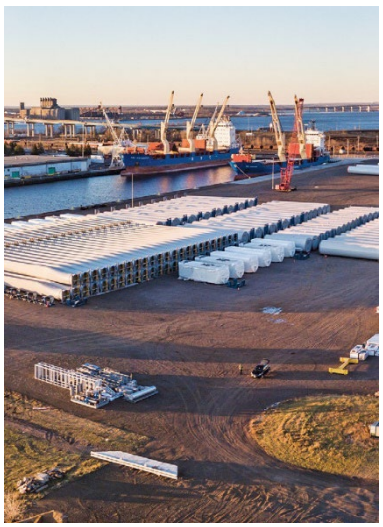
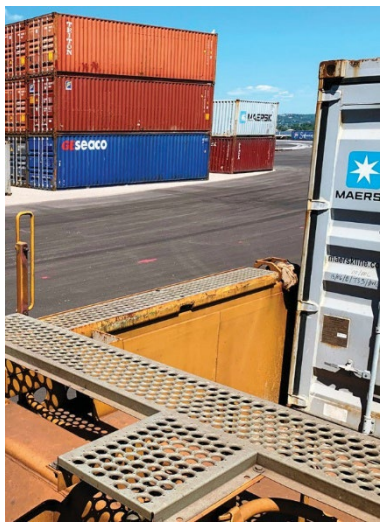
Duluth Port 2023 Intermodal Terminal Expansion

2023 MARAD Port Infrastructure Development Program

Clure Public Marine Terminal
Port of Duluth-Superior





Duluth Seaway Port Authority

Deb DeLuca
Executive Director, Duluth Seaway Port Authority
802 Garfield Avenue
Duluth, MN 55802-2640
Phone: (218) 727-8525
Email: admin@duluthport.com

Table of Contents

Introductory Information 1

I. Project Description 2

II. Project Location 7

III. Grant Funds, Sources and Uses of Project Funds 10

IV. Merit Criteria 12

V. Selection Considerations 17

VI. Project Readiness 22

VII. Domestic Preference 27

VIII. Determinations 27

Attachments

Submitted as Attachments in Grants.gov

- Standard Form 424
- Standard Form 424C
- Project Narrative
- Project Location
- Attachment A. Detailed Cost Estimates
- Attachment B. Funding Commitment
- Attachment C. Letters of Support
- Attachment D. Benefit Cost Analysis and Technical Memo
- Attachment E. Design Plans

Appendix Provided on Applicant Website

https://dpastage.wpengine.com/2023-port-infrastructure-development-program-pidp-grant-application/

- Letters of Support (Attachment C in Grants.gov)
- Design Plans (Attachment E in Grants.gov)
- GHG Emissions Inventory
- Energy Analysis – Electrification and Greenhouse Gas Reduction
- Frontier Energy GHG Reduction Information
- EJScreen Report
- MPCA-Approved Response Action Plan

Introductory Information

Information Requested	Response
Name of lead applicant	Duluth Seaway Port Authority
Is the applicant applying as a lead applicant with any joint applicants?	No
Project name	Duluth Port 2023 Intermodal Terminal Expansion
Project description	This project will construct a new 98,000 square foot on-dock, rail-served warehouse, demolish former grain elevators to create 7.5 acres of new laydown space, and purchase a hybrid-electric mobile harbor crane.
Is this a planning project?	No
Is this a project at a coastal, Great Lakes, or inland river port?	Great Lakes port
Is this project located in a noncontiguous State or U.S. territory?	No
GIS Coordinates (in Latitude and Longitude format)	46.763023, -92.104693
Is this project in an urban or rural area?	Urban
Project Zip Code	55802
Is the project located in a Historically Disadvantaged Community (HDC) or a Community Development Zone (CDZ)? (A CDZ is a Choice Neighborhood, Empowerment Zone, Opportunity Zone, or Promise Zone.)	Yes, this project is located in a Community Development Zone.
Has the same project been previously submitted for PIDP funding?	No
Is the applicant applying for other discretionary grant programs in 2023 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 and TIGER FY 2013.
PIDP Grant Amount Requested	$31,228,000
Total Project Cost	$39,084,000
Total Federal Funding	$31,228,000
Total Non-Federal Funding	$7,856,000
Will RRIF or TIFIA funds be used as part of the project financing?	No

Section I: Project Description

Introduction

The Duluth Seaway Port Authority (DSPA) is requesting grant funds to: a) construct a 98,000 square feet (SF) on-dock, rail-served warehouse on its Berths 8-11 Dock at the Clure Public Marine Terminal (Clure Terminal); b) acquire a 200-ton hybrid-electric mobile harbor crane with the capability of converting to 100% electric; and c) demolish dilapidated grain elevators and prepare the site as a laydown area to be incorporated into the Clure Terminal operations. For ease of access and review, this grant application, supporting documents, and additional information is also available at https://dpastage.wpengine.com/2023-port-infrastructure-development-program-pidp-grant-application/.


Clure Public Marine Terminal

The DSPA is a public agency created by state statute as a special unit of government. The DSPA's mission is to bring business to the port, bring economic development to the region, and advocate for the maritime transportation, freight, and industrial interests. The DSPA owns and operates the Clure Terminal located within the Port of Duluth-Superior. The Clure Terminal is the only heavy-lift and general cargo terminal on the western end of Lake Superior, where private businesses can access the deep-water shipping channels of the Great Lakes/St. Lawrence Seaway System[1] to move their goods domestically and export their goods to international markets.

The Clure Terminal features over 430,000 SF of warehouse space and 40 acres of outdoor storage. The terminal is directly served by four Class-1 Railroads through a unique switching agreement. With its strategic location adjacent to an interstate highway, two US highways and direct rail connections to four carriers, an intermodal terminal, and truckers' services, the Clure Terminal is a full-service multimodal logistics hub connecting both surface and maritime transportation modes.

Traditionally, Clure Terminal maritime cargos have included breakbulk and general, heavy-lift cargo and machinery for the mining, oil and gas production, construction, wind energy, pulp and paper, and energy transmission industries. Storage of these cargos requires outdoor laydown areas. Non-maritime (rail-car, truck and intermodal) cargo tonnage through the Clure Terminal, which has grown by over 400% since 2007, includes raw materials and finished goods associated with regional industries; storage of these cargos generally requires the indoor warehouse space.

Through recent investments in infrastructure and capabilities to meet Homeland Security requirements, the Clure Terminal is only the second US Great Lakes port capable of handling

[1] https://greatlakes-seaway.com/en/navigating-the-seaway/seaway-map/

maritime containers. Starting in May 2023, the Dutch shipping company, Spliethoff, will provide a dedicated monthly liner service connecting Duluth to Antwerp, Belgium, a major gateway to significant markets in Europe and North Africa.

Statement of Work - Proposed Project Components

1. Warehouse Construction

Example of warehouse at Clure Terminal

The proposed 98,000 SF warehouse at the Berths 8-11 Dock (Berth 10 Warehouse) will feature seven truck docks and approximately 10,000 SF of enclosed rail dock which will accommodate approximately three rail cars for loading and unloading, and an additional track for staging nine rail cars. The new warehouse will provide additional capacity to support regional manufacturers' supply chain logistics, transferring various raw materials and finished goods between maritime, truck, rail car and intermodal container modes of transportation.

The construction design will be similar to that of the East Annex Warehouse Expansion (currently under construction), utilizing a pre-engineered rigid steel and column supported frame system with clearance heights of 20 feet minimum at the low slope side of building and 29 feet at the peak. Steel pilings will be used to support the foundations at the column locations and at the expanded loading dock platforms. The main floor will be constructed of 7-inch structurally reinforced concrete slab for the majority of the warehouse area. The floor will be elevated approximately 4 feet above the surrounding grade to provide for the rail dock to accommodate rail cars, and truck loading docks, each with drive-in ramps and overhead doors to accommodate semi-trucks.

In addition to building construction, this component includes the grading, utilities and necessary surface components for the new warehouse. Engineering design work for the building and utilities is approximately 30% complete.

2. Hybrid-Electric Mobile Harbor Crane

Mobile Harbor Crane Example

A new hybrid-electric mobile harbor crane will be acquired to meet the demand for heavy-lift project cargo as well as maritime shipments of containerized materials for regional manufacturing (generally raw materials and semi-finished goods in-bound and finished goods for export). The smart crane features, connectivity, and digitalization, combine for great performance and safety. In addition to being fitted to operate 100% on shore power, the crane utilizes a regenerative braking system that injects the power generated during the braking phase of all crane movements back to the plant grid. The hybrid-electric mobile harbor crane will provide the mobility and flexibility needed for cost-effective and efficient operation at the Clure Terminal. The crane is a reliable high-performance cargo handling machine for all types of cargo – from containers to general and project cargo to bulk materials in

super-sacks, and advances DSPA's carbon reduction efforts by replacing diesel powered equipment. The crane acquisition will include professional training for new technology serviceability and safety. The crane acquisition details are based on quotes from a crane manufacturer and a freight forwarder.

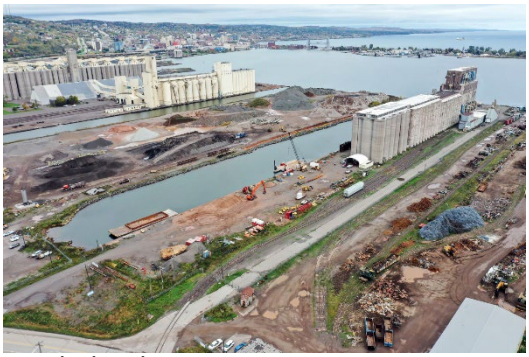
3. Duluth Lake Port Elevator Demolition and Laydown Area Construction

On the shared dock adjacent to the Clure Terminal, the Duluth Lake Port facility is strategically positioned in a premier location near the terminal, immediately adjacent to the federal navigation channel, and less than a mile inside the Port of Duluth-Superior's Duluth Entry. The DSPA acquired the property in December 2019 and intends to redevelop the 7.5-acre site as an expansion of the Clure Terminal, serving in the interim as laydown space to support the current multi-modal logistics hub service model and to off-set loss of laydown space to construction of the proposed warehouse. Long range plans include acquisition of the entire dock, which is currently shared with a metal recycling facility.

As noted in the Transportation Challenges and Opportunities section below, laydown capacity and site flexibility to support current and future business growth is lacking. The improved Duluth Lake Port site will be ideal to support new initiatives as these opportunities arise.

The following elements will be completed as part of the proposed project: a) hazardous materials abatement; b) demolition of existing site buildings, including outmoded, dilapidated grain elevators; c) recycle all concrete recovered from the demolition for reuse onsite; and d) deck restoration and installation of utilities to create a 7.5-acre laydown area.

The hazardous materials building survey has already been completed and the design work associated with this component is approximately 20% complete.



Duluth Lake Port site

Laydown Area

Transportation Challenges and Opportunities

Lack of Warehouse Space to Fully Support Current and Future Customer Supply Chains

Even after the current 56,000 S.F. warehouse expansion is complete in fall 2023, the Clure Terminal remains over-sold on warehouse space. As detailed below, the success of the CN Duluth Intermodal Ramp, and the unexpectedly high percentage of upper Midwest customers seeking to use our warehouse facilities to improve their overall supply chain costs has led to a run on DSPA warehouse space. As a result, we are limiting warehouse space available to current

customers, and currently turning away or delaying new customers seeking to use our warehousing services. In the last 5 years alone, Clure Terminal operations has had to restrict in excess of 10 existing customers from sending more product via the facility and to outright deny several prospective customers from taking advantage of supply chain service offerings at the terminal. Lost revenue from incremental growth of existing customers tops half a million dollars annually and new business turned away represents an impact of more than $2 million in lost revenue annually. The DSPA is working to create and realize these opportunities, and provide supply chain savings that keep regional industries competitive. Additional warehouse space is a critical element in making this happen. Further opportunities for expanded trade throughout the terminal are detailed in Section IV.

Heavy Lift Capacity is Aged, Lacking in Capacity and Function, and Carbon-Based

Heavy lift equipment at the Clure Terminal currently consists of a 16-year old diesel-powered 300-ton Manitowoc 2250 crawler crane that has limited mobility and must be disassembled and trucked any significant distance around the terminal, and the twin 90-ton rail-mounted gantry cranes that are nearly 60 years old. The electric powered gantry cranes were rebuilt in 2008 and availability of repair parts is extremely limited which creates resiliency and reliability concerns. Additionally, the gantry cranes are essentially immobile as they are limited to the track section at Berth 1. Continued demand for heavy-lift projects as well as maritime shipments of materials for regional manufacturing routinely outpaces onsite crane capacity. The temporary solution has been costly crane rentals. The available rental cranes are limited to diesel-powered which increases our carbon footprint and are slow to mobilize which reduces efficient movement of cargos at the terminal. A new Hybrid-Electric Mobile Harbor Cranes is needed to maintain reliable, efficient heavy-lift capacity and support the heavy lift equipment transition to carbon-free energy sources.

Laydown Capacity and Site Flexibility to Support Business Growth is Lacking

The DSPA and its operating agent are often involved in regional business development discussions with prospective industries and manufacturers. We currently do not have the space to commit long-term to support opportunities currently under development. Examples under consideration include green energy initiatives such as hydrogen fueling, and developing cargos such as precious metals concentrate, alternative energy storage (battery technology), new natural resource products, and other large ship-borne products. In addition, the proposed new warehouse space will consume over 3.5 acres of existing laydown area, thus exacerbating the problem.

Decarbonization of the U.S. economy will create new demands for port services and the DSPA is preparing for the future. The DSPA must create new space for these materials to ensure timely and successful implementation of green energy initiatives. The removal of the dilapidated former grain elevators and preparation of the site for laydown space sets the stage for DSPA to meet the growing demand. In the interim, the laydown area will help offset the loss of space from the new warehouse construction.

Project History – Infrastructure Investments and Improvements

The DSPA is currently implementing its Duluth Port Logistics Hub 2020 Revitalization & Expansion Project funded in part by the 2019 MARAD PIDP grant program. This $20.3M ($10.5M PIDP) project includes the 58,000 SF East Annex Warehouse Expansion currently under construction that will increase our total warehouse space from 430,000 SF to 486,000 SF. Additionally, the project will reconstruct the entire dock wall on Berth 10 (approximately 600') and a 250'-300' section of the Berth 11 dock wall.

Available Services at the Clure Public Marine Terminal and CN Duluth Intermodal Ramp:

- Twin, rail-mounted gantry cranes; each 90-ton (81-mt) lift capacity, 130 –ton (120-mt) in tandem
- Equipment for efficient ship loading and discharge and for container lifting and transfer
- 430,000 SF of indoor storage and over 40 acres of secure outdoor storage space to handle all types of warehousing and distribution needs
- Container stuffing and de-stuffing, including crating, skidding, bundling, bulk loading, and overhead crane functionality
- Overweight container handling for cost-effective rail moves
- A certified truck scale to ensure SOLAS VGM compliance
- Customs and border protection processing facility on-site
- TRAC chassis pool on site for hire on intermodal moves
- Foreign trade zone #51, including duty free storage and staging
- Tier II warehouse management software for inventory control
- Quality work force recognized for their professionalism, cargo handling expertise, attention to detail, and unwavering commitment to customer satisfaction across all industries sectors

In 2016, the DSPA completed the reconstruction and modernization of a dilapidated former grain dock, a $17.7M redevelopment project funded by a USDOT TIGER Grant, State grants (MN DOT and MN Department of Employment and Economic Development), and DSPA port funds. This project added 28 acres of maritime cargo handling and outdoor storage space and Berths 8-11 to the Clure Terminal. The TIGER Grant project included the reconstruction of 1,700 feet of dock wall and the addition of a heavy-lift dock along Berths 8 and 9 (with twice the load-bearing capacity of existing berths), but did not include funds for the reconstruction of Berths 10 and 11. The project also included the addition of on-dock rail, the construction of a new roll-on-roll-off dock, new deck, stormwater management features, environmental cleanup, lighting, fencing and a guard shack. The additional outdoor storage space created by the TIGER project freed up space on the original Clure Terminal, which provided the opportunity to attract an intermodal terminal. To prepare for the intermodal terminal, the DSPA built a circulation and hauling access road to improve traffic flow, added a scale and trucker's lounge, security fencing and lighting; this $2.8 M project was funded by DSPA port funds and a State MN DOT grant. Finally, the DSPA built out existing warehouse space to meet U.S. Customs and Border Protection international container examination facility requirements.

In March 2017, Canadian National (CN), in partnership with the DSPA, officially opened the new "CN Duluth Intermodal Ramp." The Intermodal Ramp is located on the Clure Terminal, and is directly served by CN Railway. The Intermodal Ramp provides regional shippers with direct service to six ports on the East, West, and Gulf Coasts (Figure 3). A $3.1M expansion of the Intermodal terminal was completed in July 2019 with funding from DSPA port funds and a MN DOT grant, adding 2,600 feet of track and six acres of new surface (paved and crushed concrete).

Performance at the CN Duluth Intermodal Ramp has exceeded expectations, and has put pressure on our existing warehouse space. The geographic "catchment area" is much larger than expected, extending east into northern Michigan, west to eastern Montana, and south of the Twin Cities into Iowa. Original expectations were for the catchment area to extend from just north of the Canadian border to just north of the Twin Cities, and from northeastern Wisconsin to Bismarck North Dakota. In addition, the range of customer types is broader than originally expected and they are asking us for value added services on over 90% of the containers, well over the predicted 25%. In the end, Customers have achieved real economic saving. Initial feedback from terminal customers indicates the efficiencies described above have saved them as much as a third of their freight costs. This cost savings and efficient handling of freight allows regional businesses to be more competitive in global markets and opens possibilities for business expansion in the region. As noted above, the DSPA made significant investments in infrastructure and capabilities to meet Homeland Security requirements so the Clure Terminal is capable of handling maritime containers.

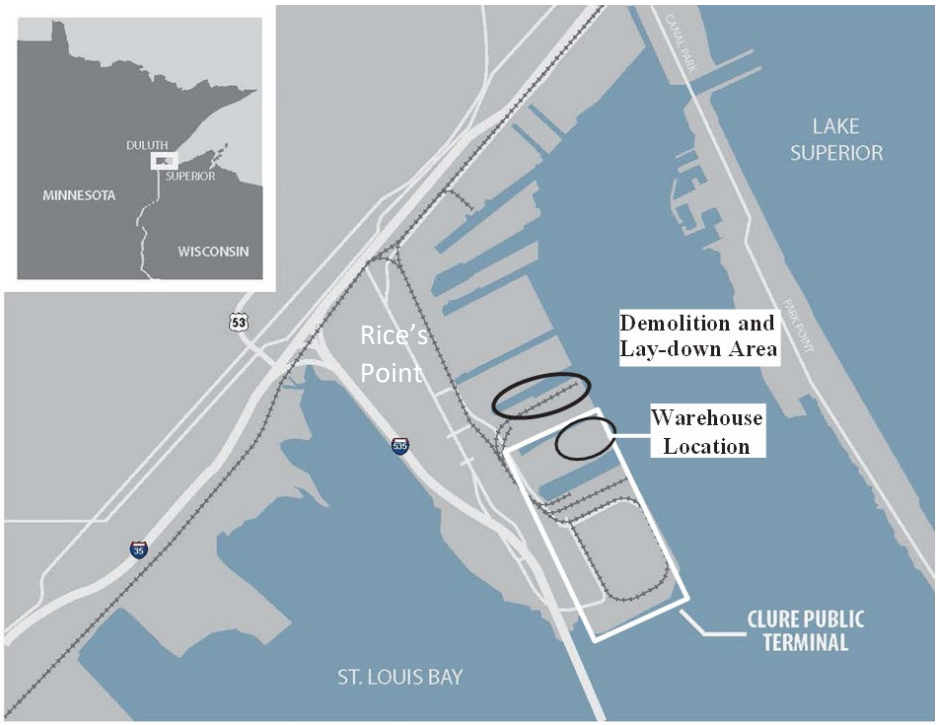
The DSPA is near completion of a FEMA Port Security Grant project to expand and modernize the security surveillance system at the Clure Terminal. Working with local law enforcement, the system is designed to cover the entire terminal, and the surrounding harbor, including vulnerable locations such as bridges, convention center and the hospitality/tourism district. Local law enforcement will have direct access to the system that increases terminal and port resilience.

The DSPA has also recently invested in expanded lift capacity. A new "reach stacker" for lifting containers at the Intermodal Terminal was purchased at a cost of $800K in February 2020.

Section II: Project Location

The proposed project will improve the DSPA's Clure Terminal, which is comprised of 60 acres of land on Rice's Point (an industrially-zoned peninsula within the Duluth-Superior Harbor) within the Lincoln Park Neighborhood in Duluth, Minnesota.

Figure 1. Project Location



Project Area Demographics and Impacts

Duluth Seaway Port Authority Clure Public Marine Terminal	
Project Location	Duluth, MN
Project Classification	Urban
Port Type	Great Lakes
Small Port	No
HDC	No
CDZ	Yes, Opportunity Zone
Opportunity Zone ID	27137015600
Census Tract	CT 156, St. Louis County
Area of Persistent Poverty	Yes

The City of Duluth's economic base grew up around shipping, railroad activity and natural-resource based industry from the mid-1800s through the 1960s. Key industrial employers experienced a significant decline in the 1970s through 1980s. Famously, in the early 1980s, a billboard stood for a time at the western end of town, reading: "Will the Last One to Leave Duluth Turn Out the Lights?" Since that time, the City has methodically rebuilt its economic base, focusing on the health care, education, industry, shipping and tourism sectors. Duluth's economy is now more diversified, and its population, after plunging from a high of 106,884 in 1960, has stabilized to around 86,000 (86,697 in 2020; US Census records). See project site specific attributes in adjacent table.

The project is located on Rice's Point, within the larger Lincoln Park Neighborhood. The project and Rice's Point are fully within Census Tract 156, the remaining Lincoln Park Census Tracts include 020 and 024, all in St. Louis County. The whole of Lincoln Park is designated as an "Area of Persistent Poverty" under the Bipartisan Infrastructure Law; this indicates that this Census Tract has had a poverty rate of at least 20% as measured over a five-year period from American Community Survey data. The Environmental Protection Agency's EJScreen tool (https://www.epa.gov/ejscreen) reflects that the people living in the vicinity of the project location are economically distressed: 40% of people in Census Tract 156 and 53% of Lincoln Park residents live in low income households. The immediate project area (CT 156) and all of Lincoln Park also face much higher unemployment rates in comparison to the rest of Minnesota and the United States. The table below provides socioeconomic data points for both Census Tract 156 and for Lincoln Park (aggregated) from EJScreen:

Table 1. EJScreen Socioeconomic Indicators

Socioeconomic Indicators	Percentile in Minnesota: CT 156 / Lincoln Park	Percentile in United States CT 156 / Lincoln Park
People of Color	66th / 62nd	40th/ 37th
Low Income	83rd/ 92nd	68th/ 82nd
Unemployment Rate	84th / 88th	72nd / 77th
Limited English Speaking Households	78th / 72nd	65th / 60th
Low Life Expectancy	99th / 98th	99th / 92nd

Within Census Tract 156, both natural features and current land use and infrastructure create a distinct separation between Lincoln Park residents (including those living within the Census Tract) and the industrial/port activities on Rice's Point. The surface transportation network, including I-35 in particular, creates a physical barrier northeast of the Duluth-Superior Port.

People living near the project site face challenges in having access to good-paying jobs. The U.S. Bureau of Labor Statistics (BLS) evaluated Occupational Employment and Wages in Duluth in May of 2021 and found that average hourly wages in Duluth were 10% below the nationwide average. Low wages cause hardships for many families facing higher housing and other household costs and contribute to negative outcomes for residents, including in health indicators such as life expectancy. The proposed Project will help address these inequities as further described in Section V.

Transportation Connections

The Port of Duluth-Superior is the largest port on the Great Lakes and the 19th largest port in the US by tonnage. Located at the western tip of Lake Superior, at the head of the Great Lakes St. Lawrence Seaway System, the Port is mid-America's gateway to global trade. It serves as a hub for domestic and international cargo, and it is the largest maritime gateway for US trade with Canada. On average, 35 million tons of cargo moves through the port annually. As of 2018, maritime shipping within the Port generated over 7,800 direct and induced jobs and over $1.4 B in economic activity[2].

Figure 2. Direct Access to Four Class I Railroads

There are twenty-one port terminals distributed on the Duluth, Minnesota and Superior, Wisconsin sides of the harbor. The majority of the Duluth terminals, including the Clure Terminal, are located on Rice's Point at the center of the Harbor. The Clure Terminal boasts 11 Seaway-depth shipping berths with direct access to the federal navigational channel. The Clure Terminal features direct access to four Class I rail carriers [Canadian National (CN), Burlington Northern Santa Fe (BNSF), Canadian Pacific Kansas City (CPKC), and Union Pacific (UP)] through a highly unique and beneficial switching agreement, as well as uncongested direct access (less than half a mile) to I-535 and I-35, a principal international trade corridor, and US 53, and US 2 (Figure 2). As further detailed in the previous section, the Clure Terminal functions as a multi-modal logistics hub, connecting surface and maritime transportation modes.

The CN Duluth Intermodal (container) Terminal is located on the Clure Terminal, and is directly served by CN Railway. The Clure Terminal is located in the center of CN Railway's North American Intermodal network that runs between Prince Rupert and Vancouver to the west; Chicago, Halifax, Nova Scotia, and Montreal to the east; and New Orleans and Mobile to the south (Figure 3). The Duluth Intermodal Terminal is the only container terminal in the Minnesota market that provides shippers with direct service to the East, West, and Gulf Coast

[2] http://www.duluthport.com/uploads/Duluth_Superior_Port_Econ_Impacts_Full_Report_Aug2018.pdf.

Figure 3. Intermodal Container Terminal Access to Three Coasts

ports, and direct access to Asian markets. In 2022, the Clure Terminal became only the second US Great Lakes port capable of handling maritime containers, and starting in May 2023, the Dutch shipping company, Spliethoff will provide a dedicated monthly liner service connecting Duluth to Antwerp, Belgium, a major gateway to significant markets in Europe and North Africa. Please see Section I for additional information on the Clure Terminal's transportation assets.

The Clure Terminal operating agent employs 47 people, expected to grow by 10 with successful funding of this project. Most employees drive to work, and the terminal is also easily access via public transportation. The Duluth Transit Authority (DTA) is one of the most technologically sophisticated transit systems in the country. The DTA provides bus service in Duluth, Proctor and Superior, Wisconsin, including multiple routes that directly serve Rice's Point. The DTA maintains a modern fleet of transit buses that includes diesel, electric and hybrid-electric buses. [see https://www.duluthtransit.com/home/about/about-dta/]

Figure 4.

Duluth-Superior Harbor

Section III: Grant Funds, Sources, and Uses of Project Funds

Detailed cost estimates are provided for all components of the proposed 2023 Duluth Port Intermodal Terminal Expansion project in Attachment A and are summarized in Table 2. The background on cost estimates are provided for each project component below:

Component 1: On-dock, rail-served warehouse (98,000 S.F.)

2.a. Warehouse construction – this cost estimate was prepared by the Architect of Record for our East Annex Warehouse Expansion project which is currently under construction.

2.b. Civil/utilities for warehouse – the cost includes the necessary civil engineering and utilities, including accommodations for rail, and is based on 30% engineering design.

Component 2: Hybrid-electric mobile harbor crane – this cost estimate is based on quotes from a crane manufacturer and a freight forwarder and includes the shipping and anticipated taxes and fees.

Component 3: Demolition and Laydown area preparation

1.a.: Demolition of former grain elevators – this cost estimate consists of sub-contract quotes compiled by a general contractor with extensive experience with similar scale projects. The cost includes hazardous materials abatement prior to demolition and beneficial reuse of the crushed concrete on-site. The estimate also includes engineering support services such as NEPA review, permitting, plans and specifications, and construction oversight.

1.b. Civil/utilities to support laydown and tenant use – the cost estimate is based on 20% engineering design.

Table 2. Project Budget

Fund Source	**Project Component Costs**			
	On-dock, Rail-served Warehouse	**Hybrid-Electric Mobile Harbor Crane**	**Demolition/Laydown Area Preparation**	**Total**
PIDP Funds:	$17,233,000 (79.9%)	$6,617,000 (79.9%)	$7,378,000 (79.9%)	$31,228,000(79.9%)
Other Federal Funds:	$0	$0	$0	$0
Non-Federal Funds: DSPA	$0 (0%)	$1,664,000 (20.1%)	$0 (0%)	$1,664,000 (4.3%)
Non-Federal Funds: PDAP	$4,336,000 (20.1%)	$0	$1,856,000 (20.1%)	$6,192,000 (15.8%)
Total	$21,569,000	$8,281,000	$9,234,000	$39,084,000
Federal Funds (PIDP): 79.9%	**Non-Federal Funds (DSPA and PDAP): 20.1%**			

Table 2 describes the proposed project budget. No funds for previously incurred costs are being sought. This project is located entirely within one census tract (CT 156) and within an urbanized area.

Of the $7,856,000 (20.1%) non-Federal share, $1,664,000 (4.3%) is comprised of committed DSPA funds committed to the project. See attached budget statement showing restricted funds dedicated to the project [Attachment B].

The remaining $6,192,000(15.8%) is comprised of expected Port Development Assistance Program (PDAP) grant funds administered by the Minnesota Department of Transportation. The PDAP program is a competitive grant program that supports port infrastructure improvements at publicly owned port facilities. The warehouse construction and demolition/laydown area preparation are considered eligible expenses under PDAP. The hybrid-electric mobile harbor crane eligibility under the PDAP is uncertain, therefore the match for that project component will be paid by the DSPA. State PDAP funds are required to be used within four years following

execution of a grant agreement. We do not anticipate this limitation to be a problem, however, time extensions are available in the unlikely circumstance of significant delays.

The DSPA fully expects to be awarded the PDAP funds listed in Table 2. These funds are available most years and are queued up in the Minnesota House and Senate bonding bills for the current FY2023 legislative session. The DSPA has a long-term record of success in securing PDAP funding: the DSPA has received over $25.4M in PDAP funds to accomplish over $66.4M in projects since the program's inception in 1998. PDAP grant applications are generally due in September for award in January; the DSPA plans to apply for these funds in September 2023 for award in January 2024. The attached letters of support [Attachment C] from key state legislative committee chairs and Minnesota Department of Transportation, the department that administers the PDAP program, provide further confidence in the DSPA's ability to procure additional PDAP funds. While the DSPA is confident that the PDAP funds will be realized for this project, we are able and willing to commit the entire $7.856 million non-federal match to ensure full project funding.

Recent infrastructure improvements at the Clure Terminal are summarized in Section I. In total over the past eight years, the DSPA completed over $52M in capital investments in infrastructure projects and lift capacity; of this $30M was DSPA funds.

The DSPA has been awarded and managed more than 30 grant projects to completion since 1999 and has partnered with state and federal agencies to sequentially grow and expand the Clure Terminal logistics hub services and capabilities as part of their vision and long-term strategy to contribute to the economic vitality of the region and country. The DSPA is a proud steward of public investment.

Section IV: Merit Criteria

(1) Achieving Safety, Efficiency, or Reliability Improvements

The three proposed project components collectively improve safety, efficiency and reliability of the movement of goods through the terminal. The following describes how each component contributes to these collective benefits. The Benefit Cost Analysis Technical Memo [Attachment D] provides further details.

<u>On-Dock, Rail-Served Warehouse:</u>

The current warehouse space is so heavily utilized that storage patterns often result in narrow drive lanes for equipment operators. Narrow lanes increase the risk of forklift accidents and higher stacking increases toppling potential. Overfilling warehouses also causes concern related to the sufficiency of the floor strength to withstand the weight of the stored cargo. The new warehouse will increase safety by helping to meet the growing warehouse demand and ensuring wider drive lanes and appropriate floor capacity not only in the new warehouse, but also within the other existing Clure Terminal warehouses.

The new warehouse space addresses the urgent needs of current customers and potential future customers by providing capacity to fully support their supply chains. As discussed in Section I, additional business is frequently turned away due to lack of capacity.

The on-dock, rail-served warehouse substantially increases efficiency and reliability by ensuring this needed amenity (warehouse space) is available at the Clure Terminal, reducing trucking trips to off-site warehouse space in the Duluth area and beyond. Lack of available warehouse space in the Duluth area causes customers to warehouse materials and products as far away as the Minneapolis-St. Paul area (150 miles), resulting in hundreds of additional truck miles per year. The current situation of oversold warehouse space prompts the DSPA to find interim solutions, including a combination of limiting customer service, leasing additional warehouse space in the Duluth area, and renting hundreds of containers for storage at the Clure Terminal each month to meet growing customer demand. These temporary solutions are not efficient or reliable, coming at the cost of high rents, lost time in additional trucking, and inefficient operations as temporary solutions are juggled for customers. The on-dock, rail-served warehouse will provide safer conditions for employees and increase efficiency and reliability for DSPA and customer operations. Figure #5 below shows actual business opportunities, most of which had to be turned away due to lack of available warehouse space, and reflects future growth opportunities for the new warehouse.

Figure 5. Business Growth Opportunities

Scenarios	Requires Warehouse or Laydown Space	Container Count	Throughput Increase (MT)	Wharfage	Product Handling Revenue Increase	Product Storage Revenue Increase	Ancillary Gross Revenue (Lift/Freight Mgmt)	Total Gross Rev (Hdlg/Stg/Anc)	Total Net Rev (Hdlg/Stg/Anc)
General Warehousing									
A. Paper Mill Support Services (pulp/paper)	*Warehouse*	N/A	60,000	N/A	$ 414,800	$ 319,200	$ -	$ 734,000	$ 107,604
B. Retail Distribution Center	*Warehouse*	N/A	15,600	N/A	$ 240,552	$ 84,240	$ -	$ 324,792	$ 173,959
C. Manufacturing Support Services - Client 1	*Warehouse*	N/A	2,600	N/A	$ 80,600	$ 67,600	$ -	$ 148,200	$ 79,376
D. Manufacturing Support Services - Client 2	*Warehouse*	N/A	45,760	N/A	$ 551,200	$ 270,000	$ 540,800	$ 1,362,000	$ 383,099
E. Manufacturing Client 3 - Incremental Growth	*Warehouse*	N/A	6,240	N/A	$ 49,621	$ 150,322	$ -	$ 199,943	$ 56,904
Warehousing Subtotals:		**0**	**130,200**	**0**	**$ 1,336,773**	**$ 891,362**	**$ 540,800**	**$ 2,768,935**	**$ 800,941**
Maritime									
A. Import Barite	*Warehouse*	N/A	30,000	$ 27,000	$ 829,000	$ 87,600	$ -	$ 943,600	$ 303,945
B. Maritime Container Growth	*Laydown*	1,800	36,000	$ 87,480	$ 702,000	$ 94,500	$ -	$ 883,980	$ 353,327
C. Clay Slurry Facility	*Warehouse*	N/A	55,000	$ 49,500	$ 1,436,400	$ 208,420	$ -	$ 1,694,320	$ 713,194
D. Export Wood Chips	*Laydown*	N/A	180,000	$ 144,000	$ 1,494,000	$ 144,000	$ -	$ 1,782,000	$ 585,749
E. Outdoor Cargo - Laydown Yard Gain	*Laydown*	N/A	74,231	$ 66,808	$ 935,478	$ 21,368	$ -	$ 1,023,654	$ 363,219
Warehousing Subtotals:		**1,800**	**375,231**	**374,788**	**$ 5,396,878**	**$ 555,888**	**$ -**	**$ 6,327,554**	**$ 2,319,433**
Maritime/Intermodal Blended Opportunity									
A. Export Concentrate	*Laydown*	**12,305**	**267,913**	**$ 120,561**	**$ 3,335,990**	**$ 252,000**	**$ -**	**$ 3,708,551**	**$ 1,555,752**
GRAND TOTALS:		***14,105***	***773,343***	***495,348***	***10,069,641***	***1,699,250***	***540,800***	***12,805,040***	***$ 4,676,127***

Hybrid-Electric Mobile Harbor Crane:

The new crane provides increased safety for port operations because of its modern technology, flexibility, reach, and weight capacity. Currently, operators have to mobilize and deploy multiple pieces of equipment when heavy or large cargo is being moved, which increases the potential for worker injury. The new crane will be able to manage this specialized cargo without necessitating additional rental equipment.

The crane improves efficiency and reliability by replacing the need to mobilize and demobilize rental equipment (see BCA discussion) while also providing redundancy for the aging twin gantry cranes that are almost 60 years old. Repair parts for the gantry cranes are very difficult to locate. The crane also increases efficiency by being able to load and unload ships faster, reducing the time this takes by an estimated 10%. This results in efficiencies for port employees and the

shipping companies because dwell time is reduced. As mentioned, reliability is gained by eliminating the need to rent other equipment, which may not always be available or timely for DSPA needs.

Grain Elevator Demolition and Laydown Area Preparation:

The removal of the former grain elevators increases safety by eliminating the risk of a serious injury or death of someone trespassing at the site. As is often the case with older structures, the building has become attractive to "urban explorers" and people climbing the structure for the vantage point to take photos. This activity is extremely dangerous and the DSPA has attempted to secure the site against such activity, however the trespassing still occurs on a frequent basis, particularly at night when the activity is especially precarious. The risk of injury is not only due to the real possibility of a misstep that causes a fall, but also the poor condition of the building which could result in building material failure or materials separating from the structure causing injury or worse for those at the site. This safety risk extends to DSPA employees and law enforcement officers who need to address the situation and safely remove the trespassers from the property. Removing the attractive nuisance will ensure the proper disposal of the asbestos – and other hazardous materials – containing materials within the building and will eliminate the current safety risks while creating a new laydown area that provides adequate spacing for port operations to occur safely.

The elevator demolition and laydown area preparation plays a key role in the efficiency and reliability of cargo movements at the Clure Terminal. The new on-dock, rail-served warehouse construction unavoidably consumes over 3.5 acres of valuable on-dock laydown area. The new laydown area at the elevator location replaces the loss and grows on-dock laydown at the Clure Terminal allowing for continued efficient placement of oversize cargos that require complex handling. The additional laydown area assures the Clure Terminal can reliably support current and future business growth detailed in Figure 5.

(2) Supporting Economic Vitality at the Regional or National Level

The Benefit Cost Analysis (BCA) completed for this project found that the project benefits exceed the cost for not only the project as a whole, but also for each individual project component. The overall Benefit Cost Ratio (BCR) for the entire project is 4.73. The BCA Technical Memo in Attachment D provides further detail and analysis. The full project also results in benefits that are not included in the BCA, including the creation of dozens of good-paying construction jobs, the creation of 10 permanent, high-quality, good paying jobs at the Clure Terminal, and supported industrial jobs. This project will support industries in the region and facilitate business expansion within industries that are known to pay higher than average wages. See study of Duluth's Industrial Sector at https://duluthport.com/news/updated-study-reveals-increasing-benefits-from-industrial-sector/. The construction of the project will also

result in benefits for DBE, MBE, and WBE companies through DSPA's commitment to contracting or sub-contracting to these firms. An investment of PIDP funds into this project helps to advance the vision of the DSPA to ensure the Clure Terminal is an intermodal transportation asset for not only the Duluth-Superior region, but for our nation. The benefits of each project component are further discussed below.

On-dock, rail-served warehouse:

The BCR for this component is 2.08. Key benefits of this project component include increased safety for warehouse employees, increased warehouse volumes, the value of time savings and emissions reduction benefits from reducing on-road truck traffic, and the savings that will occur through not renting additional off-site warehouse space and containers to meet customer needs. A conservative estimate based on current customer data suggests the 88,000 SF of warehouse space (10,000 covered rail section subtracted) would support $2.1 million in annual economic activity. This estimate is based on the "Economic Impacts of the Port of Duluth-Superior" study at https://duluthport.com/community/economic-impact/

Hybrid-electric mobile harbor crane:

The BCR for this project component is 5.17. Key benefits of purchasing a hybrid-electric mobile harbor crane includes a 10% reduction in dwell time for ships loaded and/or unloaded using the new equipment and the resulting emissions reduction, along with the emissions reductions from operating the crane.

Demolition and laydown area preparation:

The BCR for this project component is 2.26 and key benefits include eliminating the substantial safety risk of a serious injury or death, increased freight volumes, and the value of time savings by not having customer utilize the Port of Milwaukee if their specialized cargo cannot be accommodated at the Clure Terminal.

(3) Leveraging Federal Funding to Attract Non-Federal Sources of Infrastructure Investment

This project will directly leverage $7,856,000 in non-federal funding, of which $1,664,000 is committed by DSPA and $6,192,000 will be provided through the Port Development Assistance Program. This represents a non-Federal share of 20.1%. As further described in Section III, the DSPA is including the pending PDAP funds as match for this funding application due to DSPA's long-term record of success in securing PDAP funding and the State of Minnesota's demonstrated desire to cooperate with DSPA on Federally funded projects, including the TIGER grant completed in 2016 and the 2019 PIDP project currently under construction. The attached letters of support [Attachment C] provide further confidence in DSPA's ability to

procure additional DPAP funds. However, should these funds not be awarded, or be awarded at a lower level than shown in Table 2, additional DSPA funds will be used to fill the resultant gap in the budget.

As part of their long-term strategy to grow flexible supply-chain options, DSPA has undertaken more than $25 million in infrastructure and lift capacity project improvements over the past five years, which includes more than $9 million in DSPA funds.

(4) Port Resilience

DSPA has taken sequential strategic steps over the past 15 years to improve port infrastructure in order to expand service offerings and operations so that customers have the options that best support their shipping needs. The result of this effort has been a 400% increase in non-maritime cargo tonnage through the Clure Terminal and consistently oversold warehouse space, including the 56,000 square feet of warehouse space currently under construction. This proposed project is critical to furthering DSPA's long term strategy, with each project component improving the Port's resilience through efficiency, capacity increase, and diversity in options for current and future customers. The added laydown space allows the DSPA to further enhance our ability to handle large-scale cargos, such as those associated with wind turbine components, along with our capacity as an intermodal terminal for container shipping and ability to support new initiatives expected around energy transformation (further described in Section I). The new warehouse space will allow the DSPA to meet current customer demand, and also to increase flexibility for current and future customers for the way materials are stored and subsequently handled for shipping. The current warehouse shortage has resulted in the perpetual utilization of more than 400 containers on-dock at the Clure Terminal for additional storage. Not only is this inefficient from an operations perspective, but often does not best meet the customers' need. Adding a new hybrid crane will contribute to resiliency by increasing the flexibility, safety, and efficiency of cargo handling. A critical aspect to the DSPA's prevalence in the local and regional supply chain is the ability to offer customers numerous options to meet their needs and the new hybrid crane will further support customer needs by decreasing cycling and wait times and increasing options for cargo management.

Removal of the former grain elevators increases resiliency by eliminating a dilapidated structure that already poses a threat in its current state, but is made worse during extreme weather events, including high winds, extreme rainfall, and increased temperature swings causing more freeze/thaw cycles. Demolition of the former grain elevator also clears the way for a future project of repairing the dock walls, which will prolong the life of the dock, and make it more resilient to storms and extreme weather.

The project components align with local and regional plans, which is further discussed in Section VI. As noted in the US DOT Climate Action Plan, Ship Fleets and Related Equipment/Craft are

a vital component because they, “maintain the readiness of The National Defense Reserve Fleet ships,” which are a critical part of National security” and Warehouses/Storage Facilities are mission critical because they provide a “secure location to house shipping, maintenance, rail, and other equipment/vehicles.” Anticipating future disasters and major disruptions is challenging, but investment in publicly-owned and operated infrastructure increases regional and national resiliency and preparedness.

Section V: Selection Criteria

(1) Section E: Climate Change and Sustainability

The DSPA is strongly committed to reducing the carbon footprint of the Clure Terminal and helping our customers to reduce climate impacts of supply chains. Following are specific actions taken at the terminal and in support of our customers to reduce greenhouse gas emissions, and summary of the proposed project component features that will build on our climate action efforts.

Clure Terminal

The DSPA is a founding member of Green Marine, a voluntary environmental certification program. Green Marine guides the maritime industry towards environmental excellence by encouraging maritime enterprises to adopt concrete measurable actions that go beyond regulatory obligations. Under the program, the DSPA has completed annual GHG emissions inventories for the Clure Terminal since 2017 [Appendix]. The emission inventory data is available to the public, discussed in our quarterly magazine, and routinely incorporated into presentations to the public. This historic information and our continued commitment to Green Marine will enable us to prioritize and track the GHG emissions savings resulting from the project.

In addition, the DSPA is collaborating with Minnesota Power, the local electric power utility, and Frontier Energy, a consulting firm dedicated to combatting climate change by providing advanced energy efficiency programs for residential, commercial, and industrial customers. In July 2022, Minnesota Power and Frontier Energy completed the study “Energy Analysis – Electrification and Greenhouse Gas Reduction” [Appendix]. The study identifies detailed energy conservation and electrification opportunities with a focus on GHG reduction – the critical component of a climate action plan.

Customers

Oftentimes freight transportation cost savings and air pollutant emissions reductions go hand-in-hand. The inherent efficiencies in modal shift capabilities of the Clure Terminal produce real results – reduced air emissions from efficient freight movement. To drive home that point, the DSPA recently contracted with a transportation and infrastructure consulting firm to develop an emissions calculation tool to help our customers understand and act upon the climate impacts of their supply chain decisions. The tool enables the DSPA and its partners to query the emissions and travel times associated with varied supply chain routings between the Upper Midwest and ports in Europe, Asia, and the Great Lakes. The tool is proprietary so we are not sharing it as part

of this public grant application. However, we are available to provide a demonstration to MARAD staff upon request.

Duluth Project 2023

In short, the proposed project will result in a reduction of 1,312.05 Metric Tons of CO2 per year, which will improve air quality (and reduce noise) locally and make a significant step toward decarbonizing the terminal.

The Electrification and Greenhouse Gas Reduction study's recommendations for our existing warehouses (lighting, air handling units) will be incorporated into the proposed new warehouse. The rental crane equipment that will be replaced by the proposed new hybrid-electric mobile harbor crane was beyond the scope of the study. However, our colleagues at Frontier Energy provided additional information showing a 31% GHG reduction achieved from the new crane [Appendix]. In addition, the reduced vessel dwell times provide significant emissions reductions. The elevator demolition and laydown area construction positions the port to support new green energy initiatives, and is the first phase of full-dock rehabilitation that assures long-term infrastructure resiliency.

As noted above and in the following section (Section F: Equity and Justice40), MPCA, DSPA and numerous partners have taken proactive steps to address climate change and promote equitable development. Based on environmental review experience, no negative impacts are anticipated to water quality, wetlands, or endangered species. Air quality will be improved by this project due to reduced emissions. As noted in Section VI, environmental remediation will occur prior to construction in coordination with the Minnesota Pollution Control Agency. This project results in positive environmental impacts, benefitting residents living near Rice's Point. Further information on public involvement and engagement, as well as environmental justice impacts, can be found below in Selection Criteria (2) Section F: Equity and Justice40.

(2) Section F: Equity and Justice40

As further described in Section II (Location), this project is located within US Census Tract 156, St. Louis County, Minnesota, and within the larger Lincoln Park neighborhood [which also includes Census Tracts 024 and 020]; all are Areas of Persistent Poverty (APP), and higher minority populations relative to the City and State. Additionally, the US DOT Transportation Disadvantaged Census Tract map identifies Census Tracts 156 and 24 as having a Health Disadvantage Indicator and CT 156, 20, and 24 as having an Economy Disadvantage Indicator. As noted by US DOT, the Health Disadvantage Indicator reflects "variables associated with adverse health outcomes, disability, as well as environmental exposures." Further evaluation of this project using the Environmental Protection Agency's EJScreen tool noted numerous Environmental Justice variables related to health and socioeconomic outcomes affecting people living in the project census tract, as reflected in the table below:

Table 3 – Health Related Environmental Justice Indicators for Census Tract 156

Selected Variables	Percentile in State	Percentile in USA
Supplemental Indexes		
Particulate Matter 2.5 Supplemental Index	6	4
Ozone Supplemental Index	10	14
Diesel Particulate Matter Supplemental Index*	60	74
Air Toxics Cancer Risk Supplemental Index*	91	74
Air Toxics Respiratory HI Supplemental Index*	86	80
Traffic Proximity Supplemental Index	72	57
Lead Paint Supplemental Index	69	60
Superfund Proximity Supplemental Index	80	73
RMP Facility Proximity Supplemental Index	83	75
Hazardous Waste Proximity Supplemental Index	80	67
Underground Storage Tanks Supplemental Index	69	74
Wastewater Discharge Supplemental Index	96	87

Supplemental Indexes - The supplemental indexes offer a different perspective on community-level vulnerability. They combine data on low income, limited English speaking, less than high school education, unemployed, and low life expectancy populations with a single environmental indicator.

From a community perspective, the major benefits of the proposed project are job creation, economic growth for the region (Section IV), and air emissions reduction (previous sub-section regarding Climate Change and Sustainability), with most of these benefits occurring in and adjacent to an underserved community. The DSPA recognizes the importance of ensuring that the work we do to accomplish our mission, including the performance of the proposed grant project, not only delivers these benefits, but that our Lincoln Park neighbors experience these benefits without experiencing added environmental or health burdens. To ensure this outcome, the DSPA has leveraged, and will continue to leverage, its partnerships with the City of Duluth, key non-profit partners, and coalition groups to work effectively with and for the community. Leveraging our partners' programs, relationships and expertise helps expand the reach and capacity of our small (nine total) staff and builds upon the history and momentum of successful outreach/engagement programs without causing engagement fatigue within the community. Examples of actions and work that have been and will be done with our partners that relates to realizing community benefits and minimizing burdens includes:

- The DSPA is governed by a 7-member Board of Commissioners and is deliberate in maintaining a board seat for a union laborer, City of Duluth resident. This seat is currently filled by Commissioner and Treasurer Tyrone Walker, a foreman with Ironworkers Local 512 who lives and raises a family in the Lincoln Park neighborhood. The highly engaged Board meets monthly and is responsible for setting policies and approving all contracts over $25K. Commissioner Walker's involvement provides strong connection to the Lincoln Park community.
- The DSPA worked closely with the City of Duluth on "Imagine Duluth 2035 Comprehensive Plan" to ensure that Rice's Point remains industrial and to ensure continued clear physical separation between industrial and residential uses in Lincoln Park. This ensures that industrial jobs with excellent wages and good benefits are in close proximity to residents but that traffic and immediate emissions are not proximate to the residential community.
- The DSPA works closely with Eco3, the lead frontline community-based organization for the Lincoln Park neighborhood. Eco3's mission is to lead and inspire change towards an equitable and sustainable future. They accomplish this through two focus areas: 1) serving as the convening organization in the low-income Lincoln Park neighborhood, advancing opportunities for residents and business, and 2) advancing community sustainability and resiliency including aspects of energy transition, economic security and

health. Eco3 stewards "Justice40 Lincoln Park Neighborhood," which incorporates the Rice's Point port lands and the proposed project. This program focuses on the intersection of energy, equity and economic vitality. Eco3 and their "Main Street Lincoln Park Program" continually partners with the DSPA to ensure that our projects and actions are beneficial to Lincoln Park residents and help move Lincoln Park toward greater health and lower economic disparity. Eco3 has worked to ensure that their community outreach and engagement efforts reflect community demographics and accommodate the needs of overburdened community members. For the proposed project, Eco3, as evidenced in their commitment letter [Attachment C], will serve as a forum for community outreach and engagement within Lincoln Park during project implementation, and to incorporate our decarbonization efforts into their 10-year decarbonization plan for Lincoln Park. We will use Eco3's regular community meetings to gain community input, where wanted and warranted, and to report out on project progress.

- As further described in the next section, the DSPA will continue to work with various workforce development partners in realizing workforce development programs that help prepare disadvantaged Duluth residents within and beyond Lincoln Park for the high-paying industrial (and essentially all union) jobs with that will be created by this grant directly (at the terminal or with related transportation firms) and indirectly (as supported by the proposed project within the industrial/manufacturing sector). It is not enough to help create jobs, to achieve equitable outcomes, we and our partners must continue to help remove barriers to obtaining those jobs (soft skills training, technical training, identifying and filling transportation gaps, identifying and filling childcare gaps). These disparities aren't easily solved but the workforce programs described in the next section are an important step.
- The DSPA is a member of the Mayor's Economic Development Coalition, which meets monthly to strategize around economic development. LISC Duluth [see letter of support, Attachment C], the City's Workforce Board and the Duluth Area Chamber of Commerce are amongst the members of the coalition. This is a forum rich in resources for ensuring that diversity, equity and inclusion are cornerstones of the region's economic development plans. While the proposed project is only one element of the region's economic growth, this DEI context helps ground and shape the DSPA's implementation of its mission.
- The DSPA will continue engagement with the above groups as the project proceeds, including regular project updates and opportunities for feedback.

The DSPA has reviewed potential equity assessment tools and will follow MARAD and local guidance as to the preferred tool for this project. The DSPA has not been involved in any compliance reviews, external lawsuits, investigations, or complaints alleging discrimination of any kind in the past five years.

(3) Section G: Workforce Development, Job Quality, and Wealth Creation

Implementation of this project will create dozens of good-paying construction jobs, 10 permanent, high-quality, good paying jobs at the Clure Terminal following completion, and will

support growth in industrial (manufacturing and transportation logistics sector) jobs in the region.

The DSPA's bidding and contracting processes will ensure that the numerous high-wage construction jobs associated with this the implementation of this project will pay good wages, feature fair work conditions and promote equity and entrepreneurship in underserved communities. The DSPA uses a fair and open, publicly advertised, competitive bidding process. Our region has strong unions and recognizes the benefits this brings for the local workforce. While bidding documents will require a wage minimum, set at the higher of Davis Bacon wages or Minnesota Prevailing wages, they will also encourage strong labor standards as part of the contractor evaluation. The bid package will reflect the DSPA's commitment to working with Disadvantaged Business Enterprises (DBE), Minority-owned Business Enterprises (MBE), and Women-owned Business Enterprises (WBE). The DSPA will encourage bidders to break out portions of the project and sub-contract to DBE, MBE, or WBE firms to help increase opportunities for such firms. This results in not only improved project outcomes, but positively impacts the owners and employees of those firms. Additionally, the DSPA requires a Project Labor Agreement (PLA) for all projects of over $150K. The PLA is signed by the selected contractor and local labor union representative. The PLA enforces the higher of Davis Bacon or Minnesota Prevailing wages, and establishes fair and safe hours and working conditions.

This project will also directly result in 10 new permanent high-quality, good-paying jobs at the Clure Terminal. The Clure Terminal Operator, Lake Superior Warehousing, is a union shop staffed by the Operating Engineers Local 49. These jobs are highly sought after with excellent wages, benefits and working conditions.

Finally, the project will indirectly create additional jobs in businesses that are able to expand their operations due to supply chain savings and optionality. Industrial jobs in Duluth (based on 2019 data) pay an average annual wage of $69K compared to the City's average annual wage of $51K, and the City's average wage with industrial jobs removed ($48K).[3]

DSPA works with many partner work force development agencies and educational institutions with a common goal of growing high-quality, good paying jobs in the Duluth-Superior region and ensuring equitable access to those jobs. Examples of efforts in which the DSPA is involved (all ongoing) include:

- In February of 2022, the City of Duluth and City of Superior co-hosted the "Port and Industry Workforce Forum" which brought together more than 100 private port and industry representatives, city/state/county officials, and workforce development system representatives to collectively discuss strategies to articulate and solve systemic (port/industry) workforce issues. The result was a deeper understanding of the types of jobs that port employers struggle to fill and solutions to address the barriers. Among those participating was Lake Superior College, a vocational, two-year college, who conducted an in-depth survey process during and after the event to build programs

[3] http://duluthport.com/wp-content/uploads/2021/08/Foundations-for-Growth-Industrial-Study-2019-Updates.pdf

focused on port-centric career paths. Lake Superior College has joined forces with two other State schools in vetting the development of those programs to serve port communities.

- Existing training programs for port-related industries include truck driver training by both Lake Superior College and Northwoods Technical College. The Duluth Workforce Development Board Grants provides grants to attend these training programs to ensure more equitable access to training for underserved community members.
- The Duluth Workforce Board and SOAR Career Solutions provide the "Construction Pathways program," an introduction to the trades and an opportunity to explore career options. Participants receive multi-core craft (MC3) curriculum instruction, a pre-apprenticeship training curriculum, developed and approved by the Building Trades National Apprenticeship and Training Committee. Participants receive an overview of the multitude of trade opportunities, get hands-on exposure at various union training sites, prepare for job interviews, and meet directly with union representatives and contractors. Participants in this program have opportunities to train with the Iron Workers Local 512, Operating Engineers Local 49, and others. This program is tailored for any Lake, Carlton, or St. Louis County resident who is income-qualified, 18+ year old, with no prior experience. Common starting wages for those out of the program start at $24/hr.
- Regional manufacturing training programs targeted to underserved communities have existed in various forms over the last decade. Currently, the City of Duluth is developing a new manufacturing training program through a National League of Cities (NLC) "Good Jobs, Great Cities Academy" Grant. The aim of the NLC program is to "support cities in leveraging the Biden-Harris Administration's new federal infrastructure, clean energy and advanced manufacturing investments to prepare a diverse, skilled and ready workforce to build America's next-generation infrastructure and an economy that works for everyone." Locally, the City of Duluth Mayor's office is the convener, and the Duluth Workforce Development Board is the key partner – along with employers, training providers, and labor unions. This manufacturing pathway program will focus on two core design principles: 1) Lead to Quality Jobs: Good jobs are the foundation of an equitable economy that uplifts workers and families, leverages worker voice to inform, delivers cutting-edge training, and is at the core of the industry's ability to develop a diverse and resilient talent pipeline that recruits and retains a diverse and skilled workforce. 2) Center in Equity: A commitment to workforce strategies designed to ensure that quality jobs are available to everyone, including those who have too often been left behind – including workers of color, rural workers, women, opportunity youth, people with disabilities, and justice-impacted individuals. The program will recognize and break down systemic barriers to good jobs.

Section VI: Project Readiness

The Duluth Seaway Port Authority has undertaken numerous steps, including coordination with State and Federal agencies, to ensure that the project is ready to proceed should grant funding be awarded.

(1) A: Technical Capacity

The DSPA has extensive experience successfully undertaking federally-funding projects of this scale and has a thorough understanding of Federal requirements. Construction is currently underway for the Duluth Port Logistics Hub 2020 Revitalization & Expansion Project partially funded through the MARAD PIDP program, which includes a warehouse expansion and dock wall reconstruction. In addition to the PIDP program, DSPA effectively utilized a US DOT TIGER grant in 2016 to modernize and reconstruct a dilapidated former grain dock, is conducting environmental investigation and assessment projects utilizing US Environmental Protection Agency funding, and is near completion of a FEMA Port Security Grant project to modernize our terminal surveillance system. DSPA has the knowledge of Federal funding requirements and the experience of full project implementation, and has an excellent track record of coordinating Federal, State, and local agency funding sources and regulatory requirements to ensure project success. Project design and construction will comply with all Federal requirements, including but not limited to NEPA, Davis Bacon, and Build America, Buy America.

Licensed Professional Engineers in the State of Minnesota and architects have developed detailed conceptual designs [Attachment E] and conceptual level Opinions of Probable Costs [Attachment A]. Cost estimates for project components were based on the following:

- Warehouse – Cost estimate based 30% design completion and on as-bid construction pricing for 56,000 square foot warehouse currently under construction on nearby property.
- Hybrid-electric mobile harbor crane - based on quotes from a crane manufacturer and freight forwarder and includes the shipping and anticipated taxes and fees.
- Grain elevator demolition and laydown area preparation: Cost estimate is based on 20% engineering design and sub-contract quotes compiled by a general contractor with extensive experience with similar scale projects.

The conceptual designs account for up-to-date engineering practices while also incorporating known solutions from past and current DSPA projects. Incorporating these elements and practices while also comparing the budget to previous work activities demonstrates that the project is technically feasible.

This project is consistent with local, regional, and state plans including the "Duluth-Superior Port Land Use Plan" (2016), "Imagine Duluth 2035" City of Duluth Comprehensive Plan, "Duluth-Superior Area Sustainable Choices 2045" the Long Range Transportation Plan for the Duluth-Superior Metropolitan area, the 2018 Minnesota Statewide Freight System Plan, and the Statewide Ports and Waterways Plan.

The Port Land Use Plan (page 42) specifically states "The Rice's Point area has potential for more intensive transportation use as it currently contains key multimodal transportation assets including major highway and rail connections along with port facilities including the recently completed Clure Public Marine Terminal & Expansion (formerly Garfield Docks C & D) project." The Warehouse Project expands the multi-modal transportation hub functionally and

the Clure Public Marine Terminal by providing additional capacity to support regional manufacturers' supply chain logistics transferring various raw materials and finished goods between maritime, truck, and rail modes of transportation.

Imagine Duluth 2035, the City of Duluth's Comprehensive Plan provides background information and sets a specific policy to "Protect and enhance regional transportation networks, especially for purposes of expanding opportunities for movement of freight." (page T-34)

Project Schedule

Project Component	FFY24				FFY25				FFY26				FFY27
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1
General Project													
Notice of Award													
State/Local Planning Approval													
NEPA Review													
Draft Contract/Grant Agreement													
Final Contract													
Grant Closure													
Demolition/Utilities													
Environmental Documents													
Demolition Specifications													
Specification, Estimate Approval													
Bids/Procurement													
Contractor Agreement													
Demolition													
Punch List/Completion													
Warehouse													
Environmental Documents													
Final Design													
Plans/Specs, Estimate Approval													
Bids/Procurement													
Contractor Agreement													
Construction													
Punch List/Completion													
Hybrid-Electric Mobile Harbor Crane													
Buy American Commitment													
Specification, Estimate Approval													
Bids/Procurement													
Vendor Contract/Order Confirmation													
Delivery													
Punch List/Completion													

Risk Mitigation

DSPA has already begun to minimize project risks using several strategies. The most effective and widely used strategy is early agency coordination, which is well underway. Recognizing the risk of delayed approvals and the need to incorporate agency feedback into design plans, the DSPA has engaged the Minnesota Department of Natural Resources (DNR), the Minnesota Pollution Control Agency (MPCA), the Minnesota State Historic Preservation Office (SHPO), the US Army Corp of Engineers (USACE) and the City of Duluth.

The proposed 98,000 S.F. warehouse construction on the Berths 8-11 dock will require an update and amendment to the MPCA-approved Response Action Plan and Construction Contingency Plan (RAP/CCP), dated July 2014 with subsequent amendments from 2014 to 2020. The primary contaminant of concern at the site id benzo-a-pyrene (BaP) equivalent. The warehouse construction is consistent with long-term plans for the site and the RAP/CCP update is expected to be a limited administrative exercise. The DSPA routinely works with the MPCA on brownfield issues and is highly familiar with the processes and actions needed to comply with program guidance.

While no buildings within the project are Nationally or Locally designated as historic, the DSPA has requested a State level review by SHPO to allow sufficient time for review and response. The City of Duluth and USACE may each require a permit for portions of the project and DSPA has begun discussions with each entity to ensure they have a common understanding of the project and requirements. Each of these steps helps to minimize surprises throughout the project and keeps the permitting and approvals on track. Recent project experience has helped the DSPA to reduce the risk of encountering technical challenges in the design, construction, and implementation, by learning effective methods of overcoming challenges and addressing the issues in the design phase and implementation planning. The potential for project cost increases is top of mind for the DSPA and mitigation strategies have included comparing estimates to recently bid projects and discussing specific project component costs with professionals with the latest cost information.

Assuring Buy America compliance is a risk only on the crane acquisition as there are no heavy mobile harbor crane manufacturers in the U.S. at this time. See further discussion in the Domestic Preference section.

(2) B. Environmental Risk

As mentioned in the prior section, the DSPA has undertaken numerous actions and agency coordination to ensure that project construction can begin in a timely manner and proceed fluidly through relevant regulatory processes. No in-water activities are included in the project, but the elevator demolition occurring feet from the dock edge will require careful evaluation. All environmental permitting and authorizations for the proposed project are underway and based on our experience with other infrastructure construction projects, we do not expect any environmental related delays.

Information about the NEPA status of the project

Based on recent project experience, it is anticipated that this project would likely meet the criteria of and be classified as a Categorical Exclusion given there are no extraordinary circumstances such as:

1. Significant impacts to the environment;
2. Substantial controversy on environmental grounds;
3. Significant impacts to Section 4(f) or 106 property; or
4. Inconsistency with any federal, state or local law or administrative determination relating to the environment.

This expectation is based on the Categorical Exclusion classification received for DSPA's FY2019 PIDP-funded project that included warehouse construction. The mobile harbor cranes are not anticipated to be subject to NEPA. The remaining project component, demolition of the dilapidated former grain elevator structures, is currently undergoing a State level review by SHPO. The structures have not previously been identified as historically significant and SHPO consultation is a proactive step.

Environmental Permits and Reviews

The table below reflects a list of required permits and approvals, as well as the current status.

Table 4. Required permits/approvals	Status
USACE 401 Permit likely not required	
MDNR Public Waters Permit likely not req'd	
MPCA: Construction Storm Water General Permit (NPDES)	Issued: August 1, 2018; Expiration: July 31, 2023; The NPDES permit is a general permit and covers construction storm water for all components of the project. MPCA will reissue with an expected expiry of August 2028.
City of Duluth: Demolition permit	Permit will be sought if PIDP funds are approved.

The MPCA-approved Response Action Plan, which contains environmental information regarding the contamination discussed above under "Risk Mitigation" can be found in the Appendix. Information on public engagement can be found in Section V.

State and Local Approvals

The City of Duluth is the Responsible Government Unit for relevant mandatory categories and determination of discretionary need. The DSPA has discussed this project with the City of Duluth Chief Administrative Officer in April 2023, and has submitted information for a State level review by SHPO in an effort to ensure the City has sufficient information for their review.

Information on environmental reviews, approvals, and permits by other agencies

No additional environmental reviews, approvals, or permits by other agencies, other than those discussed in this grant section are anticipated.

Section VII: Domestic Preference

All materials and manufactured products which will be used in the project will be produced or manufactured domestically. This provision will be included in all procurement documents used by contractors or tenants for each and every project component. Materials used to improve the port infrastructure and the warehouse construction are not anticipated to need a waiver from Build America, Buy America. The DSPA has demonstrated its commitment and capability to firmly adhere to Build America, Buy America Act requirements through our 2019 PIDP-funded warehouse expansion and dock wall rehabilitation project. We carry that commitment and experience forward into this project proposal.

The hybrid-electric mobile harbor crane component of the proposed project offers unique challenges. Extensive research has been performed to source hybrid-electric mobile harbor cranes that have been manufactured in the United States. No domestic company manufactures a hybrid-electric mobile harbor crane that meets our needs. DSPA will continue to pursue domestic sources for the crane purchase. While the situation has proved challenging, progress has been made through discussions with other Ports in the United States and we are hopeful that demand will allow for re-shoring of this efficiency-maximizing equipment. We intend to continue working with other U.S. ports through AAPA to assemble a pooled equipment order that will prompt heavy equipment manufacturers to establish U.S. facilities to produce this equipment. The DSPA will make every effort to avoid requesting a Buy America waiver for mobile harbor cranes and we acknowledge the extreme scrutiny any waiver requests will encounter. Based on the vast research complete, DSPA has identified Konecrane, a Finnish company, as a possible source for a crane that meets our needs. In the event DSPA is not able to locate a domestic source at the time of the grant contract, we will seek a domestic preference waiver. Please note that additional time is added to the schedule to allow every effort to meet Buy America requirements.

The DSPA intends to source the project locally to enhance local benefit and job creation. We will require Build America, Buy America provisions to flow down to every project undertaken in the project description and funded with the MARAD Port Infrastructure Development Program grant funding.

Section VIII: Determinations

1. **The project improves the safety, efficiency, or reliability of the movement of goods through a port or intermodal connection to the port.**

This project improves safety for port employees through the creation of new on-dock, rail-served warehouse space that will address current safety concerns regarding narrow lanes and forklift

operators and the risk of high pile storage toppling over, as well as increased safety achieved by utilizing the modern hybrid-electric mobile harbor crane to manage heavy-lift cargo needs. Safety is further improved by the removal of the dilapidated former grain elevators that pose a risk of serious injury or death for people who choose to trespass and climb the tall structures. While DSPA has actively worked to stop this dangerous activity, it still occurs on a regular basis and poses a risk for not only the trespasser, but also for DSPA employees and law enforcement officers that must address the situation.

Efficiency gains are a particularly noteworthy result of this project for both DSPA and client operations. The new warehouse would meet the growing demand from customers in a far more efficient manner. Because warehouse space at the Clure Terminal is consistently oversold, many new business opportunities have to be turned away or warehousing occurs in other markets, such as Minneapolis-St. Paul which then necessitates additional trucking. For existing customers, temporary solutions have been found that are costly and can be inefficient including leasing off-site warehouse space, which again creates additional truck trips, and renting more than 400 containers to use on-dock to meet customer storage needs. The new warehouse will address the cost, time, and travel inefficiencies. The hybrid-electric mobile harbor crane also increases efficiency by decreasing the time it takes to load and unload a ship by approximately 10% or about 4 hours per ship. This equates to time savings for both port employees and the ship operators and results in emissions reductions from both the reduced dwell time and the crane operations. Efficiency gains are made with the demolition/laydown area preparation component as well. The availability of this space eliminates the possibility of the DSPA needing to turn away cargo best suited to our catchment area, and avoiding it being shipped to another port (such as Milwaukee), saving both shipping time and rail or trucking cost.

Reliability is improved with all three project components. The on-dock, rail-served warehouse increases reliability by having a warehouse operated efficiently by DSPA, as opposed to relying on the local warehouse market which is currently squeezed, making space difficult to find and very expensive to lease. The hybrid-electric mobile harbor crane increases reliability because it can manage heavy-lift cargo handling without the need to rent other equipment that may not be available or adequate for DSPA needs. Additionally, the current gantry cranes are 60 years old and while they still function, their age causes concern they may cease to operate and be at the point where repair isn't feasible; they are also confined to their gantry tracks and are only useable at Berths 1 and 2. The hybrid-electric mobile harbor crane will be able to serve all active berths at the terminal. The demolition and laydown area preparation helps to ensure DSPA can reliably provide outdoor laydown space for current and future client needs, including for large cargo such as wind energy components.

2. The project is cost effective.

The overall project is cost effective, with a benefit cost ratio (BCR) of 4.73. Each individual project component was also found to be cost effective. The on-dock, rail-served warehouse has a BCR of 2.08. The hybrid-electric mobile harbor crane has a BCR of 5.17 and the demolition/laydown area preparation has a BCR of 2.26. The project also results in numerous benefits not included within the benefit cost analysis, which are further highlighted in Section IV.

3. The eligible applicant has the authority to carry out the project

The Duluth Seaway Port Authority was established under Minnesota Statute 469.049 as a governmental subdivision. Minnesota Statutes 469.055, Subdivision 1(4) provides authorization for Port Authorities in Minnesota to, "provide or promote adequate docks, railroad and terminal facilities open to all on reasonable and equal terms for the handling, storage, care, and shipment of freight and passengers to, from, and through the port." Minnesota Statutes 469.055, Subd. 6. Control of property states "A port authority may acquire, purchase, construct, lease, or operate bulkheads, jetties, piers, wharves, docks, landing places, warehouses, storehouses, elevators, cold storage plants, terminals, bridges, or other terminal or transportation facilities. The authority may own, hold, lease, or operate real and personal property. . ."

In addition, Minn. Stat. 469 provides that a seaway port authority is a special taxing district and may levy a tax in any year for the benefit of the seaway port authority (469.053) and authorizes the port authority to issue general obligation bonds and revenue bonds (469.060 and 469.061).

4. The eligible applicant has sufficient funding available to meet the matching requirements.

The funding sources and amounts for each project component are specified in Section III of this application. No other federal funds will be used in this project. The sources of non-federal matching funds are planned MN Department of Transportation Port Development Assistance Program (PDAP) grant funds and committed DSPA funds. The state legislature frequently passes a capital investment bill with PDAP funding. The 2023 legislature is anticipated to fund PDAP at a record level, a reflection of the state's $17B surplus and strong interest in leveraging state funds to secure federal infrastructure funds.

The DSPA has committed $1.664 million cash to the project. See attached budget statement showing restricted funds dedicated to the project [Attachment B]. While the DSPA is confident that the PDAP funds will be realized for this project, we are able and willing to commit the entire $7.856 million non-federal match to ensure full project funding.

5. The project will be completed without unreasonable delay.

The DSPA has successfully managed complex infrastructure projects with federal, state and local funding. Should this grant request be awarded, the project will begin as soon as a contract is executed, which is expected to occur as soon as July 2024 (see Project Schedule, Section VI). Once the grant contract is signed, engineering design and specifications can proceed to allow

each project component to be competitively bid in accordance with the DSPA Purchasing Policy which mirrors state statutes. The demolition of the former grain elevators to create new laydown space will begin in May of 2025. Construction of the new on-deck, rail-served warehouse will begin in June of 2025. The hybrid-electric mobile harbor crane will be ordered by December 2024 and be delivered in October of 2025. The project is ready to proceed pending PIDP grant funds and will fully conclude by December 31, 2026.

The DSPA has demonstrated strong communication and collaboration with state and federal grant administrating agencies to address unanticipated changes in schedule and budget. For example, the COVID-19 pandemic created supply chain and scheduling challenges, and dramatic cost increases over pre-pandemic cost estimates. Schedule changes, funding adjustments and project re-scoping are well-documented and assure the overall success of the project. We carry this experience and skill into this PIDP grant request.

6. The project cannot be easily and efficiently completed without Federal funding or financial assistance available to the project sponsor.

Funding through the PIDP program is essential to allow the project to proceed. While DSPA is fully committed to efficiency and capacity improvements, the project cost is completely out of reach for DSPA to undertake utilizing local funds. The scale of port projects in general creates budget challenges, but the increasing cost of labor and materials has compounded the issue and made it virtually impossible to proceed without grant assistance.

Without PIDP funding, most of the project would be put on hold indefinitely. There are no other funding sources that can provide the level of assistance of a PIDP grant. The Port Development Assistance Program (PDAP) through the Minnesota Department of Transportation is an excellent resource as well, the program funding has been historically limited to approximately $10 million in statewide, competitive funding. The DSPA would need strong state PDAP funding and additional time to acquire additional funds to complete just one of the three project components. The entire project would take at least a decade, and likely longer, to fully fund without federal PIDP funding.

If PIDP funds are not awarded, there will be an indefinite delay in the project schedule. Each component would be put on hold until another funding source can be identified and secured.

Project costs are reasonably expected to continue rising if PIDP funds are not awarded. DSPA has experienced inflationary budget issues on current projects and based on this experience, the project costs for the 2023 Duluth Port Intermodal Terminal Expansion project would raise substantially each year that the project doesn't proceed, putting these much-needed and highly beneficial projects further out of reach.