,500.00	2026 20. \$16,800.00 \$17,100.	27 2028 00 \$17,400.00	2029 \$17,700.00 \$	2030 2033 18,100.00 \$18,100.00	2032	2033 \$18,100.00 \$18,10	2034 2035 100.00 \$18,100.00	2036 \$18,100.00	2037 \$18,100.00 \$1	2038 2039 8,100.00 \$18,100.00	2040 \$18,100.00	2041 2 \$18,100.00 \$18,10	2042 2043 0.00 \$18,100.00	3 2044 0 \$18,100.00	2045 \$18,100.00 \$	2046 204 18,100.00 \$18,100.0	7 2048 0 \$18,100.00	2049 2050 \$18,100.00 \$18,100.00
		, , , , , , , , , , , , , , , , , , ,	40,400.00 \$41,500.00 29,300.00 \$748,600.00 \$50.00 \$52.00	\$42,300.00 \$43,1 \$761,600.00 \$774,7 \$53.00 \$	100.00 \$44,000.00 700.00 \$788,100.00 \$54.00 \$55.00	\$44,900.00 \$801,700.00 \$56.00	\$45,700.00 \$46,500.0 \$814,500.00 \$827,400.0 \$57.00 \$58.0	00 \$47,300.00 00 \$840,600.00 00 \$60.00	\$48,200.00 \$4 \$854,000.00 \$86 \$61.00	49,100.00 \$49,100.00 67,600.00 \$867,600.00 \$62.00 \$63.00	\$49,100.00 \$867,600.00 \$64.00	\$49,100.00 \$49,10 \$867,600.00 \$867,60 \$65.00 \$6	\$49,100.00 \$49,100.00 \$600.00 \$867,600.00 \$66.00 \$67.00	\$49,100.00 \$867,600.00 \$69.00	\$49,100.00 \$4 \$867,600.00 \$86 \$70.00	9,100.00 \$49,100.00 7,600.00 \$867,600.00 \$71.00 \$72.00	\$49,100.00 \$867,600.00 \$73.00	\$49,100.00 \$49,100 867,600.00 \$867,600 \$74.00 \$7	0.00 \$49,100.00 0.00 \$867,600.00 5.00 \$77.00	0 \$49,100.00 0 \$867,600.00 0 \$78.00	\$49,100.00 \$ \$867,600.00 \$8 \$79.00	49,100.00 \$49,100.0 67,600.00 \$867,600.0 \$80.00 \$81.0	\$49,100.00 0 \$867,600.00 0 \$82.00	\$49,100.00 \$49,100.00 \$867,600.00 \$867,600.00 \$83.00 \$85.00
	NPV @3% less co2 NPV @7% less co2	\$36,700,861.67 \$22,079,600.35																						
	NPV Of CO2 @3% NPV of Emissions @3% NPV of Emissions @7%	\$3,552,897.71 \$40,253,759.37 \$25,632,498.06					0.0000																	
SAFETY BENEFITS Accident Probability/100 Value pe	er	100,000,000 vehicle miles	0 0	0	0 0	0	0 0.0175987	86 0.018126749	0.018670552 0.03	19230668 0.019807588	0.020104702	0.020406273 0.02071	12367 0.021023052	0.021338398	0.021658474 0.02	1983351 0.022313101	0.022647798 0.	022987515 0.023332	0.023682313	3 0.023682313	0.023682313 0.0	23682313 0.02368231	3 0.023682313	0.023682313
Fatal Accident Cost (K) Probability/100 Value position VMT Accident, 2020 \$ per accident \$ per accident \$ 1.13369 \$11,600,000	Safety benefit = probability of accident *100,000,000 VMT saved*value accident type	t ent Fatal accident cost (K)	\$0.00 \$0.00	\$0.00	\$0.00 \$0.00	\$0.00	\$0.00 \$231.438.	26 2027 59 \$238,381.75	\$245,533.20 \$25	2029 2030 52.899.20 \$260.486.17	\$264,393,46	\$268.359.37 \$272.38	2033 2034	2035 \$280.617.59	\$284.826.85 \$28	2037 2038 9.099.25 \$293.435.74	\$297.837.28	2040 2 302.304.84 \$306.83	9.41 \$311.442.00	2 2043	\$311.442.00 \$3	2045 204 11.442.00 \$311.442.0	0 \$311.442.00	\$311.442.00 \$311.442.00
Severe Injury Accident Cost (A)\$ per accident78.92426\$302,60PDO Accident Cost (no injury)\$ per accident203.40039\$4,60	0	Injury Cost PDO accident cost (no injury) Total Safety Cost	\$0.00 \$0.00 \$0.00 \$0.00	\$0.00 \$0.00	\$0.00 \$0.00 \$0.00 \$0.00	\$0.00 \$0.00	\$0.00 \$420,302. \$0.00 \$16,466.	67 \$432,911.75 16 \$16,960.14	\$445,899.10 \$4 \$17,468.95 \$ \$708.901.25 \$7	59,276.07 \$473,054.35 17,993.02 \$18,532.81	\$480,150.17 \$18,810.80	\$487,352.42 \$494,66 \$19,092.96 \$19,37	\$502,082.65 \$79.36 \$19,670.05	\$509,613.89 \$19,965.10 \$810.196.57	\$20,204.37 \$2	5,016.97 \$532,892.22 0,568.54 \$20,877.07	\$540,885.61 \$ \$21,190.23	548,998.89 \$557,23 \$21,508.08 \$21,83 872.811.81 \$885.90	3.87 \$565,592.38 0.70 \$22,158.16	8 \$565,592.38 6 \$22,158.16 4 \$899.192.54	\$565,592.38 \$5 \$22,158.16 \$	65,592.38 \$565,592.3 22,158.16 \$22,158.1	8 \$565,592.38 6 \$22,158.16 4 \$899.192.54	\$565,592.38 \$22,158.16 \$22,158.16 \$899.192.54 \$899.192.54
	NPV of Safety@3% NPV of Safety@7%	\$8,910,487.01 \$5,375,870.63	Ç0.00	φο.σσ	<u> </u>	V 0.00	φοιοσ φουσ, <u>ε</u> στ.	42	ψ, (σο, 5ο1.25)	\$0,100.E5 \$75E,075.55	Ç7 03,354.45	\$774,004.75 \$700,42	7735,223.22	Ç010,130.37	Ç022,343.32	4,004.70 Q047,203.04	, , , , , , , , , , , , , , , , , , , 	\$72,011.01 \	5.55	4	, , , , , , , , , , , , , , , , , , , 	55,15 <u>2.</u> 154	4	Q033,132.34
EXTERNAL TRUCK COST SAVINGS Combination Truck 4 Cost/VMT		Vehicle miles	2019 2020	2022	2022 2023	2024	2025 203	26 2027 79 1.812.675	2028	2029 203 0	2031	2032	2033 2034 71.237 2.102.205	2035	2036	2037 2038 198 335 2 221 210	2039	2040 2 2.298 751 2 222	2041 2042	2 2043	2044	2045 204 5 20 4 2 368 231 2 368 231	6 2047 1 2368 221	2048 2049 2.368.231 2.368.231
Congestion \$0.3100 Noise \$0.0393	value of savings=VMT saved*value of external event	Congestion	\$0.0000 \$0.0000 \$0.0000 \$0.0000	\$0.0000 \$0 \$0.0000 \$0	0.0000 \$0.0000 0.0000 \$0.0000	\$0.0000 \$0.0000	\$0.0000 \$545,562.35 \$0.0000 \$69,163.22	77 \$561,929.2284 \$ 79 \$71,238.1248	\$578,787.1053 \$596, \$73,375.2685 \$75,	,150.7184 \$614,035.2400 ,576.5266 \$77,843.8224	\$623,245.7686 \$6 \$79,011.4797 \$	\$632,594.4551 \$642,083. \$80,196.6519 \$81,399.	3.3719 \$651,714.6225 9.6017 \$82,620.5957	\$661,490.3419 \$83,859.9046	\$671,412.6970 \$681, \$85,117.8032 \$86,	83.8874 \$691,706.1457 94.5702 \$87,690.4888	\$702,081.7379 \$71 \$89,005.8461 \$9	2,612.9640 \$723,302.1 0,340.9338 \$91,696.0	.585 \$734,151.6908 9478 \$93,071.4885	8 \$734,151.6908 5 \$93,071.4885	\$734,151.6908 \$734 \$93,071.4885 \$93	,151.6908 \$734,151.690 ,071.4885 \$93,071.488	8 \$734,151.6908 5 \$93,071.4885	\$734,151.6908 \$734,151.6908 \$93,071.4885 \$93,071.4885
Pavement (Urban \$0.2698	NIDV of Enternal Truck Cost Soviege @	Pavement Less Federal Fuel Tax Total External Truck Cost Savings less Federal Fuel Tax \$13.635.235.39	\$0.0000 \$0.0000 \$0.0000 \$0.0000	\$0.0000 \$0 \$0.0000 \$0	0.0000 \$0.0000 0.0000 \$0.0000	\$0.0000 \$0.0000	\$0.0000 \$407,796.01 \$0.0000 \$1,022,521.59	16 \$420,029.8919 \$ 72 \$1,053,197.2451 \$1	\$432,630.7887 \$445, ,084,793.1625 \$1,117,	,609.7123 \$458,978.0037 ,336.9573 \$1,150,857.0661	\$465,862.6738 \$4	\$472,850.6139 \$479,943. ,185,641.7209 \$1,203,426.	3.3731 \$487,142.5237 5.3467 \$1,221,477.7419	\$494,449.6615 \$ \$1,239,799.9080 \$1	\$501,866.4065 \$509, .258,396.9066 \$1,277,	\$517,035.3186 \$72.8602 \$1,296,431.9531	\$524,790.8484 \$53 \$1,315,878.4324 \$1,33	2,662.7111 \$540,652.6 5,616.6089 \$1,355,650.8	\$548,762.4415 \$581 \$1,375,985.6209	5 \$548,762.4415 9 \$1,375,985.6209	\$548,762.4415 \$548 \$1,375,985.6209 \$1,375	,762.4415 \$548,762.441 ,985.6209 \$1,375,985.620		\$548,762.4415 \$548,762.4415 ,375,985.6209 \$1,375,985.6209
Fuel Consumption M 6.4 Federal Diesel Tax pt \$0.24	NPV of External Truck Cost Savings @3	7% \$8,226,403.49 Gallons Saved Reduced Federal Fuel Tax	0 0.00 0.00 \$0.00 \$0.00	0.00 \$0.00	0.00 0.00 \$0.00 \$0.00	0.00	0.00 274,981. \$0.00 \$67,095.3	03 283,230.46 37 \$69,108.23	291,727.37 30 \$71,181.48 \$7	00,479.19 309,493.57 73,316.92 \$75,516.43	314,135.97 \$76,649.18	318,848.01 323,63 \$77,798.91 \$78,96	530.73 328,485.19 65.90 \$80,150.39	333,412.47 \$81,352.64	338,413.66 34 \$82,572.93 \$8	3,489.86 348,642.21 ,811.53 \$85,068.70	353,871.84 \$86,344.73	359,179.92 364,56 587,639.90 \$88,954	7.62 370,036.13 3.50 \$90,288.82	3 370,036.13 2 \$90,288.82	370,036.13 3 \$90,288.82 \$9	70,036.13 370,036.1 00,288.82 \$90,288.8	3 370,036.13 2 \$90,288.82	370,036.13 370,036.13 \$90,288.82 \$90,288.82
TRANSPORTATION COST SAVINGS - ECONOMIC COMPETITIVENESS		Vehicle Miles Saved Hours saved	2019 2020 0 0	2022 0	2022 2023 0 0	0	2025 203 0 1,759,8	26 2027 79 1,812,675	2028 1,867,055	2029 2030 1,980,759	2031 2,010,470	2032 2,040,627 2,016 51,016	2033 2034 71,237 2,102,305	2035 2,133,840	2036 2,165,847 2	2037 2038 ,198,335 2,231,310	2039 2,264,780	2040 2 2,298,751 2,333	2041 2042 ,233 2,368,231	2 2043 1 2,368,231	2044 2,368,231	2045 204 2,368,231 2,368,23	6 2047 1 2,368,231	2048 2049 2,368,231 2,368,231
	Operating cost savings=\$.94*VMT sav Value of trucker time saved = vehicle saved divided by 40 MPH =hours save	ed Operating Costs miles d *	\$0 \$0	\$0	\$0 \$0	\$0	\$0 \$1,654,2	<i> </i>	\$1,755,032 \$	48,077 49,519 1,807,683 \$1,861,913	\$1,889,842	\$1,918,190 \$1,946	\$1,781 \$2,558 \$1,976,167	\$2,005,809	\$2,035,897 \$2	,066,435 \$2,097,432	\$2,128,893	\$2,160,826 \$2,193	,331 59,206	7 \$2,226,137	\$2,226,137 \$	2,226,137 \$2,226,13	7 \$2,226,137	\$2,226,137 \$2,226,137
TRUCK COST PER MILE EXCLUDING DRIVE \$0.94 \$1,100.00 \$100.00	Trucker Value of Time	Value of Trucker Time Total Truck Savings	\$0 \$0	\$0 \$0	\$0 \$0 \$0 \$0	\$0 \$0	\$0 \$1,407,90 \$0 \$3,062,13		7-7-5-7-5	1,538,453 \$1,584,607 3,346,136 \$3,446,520	\$1,608,376 \$3,498,218	\$1,632,502 \$3,550,691 \$3,603	\$6,989 \$1,681,844 \$3,952 \$3,658,011	\$1,707,072 \$3,712,881	\$1,732,678 \$1 \$3,768,574 \$3	,758,668 \$1,785,048 ,825,103 \$3,882,480	\$1,811,824 \$3,940,717	\$1,839,001 \$1,866 \$3,999,828 \$4,059	,586 \$1,894,585 ,825 \$4,120,722	5 \$1,894,585 2 \$4,120,722		1,894,585 \$1,894,58 4,120,722 \$4,120,72		\$1,894,585 \$4,120,722 \$4,120,722
Assumption: Average Truck Speed in Mile 40 Assumption: Trucker Time Value per Hou \$32.00 TOTAL NET BENEFITS	NPV of Economic Competitiveness @3 NPV of Economic Competitiveness @7	% \$24,635,958.82			\$0.00																			
	BENEFIT CATEGORIES EMISSIONS SAFETY EXTERNAL TRUCK	\$40,253,759.37 \$25,63 \$8,910,487.01 \$5,37 \$13,635,235.39 \$8,22	DISCOUNT 62,498.06 75,870.63 86,403.49		\$0																			
	ECONOMIC COMPETITIVENESS TOTAL BENEFITS NPV AT 7%		55,958.82 70,731.01																					
	EMISSIONS SAFETY EXTERNAL TRUCK ECONOMIC COMPETITIVENESS	\$25,632,498.06 \$5,375,870.63 \$8,226,403.49 \$24,635,958.82																						
	TOTAL BENEFITS	\$63,870,731.01																						

	PORT OF CLEVELAND ELECTRIFICATION & WAREHOUSE A MODERNIZATION PROJECT																										
	YEAR	2023	2024	2025	2026	2027	2028	2029	2030 2	031 20	32 20	33 2	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047 T	TOTALS
	CAPITAL INVESTMENT OUTLAY	\$1,000,532 \$2,0	001,067 \$12,6	606,716 \$12,	,606,716 \$6,30	3,358																				#	########
	ANNUAL REPAIRS & PREVENTATIVE MAINTENANCE					\$24	,789 \$25	533 \$26	5,299 \$27,0	88 \$27,9	00 \$28,73	7 \$29,5	599 \$3	30,487 \$3	31,402	\$32,344	\$33,314	\$34,314	\$35,343	\$36,403	\$37,496	\$38,620	\$39,779	\$40,972	\$42,202	\$43,468 #	########
	CAPITAL REINVESTMENT & ASSET UPKEEP										\$62,79	1 \$64,6	675 \$6	66,615 \$6	58,613	\$70,672	\$72,792	\$74,976	\$77,225	\$79,542	\$81,928	\$84,386	\$86,917	\$89,525	\$92,211	\$94,977 #	########
	TOTAL	\$1,000,532 \$2,0	001,067 \$12,6	606,716 \$12,	,606,716 \$6,30	3,358 \$24	,789 \$25	533 \$26	5,299 \$27,0	88 \$27,9	00 \$91,52	8 \$94,2	274 \$9°	7,102 \$10	00,015 \$3	103,016 \$	106,106	\$109,290	\$112,568	\$115,945	\$119,424	\$123,006	\$126,696	\$130,497	\$134,412	\$138,445 #	########
TOTAL PROJECT COST THROUGH 2042	\$35,699,266																										
NPV@7%	\$24,046,381.64																										

ELECTRIFICATION INFRASTRUCTURE									
BENEFIT CATEGORIES	3% DISCOUNT	7% DISCOUNT							
EMISSIONS	\$23,428,285	\$15,160,508							
SAFETY	\$0	\$0							
EXTERNAL TRUCK	\$0	\$0							
ECONOMIC COMPETITIVENESS	\$0	\$0							
TOTAL BENEFITS	\$23,428,285	\$15,160,508							

WAREHOUSE A MODERNIZATION									
BENEFIT CATEGORIES	3% DISCOUNT	7% DISCOUNT							
EMISSIONS	\$40,253,759.37	\$25,632,498.06							
SAFETY	\$8,910,487.01	\$5,375,870.63							
EXTERNAL TRUCK	\$13,635,235.39	\$8,226,403.49							
ECONOMIC COMPETITIVENESS	\$40,834,016.69	\$24,635,958.82							
TOTAL BENEFITS	\$103,633,498.46	\$63,870,731.01							

PROJECT NET BENEFITS

BENEFIT CATEGORIES	3% DISCOUNT	7% DISCOUNT
EMISSIONS	\$63,682,044.20	\$40,793,006.26
SAFETY	\$8,910,487.01	\$5,375,870.63
EXTERNAL TRUCK	\$13,635,235.39	\$8,226,403.49
ECONOMIC COMPETITIVENESS	\$40,834,016.69	\$24,635,958.82
TOTAL BENEFITS	\$127,061,783.28	\$79,031,239.21

NPV of Benefits @7%	\$79,031,239.21
NPV of Costs @7%	\$24,046,381.64
BC Ratio	3.29

BENEFIT CATEGORIES	7% DISCOUNT
EMISSIONS	\$40,793,006.26
SAFETY	\$5,375,870.63
EXTERNAL TRUCK	\$8,226,403.49
ECONOMIC COMPETITIVENESS	\$24,635,958.82
TOTAL BENEFITS	\$79,031,239.21

RESOLUTION NO. 2018-28

A RESOLUTION ADOPTING AND APPROVING PORT AUTHORITY POLICIES PERTAINING TO INCLUSION, WAGES AND ACCESS TO JOBS AND APPROPRIATING FUNDS FOR THE ESTABLISHMENT OF A PORT COMMUNITY INVESTMENT FUND

WHEREAS, the mission of the Cleveland-Cuyahoga County Port Authority ("Port Authority") is to foster job creation and economic prosperity by providing maritime transportation facilities and services, project financing and by addressing certain public infrastructure, environmental and quality of life projects and issues for which the Port Authority is best suited to play a role; and

WHEREAS, the Port Authority carries out this mission pursuant to the purposes, powers and duties contained in Ohio Revised Code sections 4582.01 through .20 and 4582.60, including "activities that enhance, foster, aid, provide, or promote transportation, economic development, housing, recreation, education, governmental operations, culture, or research within the jurisdiction of the port authority"; and

WHEREAS, in furtherance of this mission, the Port Authority believes that the jobs, wages and other benefits accruing from the Port-related sectors of the economy should be shared as widely and equitably as possible among residents of Cuyahoga County; and

WHEREAS, despite positive developments and trends, much higher than average unemployment and poverty rates persist among certain segments of the County populace; and

WHEREAS, Port Authority management, at the direction of and in consultation with the Port Authority Board of Directors ("Board"), reviewed the Port Authority's current policies and practices pertaining to inclusion, wages and access to jobs and presented policy options to the Board for discussion at the February 2018 and September 2018 Board meetings; and

WHEREAS, based on feedback and direction from the Board, management is now recommending new and revised policies which the Board now desires to adopt and approve.

NOW, THEREFORE, BE IT RESOLVED by the Board of Directors of the Cleveland-Cuyahoga County Port Authority, Cleveland, Ohio:

Section 1. It is found and determined that the policies pertaining to inclusion, wages and access to jobs, as attached hereto as Exhibit A (the "Policy"), be hereby adopted and approved as the official policies of the Port Authority.

Section 2. That the President together with the Chair, Vice-Chair, and Secretary or any of them are authorized to file and make the Policy available to the public and all Port Authority contractors and service providers and entities requesting financing from the Port Authority and to take actions necessary to further carry out the Policy.

Section 3. The funds for establishment of the Port Community Investment Fund ("PCIF") are hereby appropriated from certain Port Authority financing fees described in the Policy.

Section 4. That all formal actions of the Board of Directors of the Cleveland-Cuyahoga County Port Authority concerning and relating to the adoption of this Resolution were adopted in an open meeting of the Board of Directors and that all deliberations of this Board of Directors and any of its Committees that resulted in such formal action were in meetings open to the public in compliance with all legal requirements, including Section 121.22 of the Ohio Revised Code.

Section 4. That this Resolution shall take effect immediately upon its adoption.

ADOPTED: October 11, 2018	Λ
Yeas:	Warmer KM R
Nays:	CHAIR Addition for Multiples SECRETARY
Abstentions:	JECKETAK I

Agenda Item 4(B)(3)(a) – Workforce, Inclusion, Equity & Wages Policy

Background

The mission of the Cleveland-Cuyahoga County Port Authority is to foster job creation and economic prosperity. The Port does this by providing maritime transportation facilities and services, project financing and by addressing certain public infrastructure, environmental and quality of life projects and issues for which the Port is best suited to play a role. The Port-related sector of the Greater Cleveland economy generates more than 20,000 jobs and total economic activity exceeding \$3.5 billion annually. The Port Authority carries out this mission pursuant to the purposes, powers and duties contained in Ohio Revised Code section 4582. Port authorized purposes include "activities that enhance, foster, aid, provide, or promote transportation, economic development, housing, recreation, education, governmental operations, culture, or research within the jurisdiction of the port authority."

In furtherance of this mission, the Port Authority believes that the jobs, wages and other benefits accruing from the Port-related sectors of the economy should be shared as widely and equitably as possible among residents of Cuyahoga County. Despite positive developments and trends, much higher than average unemployment and poverty rates persist among certain segments of the County populace. A recent report from the Fund for Our Economic Future entitled *The Two Tomorrows* states that within our region, "We are leaving people behind and further widening the economic and racial divide. Concentrations of poverty are persistent and growing."

Port Authority management, at the direction of and in consultation with the Port Board of Directors, reviewed the Port's current policies and practices pertaining to inclusion, wages and access to jobs. As a result of this review, management presented policy options to the Port Board for discussion at the February 2018 and September 2018 Board meetings. Based on feedback and direction from the Directors, management is now recommending new and revised policies for the Port Board to consider adopting at its October meeting.

Current Situation

The Port Authority's primary inclusionary policy is its minority and female business participation policy that is applied as a condition of receiving bond financing through the Port. This policy requires bond proceed recipients to make best efforts to achieve an overall Minority Business Enterprise (MBE) and Women Business Enterprise (WBE) participation rate of 20% on construction projects. Bond recipients and their contractors must report this data to Port management and sign affidavits attesting to its accuracy. The current MBE/WBE participation rate on all bond-financed projects underway is 27%, or \$160.7 million in MBE/WBE contracts awarded. The Port also requires Prevailing Wage on all contracts awarded for the Port's own publically bid construction projects as a management practice, not as required by a Port Policy. Management has recently began requiring higher wage levels as a condition of awarding certain contracts such as janitorial and security services. In addition to these Port policies and practices, the Port ensures compliance with any state and federal inclusion requirements when they apply due to grants funds received or otherwise.

Recommended Polices

Management recommends the following revisions and updates to the Port's policies to achieve and encourage greater readiness for and access to Port related jobs and to ensure more livable wages are paid for work performed on behalf of the Port.

MBE/WBE Participation:

- 1. Recipients of Port-issued revenue bond proceeds will be required to adhere to a best efforts overall goal of 30% MBE/WBE participation with a sub-goal of achieving a minimum of 15% MBE participation.
- 2. Goals for MBE/WBE participation in Port construction projects will be set on an annual basis as part of the budgeting process for the coming fiscal year and will be approved by the Port Board as part of the Capital Budget.
- 3. The Port will henceforth make its own best efforts to achieve an overall MBE/WBE participation rate of 30% and an MBE sub-goal of 15% on all Port service contracts (e.g. janitorial, security, landscaping, professional services, etc.).

Company-level Employment Diversity:

The Port will actively encourage all parties doing to business with the Port to adopt employment and hiring practices that result in diversity reflecting the general demographic make-up of the County. The Port will provide each company with this policy statement and develop methods to periodically monitor progress toward this goal. The Port may utilize data or reporting provided by other agencies or non-profits that track this information.

Wages:

- 1. Recipients of Port-issued revenue bond proceeds will be required to pay Prevailing Wage on all project construction contracts unless specific trades or subcontracts are exempted by the Port Board at the time the bond funding is approved. Port management will develop implementation guidance to include clearly-defined criteria for consideration of exemptions.
- 2. Prevailing Wage will be a bid requirement for all publically-bid Port construction projects (projects built by the Port for its own use).
- 3. As condition of contract award, all contractors providing service to the Port will pay their employees a minimum of \$15 per hour when that employee is fulfilling the Port service contract.

Establishment of Port Community Investment Fund:

In addition to the new and revised Policies outlined above, management recommends the establishment of a Port Community Investment Fund (PCIF). The purpose of the PCIF is furtherance of the Port's economic development mission. The PCIF will allow the Port to work with community partners on a more targeted and early-stage basis to advance more equitable access to Port sector jobs and greater readiness to meet the skill and experience requirements of the jobs. The Port will initially appropriate 10% of the previous year's bond transaction fees (excluding fees from Bond Fund transactions and fees paid for ongoing administration). The Board may change or eliminate the appropriation at any time. The PCIF may be used to make grants or otherwise invest in educational, training, workforce development, and other programs or projects deemed to be consistent with the goals of the PCIF. Management will identify these projects, programs and community partners for investment and seek Board approval before individual grants or commitments of funds are made.

Recommendation

The Board of Directors is being requested to approve Resolution 2018-XX adopting and approving Port Authority policies pertaining to inclusion, wages and access to jobs and appropriating funds for the establishment of a port community investment fund.

SHERROD BROWN

COMMITTEES:
AGRICULTURE, NUTRITION,
AND FORESTRY
BANKING, HOUSING,
AND URBAN AFFAIRS
FINANCE
VETERANS' AFFAIRS

United States Senate WASHINGTON, DC 20510 - 3505

May 10, 2022

The Honorable Pete Buttigieg Secretary, U.S. Department of Transportation 1200 New Jersey Avenue, SE Washington, DC 20590

Dear Secretary Buttigieg,

I write to draw your attention to the grant submission for the Electrification and Warehouse "A" Modernization Project by Cleveland-Cuyahoga County Port Authority (Port of Cleveland) in the FY 22 Port Infrastructure Development Program (PIDP).

The Port of Cleveland moves more than 13 million tons of cargo through its docks each year. It is responsible for more than 20,000 direct and indirect jobs and generates over \$3.5 billion for the annual economy in Northeast Ohio. It is the only fully functioning container port on the Great Lakes – in the U.S. or Canada. Despite its importance, the port contains numerous warehouses that are outdated which causes it to be less efficient and causes greater carbon emissions.

The Port of Cleveland is seeking \$27,615,000 in federal grant to rehabilitate and modernize the Port's General Cargo Terminal's largest warehouse (known as Warehouse "A") and make necessary electrification investments to prepare the Port for a zero-emissions future. The project consists of both the developmental phase and construction activity for four major components. These components are: Warehouse A rehabilitation and modernization; electrification and stormwater enhancements; W. 3rd lot cargo movement efficiency improvements; and maritime learning and resource center.

The Port is an economic engine for the community, a key to Northeast Ohio's global competitiveness, and a partner in building the region's future. This project will work to increase the port's efficiency in cargo movement with much needed improvements around the warehouse. It will also enable a more energy efficient warehouse which will help greatly decrease its carbon emissions. The project will conduct an electrification and clean air master planning study to construct infrastructure to serve as a hub to future low or zero-emissions fleet – it is working to make the port and other ports more sustainable in its future.

As Ohio, the country, and the world strive to create a better environment and economy for today and tomorrow, it is important that we uplift efforts such as the Cleveland-Cuyahoga County Port Authority proposed Electrification and Warehouse "A" Modernization Project. The benefits of this project will support expanding the growth of sustainable and economic options in Cleveland and in the State of Ohio. Please give this request your full and fair consideration.

Sincerely,

Sherrod Brown

United States Senator

1126 Longworth Building Washington, DC 20515 202-225-5261 202-225-3719 FAX



COMMITTEE ON APPROPRIATIONS LEGISLATIVE BRANCH SUBCOMMITTEE CHAIRMAN

DEFENSE SUBCOMMITTEE
MILITARY CONSTRUCTION, VETERAN AFFAIRS,
AND RELATED AGENCIES SUBCOMMITTEE

May 4, 2022

The Honorable Pete Buttigieg Secretary of Transportation 1200 New Jersey Avenue, S.E. Washington, DC 20590

Dear Secretary Buttigieg:

I write in support of a Fiscal Year 2022 Port Infrastructure Development Program (PIDP) grant application being submitted by the Cleveland-Cuyahoga County Port Authority (Port of Cleveland) for the Electrification and Warehouse "A" Modernization Project.

The Port of Cleveland is seeking \$27,615,000 in federal grant to rehabilitate and modernize the Port's General Cargo Terminal's largest warehouse (known as Warehouse "A") and make necessary electrification investments to prepare the Port for a zero-emissions future. There are two public marine terminals within Cleveland Harbor, including the General Cargo Terminal, where this project is located. These facilities handle containers, iron ore, limestone, cement, and breakbulk cargoes such as steel coils, tin plate and wire rod. The terminal is an 80-acre general cargo operation with two mobile cranes with 92.6-ton capacity each, one stationary crane with 150-ton capacity, two Class 1 railroads, laydown areas, and enclosed warehouse storage capacity for weather-sensitive cargo. The project will be wholly located within a federal Historically Disadvantaged Community and designated Opportunity Zone in downtown Cleveland.

The project is adjacent to the ongoing Dock 24 and 26 Master Modernization and Rehabilitation Project at the Port, which was partly funded by a FY2019 PIDP grant award of \$11 million and will complement components from the Dock 24 and 26 Project, such as tying in new stormwater infrastructure with treatment devices installed on Dock 24 and extending electrical infrastructure through duct banks installed along the sides of Dock 24 and 26.

The Port of Cleveland, which moves more than 13 million tons of cargo through its docks each year, is responsible for more than 20,000 direct and indirect jobs and generates over \$3.5 billion for the annual economy in Northeast Ohio and is the only fully functioning container port on the Great Lakes – in the U.S. or Canada.

I would ask you give your full and fair consideration of the Port of Cleveland's PIDP proposal for this funding opportunity. Thank you for your time and consideration.

Sincerely,

Tim Ryan

Member of Congress

Tim Nyan

WASHINGTON, D.C. OFFICE

2186 Rayburn Building Washington, DC 20515-3509 (202) 225-4146 Fax: (202) 225-7711

OHIO OFFICES

(800) 964-4699 Fax: (419) 255-9623 http://kaptur.house.gov



COMMITTEE ON APPROPRIATIONS

CHAIRWOMAN

Subcommittee on Energy and Water Development and Related Agencies

Subcommittee on Defense

Subcommittee on Interior, Environmen and Related Agencies

COMMITTEE ON VETERANS' AFFAIRS

Subcommittee on Disability Assistance and Memorial Affairs

May 4, 2022

The Honorable Pete Buttigieg Secretary of Transportation 1200 New Jersey Avenue, S.E. Washington, DC 20590

Dear Secretary Buttigieg:

I am pleased to support the Cleveland-Cuyahoga County Port Authority (Port of Cleveland) and its request for funding through the 2022 Port Infrastructure Development Program (PIDP.) The Port of Cleveland seeks \$27,615,00 in federal grants for the Electrification and Warehouse "A" Modernization Project.

With the funding, I understand the Port of Cleveland will rehabilitate and modernize the port's General Cargo Terminal's largest warehouse (Warehouse "A") and make necessary electrification investments to prepare the port for a zero-emissions future. The General Cargo Terminal facilities handle containers, iron ore, limestone, cement, and other valuable resources. To add to the project's significance, the proposed work site is within a federal Historically Disadvantaged Community and designated Opportunity Zone in downtown Cleveland.

The Port of Cleveland, which moves more than 13 million tons of cargo through its docks each year, is responsible for more than 20,000 direct and indirect jobs, generating over \$3.5 billion annually for the Northeast Ohio economy. As the only fully functioning container port on the Great Lakes, the Port of Cleveland plays a crucial role in the nation's economy. This initiative and the improvements generated will help to ensure the port's longevity. I urge the application's favorable review consistent with your agency's rules and regulations.

Sincerely,

MARCY KAPTUR

U.S. Representative

0 ~650



May 6, 2022

The Honorable Pete Buttigieg
Secretary
U.S. Department of Transportation
1200 New Jersey Avenue, SE
Washington, D.C. 20590

Dear Secretary Buttigieg:

The American Great Lakes Ports Association represents the public port authorities on the United States side of the Great Lakes. Each of our member ports is a division of state or local government, or an independent agency created by state statute. As a group, and individually, Great Lakes ports work to foster maritime commerce in the region and economic development in their communities.

We are writing to share our support for the Cleveland-Cuyahoga County Port Authority and its application for a Port Infrastructure Development Program (PIDP) grant for critical infrastructure enhancement at the Port of Cleveland. Specifically, the port seeks \$27.615 million for electrification of port facilities and modernization of the port's largest warehouse.

The Port of Cleveland plays a critical role in the economy of northern Ohio and the eastern Great Lakes. The port handles more than 13 million tons of cargo annually including iron ore, stone, steel products, and cement. As the only Great Lakes port with regular container shipping service, the port plays an important role in supply chain resiliency.

Unlike coastal ports, Great Lakes ports are part of an interconnected navigation system that supports a \$3 trillion regional economy. The development of each Great Lakes port contributes to the success of the larger system and for that reason, we are pleased to support this important project.

Sincerely,

Steven A. Fisher Executive Director

Ata. Jish



Ohio Department of Transportation Mike DeWine, Governor

Jack Marchbanks, Ph.D., Director

1980 W. Broad Street, Columbus, OH 43223 614-466-7170 transportation.ohio.gov

April 29, 2022

The Honorable Pete Buttigieg Secretary, US Department of Transportation 1200 New Jersey Avenue SE Washington, D.C. 20590

Subject: Support for the Cleveland-Cuyahoga County Port Authority's US Maritime Administrations FY22 Port Infrastructure Development Program (PIDP) Grant Application

Dear Secretary Buttigieg:

The Ohio Department of Transportation is pleased to support the Cleveland-Cuyahoga County Port Authority's Electrification and Warehouse A Modernization project application for the U.S. Maritime Administration Port Infrastructure Development Grant Program.

The Cleveland-Cuyahoga County Port Authority's (CCCPA) General Cargo Terminal is the international gateway for cargo entering America's heartland through the Saint Lawrence Seaway System. The Terminal has been in service since the mid twentieth century and requires modernization to continue to support the State and country's twenty-first century economy. Infrastructure investments made within Cleveland's General Cargo Terminal not only strengthen the regions supply chain, but America's ability to move goods to market.

The FY 2022 PIDP MARAD Grant will also help advance the Port's Capital Improvement and Facility Master Plan by addressing their most critical capital investments. This application closely aligns with MARAD's PIDP program objectives of improving the safety, efficiency and reliability of the loading and unloading of goods, operational improvements, environmental and emission mitigation measures, supporting economic vitality at the national and regional level, address climate change and environmental justice impacts, advance equity and opportunity for all and leverage Federal funding to attract non-Federal sources of infrastructure investment.

I would like to thank you in advance for your consideration of the Cleveland-Cuyahoga County Port Authority's US Maritime Administration Port Infrastructure Development Grant (PIDG) application.

Respectfully, ack Marchbanks

Ja⁄ck Marchbanks, Ph.D.

Director



2022 NOACA BOARD OF DIRECTORS

President
- John Hamercheck, Lake County
Commissioner

First Vice President
- William Hutson, Medina County

Second Vice President Armond Budish, Cuyahoga County Executive

Secretary
- Justin Bibb, Mayor, City of Cleveland

Assistant Secretary
John Plecnik, Lake County

Assistant Secretary

Annette M. Blackwell, Mayor, City of Maple Heights

Treasurer Timothy Lennon, George County Commissioner

Assistant Treasurer

Andrew Conrad, P.E., P.S., Medina County Engineer

Assistant Treasurer
Frank Whitfield, Mayor, City of Elyria
(Immediate Past Board President)
Matt Lundy, Lorain County
Commissioner

Samuel J. Alai, Mayor, City of Broadview Heights Larry Antoskiewicz, Mayor, City of North Royalton

Paul Barnett, Service Director, City of Brunswick

Pamela Bobst, Mayor, City of Rocky River Jack Bradley, Mayor, City of Lorain

Jeff Brandon, Montville Township Trustee Michael Dylan Brennan, Mayor, City of University Heights

Ben Capelle, General Manager, Laketran

Kenneth P. Carney, Sr., P.E., P.S., Lorain County Engineer Matthew Castelli, Mayor, City of Middleburg Heights

Mary Cierebiej, Executive Director, Cuyahoga Planning Commission Kevin Corceran, Mayor, City of North Ridgeville

Timothy J. DeGeeter, Mayor, City of Parma

James DeRosa, Interim Director of Capital Projects, City of Cleveland Michael W. Dever, MPA, Director of Public Works, Cayahoga County Department of Public Works

Kyle Dreyfuss-Wells, Chief Executive Officer, NEORSD James W. Dvorak, Geauge County

William D. Friedman, President and CEO, Cleveland-Cuyahoga County

Meghan George, Mayor, City of

James R. Gills, P.E., P.S., County Engineer, Lake County Blains A. Griffin, Councilman, Ward 6, City of Cleveland

Joyce Pan Huang, Director, City of Cleveland Planning Commission Brian Mooney, Councilman, Ward 11, City of Cleveland Dick Heidecker, Columbia Township

Stephanie Howse, Councilwoman, Ward 7, City of Cleveland

Michelle Hung, Lorain County Commissioner Charles Lucas, Board President, GCRTA

Kerry McCormack, Councilman, Ward 3, City of Cleveland

Dale Miller, Cuyahoga County Councilman, District 2 John Picuri, P.E., District 12 Deputy Director, ODOT

John Plecnik, Lake County

Khalil Seren, Mayor, City of Cleveland Ralph Spidalieri, Geauga County

Kim Thomas, Mayor, City of Richmond

Ron Young, Lake County Commissioner

Ex Officio Members:
Kurt Princie, District Chief,
Northeast District
Office, Ohio Environmental
Protection Agency
Ferzan M. Ahmed, P.E., Executive
Director, Ohio Turnpike and
Infrastructure Commission

Grace Gallucci, NOACA Executive Director

May 11, 2022

The Honorable Pete Buttigleg Secretary, US Department of Transportation 1200 New Jersey Avenue SE Washington, D.C. 20590

Support for the Cleveland-Cuyahoga County Port Authority's US Maritime

Administrations FY22 Port Infrastructure Development Program (PIDP) Grant

Application

Dear Secretary Buttigleg:

The Northeast Ohio Areawide Coordinating Agency (NOACA) is pleased to support the Cleveland-Cuyahoga County Port Authority's Electrification and Warehouse A Modernization project application for the U.S. Maritime Administration Port Infrastructure Development Grant Program.

The Cleveland-Cuyahoga County Port Authority's (CCCPA) General Cargo Terminal is the international gateway for cargo entering America's heartland through the Saint Lawrence Seaway System. The Terminal has been in service since the mid twentieth century and requires modernization to continue to support the State and country's twenty-first century economy. Infrastructure investments made within Cleveland's General Cargo Terminal not only strengthen the region's supply chain, but America's ability to move goods to market.

The FY 2022 PIDP MARAD Grant will also help advance the Port's Capital Improvement and Facility Master Plan by addressing their most critical capital investments. This application closely aligns with MARAD's PIDP program objectives of improving the safety, efficiency and reliability of the loading and unloading of goods, operational improvements, environmental and emission mitigation measures, supporting economic vitality at the national and regional level, address climate change and environmental justice impacts, advance equity and opportunity for all, and leverage Federal funding to attract non-Federal sources of infrastructure investment.

This project promotes NOACA's goals for the region to build a sustainable multimodal transportation system that supports economic development and enhanced quality of life. For these reasons, NOACA supports Cleveland-Cuyahoga County Port Authority's Electrification and Warehouse A Modernization project.

Thank you in advance for your consideration.

Respectfully,

Grace Gallucci

Executive Director & CEO

GG/rl 9079s



April 8, 2021

Jared Magyar
Director, Operations & Facilities
Port of Cleveland
1100 W. 9th Street Cleveland Ohio 44113

Re: Warehouse Modernization and Training Center Funding

Mr. Magyar:

I support the Port of Cleveland's work to secure funding for the collective efforts of the Port of Cleveland, International Longshoremen's Association, and PHASTAR's Davis Aerospace and Maritime High School to upgrade Warehouse A to include an innovative maritime training center in Cleveland, Ohio.

As a Northeast Ohio based 501(c)3 nonprofit organization, PHASTAR provides unique, cutting-edge programming in aerospace, maritime and engineering, helping students explore career pathways that will lead them out of generational poverty and set them up for success in life. We believe that this project captures the very spirit of this mission, as its main focus is the education, training, and helping to place Davis A&M students into the fulfilling and in-demand maritime career field.

This team is committed to a regional effort that will not only benefit the students of Davis A&M, but so many others. Our goal is for all students to have a broad range of opportunities and pathways upon graduation. This program has special emphasis on preparing underrepresented individuals for success in the maritime industry.

We strongly encourage favorable consideration of the Port of Cleveland's multi-organizational collaborative to support our maritime industry while improving the lives of students and residents in Cleveland and Northeast Ohio. Please do not hesitate to contact me if you have any questions.

Sincerely,

D. Andrew Ferguson

CEO

PHASTAR Corp.

Founder – Davis Aerospace & Maritime High School

1220 East 222nd Street, Cleveland, Ohio 44117 U.S.A.

www.chesterfieldsteel.com 216-481-6600 216-481-8473 (Fax)

4/26/2022

The Honorable Pete Buttigieg Secretary, U.S. Department of Transportation 1200 New Jersey Avenue, SE Washington, DC 20590

RE: Letter of Support for the Port of Cleveland's Electrification and Warehouse A Modernization Project

Dear Secretary Buttigieg,

On behalf of Chesterfield Steel, I am submitting this letter of support for the Port of Cleveland's Port Infrastructure Development Program grant application for the Electrification and Warehouse A Modernization Project. This grant, if approved, would upgrade and modernize Warehouse A, the main facility used at the Port for the storage of many cargoes that are necessary for the local manufacturing sector in Northeast Ohio. This project would also reduce emissions and increase the efficiency and operational capabilities at the Port of Cleveland.

As the major customer that moves thousands of tons of cargo through the Port of Cleveland, our organization is an important partner in this effort. Chesterfield Steel relies on the efficient and cost-effective movement of cargo on/off international vessels that call on the Port, and through warehouses before arriving at our facility for processing. The efficiency of the supply chain process at the Port of Cleveland in turn adds jobs and economic activity to northeast Ohio.

Chesterfield Steel is highly invested in the success of the manufacturing sector in Northeast Ohio. This project will build upon Northeast Ohio's unique competitive advantages while addressing gaps in the manufacturing ecosystem and pave the way for a sustainable and equitable future. We are confident that the project will help communities across the region to recover and thrive in the wake of the COVID-19 pandemic.

Sincerely,

William Kessler Plant Manager

William Kessler

Email info@logistec.com Phone (216) 502-3716



April 26, 2022

The Honorable Pete Buttigieg Secretary, U.S. Department of Transportation 1200 New Jersey Avenue, SE Washington, DC 20590

RE: Letter of Support for the Port of Cleveland's Electrification and Warehouse A Modernization Project

Dear Secretary Buttigieg,

On behalf of Logistec USA, I am submitting this letter of support for the Port of Cleveland's Port Infrastructure Development Program grant application for the Electrification and Warehouse A Modernization Project. This grant, if approved, would upgrade and modernize Warehouse A, the main facility used at the Port for the storage of many cargoes that are necessary for the local manufacturing sector in Northeast Ohio. This project would also reduce emissions and increase the efficiency and operational capabilities at the Port of Cleveland.

As the terminal operating entity at the Port of Cleveland, our organization is an important partner in this effort. Logistec USA provides the operational expertise related to the movement of cargo on/off international vessels that call on the Port, and the equipment and resources required to efficiently operate the Port, which in turn adds jobs and economic activity to northeast Ohio.

Logistec USA is highly invested in the success of the manufacturing sector in Northeast Ohio. This project will build upon Northeast Ohio's unique competitive advantages while addressing gaps in the manufacturing ecosystem and pave the way for a sustainable and equitable future. We are confident that the project will help communities across the region to recover and thrive in the wake of the COVID-19 pandemic.

Sincerely,

Gary Allport

General Manager, Operations

Logistec USA Inc. Cleveland, OH



JOHN D. BAKER, JR. Secretary-Treasurer

Local No. 1317

GREAT LAKES DISTRICT COUNCIL - ACD

International Longshoremen's Association

Affiliated with AFL-CIO and Canadian Labour Congress

591 Erieside Avenue • Cleveland, Ohio 44114 Telephone: (216) 781-7816

Fax: (216) 781-7818

The Honorable Pete Buttigieg Secretary, U.S. Department of Transportation 1200 New Jersey Avenue, SE Washington, DC 20590

May 3, 2022

RE: Letter of Support for the Port of Cleveland's Electrification and Warehouse A Modernization Project

Dear Secretary Buttigieg,

On behalf of the International Longshoreman's Association, Local 1317, I am submitting this letter of support for the Port of Cleveland's Port Infrastructure Development Program grant application for the Electrification and Warehouse A Modernization Project. This grant, if approved, would upgrade and modernize Warehouse A, the main facility used at the Port for the storage of many cargoes that are necessary for the local manufacturing sector in Northeast Ohio. This project would also reduce emissions and increase the efficiency and operational capabilities at the Port of Cleveland.

As the contracted labor force at the Port of Cleveland, our organization is an important partner in this effort. ILA Local 1317 provides highly trained, skilled, and experienced manpower required for the movement of cargo on/off international vessels, trucks, and rail cars that call on the Port, which in turn adds jobs and economic activity to northeast Ohio.

ILA Local 1317 is highly invested in the success of the manufacturing sector in Northeast Ohio. This project will build upon Northeast Ohio's unique competitive advantages and pave the way for a sustainable and equitable future. We are confident that the project will help communities across the region to recover and thrive in the wake of the COVID-19 pandemic.

Sincerely, Saher Jr

Jöhn D. Baker, Jr.

Vice-President, ILA

President, Great Lakes District, ILA

Sec-Treas, I.L.A. Local 1317

ATTACHMENTS FORM

Instructions: On this form, you will attach the various files that make up your grant application. Please consult with the appropriate Agency Guidelines for more information about each needed file. Please remember that any files you attach must be in the document format and named as specified in the Guidelines.

Important: Please attach your files in the proper sequence. See the appropriate Agency Guidelines for details.

1) Please attach Attachment 1	1235-PIDP FY2022 POC Electrif	Add Attachment	Delete Attachment	View Attachment
2) Please attach Attachment 2	1236-PIDP FY2022 POC Funding	Add Attachment	Delete Attachment	View Attachment
3) Please attach Attachment 3	1237-PIDP FY2022 POC BCA Narr	Add Attachment	Delete Attachment	View Attachment
4) Please attach Attachment 4	1238-PIDP FY2022 POC BCA.xlsx	Add Attachment	Delete Attachment	View Attachment
5) Please attach Attachment 5	1239-PIDP FY2022 POC Workford	Add Attachment	Delete Attachment	View Attachment
6) Please attach Attachment 6	1240-PIDP FY2022 POC Letters	Add Attachment	Delete Attachment	View Attachment
7) Please attach Attachment 7		Add Attachment	Delete Attachment	View Attachment
8) Please attach Attachment 8		Add Attachment	Delete Attachment	View Attachment
9) Please attach Attachment 9		Add Attachment	Delete Attachment	View Attachment
10) Please attach Attachment 10		Add Attachment	Delete Attachment	View Attachment
11) Please attach Attachment 11		Add Attachment	Delete Attachment	View Attachment
12) Please attach Attachment 12		Add Attachment	Delete Attachment	View Attachment
13) Please attach Attachment 13		Add Attachment	Delete Attachment	View Attachment
14) Please attach Attachment 14		Add Attachment	Delete Attachment	View Attachment
15) Please attach Attachment 15		Add Attachment	Delete Attachment	View Attachment

OMB Number: 4040-0004 Expiration Date: 12/31/2022

Application for Fe	ederal Assista	nce SF	-424									
* 1. Type of Submission	n:	* 2. Typ	e of Application:	* If I	Revision, select appropriate letter(s):							
Preapplication		⊠ N∈	ew									
Application		Cc	ontinuation	* Ot	Other (Specify):							
Changed/Correc	ted Application	Re	evision									
* 3. Date Received:		4. Appli	cant Identifier:									
05/12/2022				_								
5a. Federal Entity Ident	tifier:			5	5b. Federal Award Identifier:							
State Use Only:												
6. Date Received by St	tate:		7. State Application	lde	entifier: OH							
8. APPLICANT INFOR	RMATION:											
* a. Legal Name: Cle	eveland-Cuyah	oga Co	unty Port Autho	ri	ty							
* b. Employer/Taxpayer	er Identification Nun	nber (EIN	I/TIN):	_	* c. UEI:							
(b)(4)				ĮL	(b)(4)							
d. Address:												
* Street1:	1100 W. 9th S	treet,	Suite 300									
Street2:												
* City:	Cleveland											
County/Parish:	Cuyahoga											
* State:	OH: Ohio											
Province:												
* Country:	JSA: UNITED S	TATES										
* Zip / Postal Code: 4	44113-1030					_						
e. Organizational Uni	it:											
Department Name:				Ţ	Division Name:							
f. Name and contact	information of pe	erson to	be contacted on ma	atte	ers involving this application:							
Prefix: Mr.			* First Name	e:	Nicholas							
Middle Name:												
* Last Name: LaPo:	inte											
Suffix:												
Title: Director, P	lanning & Car	oital I	Development									
Organizational Affiliatio	on:											
Cleveland-Cuyaho	oga County Po	rt Autl	hority									
* Telephone Number: 216-377-1342 Fax Number:												
*Email: nicholas.	lapointe@port	ofclev	veland.com									

Application for Federal Assistance SF-424
* 9. Type of Applicant 1: Select Applicant Type:
X: Other (specify)
Type of Applicant 2: Select Applicant Type:
Type of Applicant 3: Select Applicant Type:
* Other (specify):
Port Authority
* 10. Name of Federal Agency:
Maritime Administration
11. Catalog of Federal Domestic Assistance Number:
20.823
CFDA Title:
Port Infrastructure Development Program
* 12. Funding Opportunity Number:
MA-PID-22-001
* Title:
2022 Port Infrastructure Development Program Grants
13. Competition Identification Number:
Title:
14. Areas Affected by Project (Cities, Counties, States, etc.):
1234-Areas Affected.pdf Add Attachment Delete Attachment View Attachment
1234 Ateas Affected, put
* 15. Descriptive Title of Applicant's Project:
Port of Cleveland's Electrification and Warehouse A Modernization Project
Attach supporting documents as specified in agency instructions.
Add Attachments Delete Attachments View Attachments

Application	n for Federal Assistance SF-424								
16. Congressi	sional Districts Of:								
* a. Applicant	OH-011 * b. Program/Project OH-011								
Attach an additi	tional list of Program/Project Congressional Districts if needed.								
	Add Attachment Delete Attachment View Attachment								
17. Proposed	Project:								
* a. Start Date:	* b. End Date: 06/30/2027								
18. Estimated	d Funding (\$):								
* a. Federal	27,614,711.00								
* b. Applicant	6,903,678.00								
* c. State	0.00								
* d. Local	0.00								
* e. Other	0.00								
* f. Program Inc	0.00								
* g. TOTAL	34,518,389.00								
_	cation Subject to Review By State Under Executive Order 12372 Process?								
	oplication was made available to the State under the Executive Order 12372 Process for review on Im is subject to E.O. 12372 but has not been selected by the State for review.								
	m is not covered by E.O. 12372.								
* 20. Is the Ap	pplicant Delinquent On Any Federal Debt? (If "Yes," provide explanation in attachment.)								
Yes	No No								
If "Yes", provid	ide explanation and attach								
	Add Attachment Delete Attachment View Attachment								
21. *By signing this application, I certify (1) to the statements contained in the list of certifications** and (2) that the statements herein are true, complete and accurate to the best of my knowledge. I also provide the required assurances** and agree to comply with any resulting terms if I accept an award. I am aware that any false, fictitious, or fraudulent statements or claims may subject me to criminal, civil, or administrative penalties. (U.S. Code, Title 218, Section 1001) ** I AGREE ** The list of certifications and assurances, or an internet site where you may obtain this list, is contained in the announcement or agency specific instructions.									
Authorized Re	depresentative:								
Prefix:	Ms. * First Name: Caroline								
Middle Name:									
* Last Name:	Beck								
Suffix:									
* Title: GI	SIS/Environmental Specialist								
* Telephone Nu	umber: 4193866095 Fax Number:								
* Email: carl	* Email: carly.beck@portofcleveland.com								
* Signature of A	Authorized Representative: Caroline Beck * Date Signed: 05/12/2022								

OMB Number: 4040-0008 Expiration Date: 02/28/2025

BUDGET INFORMATION - Construction Programs NOTE: Certain Federal assistance programs require additional computations to arrive at the Federal share of project costs eligible for participation. If such is the case, you will be notified. c. Total Allowable Costs b. Costs Not Allowable a. Total Cost **COST CLASSIFICATION** (Columns a-b) for Participation Administrative and legal expenses \$ \$ \$ 0.00 0.00 0.00 Land, structures, rights-of-way, appraisals, etc. \$ \$ \$ 0.00 0.00 0.00 Relocation expenses and payments 0.00 0.00 \$ \$ \$ 0.00 Architectural and engineering fees \$ 3,001,599.00 \$ 0.00 \$ 3,001,599.00 5. Other architectural and engineering fees \$ \$ \$ 0.00 0.00 0.00 Project inspection fees \$ \$ 1,500,800.00 \$ 1,500,800.00 0.00 Site work \$ \$ 0.00 \$ 0.00 0.00 Demolition and removal \$ \$ 100,000.00 \$ 0.00 100,000.00 Construction \$ 24,875,861.00 \$ 0.00 \$ 24,875,861.00 10. Equipment \$ \$ 1,125,000.00 \$ 0.00 1,125,000.00 Miscellaneous \$ \$ 0.00 0.00 0.00 SUBTOTAL (sum of lines 1-11) \$ \$ \$ 30,603,260.00 0.00 30,603,260.00 13. Contingencies \$ \$ 3,915,129.00 \$ 3,915,129.00 **SUBTOTAL** 14. \$ 34,518,389.00 \$ 0.00 \$ 34,518,389.00 Project (program) income 15. \$ \$ 0.00 \$ 0.00 0.00 TOTAL PROJECT COSTS (subtract #15 from #14) 34,518,389.00 \$ 34,518,389.00 0.00 FEDERAL FUNDING 17. Federal assistance requested, calculate as follows: (Consult Federal agency for Federal percentage share.) Enter eligible costs from line 16c Multiply X 80 % \$ 27,614,711.20 Enter the resulting Federal share.

DISCLOSURE OF LOBBYING ACTIVITIES

Complete this form to disclose lobbying activities pursuant to 31 U.S.C.1352

OMB Number: 4040-0013 Expiration Date: 02/28/2025

1. * Type of Federal Action:	2. * Status of Federal Action:			3. * Repo	ort Type:
a. contract	a. bid/offer/application			a. in	itial filing
b. grant	b. initial award			b. m	naterial change
c. cooperative agreement	c. post-award				
d. loan					
e. loan guarantee					
f. loan insurance					
4. Name and Address of Reporting	Entity:				
Prime SubAwardee					
*Name Cleveland-Cuyahoga County Port Auth	ority				
*Street 1 1100 West 9th Street			Street 2 Suite 300		
* City Cleveland	State	OH: Ohio			Zip 44113
Congressional District, if known: OH-011					
5. If Reporting Entity in No.4 is Subay	vardoo	Enter Name	a and Address of P	rimo:	
5. If Hoporting Entity III No. 4 13 Subat	varace,	, Litter Hairi	c and Address of F	mic.	
6. * Federal Department/Agency:			7. * Federal Pro	gram Name	/Description:
Department of Transportation/MARAD			Port Infrastructure Development Program		
			,		
CFDA Number, if applicable: 20.823					
8. Federal Action Number, if known:			9. Award Amou	nt, if known:	1
10 a Name and Address of Labbuine	. Dogio	tranti]		
10. a. Name and Address of Lobbying	negis	trant:	- Marine Marine		
Prefix *First Name William Middle Name					
* Last Name			Suffix		
*Street 1 208 King James Road			Street 2		
* City Upper Marlboro	State	MD: Maryland			Zip 20774
opper mariboro		MD: Maryland			20774
b. Individual Performing Services (inclu	iding addre	ss if different from N	No. 10a)		
Prefix * First Name William			Middle Name		
* Last Name			Suffix		
Hanka					
*Street 1 208 King James Road			Street 2		
*City Upper Marlboro	State	MD: Maryland			Zip 20774
11. Information requested through this form is authorized					
reliance was placed by the tier above when the transa the Congress semi-annually and will be available for p					
\$10,000 and not more than \$100,000 for each such fa		, ,			. , ,
* Signature: Caroline Beck					
*Name: Prefix *First Name	Carolin	200	Middle N	lame	
* Last Name	Carolli	ne .		ffix	
Beck					
Title: GIS/Environmental Specialist		Telephone No.:	4193866095	Date: 05/	
Federal Use Only:					Authorized for Local Reproduction Standard Form - LLL (Rev. 7-97)

Areas Affected

City of Cleveland Cuyahoga County State of Ohio